CONTRA COSTA COUNTY

AGENDA

Sustainability Committee

Supervisor Ken Carlson, Chair
Supervisor John Gioia, Vice Chair

Monday, November 10, 2025 **1:00 PM** **11780 San Pablo Ave., Ste. D, El Cerrito, CA 94530 |**

2255 Contra Costa Blvd., Ste. 202 Pleasant Hill, CA 94523

ZOOM LINK
https://cccounty-us.zoom.us/j/81614339223

| Dial: 888-278-0254 |
ACCESS CODE: 841892

The public may attend this meeting in person at either above location. The public may also attend this meeting remotely via Zoom or call-in.

AGENDA ITEMS may be taken out of order based on the business of the day and preference of the Committee.

1. INTRODUCTIONS Call to Order and roll call.

2. PUBLIC COMMENT on any item under the jurisdiction of the Committee and not on this agenda (speakers may be limited to two (2) minutes).

3. APPROVE Record of Action for the Sustainability Committee meetings of May 12, 2025; July 14, 2025; and September 8, 2025. **25-4695**

Attachments: 3a. 05.12.25 Sust Cmte MINUTES DRAFT
3b. 07.14.25 Sust Cmte MINUTES DRAFT
3c. 09.08.25 Sust Cmte MINUTES DRAFT

4. RECEIVE Report on hydrogen production methods and benefits. **25-4696**

Attachments: 4a. Raven - Comparing Hydrogen Production Methods 11.10.2025

5. RECEIVE report on County Fleet Zero Emission Vehicle Plan and CONSIDER recommending approval of the plan to the Board of Supervisors. **25-4697**

Attachments: 5a. CCC_ZEV_PLAN_11.4.25
5b. ZEV Plan Presentation_11.4.25_v3

6. RECEIVE Report on Greenhouse Gas Emissions Inventory. **25-4698**

Attachments: 6a. 2023 CCC GHG Emissions Inventory Report
6b. 2023 Contra Costa GHG Emissions Inventory Update PPT

7. RECEIVE Report on Employee Commute Survey. **25-4699**

Attachments: 7a. CCC Employer Survey 2025 Report
7b. Sustanability Commission-Commute Survey Report Presentation

8. DISCUSS Potential Agenda Items for 2026 Meetings of the Sustainability Committee and PROVIDE DIRECTION. **25-4700**

9. RECEIVE Report from the Sustainability Commission Chair, or Designee **25-4701**

10. RECEIVE Report on staff activities that support sustainability goals. **25-4702**

Attachments: 10a. 2025-11-10 Sust. Staff Report to Sust. CTTE

11. **ADJOURN until the next Sustainability Committee meeting, held at a date to be determined in January or February 2026.**

GENERAL INFORMATION

This meeting provides reasonable accommodations for persons with disabilities planning to attend a the meetings. Contact the staff person listed below at least 72 hours before the meeting.

Any public records subject to disclosure related to an open session item on a regular meeting agenda and distributed by the County to a majority of members of the Committee less than 96 hours prior to that meeting are available for public inspection at:

30 Muir Rd., 1st Floor, Martinez, CA 94553

HOURS:
Monday through Friday
8 a.m. to 5 p.m.

Staff reports related to items on the agenda are also accessible on line at www.co.contra-costa.ca.us.

HOW TO PROVIDE PUBLIC COMMENT

Persons who wish to address the Committee during public comment on matters within the jurisdiction of the Committee that are not on the agenda, or who wish to comment with respect to an item on the agenda, may comment in person, via Zoom, or via call-in. Those participating in person should offer comments when invited by the Committee Chair. Those participating via Zoom should indicate they wish to speak by using the "raise your hand" feature in the Zoom app. Those calling in should indicate they wish to speak by pushing *9 on their phones.

Public comments generally will be limited to two (2) minutes per speaker. In the interest of facilitating the business of the Board Committee, the total amount of time that a member of the public may use in addressing the Board Committee on all agenda items is 10 minutes. Your patience is appreciated.

Public comments may also be submitted to Committee staff before the meeting by email or by voicemail. Comments submitted by email or voicemail will be included in the record of the meeting but will not be read or played aloud during the meeting.

FOR ADDITIONAL INFORMATION, PLEASE CONTACT:

Jody London
(925) 655-2815

or

Demian Hardman-Saldana
(925) 655-2816

File #: 25-4695 **Agenda Date:** 11/10/2025 **Agenda #:** 3.

SUSTAINABILITY COMMITTEE
Meeting Date: November 10, 2025
Subject: APPROVE Record of Action for the Sustainability Committee meetings of May 12, 2025; July 14, 2025; and September 8, 2025
Submitted For: SUSTAINABILITY COMMITTEE
Department: DEPARTMENT OF CONSERVATION & DEVELOPMENT
Presenter: Demian Hardman-Saldana || Principal Planner | DCD
Contact: Demian Hardman-Saldana | (925) 655-2816

Referral History:
This is a standing item of the Committee.

Referral Update:
PLEASE SEE ATTACHMENT(S).

Recommendation(s)/Next Step(s):
APPROVE Record of Action for the Sustainability Committee meetings of May 12, 2025; July 14, 2025; and September 8, 2025.

Fiscal Impact (if any):
None.

CONTRA COSTA COUNTY

Committee Meeting Minutes - Draft

Sustainability Committee

Supervisor Ken Carlson, Chair
Supervisor John Gioia, Vice Chair

Monday, May 12, 2025 **1:00 PM** **11780 San Pablo Ave., Ste. D, El Cerrito, CA 94530 |**

2255 Contra Costa Blvd., Ste. 202, Pleasant Hill, CA 94523

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AGENDA ITEMS: Items may be taken out of order based on the business of the day and preference of the Committee.

1. INTRODUCTIONS Call to order and roll call.

Chair Carlson called the meeting to order at 1:00pm.

Staff Present: Jody London, Sustainability Coordinator, Dept. of Conservation and Development;
Emily Warming, Program Manager, Contra Costa Health;
Jeff Valeros, Senior Civil Engineer, Public Works;
Joe Smithonic, Associate Civil Engineer, Public Works;
Jamar Stamps, Principal Planner, Dept. of Conservation and Development;
Colin Clarke, Senior Transportation Planner, CCTA;
Danielle Elkins, Executive Director of Planning, Programs, and Policy, CCTA;
Mary Griswell, Sm. Business Enterprise Outreach Liaison, Tax Collector's Office;
Raquel De La Torre, Advance Level Secretary, Dept. of Conservation and Development;
Lia Bristol, Deputy Chief of Staff, Supervisor Carlson's Office;
Adam Scarbrough, Planner, Dept. of Conservation and Development;
Emily Groth, Planner, Dept. of Conservation and Development;
Robert Sarmiento, Planner, Dept. of Conservation and Development;
Samantha Harris, Planner, Dept. of Conservation and Development;
Salvador Morales, Planner, Dept. of Conservation and Development;
Ronda Boler, Executive Secretary, Tax Collector's Office

Attendees: Shoshana Wechsler (Sustainability Commission Chair)
OG Strogatz
Lisa Jackson
Carol Mascali
Allison Brown
Andrea Bailey

Present: District I Supervisor John Gioia and District IV Supervisor Ken Carlson

2. PUBLIC COMMENT on any item under the jurisdiction of the Committee and not on this agenda (speakers may be limited to two (2) minutes).

There was no public comment.

3. APPROVE Record of Action from March 10, 2025, meeting of the Sustainability Committee.

Attachments: Meeting Minutes 03.10.25

Record of Action approved.

There was no public comment.

4. RECEIVE report on County Progress in Achieving Active Transportation Goals and Implementing Programs and PROVIDE DIRECTION, as needed.

Attachments: Presentation on TR-1

The Committee received a presentation highlighting the County's progress in achieving its active transportation goals as part of the County's Climate Action and Adaptation Plan (CAAP) implementation. The presentation covered a range of topics beginning with an overview provided by Jody London, Sustainability Coordinator, of the CAAP transportation goals and the policy levers available to staff to advance these goals. The next update was given by Jamar Stamps, Principal Transportation Planner, on the County's Vison Zero Policy, the County's Active Transportation Plan, and the Complete Streets Program where Stamps highlighted four Complete Streets Project locations:

- ***Fred Jackson Way in North Richmond***
- ***Danville Boulevard in Alamo***
- ***Bailey Road/SR-4 Interchange in Bay Point***
- ***Treat Boulevard in Walnut Creek (currently in planning phase)***

Joe Smithonic, Associate Mechanical Engineer, shared the existing and planned paths, lanes, routes, and bikeways in the County, highlighting the regions of the County with high rates of bike/pedestrian collisions and the locations within each supervisorial district where grant funding is supporting active transportation projects. Smithonic discussed the Fred Jackson Way First Mile/Last Mile connection and a bike/pedestrian improvements project along the Treat Boulevard Corridor in Walnut Creek which is currently in the design phase with construction beginning in 2026. Also highlighted were the efforts by staff in developing an interactive web

map to view the County's Active Transportation Plan projects and their status.

Emily Warming, Program Manager for Contra Costa Health's Healthy Communities Program, share the program's goal to improve safety and promote active transportation in the County. Warming provided updates on the Safe Routes to School Programs in the County and the Slow Roads Save Lives marketing campaign. She also reinforced that the County continues working to integrate public health principles into transportation infrastructure planning through the County's Planning Integration Team for Community Health (PITCH) group. PITCH includes representatives from the County's Public Works, Conservation and Development, and Health Departments.

Staff concluded the presentation by highlighting the strategies that continue and accelerate this work which included continuing to leverage General Fund dollars for grant matching, strengthening the connection between the Capital Road Improvement and Preservation Program (CRIPP) and the Active Transportation Plan, and continued support from the Board of Supervisors for improved active transportation access.

COMMITTEE DISCUSSION:
The Committee asked what the measures for success for projects and plans around this work. Smithonic responded citing safety and pre/post counts of active transportation users as the primary metrics..

PUBLIC COMMENT:
There was no public comment.

5. RECEIVE update from Contra Costa Transportation Authority on Active Transportation Goals and Programs.

Attachments: CCTA SustainabilityCommittee-BoS_ActiveTransportationUpdate

The Committee received a presentation from Danielle Elkins, Executive Director of Planning and Colin Clarke, Senior Transportation Planner, both of the Contra Costa Transportation Authority (CCTA).

The presentation began with a general overview and timeline for the Integrated Transit Plan (ITP) and Countywide Transportation Plan (CTP). CCTA is working towards adoption for the ITP in Winter 2025 and for the CTP in early Summer, 2025. As part of this work, CCTA completed a needs assessment concurrently with the CTP development and the report identified transportation needs in the County and opportunities for CCTA to work to meet these needs. These opportunities include continuing to implement the County's Vision Zero Safety Action Plan, advancing Safe Routes to Schools programs, further building out the County's regional active transportation network, and utilizing the CCTA Countywide Toolbox for Designing Safer Travel policy framework. An additional needs assessment was conducted with a focus on Regional Routes of Significance (RORS) which resulted in the following conclusions RORS projects' success.

- ***Continue to progress the Countywide Smart Signals project***
- ***Continue implementation of complete streets projects***
- ***Taking a context-sensitive approach in some RORS by differentiating streets that are intended for moving people and goods from streets that are intended as places for people to***

live, work, and enjoy

Elkins provided an overview of the Countywide Bicycle and Pedestrian Plan (CBPP) goals and objectives. The CBPP aims to encourage more people to walk and bicycle in by creating a safe, connected, and comfortable network of bikeways and walkways that increases livability in communities and districts with a focus on projects posing the greatest benefit. The CBPP includes objectives for tracking progress toward these goals which include:

- ***Percentage (%) increase of trips made by biking or walking***
- ***Rate of pedestrian and bicycle injury/fatality per capita***
- ***Miles of low-stress bikeway increase***
- ***Number of jurisdictions with bicycle, pedestrian, or active transportation plans increase***
- ***Integration of Complete Streets principles and best practices into CCTA funding and design guidance***

CCTA staff have developed a Dashboards and Mapping webpage to convey the number of projects, project status, and location/project sponsor.

COMMITTEE DISCUSSION:
The Committee asked for clarification on the killed or seriously injured (KSI) rates mentioned on Slide 7. Do these always involve collisions with automobiles or does this capture both accidents involving automobiles and accidents not involving automobiles. Staff responded that the metric does include both types of collisions and clarified that the vast majority of these accidents do involve automobiles. The Committee also asked about the intended use for these low-stress safe biking routes, inquiring as to whether they were intended for recreation, commuting, or both. Staff indicated that there is precedent in other regions for utilizing trail systems for economic activity and that CCTA has been coordinating with the East Bay Regional Parks District (EBRPD) and other entities to reorient land-uses along these trails to be more compatible with trail access. In response, Chair Carlson highlighted that the Transportation Partnership and Cooperation Committee (TRANSPAC) has also been focusing on increasing accessibility for these active transportation networks.

PUBLIC COMMENT:
There was no public comment

6. RECEIVE report from the Sustainability Commission Chair, or Designee.

Shoshana Wechsler, Sustainability Commission Chair, gave an update on the Sustainability Commission's activities. At the last meeting of the Commission spent much of the session working to onboard 17 new members. The Commission also received a presentation from Jamar Stamps on the County's new tree protection ordinance which was well received. Wechsler ended her report by highlighting an upcoming presentation on native trees for the urban forest by the Native Plant Society at the City of Albany Library on May 18, 2025.

PUBLIC COMMENT:
There was no public comment

7. RECEIVE report on staff activities that support sustainability goals.

Attachments: Sustainability Staff Progress Report

Jody London gave an update on the County's Sustainability work. Staff are working to finalize contract agreements and starting to develop RFPs for two grants the County has been awarded; a grant to help the County prepare for Sea Level Rise as well as a grant to fund the development of the County's first Urban Forest Management Plan (UFMP). Staff are currently implementing the Energy Efficiency and Conservation Block Grant (EECBG). These grant funds will be used to complete an inventory of the County's existing building stock and an analysis of the costs related to transitioning the building to be all-electric, which is currently underway, as well as retrofitting licensed home-based daycare facilities to be more energy efficient and to run on clean energy. Staff are currently working to draft the RFP for the retrofit component of this work. Last week, staff received an official termination letter from the U.S. Environmental Protection Agency (EPA) for the $19 million grant awarded in late 2024. The County is currently exploring options to dispute the termination.

In addition to grants, staff have begun organizing an All-Electric Working Group for Existing Buildings which is open to virtually any stakeholder interested in transitioning existing buildings to be all-electric. Staff continue to work on finalizing the Clean Energy Roadmap for Existing Buildings (Roadmap). The public comment period for the Roadmap ended on April 24, 2025 so staff is going through and addressing the comments received and preparing to bring the Roadmap back to the Sustainability Committee over the Summer for recommendation to the Board.
Staff have developed a new program in the City of Pittsburg based on the Pinole Energy Enhancements Program (PEER) model. This new program, dubbed the Bay Point/Pittsburg Energy Enhancement Program, is funded through the Keller Canyon Mitigation Fund and open to those in the community living near the Keller Canyon Landfill. Currently the program offers additional rebates for heat pumps to community members living in the program area.

London quickly highlighted a few additional items the Sustainability Team is working on:

- ***Staff continue to monitor the work related to the Green Empowerment Zone (GEZ)***
- ***On May 1, 2025, the County's Energy Efficiency Ordinance (2024-17) went into effect***
- ***The upcoming Sustainability Newsletter scheduled to be published at the end of May***
- ***The latest Sustainability Exchange focused on the County's Green Business Program***
- ***The Sustainability Team lost its AmeriCorps Fellow due to the Federal Governments' defunding of the AmeriCorps program***

PUBLIC COMMENT:
There was no public comment

8. ADJOURN until the next Sustainability Committee Meeting to be held on, Monday, July 14, 2025, at 1:00pm.

Meeting adjourned at 2:11pm.

GENERAL INFORMATION

HOW TO PROVIDE PUBLIC COMMENT

FOR ADDITIONAL INFORMATION, PLEASE CONTACT:

CONTRA COSTA COUNTY

Committee Meeting Minutes - Draft

Sustainability Committee

Supervisor Ken Carlson, Chair
Supervisor John Gioia, Vice Chair

Monday, July 14, 2025 **1:00 PM** **11780 San Pablo Ave., Ste. D, El Cerrito, CA 94530 |**

2255 Contra Costa Blvd., Ste. 202 Pleasant Hill, CA 94523

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https://cccounty-us.zoom.us/j/81614339223

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AGENDA ITEMS: Items may be taken out of order based on the business of the day and preference of the Committee.

1. INTRODUCTIONS Call to order and roll call.

Chair Carlson called the meeting to order at 1:03 pm. Carlson stated that Supervisor Gioia had to attend to an important matter that could keep him from attending this meeting.

Staff Present: Jody London, Sustainability Coordinator, Dept. of Conservation and Development;
Raquel De La Torre, Advance Level Secretary, Dept. of Conservation and Development;
Demian Hardman-Saldana, Principal Planner, Dept. of Conservation and Development;
Lia Bristol, Deputy Chief of Staff, Supervisor Carlson's Office;
Blake McPherson, Student Intern, Dept. of Conservation and Development;
Joe Smithonic, Associate Civil Engineer, Public Works;
Colin Clarke, Senior Transportation Planner, CCTA;

Attendees: Shoshana Wechsler, Sustainability Commission Chair
Marti Roach
Denice Dennis
Lisa Jackson
Cheryl Sudduth
Veronica Robles
Carmen Cano

Caitlin Powell
Ogie Strogatz
Lily Rahnema
Jan Warren

Present: District IV Supervisor Ken Carlson

Absent: District I Supervisor John Gioia

2. PUBLIC COMMENT on any item under the jurisdiction of the Committee and not on this agenda (speakers may be limited to two (2) minutes).

There was no public comment.

3. APPROVE Record of Action of May 12, 2025, meeting of the Sustainability Committee.

Attachments: 5.12.25 Sust Cmte MINUTES DRAFT

This item was deferred to the Sustainability Committee meeting scheduled for September 11, 2025.

There was no public comment.

4. RECEIVE Report on Contra Costa Asthma Initiative Grant Project and PROVIDE DIRECTION, if needed.

Attachments: CC Asthma Initiative Report_7-2025

This item was deferred to the Sustainability Committee meeting scheduled for September 11, 2025.

There was no public comment.

5. RECOMMEND that the Board of Supervisors DIRECT staff to participate in CPUC Rulemaking 24-09-012 for the purpose of identifying communities that could potentially be designated to participate in pilot projects of neighborhood-level conversion to all-electric buildings.

Attachments: Attachment A - SB-1221 Gas corporations_ ceasing service_ priorit neighborhood decarbonization zones_
Attachment B - Article re Richmond Gas Line Removal
Attachment C - This Oakland Block Tried to Quit Fossil Fuels. Her What They Learned _ KQED

Jody London, Sustainability Coordinator, introduced the item by providing background information on Senate Bill 1221, which directed the California Public Utilities Commission (CPUC) to authorize up to 30 pilot projects in which gas utility companies would remove an entire neighborhood's gas lines and convert each home to operate entirely on electricity. There is an ongoing CPUC proceeding to designate neighborhoods in California for this pilot program. London requested the Board to direct staff to participate in the proceeding to advocate for Impacted Communities in Contra Costa County's to have the option to participate in this program.

COMMITTEE DISCUSSION:
Chair Carlson expressed support for the County's participation in the CPUC Rulemaking proceeding and recommended bringing this item to the Board of Supervisors' meeting on July 22, 2025, as a consent item.

PUBLIC COMMENT:
There was no public comment.

6. RECEIVE report from the Sustainability Commission Chair, or Designee.

Shoshana Wechsler, Sustainability Commission Chair, did not have a report due to the cancellation of the Sustainability Commission meeting from a lack of quorum on June 23, 2025. Wechsler explained the Commission is in the process of rescheduling the meeting, with the same agenda, for the end of July.

Chair Carlson invited the Commission to reach out for any help the Committee can offer in achieving a quorum and expressed support for the Commission.

Chair Carlson highlighted the importance of guidance from the Commission and Committee in the coming months to direct the County's actions relating to air pollution reduction, increased educational outreach, and affordability of transitioning to all-electric appliances. One topic of discussion was Rule 9-7, a California State Regulation limiting the emissions of nitrogen oxides (NOx) and carbon monoxide from large boilers at industrial facilities. Another highlighted idea was the potential to bring manufacturing of "No NOx" appliances to Contra Costa County to aide in the transition to all-electric appliances for healthier communities.

Wechsler emphasized that affordability is crucial to consider in supporting this transition.

PUBLIC COMMENT:
There was no public comment.

7. RECEIVE report on staff activities that support sustainability goals.

Attachments: 2025_07_14 Sust. Staff Report to Sust. CMTE

Jody London, Sustainability Coordinator, provided a verbal update on the County's Sustainability work, in which staff members are making progress on the following topics:
- Staff have received bids for two Requests for Proposal (RFPs) to hire technical and community engagement consultants to aid in the development of a shoreline adaptation plan, funded by the Ocean Protection Council's Senate Bill 1 Sea Level Rise Adaptation Planning Grant.
- The County will be utilizing funding from the U.S. Department of Energy's Energy Efficiency and Conservation Block Grant to conduct research on the types of existing building stock in the unincorporated County to determine which types are most suitable for all-electric retrofits compared to appliance replacement.
- An RFP is being prepared to hire a technical consultant for all-electric retrofits for licensed family-based daycare facilities.
- The County has entered into contracts with community partners and the Workforce Development Board of Contra Costa County to develop an Urban Forest Management Plan, and is in negotiation with a technical consultant for the technical aspects of the project.

- Public comments regarding the Clean Energy Roadmap have been received and are being considered. Staff is planning to present the Roadmap to the Committee in September.
- On May 1, staff received a Notice of Termination Award cancelling the $19 million Community Change Grant from the United States Environmental Protection Agency (EPA). The County is supporting a class action lawsuit to fight the unlawful termination of the EPA's Section 138 Environmental and Climate Justice Grant Program. The County also requests that staff at EPA need to be reinstated to administer the grant.
- Staff continues to implement the Bay Point/Pittsburg Energy Enhancement Pilot Program. London expressed gratitude to the Keller Canyon Mitigation Fund for trailblazing a new way to improve air quality for affected communities.
- Staff will soon issue a RFP for the development of the Just Transition Economic Revitalization Plan.
- The All-Electric Building Ordinance went into effect on May 1.
- Staff have attended and presented at regional conferences, including the Western Regional Meeting of the Urban Sustainability Directors Network and the California Climate and Energy Collaborative.
- Contra Costa Health continues to source funds and implement programs under the Building Healthy Communities Program, including helmet distribution events, bike rodeos, safety presentations and community engagement. This work is grant funded but would benefit from a stable funding source going forward.
- The Library has partnered with Sustainable Contra Costa and California Master Gardeners to host several educational and leadership-oriented events. This fall, the County will be updating the home energy efficiency toolkits available for check-out.

COMMITTEE DISCUSSION:

Chair Carlson noted difficulty in past experiences attempting to reach railroad owners and large industrial facilities for sea level rise planning purposes and asked if staff has ideas on how to engage them for subregional shoreline adaptation planning. London explained that the Sustainability team has a comprehensive outreach strategy for communities but may face similar difficulties with engaging industry partners and would like to strategize with the Board on increasing railroad and industry participation in planning for sea level rise adaptation.

The Committee discussed the prioritization of impacted communities when planning for air quality with daycare providers. Demian Hardman-Saldana, Principal Planner with the Department of Conservation and Development, explained the County is working with CocoKids to help the County prioritize implementation at daycare facilities in impacted communities, specifically those next to point source emissions.

The Committee discussed the potential for the County's Regional Transportation Planning Committees to become a source of funding for Safe Routes to School programs from Measure J funds, rather than the programs relying primarily on annual competitive grants.

PUBLIC COMMENT:

Jan Warren commented on the topic of sea level rise planning and difficulty from personal experience with obtaining participation from railroads and large industrial facilities. Warren suggested requesting support from a State legislator to introduce legislation that would require the industrial facilities along the shoreline to participate in sea level rise adaptation planning.

Marti Roach, a member of 350 Contra Costa Action, mentioned the East Contra Costa Healthy Homes project that is performing work on homes in Pittsburg and Antioch, and suggested collaborating with the County to align efforts would increase efficiency in the region. Roach inquired if the County's planned work to improve air quality at daycare facilities includes installing all-electric appliances. Demian Hardman-Saldana, Principal Planner, explained that the County must first determine the implementing contractor through the RFP process. Reducing asthma risk and making daycare homes all-electric will be prioritized, but cost will be a factor in the implementation strategy.

Colin Clarke, Senior Transportation Planner at Contra Costa Transportation Authority, submitted an online comment confirming that Safe Routes to School funds are annual competitive grants and that multi-year funding for the program will be critical for SRTS to be successful long-term and short-term. The One Bay Area Grant 3 program will also fund the expansion of Safe Route to School to become county-wide.

Chair Carlson suggested that the County could maintain a list of related air quality enhancement programs in the Bay Area to provide information to those who may not qualify for a certain program, but may qualify for a program through a different organization, like the Bay Area Air District.

8. ADJOURN until the next Sustainability Committee Meeting to be held on, Monday, September 8, 2025, at 1:00pm.

Meeting adjourned at 1:46pm

GENERAL INFORMATION

HOW TO PROVIDE PUBLIC COMMENT

FOR ADDITIONAL INFORMATION, PLEASE CONTACT:

CONTRA COSTA COUNTY

Committee Meeting Minutes - Draft

Sustainability Committee

Supervisor Ken Carlson, Chair
Supervisor John Gioia, Vice Chair

Monday, September 8, 2025 **1:00 PM** **11780 San Pablo Ave., Ste. D, El Cerrito, CA 94530 |**

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AGENDA ITEMS:: Items may be taken out of order based on the business of the day and preference of the Committee.

1. INTRODUCTIONS Call to Order and roll call.

Supervisor Gioia called the meeting to order at 1:00 pm. Gioia announced that Supervisor Carlson was unable to attend the meeting, and Lia Bristol from Supervisor Carlson's office is attending on his behalf but not participating as a Committee member.

Staff Present: Jody London, Sustainability Coordinator, Dept. of Conservation and Development;
Raquel De La Torre, Advance Level Secretary, Dept. of Conservation and Development;
Demian Hardman-Saldana, Principal Planner, Dept. of Conservation and Development;
Jason Crapo, Deputy Director, Dept. of Conservation and Development;
Adam Scarbrough, Planner, Dept. of Conservation and Development;
Lia Bristol, Deputy Chief of Staff, Supervisor Carlson's Office;
Jennifer Quallick, Chief of Staff, Supervisor Andersen's Office;
Tiffany Uhri Chu, Attorney, County Counsel

Attendees: Shoshana Wechsler, Sustainability Commission Chair
Cheryl Sudduth
Lisa Jackson
Bruce Ohlson

Present: District I Supervisor John Gioia

Excused: District IV Supervisor Ken Carlson

2. PUBLIC COMMENT on any item under the jurisdiction of the Committee and not on this agenda (speakers may be limited to two (2) minutes.

There was no public comment.

3. APPROVE Record of Action of May 12, 2025, meeting of the Sustainability Committee.

Attachments: 5.12.25 Sust Cmte MINUTES DRAFT

This item was deferred to the Sustainability Committee meeting scheduled for November 10, 2025.

4. APPROVE Record of Action from July 14, 2025, meeting of the Sustainability Committee.

Attachments: 7.14.25 Sust Cmte MINUTES DRAFT

This item was deferred to the Sustainability Committee meeting scheduled for November 10, 2025.

5. RECEIVE REPORT on adoption of 2025 State Building Code and RECOMMEND APPROVAL to Board of Supervisors.

Attachments: 2025 CBSC Adoption Sustainability Committee 09.08.25 V2

Jason Crapo, Deputy Director of the Dept. of Conservation and Development (DCD), provided a presentation on the 2025 California Building Code Adoption. Crapo began by outlining the purpose of the presentation: DCD is working on a code adoption ordinance for the Board to consider in time for the ordinance to become effective January 1, 2026.

Crapo explained the State's process of releasing a new building code every three years, with the newest code going into effect on January 1, 2026. Cities and counties can adopt local code amendments that are more restrictive than the State code. The County has historically adopted several local code amendments regarding electric vehicle (EV) charging and energy efficiency. Earlier in 2025, State Budget Legislation (AB 130) was passed which restricts local amendment authority until June 1, 2031, with certain exceptions. The intended purpose of this restriction is to reduce the number of local changes to building code requirements, helping developers reduce their costs and increase housing construction. Crapo explained the significance of each of the six exceptions allowing local amendments to the building code that affect residential construction.

Crapo explained how these exceptions affect the County's ability to amend the new State building code. The first exception allows all adopted local building code amendments in effect prior to September 30, 2025, to continue into the next code cycle. The fifth exception allows local code amendments that align with a jurisdiction's General Plan, permit mixed-fuel residential construction consistent with federal law, and incentivize all-electric construction as part of a greenhouse gas emissions reduction strategy. The fifth exception is expected to be the primary exception for the County to utilize to institute more sustainability-related initiatives such as increasing EV chargers and energy efficiency standards for buildings.

Crapo demonstrated multiple examples that showed how the new State building code may

require fewer EV charging parking spaces in some construction projects than the previous code; the County's current local code amendment requires more EV chargers than the State code in those cases. Crapo recommended the Board continue to keep the current amendment that encourages more EV charger installations.

The 2025 California Energy Code will exceed the energy efficiency standards stated in the County's current local Energy Code amendments, so they will no longer be necessary when the 2025 California Energy Code goes into effect on January 1, 2026.

Crapo discussed the potential for future Energy Code amendments and the requirements listed under AB 130. One requirement for local amendment approval is to show that energy efficiency upgrades required in the amendment are cost-effective, meaning the energy savings over time will be greater than the extra costs to install the upgrades. However, no cost-effectiveness studies have been completed at this point for the County to leverage, so staff recommend monitoring the development of new cost-effectiveness studies and the implications for future energy code amendments.

Committee Discussion:
Supervisor Gioia stated that he is comfortable moving forward with the County's current local building code amendments into the next code cycle and agreed on these recommendations going to the full Board. Gioia expressed appreciation to Crapo for a thorough presentation that answered many questions regarding this complicated field.

Public Comment:
There was no public comment.

6. ACCEPT public comments and CONSIDER recommending adoption of the Contra Costa County Clean Energy Roadmap for Existing Buildings to the Board of Supervisors.

Attachments: Attachment 1_Summary of Public Comments Received
Attachment 2_350 Contra Costa Action Public Comment Letter_4-21-25
County Clean Energy Roadmap for Existing Buildings_FINAL DRAFT CLEAN_9-2-25

Demian Hardman-Saldana, Principal Planner at the Department of Conservation and Development, provided a verbal report on the final draft of the County's Clean Energy Roadmap (Roadmap). Public comment was received on an earlier draft from March through April of 2025. Staff hosted two information sessions. Feedback gathered on the Roadmap indicated that more detail was desired to align with the Climate Action and Adaptation Plan. A new section was added to the Roadmap as a result: the Implementation Action Plan.

This section of the Roadmap outlines the framework for a document, the Implementation Action Plan, that will be published within 12 months after the Roadmap is adopted, which will include a timeline for implementing key items in the Next Steps section. Hardman-Saldana also highlighted the website for the Roadmap, which displays these steps and will be updated with more information regarding new updates to legislation or programs pertaining to the Roadmap, to keep the public updated and invite public comment.

Committee Discussion:
Supervisor Gioia asked if this item would go to the full Board for adoption, and Hardman-Saldana confirmed that the plan is to bring it to the Board as a discussion item in October or November.

Public Comment:
There was no public comment.

7. RECEIVE Report on Contra Costa Asthma Initiative Grant Project and PROVIDE DIRECTION, if needed.

Attachments: CC Asthma Initiative Report_7-2025

Demian Hardman-Saldana provided a slideshow presentation on the lessons learned from the Contra Costa Asthma Initiative project. This project studied the relationship between air quality and asthma rates. A map of the county produced during the most recent General Plan update indicates that several areas of the county are in the top 20% of census tracts for emergency room visits related to asthma per 10,000 residents compared to the rest of the state. In 2018-2019, the County received a technical assistance grant to develop a business plan to reduce healthcare costs by making improvements to homes to improve indoor air quality and reduce visits to the emergency room. In 2020, the State and the Bay Area Air District awarded grants to the County to implement this business plan.

The implementation of this effort included home visits for asthma education to reduce exposure to asthma triggers, assessing homes, removing asthma triggers from homes, lowering energy bills, and improving comfort of the home. Results from this project's implementation from 2021-2023 indicated increased asthma control test scores for home visit participants; 12 homes were renovated with asthma reduction measures at no cost to the client or property owner; and a study was done showing the frequency of landlords agreeing to, declining, or not responding to requests for their rental properties to participate in the program.

Hardman-Saldana described the lessons learned from the Contra Costa Asthma Initiative:

- ***Success of future programs depends on having a tight implementation timeline because lags between steps can hurt participation and follow-up.***
- ***Future success will require more participation with rental properties, knowing that not all landlords will be willing to participate and goals should be set accordingly.***
- ***Layering funding from multiple sources will be helpful for successful implementation of future programs.***
- ***Pairing asthma trigger mitigation services with regional or state energy efficiency programs could be beneficial.***

Committee Discussion:
Supervisor Gioia mentioned a large Chevron fine from a health-related settlement that will provide around $36 million in West Contra Costa County and asked if staff could look into the best ways that the money can be utilized to reduce asthma while applying any lessons learned from the presented project. Hardman-Saldana agreed to look into ways that money could be used efficiently based on the lessons learned from the Contra Costa Asthma Initiative.

Public Comment:

There was no public comment.

8. RECEIVE report from the Sustainability Commission Chair, or Designee.

Shoshana Wechsler, Sustainability Commission Chair, stated that the August 25, 2025, meeting was cancelled due a lack of quorum. Instead, Wechsler reported on the previous meeting that took place on July 28, 2025. At that meeting, Dr. Bret Andrews, a neurologist and member of Physicians for Social Responsibility, presented a report on the connection between greenhouse gas emissions, criteria pollutants, and health impacts from pollution. The Commission learned from this presentation that focusing on reducing greenhouse gas emissions has added co-benefits of improving health across all age ranges in the most impacted communities in Contra Costa.

Public Comment:
There was no public comment.

9. RECEIVE report on staff activities that support sustainability goals.

Attachments: 2025_09_08 Sust. Staff Report to Sust. CMTE

Jody London, Sustainability Coordinator, provided highlights from the written report on the County's Sustainability work included in the agenda:

- ***Staff are moving into implementation of two grant-funded projects: the Urban Forest Management Plan and development of the County's Shoreline Adaptation Plan.***
- ***The County will be utilizing a portion of funding from the U.S. Department of Energy's Energy Efficiency and Conservation Block Grant to conduct all-electric retrofits for licensed family-based daycare facilities.***
- ***Staff continue to implement the Bay Point/Pittsburg Energy Enhancement Pilot Program through a grant from the Keller Canyon Mitigation Fund.***
- ***An extern from the Rising Sun Opportunity Center is working with staff to update the County's energy efficiency toolkits, which are available check-out at Library facilities.***
- ***Staff are active in the California Public Utilities Commission proceeding looking to remove gas lines from certain neighborhoods across California.***
- ***A grant from PG&E has been awarded to the County to study key features for resilience hubs across the county, using the Ambrose Community Center in Bay Point as the first location to consider.***
- ***Grants have been received by staff in other County teams/departments, such as Transportation, Housing, and Public Works, for sustainability-related projects.***

Public Comment:
There was no public comment.

10. ADJOURN until the next Sustainability Committee meeting to be held on Monday, November 10, 2025, at 1:00pm.

The meeting was adjourned at 1:57 pm.

GENERAL INFORMATION

HOW TO PROVIDE PUBLIC COMMENT

FOR ADDITIONAL INFORMATION, PLEASE CONTACT:

File #: 25-4696 **Agenda Date:** 11/10/2025 **Agenda #:** 4.

SUSTAINABILITY COMMITTEE
Meeting Date: November 10, 2025
Subject: RECEIVE Report on hydrogen production methods and benefits.
Submitted For: John Kopchik || Director | DCD
Department: DEPARTMENT OF CONSERVATION & DEVELOPMENT
Presenter: Matt Murdock || CEO & Founder | Raven SR
Contact: Demian Hardman-Saldana | (925) 655-2816

Referral History:
The Sustainability Committee has an interest in learning about hydrogen production methods and benefits.

Referral Update:
Raven SR, a company that takes organic waste and converts it to clean hydrogen will provide a report on hydrogen production methods.

Recommendation(s)/Next Step(s):
RECEIVE Report on hydrogen production methods and benefits.

Fiscal Impact (if any):
None.

RAVEN

Raven SR: Hydrogen Production Methods

November 2025

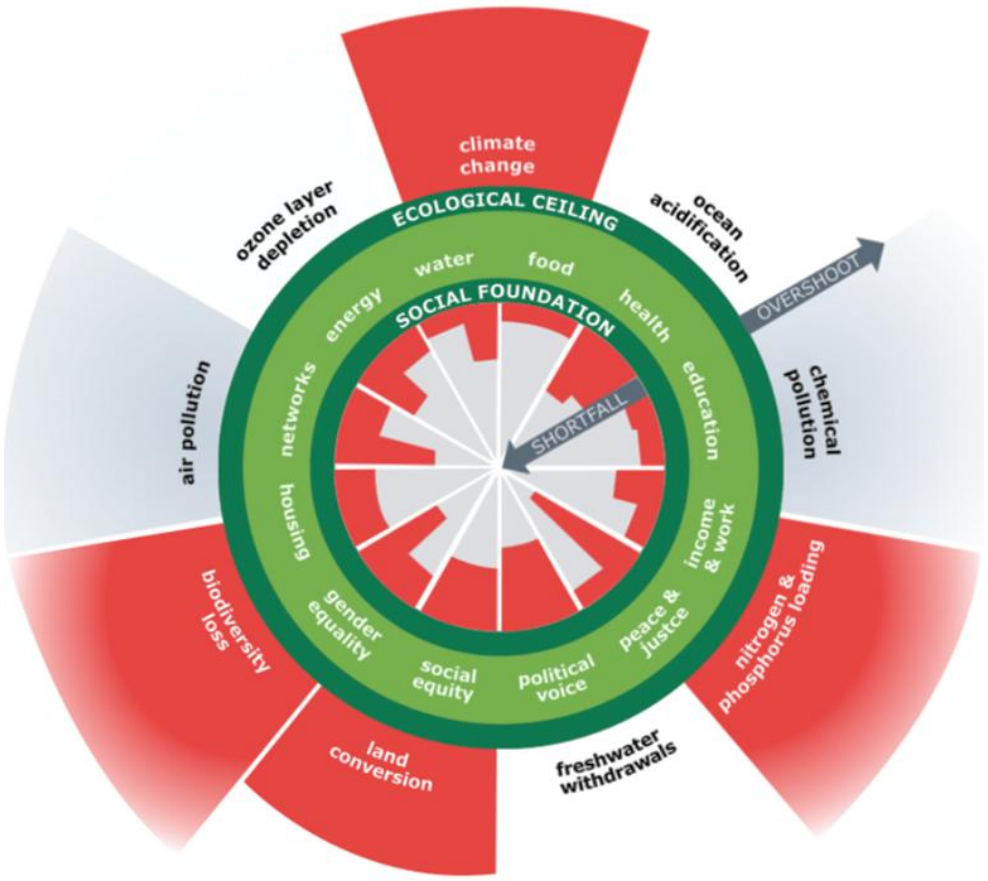
Why Hydrogen Matters for Contra Costa

RAVEN

1. Delivers on Climate Action Plan goals by cutting transport, waste, and industrial emissions – key sectors driving the County's ~1 MMT CO_2e/yr on-road footprint (BAAQMD 2023).
2. Zero-emission freight is scaling now: the Bay Area's NorCal ZERO fleet (30 fuel-cell trucks) removes ~4,000 t CO_2e/yr, proving hydrogen works for regional logistics.
3. Improves local air quality: diesel exhaust causes ~70 % of air-toxic cancer risk in BAAQMD communities; fuel-cell trucks eliminate tailpipe PM & NO_x.
4. Turns waste into energy: diverting landfill organics or plastics to hydrogen avoids >2 t CO_2e per ton of waste – supporting the County's "Zero Waste by 2035" target.
5. Decarbonizes existing industry: Contra Costa refineries consume ~150 MM scf/day H_2; replacing it with low-CI hydrogen could cut ≈1 MM t CO_2e annually.
6. Advances BAAQMD Rule 11-18 goals by deploying systems with verified toxics controls and low-risk HRAs.
7. Creates local skilled jobs: a 6 t/day hydrogen plant supports roughly 40 direct & indirect positions across operations, maintenance, and supply.

(Sources: BAAQMD GHG Inventory 2023; CARB ZEV Plan 2023; DOE Hydrogen Shot 2024; EPA GHG Equivalencies; Raven SR Richmond ATC data.)

What “Clean” Really Means



Planetary Boundary	Limit	Current
Freshwater Withdrawals (km^3/year)	4,000	~2,600–3,000
Climate Change (ppm CO_2)	350	~420
Land Conversion (% natural cover remaining)	≥ 75%	~62%
Biodiversity Loss (extinctions per million species per year)	< 10	> 100
Stratospheric Ozone (Dobson Units)	≥ 275	~283 *(recovering)*
Nitrogen Load (million tons N/yr)	≤ 62	~150
Phosphorus Load (million tons P/yr)	≤ 6.2	~14
Ocean Acidification (Ω Aragonite)	≥ 2.75	~2.9
Novel Entities (chemicals, plastics, etc.)	Near 0 increase	Exceeded

“Humanity’s 21st-century challenge is to meet the needs of all within the means of the planet—ensuring that no one falls short on life’s essentials, while not overshooting Earth’s life-supporting systems.” [Kate Raworth, Doughnut Economics]

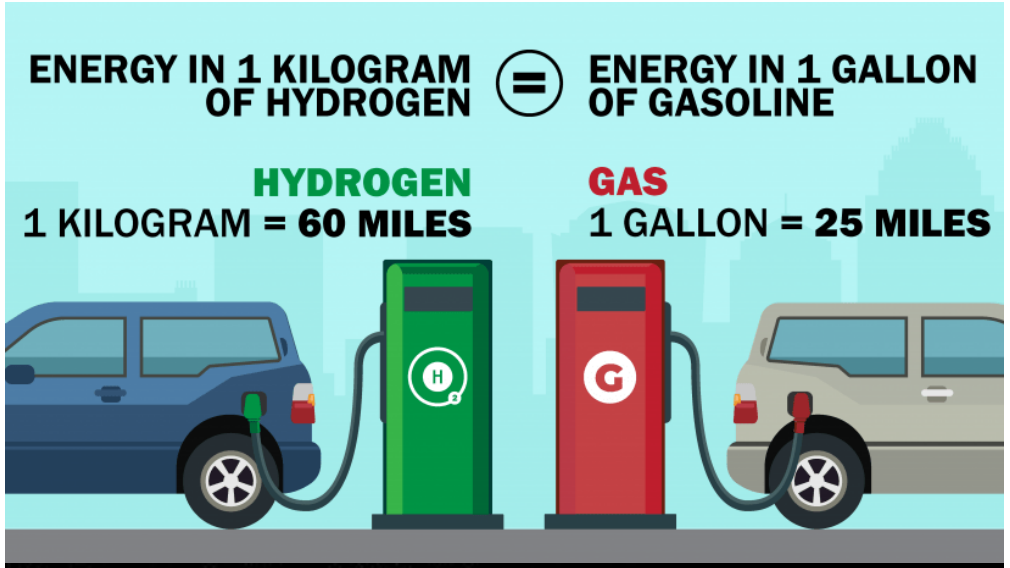
- Energy: The world uses over 160,000 TWh per year; hydrogen pathways should be efficient and scalable within that global energy budget.
- Water: Global freshwater withdrawals are ≈ 2,600 km^3 per year of a 4,000 km^3 limit; responsible hydrogen production must minimize freshwater demand.
- Local co-benefits: Cleaner air, reduced waste, and community resilience are equally vital measures of sustainability.

Bottom line: True sustainability balances energy, water, carbon, and community impact—green is measured by outcome, not label.

Hydrogen: Safe by Design

RAVEN

- Proven and familiar: Hydrogen has been used safely in industry for more than 50 years in refineries, fertilizers, and electronics.
- Safe when managed properly: Like gasoline or natural gas, hydrogen must be handled in closed systems—but its properties make incidents less likely and less harmful.
- Non-toxic and clean: It contains no carbon, produces only water when used, and is not carcinogenic, corrosive, or water-polluting.
- Light and dispersive: Being lighter than air, leaked hydrogen rises and disperses rapidly rather than pooling.
- Modern detection and storage: Sensors and sealed composite tanks provide multiple layers of protection during transport and fueling.



Sources: shell-h2-study-new.pdf, Hydrogen Compared with Other Fuels | Hydrogen Tools (h2tools.org), Hyundai, Toyota and Hyzon publications. Demonstration conducted under controlled conditions, U.S. Department of Energy Hydrogen Safety Program.

Hydrogen Production Methodologies

RAVEN

FOSSIL RESOURCES

- Low-cost, large-scale hydrogen production with CCUS
- New options include byproduct production, such as solid carbon

Coal Gasification with CCUS

Natural Gas Conversion with CCUS

BIOMASS/WASTE

- Options include biogas reforming and fermentation of waste streams
- Byproduct benefits include clean water, electricity, and chemicals

Biomass Conversion

Waste to Energy

H_2O SPLITTING

- Electrolyzers can be grid-tied, or directly coupled with renewables
- New direct water-splitting technologies offer longer-term options

Direct-Solar

High Temp. Electrolysis

Low Temp. Electrolysis

Hydrogen Production Methodologies

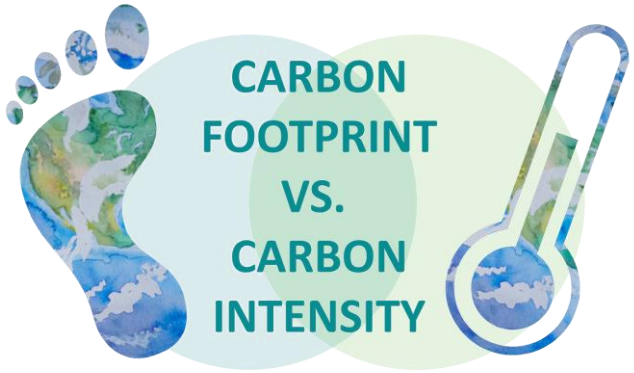
RAVEN

Method	Feedstock / Source	Typical Carbon Intensity (kg CO_2e / kg H_2)	Air Quality & Pollutants	Energy Source	Waste / By-products	Regional Suitability (Contra Costa)	Key Co-Benefits	Main Challenges
Autothermal Reforming (ATR)	Natural gas / LPG	8 – 10 (2–3 with CCS)	Moderate CO_2, NO_x from O_2 combustion	Steam + O_2	CO_2	Possible retrofit at refinery or industrial hub	Easier CCS integration than SMR	Still fossil based; needs carbon storage infrastructure
Biological / Fermentative H_2	Organic wastewater, algae	≈ 0 (biogenic)	Very low air impact	Biological	CO_2 (biogenic)	Good fit with wastewater plants	Co-treats organic waste streams	Low yield; R&D stage
Biomass Gasification	Wood waste, crop residue	0 to –5 (biogenic credit)	Very low; minimal NO_x	Steam heat (renewable)	Biochar, ash	Strong fit with urban forestry & organics diversion	Converts ag/urban waste to fuel + carbon sink	Feedstock collection logistics; tar management
Coal Gasification	Coal / Pet-coke	18 – 20 (7–10 with CCS)	SO_x, NO_x, PM	Combustion + steam	Slag, CO_2	Not regionally relevant	Base-load power co-generation	Not aligned with CA climate targets
Electrolysis (PEM or Alkaline)	Water	0 – 2 (renewable electricity)	None (only O_2 release)	Renewable electricity	O_2 by-product	Excellent fit for Contra Costa microgrids and renewable PPAs	Grid balancing, energy storage	High power cost / capacity factor dependence
High-T Electrolysis (SOEC)	Water + steam	0 – 2	None	Heat + renewable power	O_2	Industrial co-location (e.g. refineries, cement)	Highest efficiency (> 80%)	Early commercialization
Methane Pyrolysis (Turquoise H_2)	Natural gas → solid carbon + H_2	0 – 2 (renewable power)	Low – no CO_2; some PM if uncontrolled	Electric heat	Solid carbon product	Possible industrial co-location	Carbon solid as saleable material	Technology still pilot-scale
Plasma Gasification	MSW, medical waste	4 – 8	Some NO_x from plasma arc	Electric arc	Inert slag + CO_2	Niche industrial uses	High destruction efficiency for hazardous waste	High power demand
Pyrolysis (Waste/Biomass)	MSW, plastics	2 – 6 (depends on electric source)	Moderate organics and tars	Electric heat	Bio-oil, biochar	Viable for local waste diversion	Reduces landfill volumes	Tar handling and permitting ambiguity
Steam / CO_2 Reforming (Raven SR)	Mixed biomass & organic waste	–5-15 (LCA 2024)	No combustion: virtually zero NO_x / SO_x / PM / dioxins	Electric + steam (renewable option)	Stable biochar + CO_2 for reuse	Uses landfill gas + organic waste at Richmond site	Cuts methane emissions; creates local jobs; aligns with Rule 11-18	Grid interconnection and utility tariff complexity
Steam Methane Reforming (SMR)	Fossil natural gas	9 – 12 (2–4 with CCS)	High CO_2, NO_x unless CCS used	Combustion of CH_4	Large CO_2 stream	Already used in Martinez refineries – retrofit potential	Quick scaling from existing plants	High carbon footprint without CCS; limited local air benefit

Average Carbon Intensity of Typical Production Methods

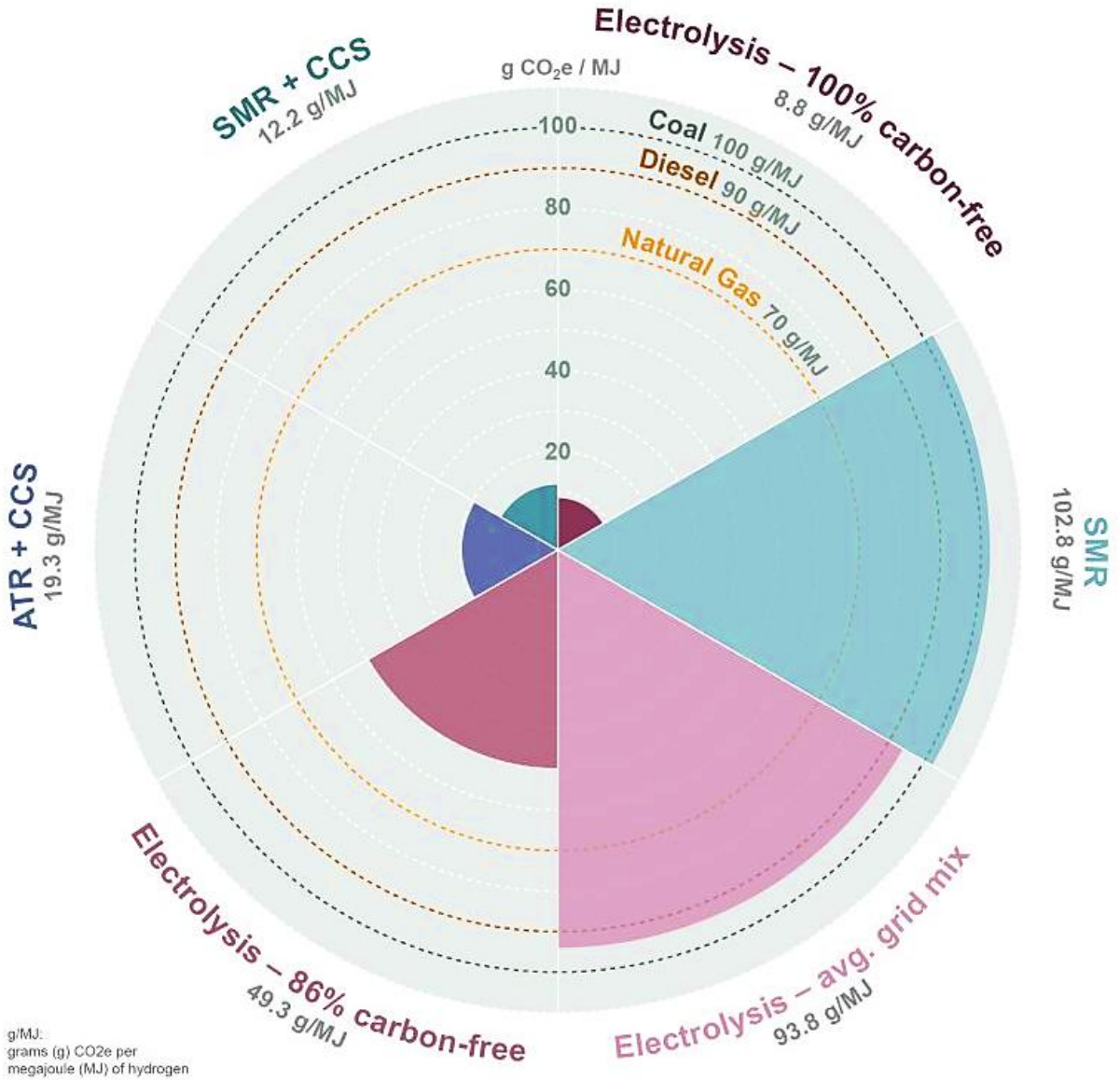
RAVEN

Lifecycle carbon intensity of hydrogen varies more than tenfold depending on how it's made. Hydrogen's climate benefit depends on its origin, locally sourced renewable or waste-to-hydrogen offers the steepest emissions reduction and the greatest regional co-benefits for air quality.



Carbon footprint: the total amount of greenhouse gases released by an activity or product, usually measured in tons of CO_2e.

Carbon intensity (CI): the amount of emissions per unit of useful output or energy – it shows how clean or efficient the process is.



g/MJ:
grams (g) CO2e per
megajoule (MJ) of hydrogen

Elizabeth Abramson & Dane McFarlane,
Carbon Solutions LLC, 2022.

Raven S-Series Plant 70 wtpd in Richmond, CA

RAVEN

Milestones

- ✓ Feedstock agreement
- ✓ Offtake agreement
- ✓ FID
- ✓ Tier 1 Registration
- ✓ Land Easements
- ✓ Grid Connection
- ✓ CEQA IS/MND
- ✓ Community support
- ✓ Labor Endorsement
- ✓ EJ/NGO Endorsement
- ✓ Richmond CUP
- ✓ SWFP → BCF
- ✓ Article II Compliance
- ✓ HRA Approval
- ✓ ATC Issued

Feedstock	Input Capacity	Output Capacity	Partners + Offtake
Green & Wood Waste	70 wtpd	~ 7,000 kg/day H_2 (SAE J2719 grade)	Chevron, Republic Services

Raven's Reforming System – Proven, Efficient, Scalable

RAVEN

SR-1 Electric Rotary Reformer

Converts solid waste into syngas and bio-carbon. Core Advantages:

- Electric heating for precise heat control
- Non-catalytic
- 95% cold-gas efficiency
- Lower temps + steam = no tars or slag
- Robust, modular design

SR-2 Electric Steam Reformer

Converts methane-rich syngas to high-purity H_2. Core Advantages:

- Electric heating for precise heat control
- Non-catalytic
- >97% CH_4 conversion
- Destroys sulfur & nitrogen impurities
- Lower pressure than traditional SMR

SR1

Decades of proof
Large-scale kilns have been built and run around the world

Strong Technology and IP
22 patents issued and 12 patents pending

Commercially Built to Scale
SR2 reactor already fabricated and shop-tested

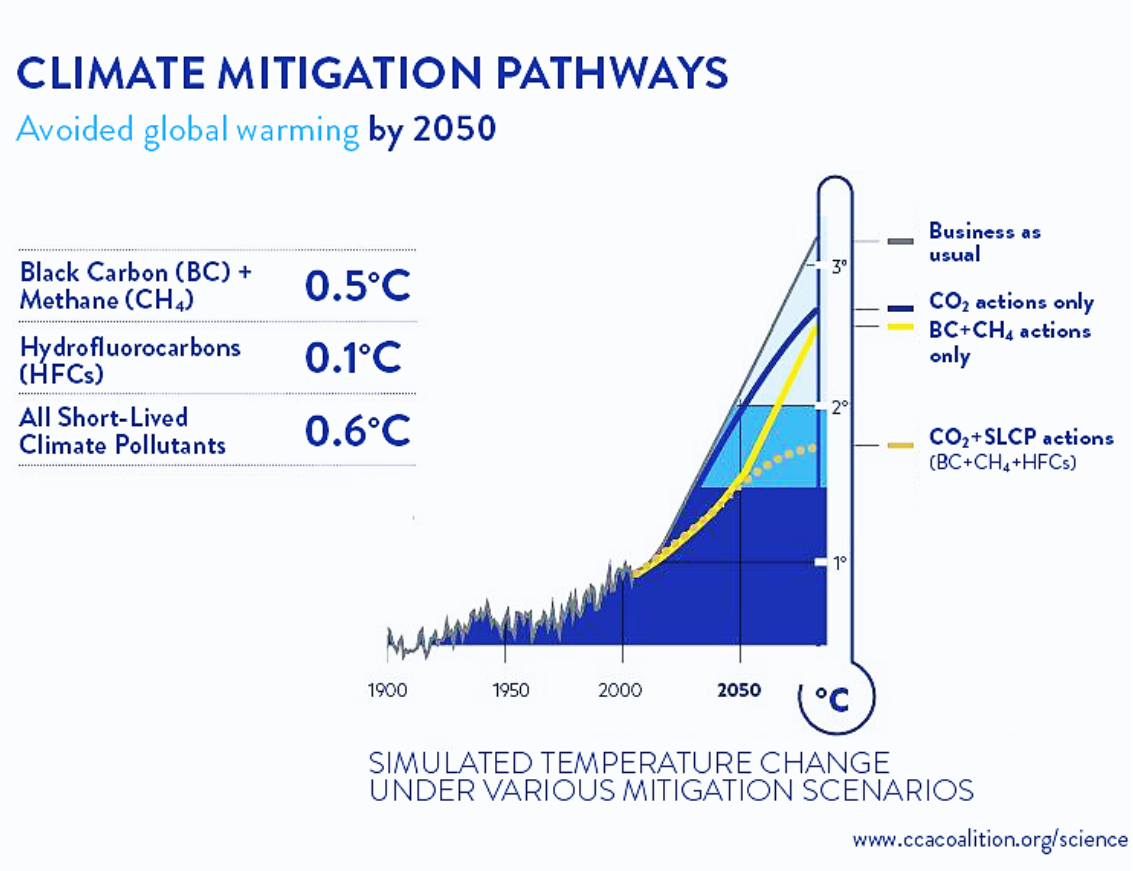
SR2

Together, SR1 and SR2 enable non-combustion hydrogen production from solid waste – cleanly, efficiently, and at commercial scale.

The Other Half of the Climate Equation

RAVEN

Short-Lived Climate Pollutants and Near-Term Warming. Pair long-term CO_2 cuts with biomass-focused SLCP reductions to deliver near-term cooling and local air-quality gains



"It is not too late to avoid disastrous climate changes. If we stabilize CO2 concentrations and simultaneously reduce Short Lived Climate Pollutants (SLCP), we can limit the end-of-century warming by 50 percent and reduce the cumulative sea-level rise by about 30 percent.... SLCP reductions are the last lever we have left to avoid catastrophic climate change..." [Dr. V. Ramanathan, UCSD Scripps Institute]

- Methane (CH_4) and black carbon (BC) account for nearly half of observed warming.
- Reducing SLCPs complements CO_2 mitigation — fast benefits within 10–20 years.
- Waste-to-hydrogen projects that destroy methane and eliminate combustion directly address this category.

Data: Climate & Clean Air Coalition; UNEP; UCSD Scripps Institute; 2023 IPCC AR6 Summary.

Local Co-Benefits

RAVEN

- 🏭 Cleaner air – Replacing diesel with hydrogen eliminates tailpipe PM & NO_x. Diesel exhaust causes ≈ 70 % of BAAQMD's air-toxic cancer risk; 100 fuel-cell trucks remove > 400 t CO_2e and ~2 t PM per year.
- 💼 Local jobs – A 6 t/day plant sustains ~40 skilled positions in operations, maintenance & construction—matching Contra Costa's industrial workforce.
- ♻️ Circular reuse – Converting 75 TPD of organics & plastics avoids ≈ 150 t CO_2e daily and supports the County's Zero Waste by 2035 goal.
- 💧 Water efficiency – Closed-loop reforming recovers > 80 % of process water and uses no potable supply.
- 📈 Energy resilience – Distributed hydrogen production adds local backup power and grid stability for emergency response.

(Sources: BAAQMD 2023; CARB ZEV Plan 2023; DOE Hydrogen Shot 2024; EPA GHG Calculator; Raven SR Richmond ATC Data.)

Disclaimer

This presentation is provided by Raven SR, Inc. solely for informational and educational purposes in connection with regional sustainability and clean-energy planning efforts. It is intended to share technical, environmental, and policy information about hydrogen production pathways and related technologies relevant to Contra Costa County's Climate Action Plan goals.

This material does not constitute an offer, solicitation, or recommendation for any commercial transaction, investment, or partnership. It should not be interpreted as marketing, financial advice, or endorsement of any specific project or technology.

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File #: 25-4697 **Agenda Date:** 11/10/2025 **Agenda #:** 5.

SUSTAINABILITY COMMITTEE
Meeting Date: November 10, 2025
Subject: RECEIVE Report on County Fleet Zero Emission Vehicle Plan and CONSIDER recommending approval of the plan to the Board of Supervisors
Submitted For: Warren Lai || Director | PUBLIC WORKS
Department: PUBLIC WORKS
Presenter: Brendan Havenar-Daughton || Energy Manager | PUBLIC WORKS
Contact: Brendan Havenar-Daughton | (925) 812-7703

Referral History:
Item relates to ongoing Board direction under the Climate Action and Adaptation Plan (CAAP) and Strategic Energy Management Plan (SEM) for staff to analyze and evaluate cost and strategic approach to transition county fleet to Zero Emission Technology.

Referral Update:
The Zero Emission Vehicle plan development was approved in the SEM plan approved by the Board of Supervisors (BOS) in January 2025.

Recommendation(s)/Next Step(s):
RECEIVE report on County Fleet Zero Emission Vehicle Plan and CONSIDER recommending approval of the plan to the Board of Supervisors.

Fiscal Impact (if any):
None. Report outlines total cost of investment to achieve BOS-approved CAAP goal but does not make a request for funding at this time.

Charge Ahead: Strategy for A Zero-Emission County Fleet

Contra Costa County Zero Emission Vehicle Plan

Table of Contents

Acronym Guide

Acronym	Term
AB	Assembly Bill (California Legislature)
ACC/ACF/ACT	Advanced Clean Cars/ Fleets/ Trucks (California policy)
B	“Billion” monetary reference
BAAQMD	Bay Area Air Quality Management District
CARB	California Air Resources Board
CAAP	Climate Action and Adaptation Plan (2024)
CCTA	Contra Costa County Transportation Authority
C-TEC	Countywide Transportation Electrification Coordination
DCD	Contra Costa County Department of Conservation & Development
DER	Distributed Energy Resource
DR	Demand Response
EIA	Energy Infrastructure Agency (Federal)
EPA	Environmental Protection Agency (Federal)
EV	Electric Vehicle
EVSE	Electric Vehicle Supply Equipment
GVWR	Gross Vehicle Weight Rating
ICE	Internal Combustion Engine
IRA	Inflation Reduction Act (Federal)
GHG	Greenhouse Gas
K	“Thousand” monetary reference
LCFS	Low-Carbon Fuel Standard
NREL	National Renewable Energy Laboratory (Federal)
M	“Million” monetary reference
MCE	Marin Clean Energy
OSHA	Occupational Safety and Health Administration
PG&E	Pacific Gas & Electric Company
PW	Contra Costa County Public Works
PV	Photovoltaic (Solar)

ROI	Return on Investment
SB	Senate Bill (California Legislature)
SEM Program	Strategic Energy Management Program (2024)
SUV	Sport Utility Vehicle
TCO	Total Cost of Ownership
V2G/ V2X	Vehicle-to-Grid / Vehicle-to-Anything
ZEV	Zero-Emission Vehicle

1. Vision Letter

Contra Costa County is at a turning point in an important transition to a lower carbon economy. This Zero-Emission Vehicle (ZEV) Plan builds upon the 2024 Contra Costa County Climate Action and Adaptation Plan (CAAP), a comprehensive vision and action plan for a sustainable future, charting a pathway to net zero greenhouse gas (GHG) emissions in the County by 2045. Transportation accounts for 47% of the County's GHG emissions, the single largest category of harmful carbon pollutants.

This challenge brings opportunity, as the County pursues innovative actions to transition its fleet to zero-emission by 2035, with the great majority of vehicles transitioning to all-electric. The ZEV Plan describes specific, timebound actions that the County can take to convert its fleet to zero-emission fuels and build out the infrastructure needed not only to support its own fleet, but neighboring municipal fleets, private vehicles driven by County employees, and the broader community. Converting the County fleet of more than 1,300 vehicles to zero-emission fuels will eliminate 43,000 tons of carbon dioxide equivalent (C02e) and 750 pounds (lbs) of particulate matter, which will improve local air quality and reduce pollutants associated with childhood asthma cases. These efforts are especially important for the County's Impacted Communities, which are already burdened by pollution from nearby industrial facilities. A foundational pillar of this ZEV Plan is to prioritize equity in the benefits, investments and strategies contained herein.

Our vision is that detailed ZEV Plan actions will create a ripple effect in the community. The County plans to launch innovative strategies to operate its fleet on zero emission fuels, learn from the experience, and share knowledge with community stakeholders in the private sector, nonprofits, and community-based organizations with similar goals and intentions to reduce carbon emissions from transportation. Some actions within this ZEV Plan will become direct investments in zero-emission transportation in the Contra Costa County community, such as opening up Electric Vehicle Supply Equipment (EVSE) at County facilities to the general public to charge their EVs.

Converting the transportation sector to zero-emission vehicles is a necessary step in reducing the harmful pollutants that cause climate change. While converting the County's fleet to zero-emission is a daunting task, it will be well worth the additional time and up-front investment, as the result will be cleaner air, reduced risk of wildfires, and a more resilient Contra Costa County.

2. How to Use the ZEV Plan

This ZEV Plan is intended to guide County staff to reach the goal established in the 2024 Climate Action and Adaptation Plan (CAAP) of converting the County's fleet of more than 1,300 vehicles to zero-emission by 2035.

This plan highlights the distinct steps that County staff and leadership may take to support, fund, and ultimately achieve this fleet transition. The County's ZEV journey thus far has demonstrated that simply converting gasoline vehicles to electric vehicles (EVs) is not enough to accomplish a functioning all-electric fleet; the County must also invest in supportive technology such as Electric Vehicle Supply Equipment (EVSE), workforce training, change management, and policy to uphold the transition.

Chapters four (4) through six (6) cover the key drivers and rationale for the County to embark on this fleet transition, as well as the recommended year-by-year vehicle conversions to EVs that the County may take in order to achieve an all-electric fleet at least cost with optimal outside investment, and while ensuring compliance with Federal, state and local regulations. The cost of the fleet transition is characterized by the Total Cost of Ownership (TCO) of each vehicle, taking into account the costs for up-front purchase, maintenance, repair and fueling over the lifetime of vehicles, comparing electrification scenarios against a baseline of no ZEV transition. These chapters focus on the vehicle conversions that must take place in order to achieve the CAAP goal of an all-electric fleet by 2035, though there is an alternate reference scenario analyzed where the fleet converts to zero-emission according to state policy compliance goals and a restricted budget.

Chapter seven (7) analyzes the current state of EVSE on County owned- and leased- sites, and recommends additional EVSE investment to support a full fleet transition. Vehicle domiciles, duty cycles and needs of County drivers from each Department were taken into account in order to arrive at these recommendations. The subsequent chapters in this ZEV Plan contain specific, actionable and timebound recommendations organized by key topics, such as Regional Collaboration, Funding and Financing, Policy, and Innovation. These additional recommendations are essential to a successful fleet transition, as they will ensure that County financial resources are considered and conserved whenever possible, key stakeholders are informed, County drivers are comfortable with new technologies, and a trained workforce is ready to address the need to service new vehicles and EVSE.

The ZEV transition will be a learning process, and the recommendations in this ZEV Plan are a starting point for the County to take action, plan for the future, and iterate as the transition continues.

3. Executive Summary

This Zero-Emission Vehicle (ZEV) Plan outlines a roadmap for Contra Costa County to transition its fleet of more than 1,300 vehicles to zero-emission by 2035, aligning with state, regional, and local sustainability goals. The plan analyzes various scenarios and provides actionable recommendations across key areas.

Key Findings

- **Achieving the CAAP Scenario is Most Cost-Effective:** A Total Cost of Ownership (TCO) analysis reveals that achieving the Climate Action and Adaptation Plan (CAAP) goal of full fleet electrification by 2035 is the least expensive option in the long term, with a TCO of just under $200M compared to $239M for the Fossil Fuel Baseline Scenario.
- **Significant EVSE Investment Required:** The County needs to invest an estimated $26.5 million in EVSE infrastructure, requiring 266 Level 2 charging ports and 100 DCFC spread across County-owned and leased sites. Investment is front-loaded with significant investment in EVSE through 2031.
- **ZEV Transition Benefits the Environment and Public Health:** Transitioning the full County fleet is estimated to save 43,000 tons of carbon dioxide equivalent (C02e) and 750 pounds (lbs) of fine particulate matter (PM 2.5) over 15 years, improving environmental and public health outcomes.

Key Action Areas

<u>Funding and Financing</u>

- Actively pursue outside funding resources (rebates, incentives, grants).
- When available, utilize tax equity financing for EVSE projects and Elective Pay options for EV purchases.
- Leverage Low Carbon Fuel Standard (LCFS) credits for up to 15% cost reduction for EVSE
- Explore innovative financing strategies such as vehicle leasing and green bonds.

<u>Workforce Development</u>

- Prioritize two key skillsets for in-house County workforce: EV Mechanics and EVSE O&M Specialists
- Partner with unions, educational institutions, utilities, and the Contra Costa County Workforce Development Board (WDBCCC) to plan robust job training pathways for new and existing hires

<u>Regional Collaboration</u>

- Leverage the Countywide Transportation Electrification Coordination (C-TEC) to consider a Joint Powers Authority (JPA) to procure EVSE and coordinate on grants and incentives

- Leverage utility partnerships with MCE and PG&E for grid planning and incentives

Policy

- Set clear EV charging etiquette and policies, emphasizing communication and safety
- Prioritize County and agency fleets for DCFC access while accommodating personal employee EVs with Level 2 chargers
- Allow take-home fleet EV fleet charging with reimbursement at the IRS variable-cost mileage rate

Next Steps

This ZEV Plan provides a comprehensive framework for Contra Costa County to achieve its ambitious fleet electrification goals. Successful implementation will require ongoing collaboration, strategic investment, and a commitment to innovation and equity.

4. EV Market and Drivers

4.1 EV Policy Drivers

Policies at the local, State and Federal level are driving the transition to zero-emission vehicles. The following policies are the most influential in shaping the EV transition curve for Contra Costa County.

County Policies

In 2019 the Contra Costa County Transportation Authority (CCTA) published the Contra Costa Electric Vehicle Readiness Blueprint (EV Blueprint), a preliminary plan outlining short-, medium-, and long-term actions to support transportation electrification. The Blueprint does not set a long-term procurement or EVSE infrastructure mandate but evaluates EV adoption scenarios using Energy Information Administration (EIA) sales projections and contemporaneous state GHG and carbon-neutrality policies. Many Blueprint recommendations have been updated and re-contextualized for this report.

In November 2020 voters approved Measure X, a half-cent countywide sales tax that generates roughly $120 million per year for County priorities. The Board of Supervisors allocates these funds with input from a countywide Advisory Board.

To date, the County has designated $2.5M annually ($7.8M to date) to a Sustainability Fund from Measure X to support Climate Action and Adaptation Plan (CAAP) objectives. The Sustainability Fund is intended to finance investments that advance CAAP objectives within County facilities—such as lighting, building controls, and related systems—thereby lowering barriers for departments to implement these upgrades. The County Energy Management Team uses Sustainability Fund resources as matching funds for state and federal grants to invest in Electric Vehicle Supply Equipment (EVSE). As of Q2 2025, $3.6M of the Sustainability Fund has been allocated to EVSE on County sites, and leveraged to secure approximately $18M in additional state and federal funding for additional EVSE.[1]

Also in February 2022 the County adopted a vehicle purchasing policy establishing mileage-based replacement milestones and directing Public Works to “utilize EVs to the greatest extent possible unless there is a compelling documented reason that an EV does not meet operational needs.”[2] Replacements must be zero-emission except for emergency response vehicles or when a ZEV model does not meet duty-cycle requirements. The policy defines “zero emission” to include battery electric vehicles, hydrogen vehicles, and plug-in hybrid electric vehicles (PHEVs), with PHEVs permitted only when a full EV is demonstrably insufficient.

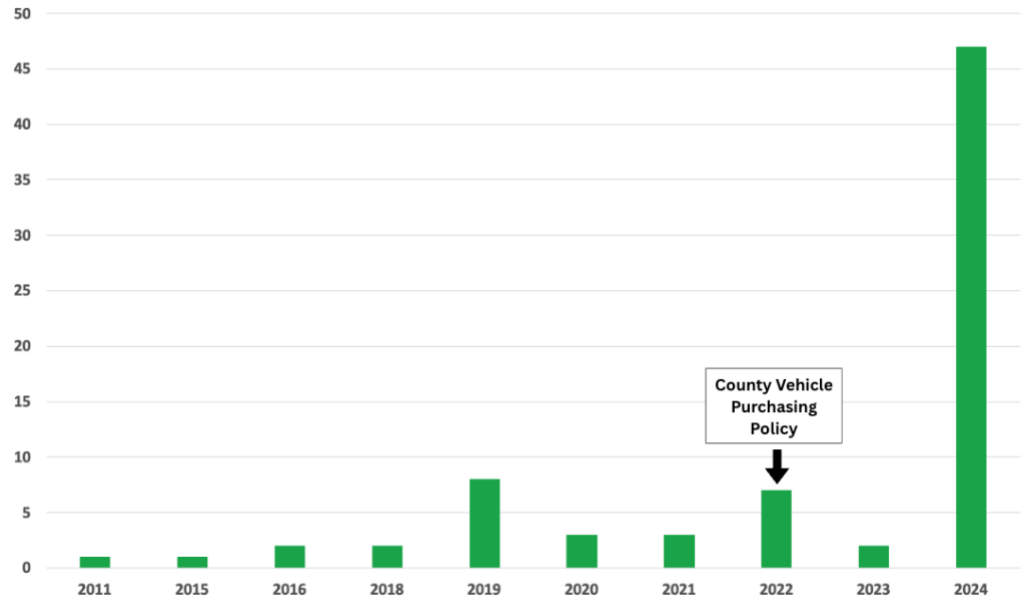
[1] County Measure X Sustainability Fund website, https://www.contracosta.ca.gov/10249/Measure-X-Community-Impact

[2] Administrative Bulletin 508.6, County Vehicle and Equipment Acquisition and Replacement Policy, February 10, 2022.

The 2022 purchasing policy has been the most significant local driver of fleet electrification. Prior to its adoption the County had purchased 20 EVs; by the end of 2024 purchases had more than tripled to 76 EVs (see Figure 1),[3] reflecting the policy's immediate impact.

In 2024 the County updated its CAAP, which sets a pioneering fleet target: all County vehicles will be zero-emission by 2035.[4] While the CAAP allows hydrogen and PHEVs, the expectation is that the vast majority of replacements will be battery electric. Supporting CAAP actions include large-scale EV charger deployment, local policy changes to require or incentivize additional chargers, and support for e-mobility solutions (e-bikes, e-scooters, and EV car-share).

Figure 1: Historical County EV Purchases Through 2024



State Policies

California State policies in sustainability, greenhouse gas (GHG) reduction, and zero-emission transportation are influencing the County's EV transition.

In 2006, California passed Assembly Bill (AB) 32, the first major statewide GHG reduction bill, requiring the state to reduce GHGs to 1990 levels by 2020. AB 32 set the stage for myriad sustainability initiatives in the state, including zero-emission transportation programs and requirements that would develop over the next two decades. This legislation also empowered the California Air Resources Board (CARB) to monitor and regulate all sources of GHGs across the state, including the transportation sector. In 2018, California passed Senate Bill (SB) 100, requiring that the state meet ever-increasing levels of zero-carbon sources of electricity, until all retail electric sales are 100% zero carbon by 2045. While not explicitly a transportation bill, SB

[3] Contra Costa County AssetWorks, data pull February 2025
[4] Contra Costa County Climate Action and Adaptation Plan, 2024, Goal TR-2, https://www.contracosta.ca.gov/8678/Climate-Action-Plan

100 provided a roadmap to electrify energy end-uses while ensuring low- or zero- emissions as electrification progresses.

The most influential state policies that directly influence the transition to EVs are the Advanced Clean Cars (ACC), Advanced Clean Trucks (ACT), and Advanced Clean Fleets (ACF). Advanced Clean Cars and Advanced Clean Trucks regulations have been lowering GHG emissions allowances for light-duty cars and sports utility vehicles (SUVs) since 2012. In 2020, California Governor Gavin Newsom signed Executive Order 79-20,[5] establishing a long-term goal that light-duty vehicles in the state shall be zero-emission by 2035, and that medium- and heavy-duty vehicles will be zero-emission by 2045. In keeping with that Executive Order, the 2021 ACF regulation requires that all public and private owners of fleets larger than 50 vehicles and/or more than $50M in annual revenue phase in zero-emission vehicles over time. Fleet owners can choose between two pathways for compliance: 1) a Milestone option, where fleet owners must achieve increasing percentages for the proportion of ZEVs in the fleet, by vehicle type; and the 2) Model Fleet Year option, where older internal combustion engine (ICE) engines must be retired and replaced with ZEVs at prescribed vehicle age milestones.[6]

Contra Costa County has chosen the Milestone option for ACF compliance, to provide the fleet manager with full flexibility to transition vehicles at intervals most appropriate to the County while ensuring that overall ZEV percentages are met. Figure 2 shows the ZEV percentages by vehicle type that must be met under the ACF Milestone option.

Figure 2: ZEV Percentages to Comply with California's ACF Milestone Option

Percentage of vehicles that must be ZEVs	10%	25%	50%	75%	100%
Milestone Group 1: Box trucks, vans, buses with two axles, yard tractors, light-duty package delivery vehicles	2025	2028	2031	2033	2035 and beyond
Milestone Group 2: Work trucks, day cab tractors, pickup trucks, buses with three axles	2027	2030	2033	2036	2039 and beyond
Milestone Group 3: Sleeper cab tractors and specialty vehicles	2030	2033	2036	2039	2042 and beyond

Federal Policies

The U.S. federal government has historically implemented a range of policies to accelerate vehicle conversion to all-electric, focusing on both consumer incentives and infrastructure development. The Clean Vehicle Tax Credit, expanded under the Inflation Reduction Act of 2022 (IRA), had provided up to $7,500 for qualifying new EVs and up to $4,000 for used EVs,

[5] California Executive Order N-79-20, signed September 23, 2020: https://www.gov.ca.gov/wp-content/uploads/2020/09/9.23.20-EO-N-79-20-Climate.pdf
[6] California Air Resources Board (CARB), Advanced Clean Fleets (ACF) Regulation https://ww2.arb.ca.gov/our-work/programs/advanced-clean-fleets

helping reduce upfront costs. The IRA also invested billions in domestic EV battery manufacturing and supply chains to strengthen U.S. competitiveness. Additionally, the National Electric Vehicle Infrastructure (NEVI) program had allocated $5B to build a nationwide network of Direct Current Fast Chargers (DCFC) along major highways, improving accessibility and reliability for drivers. Together, these policies aimed to lower barriers to EV adoption, stimulate market growth, and support the transition to a cleaner transportation system.

These policies and many others in the clean energy sector have been suspended by the current Trump administration. The IRA-driven tax credits ended in September 2025. Although promoting the EV market is not a priority for the current U.S. Administration, the U.S. EV market continues to grow, driven by consumer interest, economic drivers, and state and regional policies. It is also possible that future U.S. Administrations will be more supportive of transportation electrification.

4.2 Stakeholder Drivers

People are a central driver of the County's ZEV transition. County leaders sponsored the key policies and resources guiding this effort: the Vehicle Purchasing Policy, the Climate Action and Adaptation Plan (CAAP), and the Measure X Sustainability Fund.

- **Green Government Group (G3) Champions:** Cross-departmental staff who implement CAAP actions, including all-electric fleet conversion and expanded EVSE at County sites. The G3 Champions influence culture change in their Departments to support sustainability initiatives.
- **Interdepartmental Climate Action Task Force:** Director-level leaders overseeing Measure X Sustainability Fund allocation, a primary source of funding for EV and EVSE investments.
- **County Sustainability Commission:** Appointed community members who advise the Board of Supervisors and staff on CAAP implementation; major efforts typically undergo Commission review before Board consideration.
- **Board Sustainability Committee:** A subset of Supervisors that engages with staff and the Sustainability Commission and provides in-depth oversight to inform Board decisions.

4.3 Global and U.S. EV Market

Worldwide, EV manufacturing and sales are entering an inflection point where production is diversifying from a few light-duty models to mass manufacturing across a wider range of vehicle types. To wit, in 2022 EVs represented 14% of all vehicles sold worldwide, and in 2023 this percentage rose to 18%.[7]

[7] EV Outlook 2024, International Energy Agency https://iea.blob.core.windows.net/assets/a9e3544b-0b12-4e15-b407-65f5c8ce1b5f/GlobalEVOutlook2024.pdf

Manufacturing remains regionally concentrated, with China leading global EV production and accounting for roughly half of all EVs manufactured despite representing only about 10% of all internal combustion vehicles manufactured. EV manufacturing is expected to diversify across the sector because 90% of vehicle manufacturers now have electrification goals and plan to develop more EV models over the next ten years.

Sales are likewise regionally concentrated, with the majority of EV sales occurring in China (60%), Europe (25%) and the US (10%). Reasons for this concentration include supportive regional policies and consumer preferences that favor locally manufactured vehicles, particularly in China.

Affordability is a central driver of potential EV market share growth, and China currently leads in this area: in 2023, 60% of Chinese EVs were cheaper than comparable fossil-fuel alternatives. By contrast, EVs in the US and Europe were 10% to 50% more expensive in upfront capital than gasoline or diesel alternatives. This disparity stems from China's focus on lighter-duty, lower-cost EVs and aggressive pricing strategies to rapidly grow market share; prior to the 2025 tariffs the IEA projected price parity by 2030.

Recent U.S. policy changes are altering price dynamics and market forecasts: as of April 2025, the Trump administration imposed a 25% tariff on vehicle components manufactured outside the U.S., clarified not to be stacked with other material tariffs. These tariffs are expected to primarily affect Chinese-made vehicles and components and will also impact domestically manufactured EV prices, since many U.S. OEMs source parts and materials from China. Additionally, the administration withdrew major aspects of the 2022 Inflation Reduction Act (IRA), which provided EV tax credits and grant funding that previously stimulated the U.S. EV market.

The combined effect of tariffs and potential IRA withdrawal is a slowing of U.S. light-duty vehicle sales overall and a reduced EV growth rate in particular. J.D. Power projects U.S. vehicle prices will rise by 5% by the end of 2025, producing an 8% reduction in overall vehicle sales; EV share of light-duty vehicles is now predicted at 11% by end-2025 (down from a pre-tariff 12% scenario), though still expected to grow to 45% by 2035 and 64% by 2040.[8] Under the current administration, hybrid and plug-in hybrid growth is expected to be higher than previously predicted and is being marketed as a cost-effective alternative that mitigates range anxiety.[9]

Medium- and heavy-duty electrification is likely to advance faster than light-duty in the U.S., driven by regulatory pressure. The EPA's 2024 phase-3 greenhouse gas rules will tighten emissions standards for model year 2027 heavy-duty vehicles and impose more stringent standards through 2028–2032; if implemented, CalStart predicts electric trucks could comprise more than half the heavy-duty truck market by 2032, representing a market size exceeding $70 billion.

[8] National Public Radio (NPR) Up First Podcast, "America is Changing Lanes on EVs," June 29, 2025.
[9] J.D. Power, " How have global EV forecasts adjusted to tariffs?" April 30, 2025 https://autovista24.autovistagroup.com/news/how-have-global-ev-forecasts-adjusted-to-tariffs/

Paradoxically, global EV light-duty market share may accelerate even under the current U.S. tariff scenario, with forecasts showing worldwide EV share reaching 19% by end-2025 and potentially 80% by 2045. This faster global growth is driven in part by China expanding its presence in Europe and developing countries to compensate for reduced access to U.S. markets.

For the County, these global shifts imply procurement implications: local vehicle buyers may need to source internationally to access the volume and variety of EVs required to transition the County's fleet of 1,300+ vehicles to zero-emission vehicles (ZEVs).

4.4 California EV Market

California has established the most ambitious zero-emission transportation goals in the nation, underpinned by the Advanced Clean Cars (ACC), Advanced Clean Trucks (ACT), and Advanced Clean Fleets (ACF) regulations. These policies, coupled with the state's commitment to carbon neutrality by 2045, mandate a transition to zero-emission vehicles across various sectors. Specifically, all light-duty vehicles sold in the state must be zero-emission by 2035, and medium- and heavy-duty vehicles by 2045.

The state's progress towards near-term milestones provides valuable insights into the effectiveness of these policies and the likelihood of achieving long-term objectives. However, recent developments and market trends raise questions about the trajectory of EV adoption.

Notably, upon President Donald Trump taking office in January 2025, California rolled back key components of the ACT and ACF regulations pertaining to privately-owned diesel vehicles and locomotives. These segments would have required a Federal Clean Air Act waiver, presenting a significant regulatory hurdle. Currently, the ACF regulation only applies to state and local government fleets, maintaining the mandate for the County's 1,200-vehicle fleet and other municipal fleets to transition to zero-emission vehicles by 2045. The 2035 zero-emission target for light-duty vehicle sales remains in place and is currently unchallenged.[10]

Data from the California Energy Commission indicates consistent growth in EV registrations between 2020 and 2023. However, registrations remained static in 2024. This slowdown has raised concerns as to whether California will meet its 2026 milestone of 35% of new car sales being EVs. Furthermore, the sales-based nature of the target means that consumers can potentially circumvent the policies by purchasing gasoline-powered vehicles in other states or extending the lifespan of existing vehicles.

Several factors are influencing consumer adoption. Interviews with auto industry experts by The early adopter market – characterized by higher incomes, left-leaning political views, and strong environmental values – has largely been saturated.[11] Broader consumer adoption, especially

[10] California Air Resources Board, Advanced Clean Fleets Regulation: https://ww2.arb.ca.gov/our-work/programs/advanced-clean-fleets

[11] CalMatters, "California's surge in EV sales has stalled — so what happens to its landmark mandate?" February 6, 2025: https://calmatters.org/environment/climate-change/2025/02/electric-car-sales-stall-california

among residents of multi-family housing, is contingent on addressing concerns about vehicle cost, range limitations, and charger access. The market dominance of Tesla has become another variable influencing California consumer interest in electric vehicle purchases. Due to Tesla CEO Elon Musk's diminished public image among left-leaning consumers, some California consumers are now unwilling to purchase Tesla vehicles, and may even seek to sell their Tesla stocks and Teslas.

This shift is supported by first quarter 2025 data, which showed a 21% decline in Tesla vehicle registrations. While other EV brands helped to partially offset this drop with a combined 14% increase in registrations, the overall trend indicates a potential challenge to continued growth. Additionally, auto industry experts believe that consumers are not always aware of the potential long-term cost savings associated with EVs, highlighting the need for robust consumer education initiatives.[12]

To comply with ACT and ACF regulations, California OEMs not able to meet percentage sales requirements are allowed to purchase credits from OEMs that sell only electric cars, such as Tesla and Rivian. Given these mixed market signals, California may face challenges in meeting its clean transportation targets if consumer adoption does not accelerate.

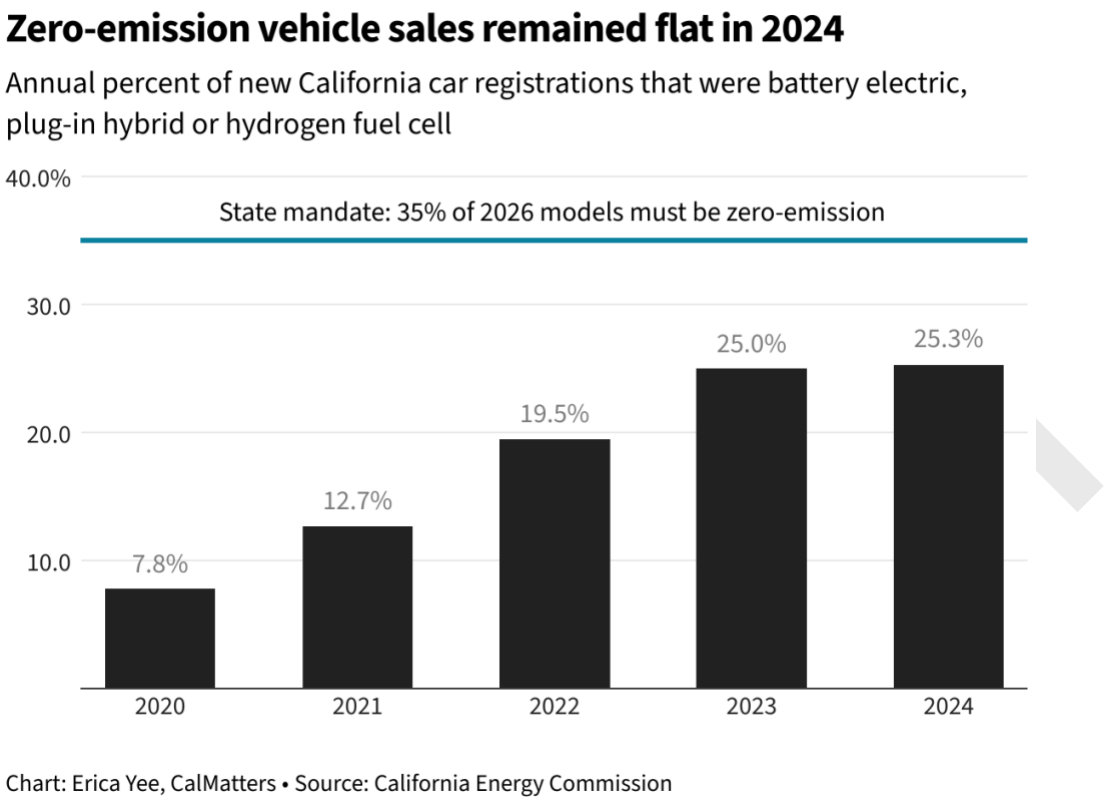
One potential positive indicator is the increased diversification of EV models available to California consumers: the first quarter of 2025 saw 147 ZEV models in the California market, a substantial increase from the 105 models available in the first quarter of 2024.[11]

To maintain its ZEV transition goals, California must strategically invest in both vehicle availability and supporting infrastructure. A significant deterrent to consumer adoption remains "range anxiety"—the concern that conveniently located and readily available charging options will be lacking. Expanding EVSE availability can alleviate this concern.

The recent lawsuit filed by California and several other states against the federal government, which seeks to challenge the cancellation of federal EVSE investments, underscores this need. The outcome of this legal challenge will directly impact California, potentially costing the state $300 million earmarked for EVSE deployment. Should the lawsuit prove unsuccessful, California, and individual entities such as Contra Costa County, will need to consider allocating greater local taxpayer dollars to support a successful ZEV transition.

[12] California Energy Commission, “California ZEV Sales Hold Steady to Start 2025,” May 16, 2025: https://www.energy.ca.gov/news/2025-05/california-zev-sales-hold-steady-start-2025

Figure 3: California ZEV Sales: 2020 - 2024



4.5 Bay Area EV Market

The Bay Area is a national leader in EV adoption, with over 500,000 EVs—more than 25% of California's total—and repeated recognition of San Francisco and San Jose among top U.S. metropolitan areas for EV uptake.[13]

As of 2024 nearly 10% of Bay Area vehicles were all-electric. The Bay Area Air Quality Management District (BAAQMD) targets 90% transportation electrification by 2050 (about 5 million vehicles) and an interim milestone of 1.5 million EVs by 2030. Contra Costa County had over 65,000 registered EVs as of July 2025; registrations have more than doubled since 2021, with roughly 13,000 new registrations in 2023.[14] Although growth moderated in 2024, recent acceleration highlights the need for expanded charging infrastructure, trained technicians, and driver outreach.

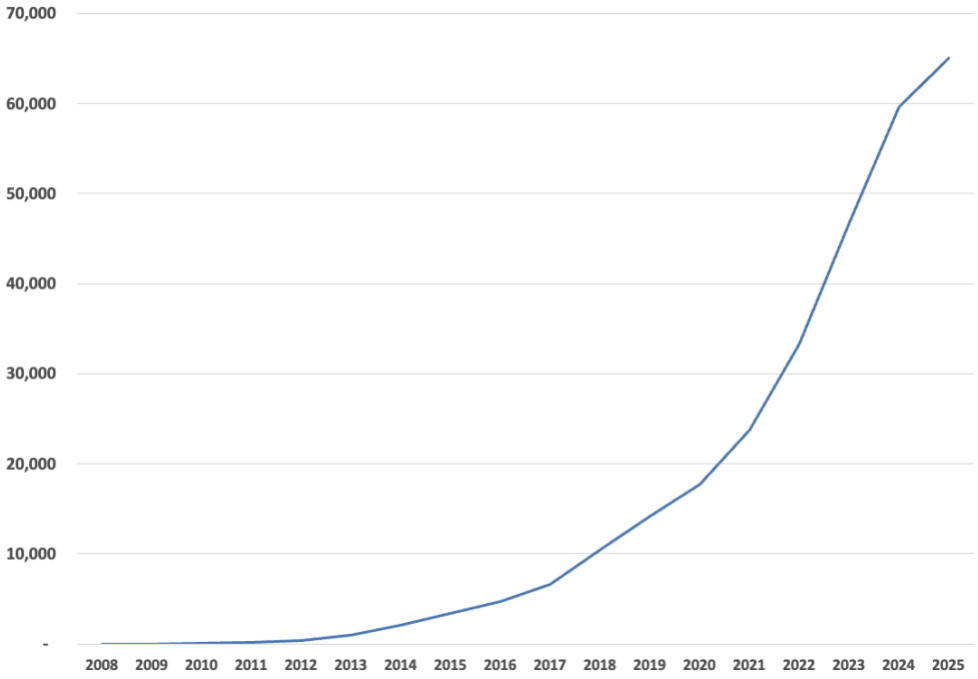
The Bay Area currently has roughly 23,500 public charging ports, including 1,589 in Contra Costa County. The National Renewable Energy Laboratory (NREL) estimates that charger

[13] New York Times, " The Bay Area Leads the National Shift to Electric Vehicles" March 12, 2024
[14] California Energy Commission, ZEV and Infrastructure Stats Data, as of July 31, 2025. https://www.energy.ca.gov/files/zev-and-infrastructure-stats-data

supply must more than double within five years to support BAAQMD's near-term goals, indicating a substantial infrastructure gap.[15]

EV adoption is uneven across the region: higher-income ZIP codes show the highest uptake, while lower-income areas such as Richmond and San Pablo lag.[16] Contributing factors include upfront vehicle costs and higher renter populations, which complicate private-property charger deployment. This equity gap affects charger distribution and County fleet operations that will rely on public charging in the same way gasoline vehicles rely on public stations. To meet regional targets and ensure operational reliability, County EV support and incentive programs should prioritize equitable charger deployment, renter/landlord solutions, and targeted outreach.

Figure 4: Contra Costa County EV Vehicle Registrations (Cumulative), 2008 - 2025



5. ZEV Transition

5.1 Current State of the County's EV Fleet

The County's ZEV transition assumes gasoline and diesel vehicles will be converted primarily to battery electric vehicles. A limited number of hydrogen vehicles is possible but unlikely given

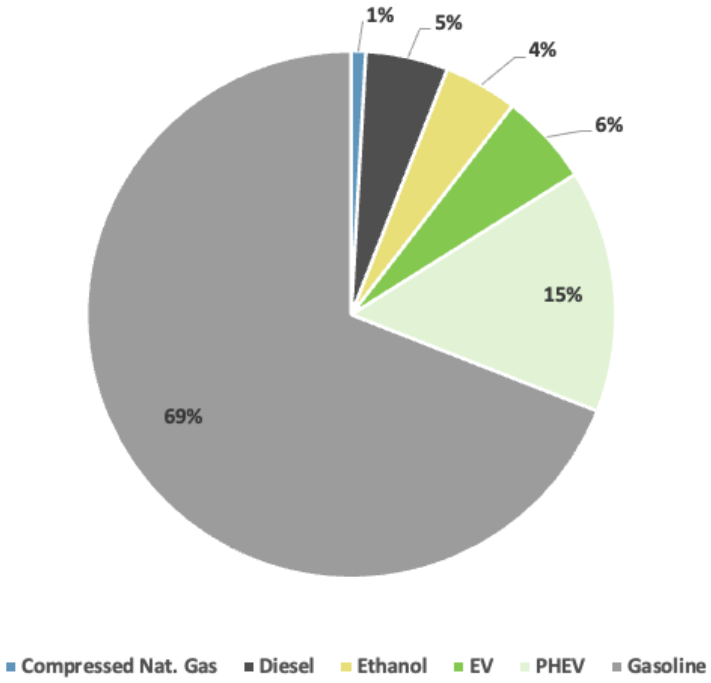
[15] EV Coordinating Council Presentation, BAAQMD and Acterra, June 4, 2025: https://www.baaqmd.gov/~/media/files/planning-and-research/ev-coordinating-council/2025-meetings/060425-meeting/ev-council-slides-june_4_2025-regional-collaboration-pdf.

[16] California Energy Commission, ZEV Sales by Zip Code: https://www.energy.ca.gov/data-reports/energy-almanac/zero-emission-vehicle-and-infrastructure-statistics-collection/new-zev

current refueling network constraints. Transition timing will vary by vehicle class according to economics, technology, and policy.

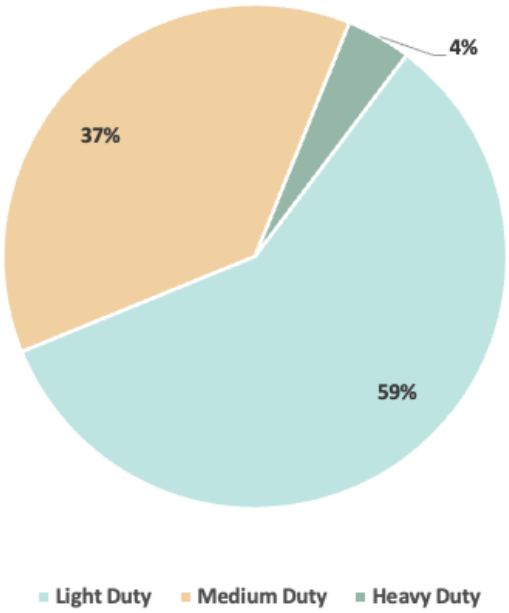
As of April 2025, the County operates 1,368 fleet vehicles, of which 76 are EVs (6%). Most vehicles use unleaded gasoline; plug-in hybrid electric vehicles (PHEVs) make up 15% of the fleet and serve as an interim technology toward full ZEV adoption.

Figure 5: Breakdown of County Vehicles by Fuel Type



By Gross Vehicle Weight Rating (GVWR), 59% of fleet vehicles are Light Duty (<8,500 lb), 37% are Medium Duty (8,500–14,000 lb), and 4% are Heavy Duty (>14,000 lb). Without ACF regulations, Light-Duty vehicles would likely transition first to all-electric because of greater market availability. However, the ACF targets Medium- and Heavy-Duty fleets and the County's Milestone Group Option requires annual percentages of Medium/Heavy all-electric conversion.

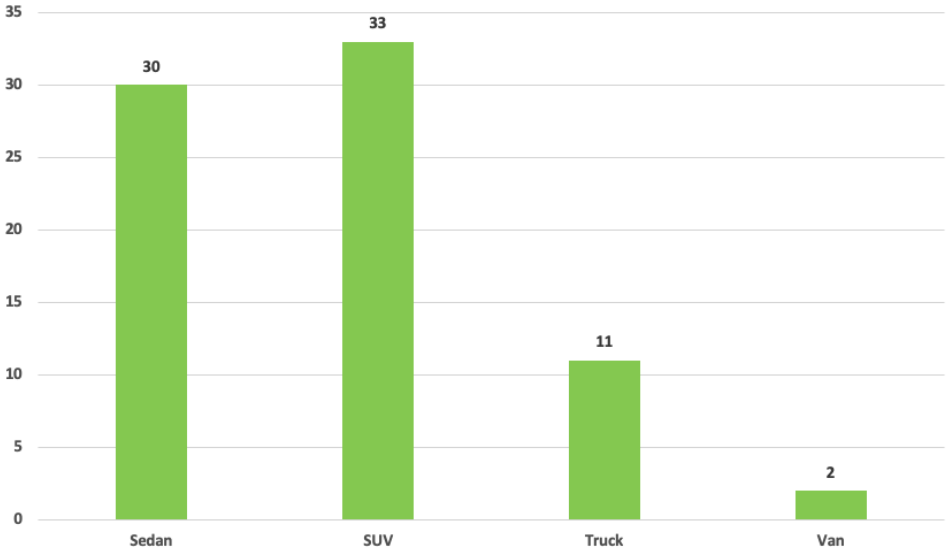
Figure 6: Breakdown of County Vehicles by Weight Class



The County's EV fleet is skewed toward Light Duty. Light-Duty vehicles account for 84% of EVs, Medium-Duty for 16%, and Heavy-Duty for 0%, compared with 59% Light-Duty in the overall fleet.

The County's first EV was a 2012 Ford Transit Connect (Medium-Duty) acquired for the Print & Mail Department because of its reliable duty cycle. Between 2012 and 2017 the County added three (3) small EV sedans. From 2017 to 2022 the County purchased 16 Chevrolet Bolts, which remain the most common EV sedan in the fleet. After the 2022 Vehicle Purchasing Policy, County EV acquisitions accelerated and diversified. By the end of 2024, the County EV fleet had more than doubled and included small Sport Utility Vehicles (SUVs) and ½-ton trucks. The Toyota bZ4X represents 23 of the 33 SUVs. The County also purchased nine (9) Ford F-150 Lightning pickups and an additional electric transit van, expanding the Medium-Duty EV inventory.

Figure 7: Breakdown of County Electric Vehicles by Type



5.2 County EV Transition Curve and Timeline

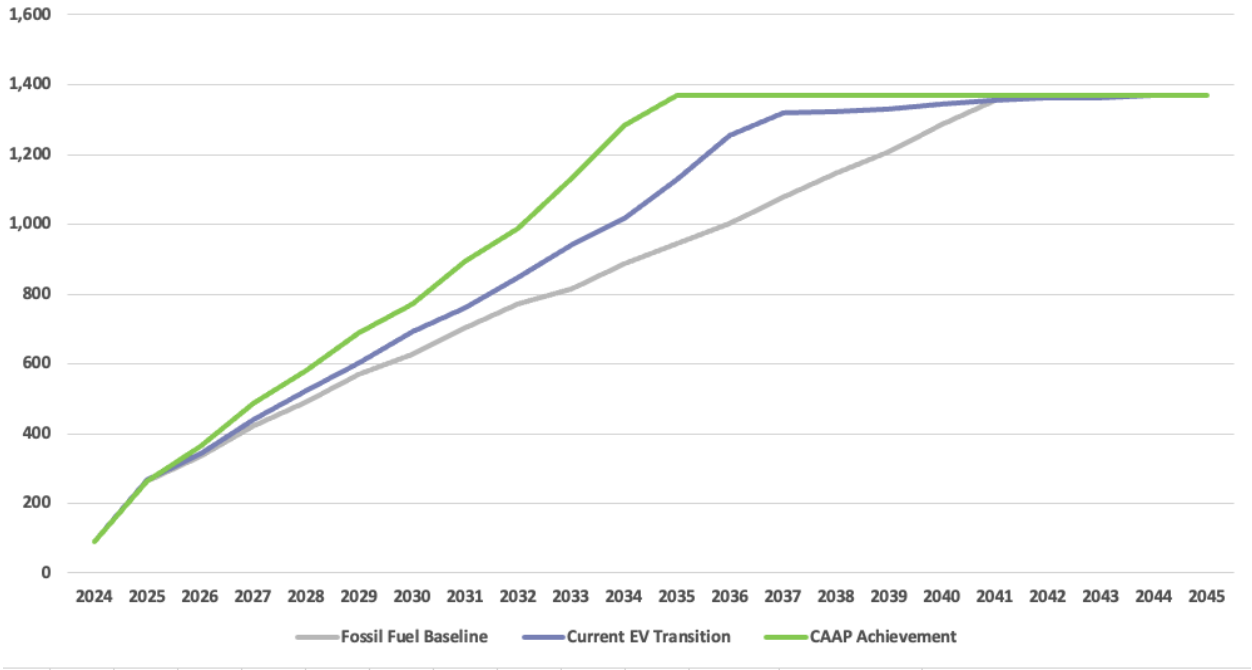
The County is pursuing a primarily electric fleet in line with state, regional, and County policies. Using estimated mileage-driven replacement schedules and ACF milestone percentages by vehicle class, three (3) 20-year transition scenarios were modeled:

1. **Fossil Fuel Baseline:** Assumes no further all-electric replacements—all subsequent vehicle purchases are gasoline or diesel. Although unlikely given current policy, this baseline provides a point of comparison for lifecycle cost categories (capital, fuel, maintenance, repair). The curve shows gasoline/diesel replacements as vehicles age; by 2045 the fleet is fully replaced with conventional vehicles.
2. **Current EV Transition:** Reflects the County's present trajectory, driven by ACF compliance and the County Vehicle Replacement Policy, with the replacement budget held at the 2024 level plus a 4% annual inflation escalator. Under these budget constraints, the CAAP goal of an all-electric fleet by 2035 is tracked but not achieved: the fleet reaches 69% electrification by 2035 and full electrification by 2044.
3. **CAAP Goal Achievement:** Models attainment of a fully electric fleet by 2035. ACF compliance is achieved early, unlocking key incentives, notably for medium- and heavy-duty vehicles. This Scenario has no imposed budget constraint; required budget is an output of the model. The transition curve is the steepest, with EV purchases concentrated before 2035 and investment flattening thereafter.

Figure 8 compares replacement curves for all three scenarios. The CAAP Goal Achievement Scenario shows the fastest transition. The Current EV Transition Scenario is more gradual, with most replacements by 2037 and medium/heavy-duty vehicles mandated to electrify by 2045

under ACF. The Fossil Fuel Baseline is the slowest vehicle transition curve, reflecting only age-based replacement.

Figure 8: EV Transition Curve: Fossil Fuel Baseline, Current EV Transition, and CAAP Achievement



Figures 9 and 10 present transition curves by vehicle class for all three Scenarios. The light-duty curves show the largest divergence between the Fossil Fuel Baseline and the electrification scenarios because the current average current age of light-duty vehicles is 7.5 years versus 11.5 years for medium- and heavy-duty vehicles; medium/heavy vehicles therefore reach replacement sooner, while light-duty vehicles have more remaining service life. In both electrification scenarios, light-duty turnover is steepest from 2032–2035 as younger vehicles maximize service life before transitioning to all-electric. Medium- and heavy-duty electrification follows a more linear trajectory from 2029 to roughly 2035–2037, then flattens — despite the ACF requirement to electrify by 2045 — because many medium/heavy vehicles will age out and be replaced earlier.

Figure 9: Light-Duty EV Transition Curve: Fossil Fuel Baseline, Current EV Transition, and CAAP Achievement

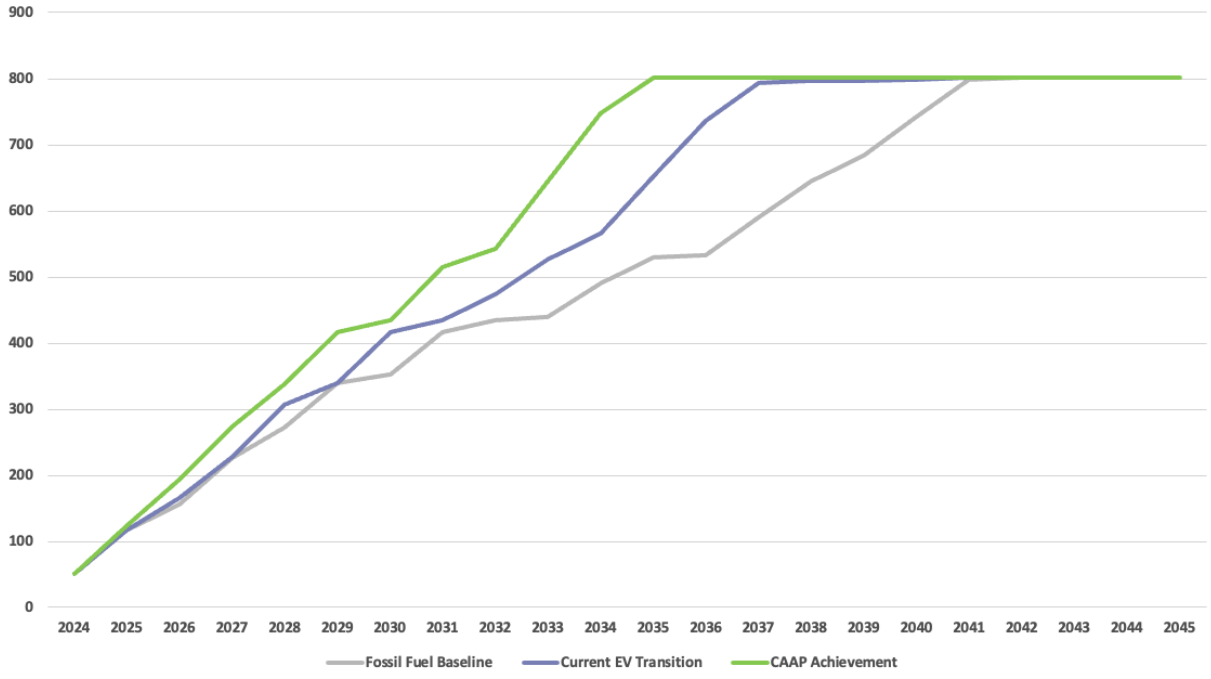
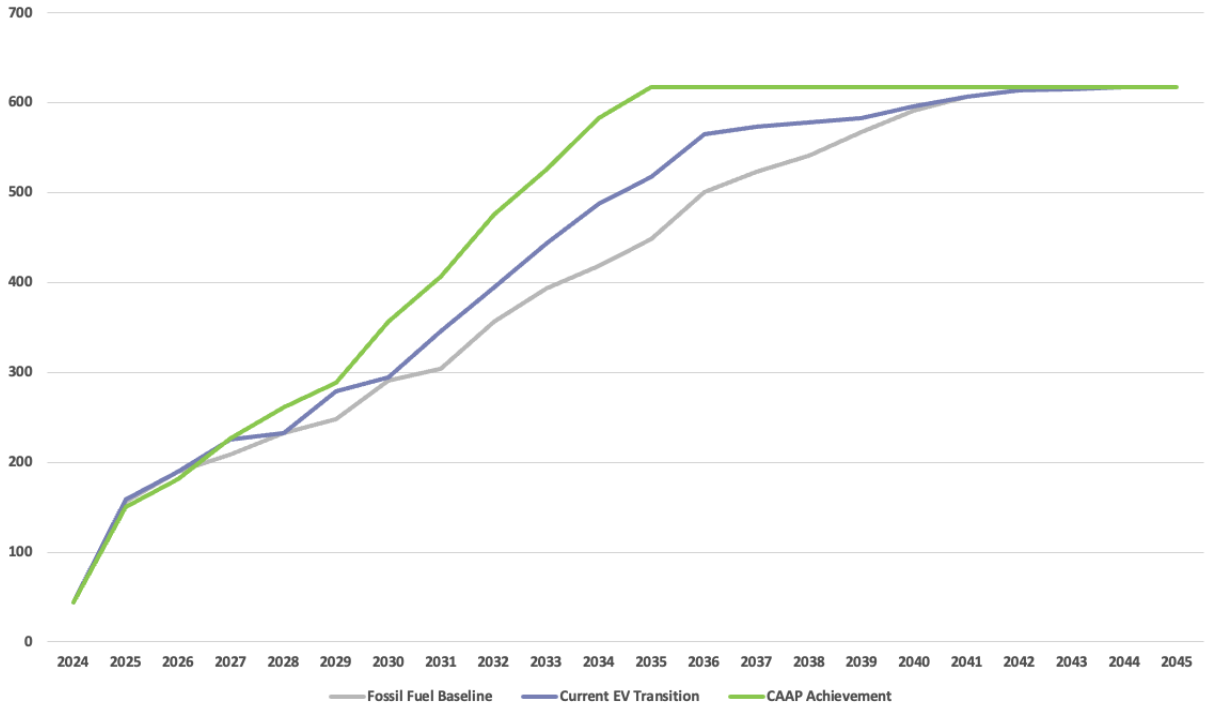


Figure 10: Medium- and Heavy-Duty EV Transition Curve: Fossil Fuel Baseline, Current EV Transition, and CAAP Achievement



5.3 Environmental and Public Health Benefits of ZEV Transition

The County's ZEV transition will deliver substantial environmental and public-health benefits. Using the International Energy Agency's Electric Vehicle Lifecycle Assessment Calculator, lifecycle greenhouse gas emissions (metric tons CO2-equivalent, tCO2e) were estimated for transitioning the County's fleet of 1,368 vehicles, excluding the 76 already electrified. Vehicles were modeled in three weight classes (light, medium, heavy) with a 15-year service life. All electric vehicles were assumed to charge at MCE's Deep Green rate carbon intensity for 2030 (40 g CO2e/kWh). The baseline for comparison is the Fossil Fuel Baseline Scenario, in which 1,292 vehicles remain gasoline- or diesel-powered. Over the lifetimes of the transitioned fleet vehicles, the analysis estimates a reduction of approximately 43,194 tCO2e.

The full fleet transition is also estimated to reduce fine particulate matter (PM2.5) emissions by about 750 pounds over the vehicles' combined lifetimes.[17] PM2.5 exposure is associated with respiratory illnesses, including asthma in children.[18] Localized emissions reductions would yield measurable public-health benefits across Contra Costa County.

6. Total Cost of Ownership Analysis of the EV Transition

6.1 Value of Conducting TCO Analysis

Analyzing the Total Cost of Ownership (TCO) of EVs compared to gasoline and diesel vehicles is valuable because it provides a more complete picture of the financial implications of electric vehicle (EV) adoption over time. A TCO analysis for vehicles is a way to calculate the full financial impact of owning and operating a vehicle over its entire lifespan. Instead of focusing only on the purchase price, TCO adds up all major costs—fuel or electricity, maintenance and repairs—to show the true long-term cost of ownership. This helps compare different vehicle options more accurately, such as electric vehicles versus gas and diesel vehicles.

While EVs often have higher up-front capital purchase prices, they typically offer significant long-term savings through lower fuel costs, reduced maintenance needs, and potential incentives or tax credits. In contrast, gasoline and diesel vehicles may appear more affordable initially but can accumulate higher operating and maintenance expenses over their lifespan. By evaluating TCO, the County can make informed decisions that go beyond sticker price, accounting for the true economic benefits of EV adoption and better aligning purchasing decisions with long-term financial and sustainability goals.

[17] Same assumptions were used as in the above paragraph. PM2.5 emissions reductions were calculated using the assumptions embedded in the Argonne National Laboratory's AFLEET Model for electric vehicle conversions: https://afleet.esia.anl.gov/home/

[18] National Institute of Health (NIH), "The relationship between PM2.5 and the onset and exacerbation of childhood asthma: a short communication," Zhang, et. al., August 2023 https://pmc.ncbi.nlm.nih.gov/articles/PMC10429171/

6.2 TCO Methodology and Assumptions

The County commissioned a Total Cost of Ownership (TCO) model-based analysis from consultant Glumac to evaluate the financial implications of transitioning its fleet from primarily gasoline to electric vehicles over the next 20 years. The primary purpose of this model is to inform long-term planning by comparing the costs associated with different fleet transition Scenarios: Fossil Fuel Baseline, Current ZEV Transition, and CAAP Goal Achievement. The core of the TCO analysis hinges on effectively comparing and contrasting the lifetime and ownership costs for both gasoline/diesel and EV models to inform a decision on transition strategy.

The methodology for this TCO analysis focuses on integrating detailed data from Contra Costa County with external research to project costs across the specified scenarios. The key components considered in the TCO model include: 1) vehicle purchase price, 2) routine maintenance expenses, 3) vehicle repair expenses, and 4) fuel or electricity costs, depending on the vehicle type. To determine vehicle costs, the model groups existing fleet data into representative vehicle classes, identifying the most commonly purchased make and model for gasoline/diesel vehicles and escalating purchase costs to reflect estimated prices for a future purchase year (2025 and beyond). For EV alternatives, the model identifies representative EV alternatives based on current market data, using placeholder vehicles with estimated prices, battery capacities, and ranges where direct replacements are unavailable. Insurance and vehicle resale value were assumed to be consistent across Scenarios and were excluded from this analysis. The model incorporates real-world data from Contra Costa County with expert knowledge from a consultant to inform the projections for these costs.[19] The model incorporates a comprehensive fleet characteristics database, as well as fueling and maintenance data from county records.

Several key assumptions underpin the TCO model. For fueling costs, the analysis references MCE's Deep Green Rate for Large Business Electric Vehicles ($0.21/kWh)[20] and local gasoline prices over the past two years. The model conservatively assumes vehicles charge 50% during peak hours (4:00 PM - 9:00 PM) and uses a 4% escalation rate for electricity based on MCE's 2024 rate increase and 4% for gasoline retail, reflecting the real gasoline retail price compound annual increase in the Bay Area from 2021-2024.[21] Maintenance and repair cost estimates are derived from the county's records over the past three years, varying according to vehicle type and duty cycle, with some adjustments for EV maintenance costs informed by expert consultant Glumac, based upon their expertise in developing EV transition plans for local governments.

[19] Interviews with Ricky Williams, County Fleet Manager, April - June 2025. Data pulls from County AssetWorks database, April - June 2025.
[20] MCE, "How PG&E's 2024 Rate Increase Impacts You" https://mcecleanenergy.org/how-pges-2024-rate-increase-impacts-you/
[21] U.S. Energy Information Agency, "San Francisco Regular All Formulations Retail Gasoline Prices (Dollars per Gallon)", 2021 - 2024 https://www.eia.gov/dnav/pet/hist

Table 1: Key Assumptions in TCO Analysis - All Scenarios

EVs	
EV Purchase Price Annual Escalation Rate	4%
Starting Electricity Price	$0.21/kWh
Electricity Price Annual Escalation Rate	4%
EV Maintenance Cost	$0.19/mi - $0.56/mi
EV Repair Cost	$0.29/mi - $2.66/mi
Gasoline Vehicles	
Gasoline Vehicle Purchase Price Annual Escalation Rate	4%
Starting Gasoline Price	$5.00/gallon
Gasoline Price Annual Escalation Rate	4%
Gasoline Vehicle Maintenance Cost	$0.29/mi - $0.93/mi
Gasoline Vehicle Repair Cost	$0.41/mi - $2.89/mi

6.3 TCO Findings

The Total Cost of Ownership analysis provides insight into the cost drivers and investment levels required for the County to transition its vehicles to all-electric, compared to a Fossil Fuel Baseline Scenario where the County fleet remains primarily gasoline and diesel vehicles.

Figure 11 shows the all-in costs of the TCO analyses for the three Scenarios, from the years 2025 - 2045. The largest cost driver is the vehicle replacement cost, which varies by vehicle type and by fueling type. Given the vehicle escalation rate of 4% for all vehicle types, vehicles replaced farther into the future will be more expensive than vehicles replaced in the near-term. Vehicle costs are the least expensive in the Fossil Fuel Baseline Scenario, primarily because gasoline/diesel vehicle models exist today for every vehicle type that the County owns, and those vehicles enjoy the economies of scale provided by mass manufacturing. Electric vehicles are generally more expensive up-front than gasoline and diesel models, though costs are starting to reach parity with light-duty vehicles. Electric models for medium- and heavy-duty vehicles are on average 22% more expensive than gasoline and diesel equivalents. The Current EV Transition Scenario has the most expensive vehicle cost because the vehicles are transitioning further out into the future than the CAAP Transition, and because the CAAP Transition Scenario assumes that the County may capture savings on vehicle costs in the form

of grants for transitioning Advanced Clean Fleets (ACF) - regulated vehicles before their state-required transition date.[22]

The two all-electric fleet scenarios estimate that across the fleet, the costs for routine vehicle maintenance, vehicle repair and fueling will be less expensive for an all-electric fleet than for a gasoline- and diesel fleet. These findings are in keeping with leading publicly-available TCO reports published in the last three years.[23] When all three cost drivers of TCO are combined, the CAAP Achievement Scenario is the least expensive at just under $200M, and the Fossil Fuel Baseline Scenario is the most expensive at $239M.

Figure 11: Total Cost of Ownership Cost Stacks, 2025 - 2045

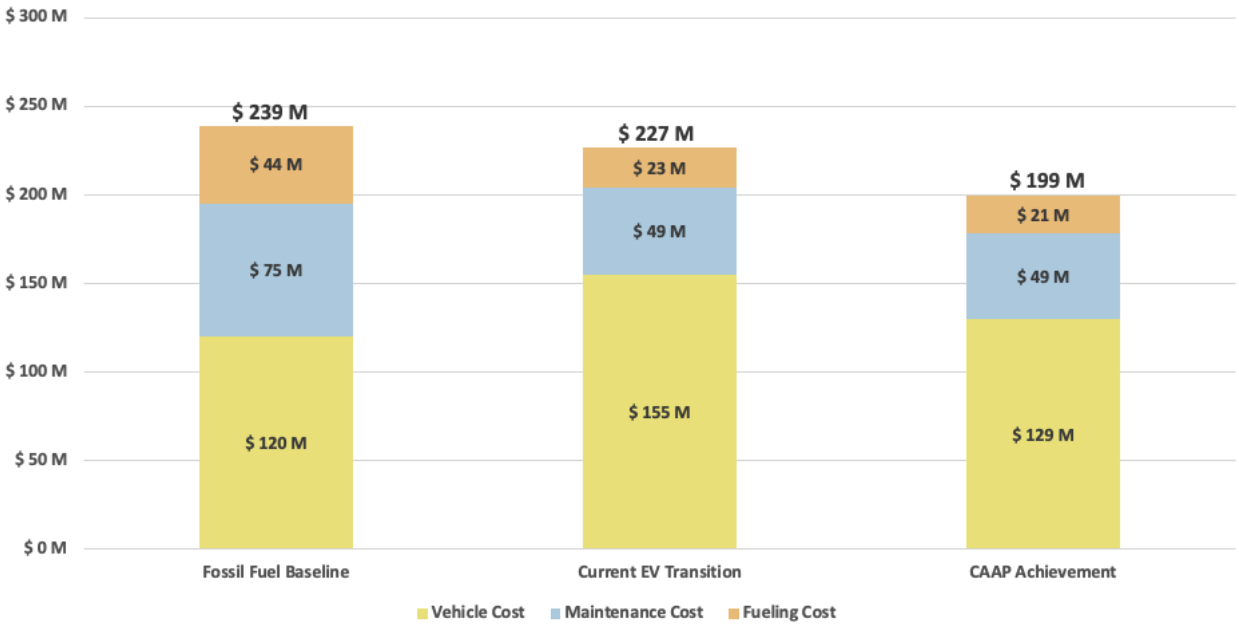


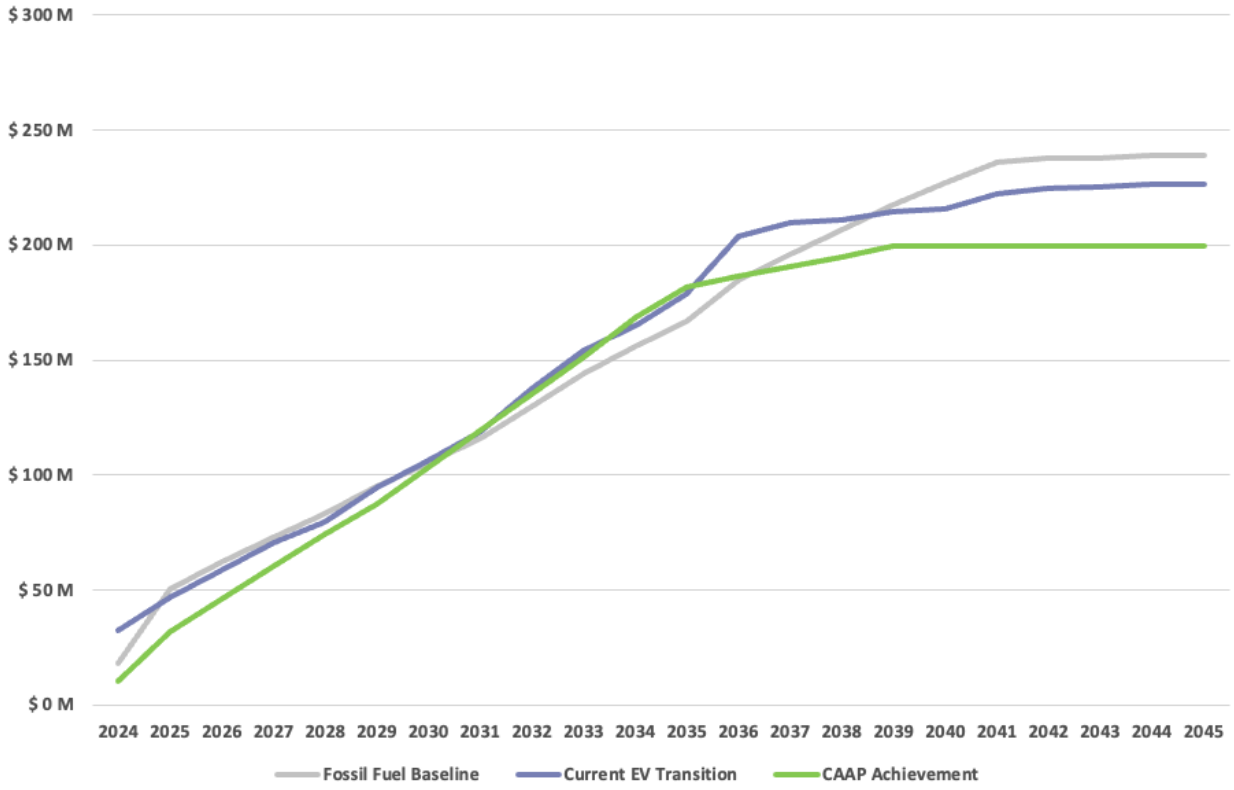
Figure 11 displays the TCOs of the three Scenarios as cost stacks, representing total County investment from 2025 - 2045. It is also useful to consider the costs over time, and the point at which the TCOs reach parity. Figure 12 shows the cumulative costs of the three Scenarios with vehicle costs, maintenance, repair, and fueling costs wrapped into the analysis.

Figure 12 reveals that at the year 2030 the two all-electric Scenarios surpass the Fossil Fuel Baseline in overall cost, primarily because both all-electric Scenarios assume significant investment in EVs from 2025 to 2035. However, in the year 2037, the Fossil Fuel Baseline exceeds the CAAP Achievement Scenario in cost, because of the mounting costs of fueling and

[22] Specifically, the model assumes that the County may capture $13.5M in vehicle grants over the next ten years from the California Volkswagen Mitigation Trust and from the Bay Area Air Quality Management District. All grants would be applied to medium- to heavy-duty vehicles and for off-road equipment.
[23] Environmental Defense Fund. “Electric Vehicle Total Cost of Ownership Analysis: Summary Report.” July 2023; Rocky Mountain Institute Veysey, D., & Thonet, H.,
“Fleet Electric Vehicle Total Cost of Ownership with and without Federal Tax Credits”

maintaining a fossil-fuel based fleet. In 2039, the Fossil Fuel Scenario becomes more expensive than the Current EV Transition. By the year 2045, the CAAP Achievement Scenario has emerged as the least expensive option for the County, at $26M less than the Current EV Transition and $38M less than the Fossil Fuel Baseline.

Figure 12: Total Cost of Ownership Cumulative Costs, 2025 - 2045



Figures 13, 14, and 15 show the annual costs of the Fossil Fuel Baseline, Current EV Transition and CAAP Achievement Scenarios from 2025 - 2040. Each Scenario assumes significant investment in vehicles in the 2024 - 2026 time frame, driven by vehicles naturally aging out and needing replacement. The Fossil Fuel Baseline annualized costs can be characterized by relatively steady vehicle investment, with significant maintenance and fueling costs keeping annual TCOs above $10M per year. The Current EV Transition Scenario assumes a large investment in EVs in the 2024 - 2026 time frame, which is already planned by the County Fleet Manager. The TCO then varies between $10M and $20M per year, as vehicles are transitioned according to the ACF regulations and by aging out. The year 2036 represents one of the largest vehicle transitions in that Scenario, in order to keep the County compliant with increasing ACF milestone targets. The CAAP Achievement Scenario also keeps its TCO between $10M and $20M per year, with vehicle investment dropping off significantly after 2035, the year that the CAAP goal is achieved. In the years 2035 - 2040, the primary cost drivers will be EV maintenance, repair and fueling, keeping the TCO below $5M per year.

Figure 13: Total Cost of Ownership Annual Costs: Fossil Fuel Baseline

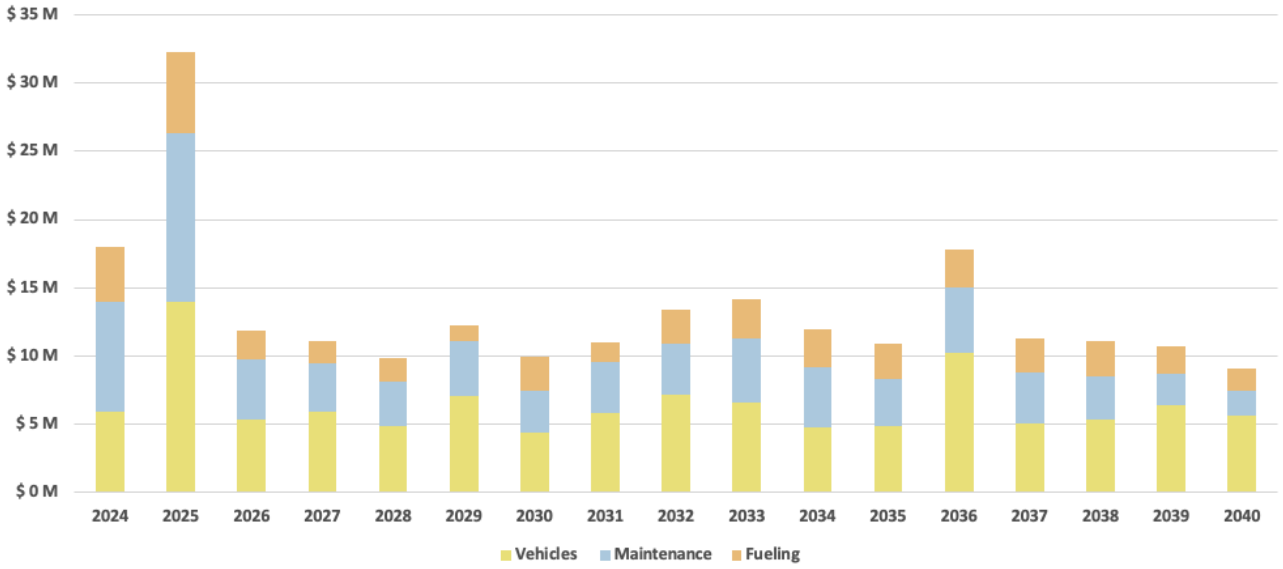


Figure 14: Total Cost of Ownership Annual Costs: Current EV Transition

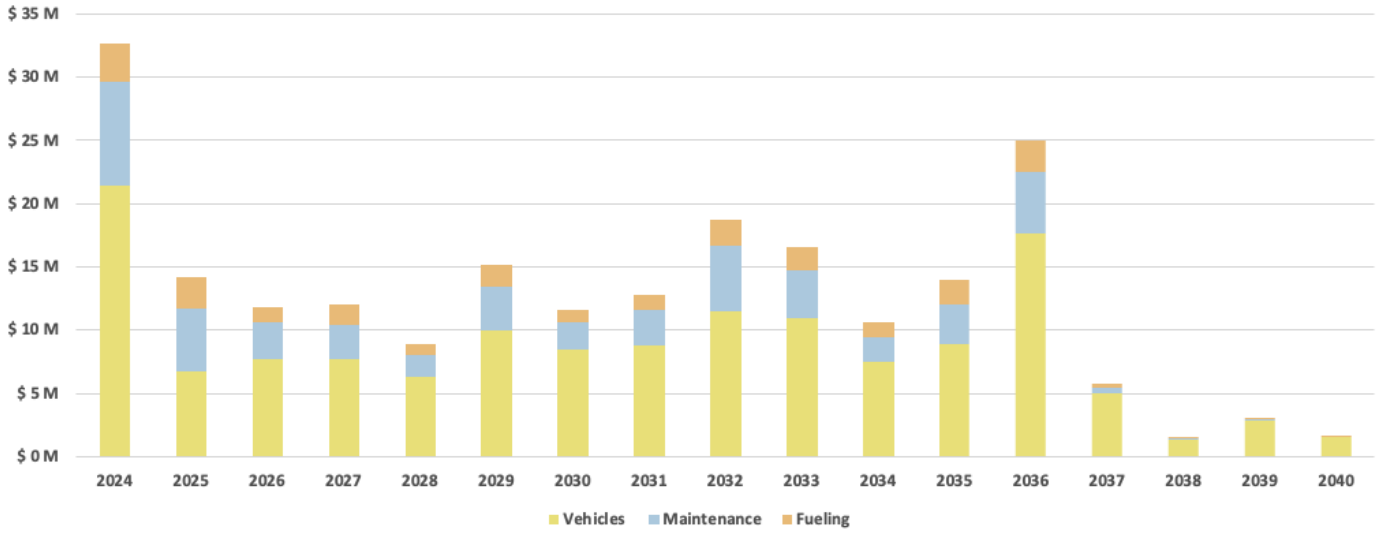
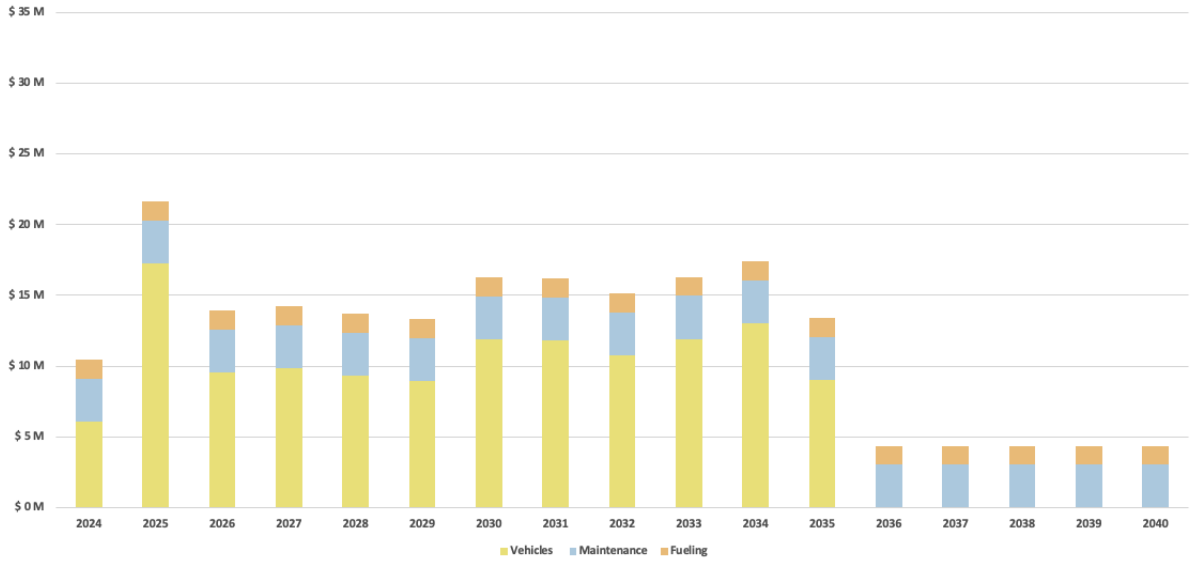


Figure 15: Total Cost of Ownership Annual Costs: CAAP Achievement



It is recommended that the County prioritize near-term conversions of vehicles with predictable duty cycles—especially those nearing end of service—to keep the transition cost-effective. As County investment in EVSE (see Chapter 7) increases, converting vehicles with less predictable duty cycles will become more feasible.

7. Charging Needs and Strategy

7.1 County EVSE Characterization

To date, the County has been supporting its fleet ZEV transition by installing EVSE at County-owned and leased facilities. The Measure X Sustainability Fund has been instrumental in funding the design, construction, and maintenance costs of County EVSE. The majority of County EVSE are Level 2 chargers, though there are some strategically-located DCFC in the places where the most County EVs are domiciled.

Figure 16 shows the County's current EV charger sites, with Level 2 and DCFC differentiated. As a general trend, Level 2 chargers are concentrated in the downtown Martinez area where most County facilities are located, and DCFC are spread to all regions of the County. The current EVSE layout is supporting the County's EV fleet, where most EVs are domiciled near the downtown area. Level 2 chargers serve the EVs when they are parked for several hours or overnight. The DCFCs support a quick charge while vehicles are driving their daily routes, so the dispersed nature of the DCFC aligns with a dynamic County fleet that regularly drives to every corner of the County.

Figure 16: Current and Near-Term County Charger Sites

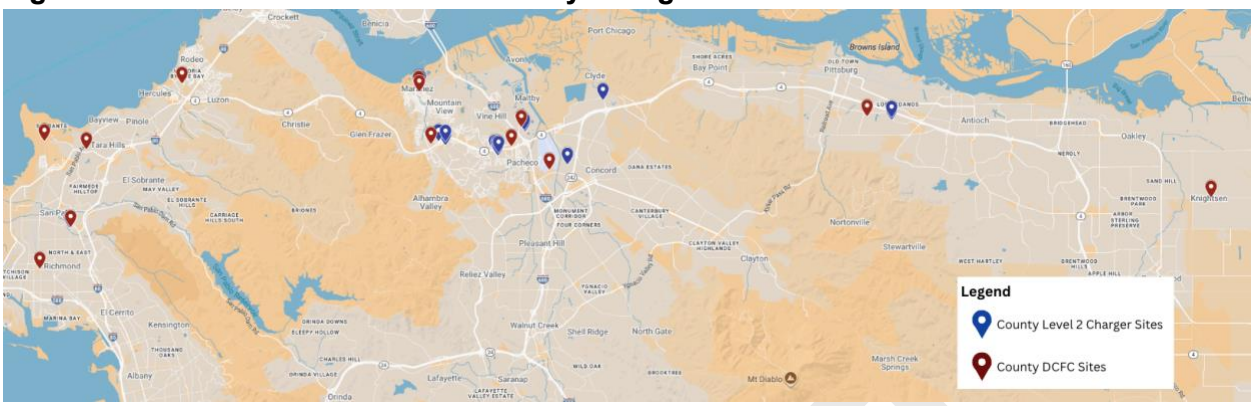


Figure 17 depicts the current and near-term EVSE in Martinez, where most County fleet EVs are currently domiciled. In keeping with locations of vehicles, EVSE are clustered into four main regions of downtown Martinez: 1) the Public Works Fleet Yard (includes Animal Services); 2) the administrative offices of Public Works and Sheriff; 3) the County Administration building and other Martinez offices; and 4) County Health Services and several other offices. The Martinez facilities are where most of the current and near-term Level 2 chargers are located, supporting fleet vehicles that are domiciled in those locations overnight.

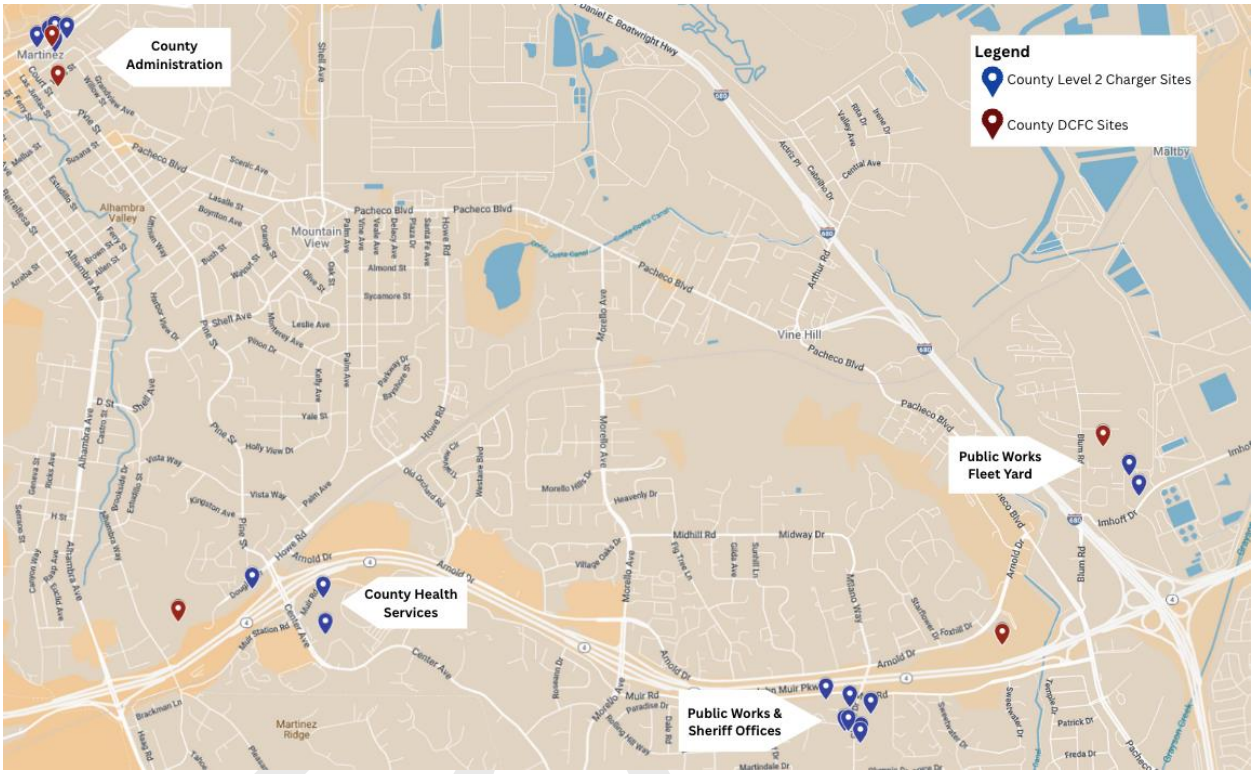
Table 2: Current EVSE at County Sites

Existing County-Sited Level 2 Chargers	
Chargepoint	27
Flo	94
To be determined (CEC)	158
TOTAL Level 2 Chargers	279
Existing County-Sited DCFC	
To be determined (CEC)	20
TOTAL DCFC	20
TOTAL EXISTING EV CHARGERS	299

The County's current and near-term EVSE inventory includes EV chargers already installed or funded for installation within the next two years. These installations are financed through Measure X Sustainability Fund earmarks and awarded grants, including a 2024 California Energy Commission (CEC) grant that will fund 178 chargers (158 Level 2 and 20 DCFC) across 14 County-owned or -leased sites distributed countywide. A developer for the CEC-funded installations will be selected via a forthcoming competitive solicitation. These chargers are

intended to prioritize County fleet vehicles and support the ZEV transition; depending on availability and capacity they may also serve other local jurisdiction fleets, County employee vehicles, or the public. Any public access to County-sited EVSE must be managed to preserve safety and operational access for fleet vehicles (see Chapter 12).

Figure 17: Martinez Current and Near-Term County Charger Sites



7.2 County Present and Future Charging Needs

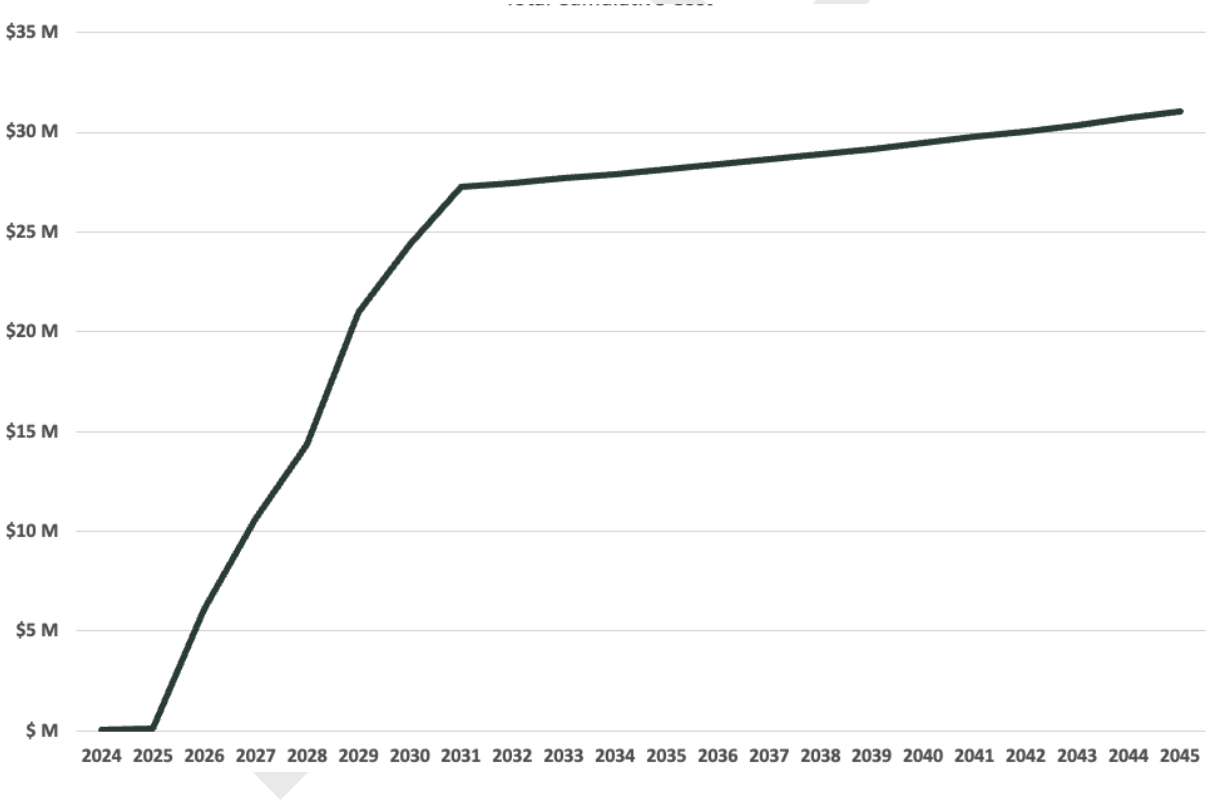
The future need for County-sited EVSE was quantified according to the full fleet electrification Scenarios. To arrive at the quantity and type of EVSE needed, the Energy Management team partnered with consultant Glumac to analyze the duty cycle of each individual County vehicle and determine the energy (kWh) and frequency that vehicle needed to charge. From there, the energy requirement for each vehicle was assigned to that vehicle's domicile. Each County site was assigned a total energy requirement based on the present and future number of EVs. The total energy requirement was then converted into a recommended number and type of charger for that site.

The type of EVSE recommended per site depends upon the vehicle duty cycles. Generally, vehicles that are driven frequently and have unpredictable duty cycles are the best candidates for DCFC, as DCFC can provide a quick charge with a minimal wait time. For example, Sheriff investigator vehicles, and domiciles assigned to the Sheriff Department, are a strong fit for DCFC, since investigator vehicles operate at all times of day and night, receive assignments at unpredictable times, and often leave the County.

Vehicles that are driven less frequently and/or have a predictable duty cycle are the best candidates for Level 2 charging, because Level 2 chargers require many hours to charge a vehicle. Up to four vehicles may share a Level 2 charger, but with each additional vehicle, the charging time to reach a charge of at least 80% becomes longer. Thus, Level 2 chargers are appropriate for vehicles that drive the same or similar routes daily, and/or are parked for long stretches during the work day or overnight.

Figure 18 shows the cumulative cost for the County for EVSE, taking both up-front investment and maintenance into account. **The total cumulative cost for County EVSE from 2025 - 2045 is estimated to be $31.5M.** Specifically, the County will need an additional 266 Level 2 charging ports and an additional 100 DCFC, spread across various County-owned and leased sites. **The total up-front cost of the additional EVSE is estimated to be $26.5M;**[24] the remainder of the costs are estimated to be maintenance costs of the EVSE, going out to the year 2045.

Figure 18: Contra Costa County Total Cumulative EVSE Cost, 2025 - 2045



To best accommodate the ZEV transition in any Scenario, the EVSE should ideally be put in place earlier than EVs are transitioned, thereby not leaving any sites where there are EVs domiciled, but no EVSE to support them. The analysis recommends that EVSE continue to be installed on County sites through the year 2031, with each year representing significant investment. After the year 2031, the EVSE will require annual maintenance, but no net new EVSE is estimated to be required to support an all-electric fleet.

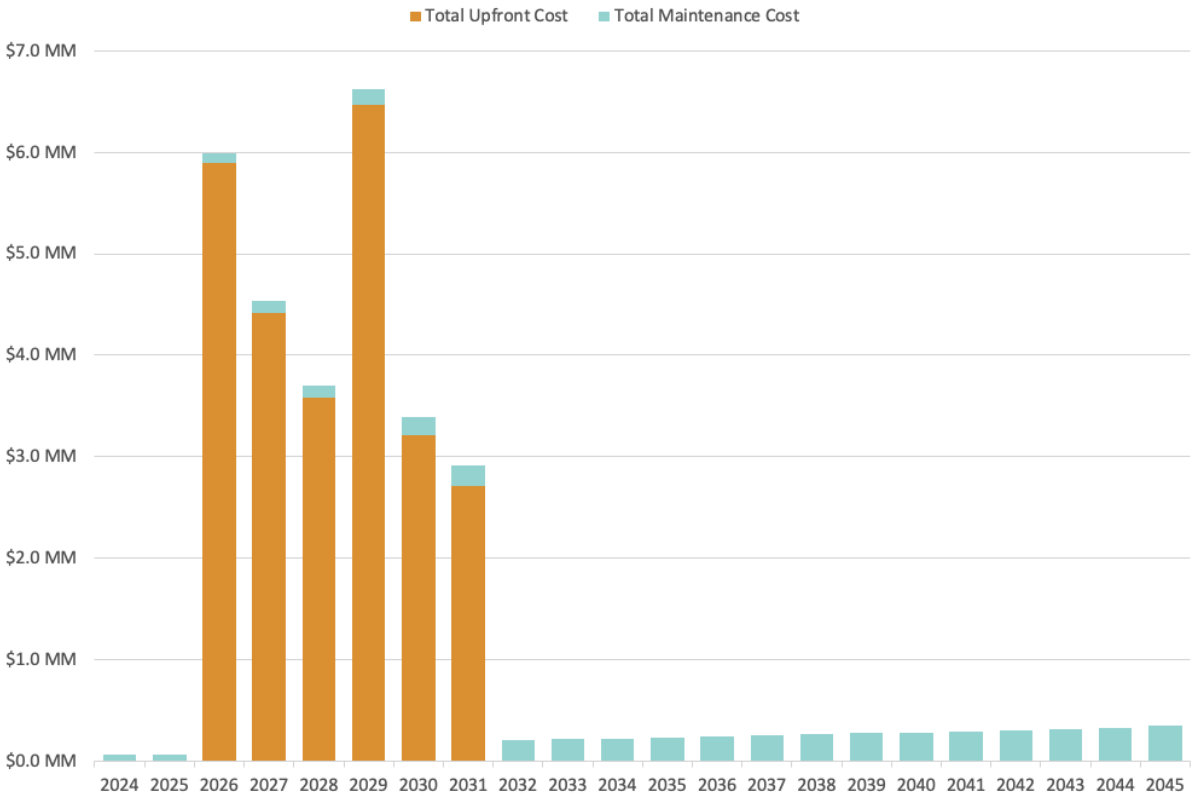
[24] Please note that EVSE costs are not included in the TCO Analysis (Chapter 6).

In both the Current EV Transition and the CAAP Goal Achievement Scenarios modeled, there is a significant up-front investment required over the years 2026 - 2031 to ensure that EVs have dedicated places to charge during the workday and overnight. After the year 2031, the County's main cost driver for EVSE will be maintenance and occasional repair. Figure 19 shows estimated annual costs for EVSE to support a full fleet transition, from the years 2025 - 2045. As the figure shows, annual investment from the years 2026 - 2031 is between $3M and $6.5M.

The year 2029 represents the most significant up-front investment in EVSE, as that year is estimated to cover a large influx of EVSE to the County Fleet Yard, located at 2467 Waterbird Way in Martinez. The Fleet Yard EVSE is expected to be installed in one single year so that the County can plan to "dig once" and save on trenching and construction costs. Currently there are 40 Level 2 chargers and four (4) DCFC located at the Fleet Yard, and a fully electric fleet will require an additional 24 Level 2 chargers and an additional 14 DCFC. The Fleet Yard is an essential site for all-electric conversion; not only is it the largest County site where vehicles are domiciled at 220 total vehicles, it serves as a central hub where all County vehicles visit at some point during the vehicle lifetime, for routine repair and maintenance. Thus, the Fleet Yard will host the largest volume of EVSE. It is anticipated that the additional EVSE needed at the Fleet Yard could coincide with the planned expansion and development of that site, according to the 2022 County Capital Facilities Master Plan.[25] If budget is a constraint in any given year, the County could install the EVSE at the Fleet Yard in phases.

[25] County Capital Facilities Master Plan, 2022: https://www.contracosta.ca.gov/DocumentCenter/View/77500/Contra-Costa-County_Facilities-Master-Plan-2022_Report

Figure 19: Contra Costa County Total Annual EVSE Cost, 2025 - 2045



While Appendix A lists EVSE needs by every County site requiring additional EVSE, Table 3 summarizes County EVSE needs within the short-term (1-2 years); medium term (3-5 years); and long term (6+ years), with budgets associated with each tranche of EVSE.

Table 3: Additional EVSE Needed at County Sites: Short, Medium and Long-Term

Term	EVSE Ports Needed	Up-Front Cost	Key Sites
Short Term (1-2 Years)	• 121 Level 2 Ports • 40 DCFC	$10.3M	• 1980 Muir Rd., Martinez • 2380 Bisso Ln., Concord • 900 Ward St., Martinez
Medium Term (3-4 Years)	• 44 Level 2 Ports • 49 DCFC	$10.0M	• 2467 Waterbird Way, Martinez • 5555 Giant Hwy., Richmond • 1850 Muir Rd., Martinez
Long Term (5+ Years)	• 101 Level 2 Ports • 11 DCFC	$5.9M	• 4800 Imhoff Pl., Martinez • 300 Ellinwood Wy., Pleasant Hill • 4545 Delta Fair Blvd., Antioch
TOTAL	• **266 Level 2 Ports** • **100 DCFC**	**$26.5M**	

Table 4 lays out the cost assumptions for these estimates; assumptions are based upon current industry costs of EVSE and the County's own experience in EVSE investment in the last three years. The up-front costs for EV chargers cover the costs for design, planning, charger equipment, trenching, construction, commissioning, and auxiliary equipment such as poles, stands and signage. EVSE equipment and labor costs are expected to rise at four percent (4%) per year, in keeping with the average Bay Area Consumer Price Index for the past four years.[26]

Table 4: Key Assumptions in EVSE Analysis

Level 2 EV Charger Up-Front Cost per Port	$31,000[27]
Level 2 EV Charger Annual Maintenance Cost per Port	$400
DCFC Port Up-Front Cost	$150,000
Level 2 EV Charger Annual Maintenance Cost per Port	$400
EVSE Equipment Annual Escalation Rate	4%

The maintenance costs per port include routine inspections every 6 months as well as unexpected repairs, such as from charger misuse or vandalism.

7.3 EVSE Standardization

Contra Costa County should consider adopting EVSE standards to ensure consistent performance, interoperability, and easier maintenance across facilities, and potentially across jurisdictions. The Open Charge Point Protocol (OCPP) is an open, vendor-neutral communications standard that lets EVSE and charging station management systems (CSMS) from different manufacturers communicate reliably. OCPP 2.0 is now the California standard for CALeVIP Eligible Equipment,[28] and adopting OCPP 2.0 ensures that County chargers meet state interoperability expectations, support expanded features (such as improved security, enhanced device management, smart charging, and standardized telemetry), and remain compatible with a wider vendor pool. Vendors should provide proof of OCPP 2.0 certification - test reports or certification IDs- before acceptance, and should maintain certification after firmware updates. OCPP-certified equipment should also be tested for interoperability with the County's chosen Charging Station Management System (CSMS).

Recommendation 7.3.1: Require County-sited EVSE to comply with the Open Charge Point Protocol 2.0, in keeping with California's CalEVIP standard.

[26] Association of Bay Area Governments (ABAG) Consumer Price Index Report, Average of Annual Average Percentage Changes 2021 - 2024: https://abag.ca.gov/tools-resources/data-tools/consumer-price-index

[27] Assumes that the Marin Clean Energy (MCE) rebate of $4,500 per Level 2 charger port, with the Deep Green rate: https://mcecleanenergy.org/ev-charging/

[28] Cal eVIP program, Certification Process: https://calevip.org/ocpp-certification-process

Further, the County should consider adopting a Charging Station Management System (CSMS) for its existing and future EVSE. A CSMS is a centralized software system that controls, monitors, and coordinates EVSE and their back-end services. It manages user access, payment processing, transaction records, remote diagnostics, firmware updates, and dynamic load management across sites. Ideally, a CSMS enables real-time status and centralized reporting so the County can track EVSE uptime, energy use, and maintenance needs across facilities. It also supports demand-response programs, coordinated firmware or security updates, and roaming partnerships that expand user access. Once the County invests in a CSMS, any future EVSE vendor's equipment would need to be compatible with the CSMS. CSMS compatibility in equipment standards helps ensure consistent operation, simplifies vendor integration, reduces local Information Technology (IT) burden, and provides the data needed for performance monitoring, grant reporting, and long-term planning.

Recommendation 7.3.2: Invest in a Charging Station Management System to control, monitor and coordinate EVSE for rapid diagnostics and reporting.

To support reliable service and user confidence, the County should include a 97% uptime requirement for all EVSE in its equipment standards. This metric should be applied over an agreed reporting period and enforced through service-level agreements (SLAs) with defined monitoring, reporting, and remediation steps, including credits or repair timelines for breaches. Requiring 97% uptime, alongside OCPP 2.0 certification and CSMS compatibility, reinforces vendor accountability, reduces downtime for fleet and public users, and helps ensure the network meets operational and grant reporting expectations. This uptime recommendation aligns with the California Energy Commission's (CEC) proposed 97% uptime standard for publicly or ratepayer-funded DC fast charging ports.[29]

Recommendation 7.3.3: Adopt a 97% uptime requirement for all County-sited EVSE.

These measures will help the County deploy a secure, scalable EV charging network that aligns with state programs, maximizes uptime, and simplifies long-term operations.

7.4 EVSE Investments at County-Leased Facilities

A potential implementation risk for the County's ZEV transition lies in the reliance on leased (non-County-owned) sites for overnight vehicle domiciling and charger installation. One quarter of the 71 facilities that house County vehicles are leased, resulting in 261 County fleet vehicles domiciled on leased sites. Without binding partnerships or agreements with landlords to permit charger deployment, up to ~20% of the fleet would be effectively stranded: vehicles could be converted to battery electric but lack overnight charging access at their domiciles. Moreover, failure to secure access to leased sites would prevent installation of approximately 121 planned

[29] California Energy Commission, "CEC Staff Report - Tracking and Improving Reliability of California's Electric Vehicle Chargers," June 2025. https://www.energy.ca.gov/publications/2023/tracking-and-improving-reliability-californias-electric-vehicle-chargers

Level 2 chargers (45% of the County's planned Level 2 capacity) and 16 DC fast chargers (16% of required DC fast capacity). These shortfalls would materially undermine operational readiness, fleet utilization, and the County's ability to meet electrification timelines. Proactive, contractual landlord partnerships and site access agreements are therefore critical risk-mitigation measures to ensure full delivery of the County's EV charging infrastructure and successful fleet transition.

To facilitate landlord cooperation, the County should emphasize the tangible benefits landlords can realize by hosting chargers: the ability to charge additional landlord-owned fleet or tenant EVs, which supports their own electrification and operational efficiencies; potential increases in property value and marketability driven by on-site EV infrastructure; and access to grants, tax incentives, or utility programs that can offset capital and installation costs. Offering cost-sharing arrangements for EVSE, managing permitting and installation on the landlord's behalf and guaranteeing minimal disruption during construction can further reduce perceived risk for landlords and accelerate agreement execution. These incentives and supportive measures will strengthen landlord willingness to enter formal site access agreements, reducing the County's risk of stranded fleet assets and infrastructure shortfalls.

Recommendation 7.4.1: Partner with owners of County-leased facilities to install jointly beneficial EVSE at leased sites to prevent ~20% of County vehicles from being stranded without overnight chargers.

8. Regional Collaboration Supporting the ZEV Transition

Regional coordination is essential as Contra Costa County and neighboring local agencies transition medium- and heavy-duty fleets to zero emission by 2045 under ACF. The County contains 19 cities plus multiple special districts and agencies (e.g., ConFire, Central Contra Costa Sanitary District), each operating its own fleet; many of these fleets will rely on the same public EVSE and may share chargers on one another's sites.

A formal EVSE-sharing approach improves utilization and cost-effectiveness. Industry benchmarks consider ~20% utilization sufficient to justify initial EVSE investment;[30] cross-agency sharing helps achieve that threshold, generates revenue for site hosts, and addresses early-stage underutilization when individual fleets lack sufficient EVs. Sharing arrangements can be adapted as fleets mature to ensure charger availability and meet operational needs.

Regional collaboration also strengthens grant competitiveness. Many funding opportunities impose minimum equipment counts or dollar thresholds that can exclude smaller agencies;

[30] EV Charging Summit EV Industry Blog, "Top Metrics to Measure the Performance of Your EV Charging Stations," March 2023: https://evchargingsummit.com/blog/top-metrics-to-measure-the-performance-of-your-ev-charging-stations/

aggregating needs across jurisdictions meets grant requirements, reduces application workload, and increases the likelihood of securing external funds.

8.1 C-TEC Partnership

The County's primary opportunity for regional collaboration is an engaged, informal group of local governments in Contra Costa County called Countywide Transportation Electrification Coordination, or C-TEC. C-TEC has 16 active agency partners and is growing. C-TEC is facilitated by the Energy Manager in the County Public Works Department. C-TEC currently meets virtually twice per month to discuss opportunities and challenges with electrifying fleets, with topics including mitigating driver reluctance, co-sponsoring each other's grants, strategically selecting vehicles to transition based on duty cycles, navigating statewide regulations, and more. Once per year, C-TEC meets for an in-person strategic summit where agencies coordinate more thoroughly during interactive sessions. Previous C-TEC summits have: 1) prompted members to place their preferred locations for EV chargers on a detailed regional map; 2) showcased a case study of electrified school busses in the City of Pittsburg; and 3) hosted police and fire personnel to speak on a panel dedicated to the unique opportunities and challenges of electrifying first responder and patrol vehicles.

Through C-TEC, the County is currently preparing a grant application for $100M in EV chargers throughout the region, specifically to support first-responder emergency vehicles across agencies. Named Electrifying Vehicles for Reliable Emergency Services and Community Utilization with a focus on Equity (EV-RESCUE), this grant will leverage the collective expertise of 16+ agency partners to seek funding for a large-scale EV charging network across the region, with charging stations designed to meet the needs, duty cycles, and scale of County and City first responder vehicles.

8.2 Leveraging Joint Powers Authorities

A joint powers authority (JPA) offers practical advantages for advancing the County's zero-emission vehicle goals through coordinated, multi-agency action. By leveraging a JPA, the County can pool purchasing power to procure ZEVs and charging infrastructure at better pricing and with streamlined procurement processes; standardize specifications and pre-qualify vendors to reduce procurement risk and staff workload; centralize technical expertise, grant identification, application preparation, and grant administration to increase competitiveness for state and federal funding; and coordinate maintenance, warranty management, interoperability standards, and workforce training to lower lifecycle costs and operational complexity—particularly for smaller agencies with limited capacity.

The County and its municipal partners may choose to leverage an existing JPA for joint procurement and program delivery. The Contra Costa County Transportation Authority (CCTA) operates as a JPA; CCTA manages funds from a Countywide transportation sales tax as well as funds from the Bay Area Air Quality Management District (BAAQMD) and invests those funds to improve public transportation, safety and environmental quality on behalf of its jurisdictions.

While CCTA has not been leveraged for direct EV or EVSE investments to date, its scope and legal structure could potentially be leveraged to do so.

Additionally, Drive EV Fleets is a nationwide coalition of municipalities collaborating to purchase EVs in bulk from qualifying OEMs. Since 2018, more than 450 municipalities have pledged to electrify their fleets, and many have purchased EVs at competitive prices directly through Drive EV Fleets. Drive EV Fleets' procurement partner Sourcewell facilitates collaborative purchasing with groups of interested municipalities and manages solicitations on their behalf.[31] Additionally, the County could consider leveraging SPURR, a Joint Powers Authority of member public agencies that aggregates purchasing power for clean energy projects; in 2023 SPURR issued a Request for Proposals for EVSE to qualify vendors and determine pricing for municipal charger deployments.[32]

Recommendation 8.2.1: Leverage an existing Joint Powers Authority (JPA) to jointly procure EVs and EVSE at scale and coordinate grant-seeking.

8.3 Leveraging Utility Partnerships - MCE and PG&E

Partnering with PG&E and MCE will allow Contra Costa County to align EV charger deployment with utility grid planning and demand forecasts, reducing risks of localized capacity constraints and costly late-stage upgrades. Collaboration enables the County to leverage utility incentives, demand response programs, and technical support to lower installation and operating costs. In fact, the County has already used incentive funds from MCE to offset costs of Level 2 EVSE at County sites, and has partnered with MCE to receive technical assistance in designing EVSE and new EVSE plans.

Coordinated planning also improves site selection, timing, and load management strategies to optimize grid impact and charger utilization. Early data sharing on planned charger locations and expected demand helps PG&E refine distribution investments and reduces permitting and interconnection delays. Currently, the County is leveraging PG&E's EV Fleet Program to jointly plan EVSE investments in a manner that reduces grid constraints for the utility and site costs for the County.[33] Joint initiatives with PG&E and MCE can increase funding opportunities and streamline implementation while maintaining reliability and affordability for County operations.

Recommendation 8.3.1: Maintain and expand partnerships with MCE and PG&E to secure grants, receive technical assistance, and coordinate long-term planning of EVSE against grid capacity.

[31] DriveEVFleets Website: https://driveevfleets.org/
[32] SPURR Website: https://spurr.org/about-us/
[33] PG&E EV Fleet Program: https://www.pge.com/en/clean-energy/electric-vehicles/ev-fleet-program.html

9. Funding and Financing the EV Transition

Funding and financing the EV transition brings multiple opportunities and challenges, as the County is facing a paradigm shift where the County is expected to not only supply vehicles, but supply the fuel for vehicles as well, in the form of EVSE sited at County facilities.

The strategy for funding and financing the EV transition can be organized into pillars: 1) seek outside funding resources, leveraging County funds and resources; 2) pursue innovative financing structures with third parties; 3) diversify revenue sources by leveraging EVSE and EVs to provide grid services. Each of these strategies is discussed below, with detailed recommendations for the County. For the purposes of this report, “funding” generally refers to dollars that do not need to be paid back, and “financing” refers to dollars that reduce up-front capital cost barriers but do need to be paid back over a period of time.

9.1 Outside Funding Resources

Pursuing outside funding resources whenever possible for both EVs and EVSE will be essential for keeping costs manageable and within the bounds of the budget outlined in Scenario 2, while getting as close as possible for the complete electrification of the County’s fleet by 2035.

Outside funding resources are available at the local and state level, and come in the forms of rebates, incentives, grants and tax credits. Rebates and incentives typically reimburse (partially or fully) the cost of EVs or EVSE that meet certain environmental and/or performance standards. An up-front incentive applied at the point of purchase is usually more desirable than a rebate that applies post-purchase, since a post-purchase rebate would require the County to carry the full capital cost of the EV or EVSE before the rebate applies.

From a capital outlay perspective, grants operate similarly to rebates in that they require the grantee to spend funds up-front for a project, and then seek reimbursement for the cost of that project. A key difference between an EV or EVSE grant and a rebate would be that grants typically fund projects, and rebates fund specific equipment. Grants also tend to be larger in dollar amounts than rebates, as EV and EVSE projects require many more costs than the equipment, such as construction, permits, project management, and operations and maintenance. The drawbacks of grants from a County perspective are: 1) grants often require additional recordkeeping and reporting from typical County projects, which may add to the cost overhead; and 2) grants typically require match funding from the applicant to demonstrate their commitment to the project. Fortunately, the County has access to the Measure X Sustainability Fund to support match funding requirements, though it is finite; robust due diligence is recommended in any decision to offer Measure X funds as a grant match.

Generally, there are more grant funding opportunities for EVs and EV chargers than the County can reasonably pursue, given staff capacity. Thus, it is recommended that the County continuously evaluate grant funding opportunities based on overall alignment, defined as 1) eligibility, 2) total funding available; 3) consistent with County priorities, 4) low overhead for the

grant application, reporting and data collection, and 5) low match requirement. In order to be consistent with County priorities, grant opportunities must target the types and performance specifications of EVs and EV Chargers that the County would purchase independently if not for the grant or rebate. At times, the County Energy Management Team has found that vehicle and charger type specifications have been too restrictive, or not a good fit for the County's EV investment trajectory. Tables 5 and 6 below displays a summary of grant and rebate opportunities deemed High Alignment, based upon this evaluation.

Table 5: EV Rebates and Grant Opportunities, Prioritized by County Alignment

Funding Title	Funding per EV	Overall Fund Amount	Timing	County Alignment Summary
CA VW Mitigation Grant Program - Zero Emission Class 8 Truck Program	$240K for dump trucks, concrete mixers and drayage	$27M	Available Now	Aligned with County needs for specific Public Works and Construction vehicle ZEVs, especially those that are regulated under ACF. The County has more than 15 vehicles that would qualify. Application is extensive though narrative sections are minimal.
CA VW Mitigation Grant Program - Zero Emission Freight and Marine	$210K for heavy-lift forklifts and $3M for marine repower	$40M	Available Now	Aligned with County needs for specific Construction vehicles and Sheriff marine fleet. The County has seven (7) eligible forklifts and several marine vessels. Equipment costs are covered under the grant but labor costs are not covered.
CA VW Mitigation Grant Program - Zero Emission Transit, School and Shuttle Bus Program	$215K for new, ZEV transit buses	$130M	Available Now	Aligned with County needs for transit buses, as these are ACF regulated. The grant amount will cover an estimated ~50% of the full cost of a new ZEV bus, and the County has nine (9) eligible prisoner transport buses that would qualify.
BAAQMD Grant Program - Off-Road Equipment	85% to 100% of off-road equipment cost	$75M	Available Periodically; Check Website	Many County vehicles would qualify for funding. However, replacement specifications are not always feasible, because meeting eligibility requirements can sometimes be prohibitive depending on market availability. A 15% match is required for funding.
BAAQMD Grant Program - Heavy Duty and Transit Buses	50% - 80% of heavy duty and transit buses	$35M	Available Periodically; Check Website	Up to ten (10) County vehicles would qualify for funding. However, replacement specifications are not always feasible, because meeting eligibility requirements for can sometimes be prohibitive depending on market availability. A 25% match is required for funding.

PG&E EV Fleet Program	Up to $9K per MDHD vehicle	$236M[34]	Available Now	PG&E's EV Fleet program requires that the County install EV chargers at County-owned sites. PG&E will then offer rebates to qualifying medium- and heavy-duty vehicles domiciled at those sites. The County has at least 11 eligible sites with 10+ eligible vehicles for rebates.

Table 6: EV Charger Rebates and Grant Opportunities, Prioritized by County Alignment

Funding Title	Funding per EV Charger	Overall Fund Amount	Timing	County Alignment Summary
MCE EV Charger Rebate Program	Up to $4.5K per Level 2 charger	Depends on MCE annual budget	Available Now	Very aligned with County needs, and County has experience taking this rebate. The program also offers technical assistance run by CLEAResult. Rebates can only be used for Level 2 chargers, not DCFC.
PG&E Rule 29/ EV Fleet Program	Variable	$236M	Available Now	Very aligned with County needs, since PG&E will pay for grid upgrades associated with extra load from EV chargers. Application is straightforward. EV Fleet requires medium- and heavy-duty vehicles to use the EV chargers, and PG&E will collect charger and vehicle data for five (5) years.
CEC Grant funding for EV Chargers	Up to $12.5K for Level 2 charger and $100K for DCFC	$30M	Available Periodically; Check Website	Assessment based on GFO 23-606 for Government Fleets, but future grants will vary in requirement and funding level. Very aligned with County fleet and site needs. Application is extensive in both narrative and technical aspects, and data collection is rigorous. There is a 30% match fund requirement.
MTC Transit Oriented Communities (TOC) Climate Implementation Grants	Up to 88% of project costs, capped at $5M per project	$20M	Available Periodically; Check Website	Aligned with County needs, especially at sites that are in Impacted Communities. Funded chargers must be publicly accessible, which limits County facility site options. Application has limited narrative but is extensive in technical requirements. There is a 12% match fund requirement.
CALSTART Energiize Fast Track Grants	Up to $35K for Level 2 charger and	$544M	Available Periodically; Check	Almost all equipment and maintenance and eligible for reimbursement, but labor costs (including construction labor) are not

[34] According to PG&E representatives at the time of this report, funds are "almost depleted." PG&E conversation, June 2025.

	$93K for DCFC		Website	eligible except when in an Impacted Community. Projects are ranked based on "readiness" criteria like permits issued, which may be challenging before funding is committed.
BAAQMD Infrastructure Grants	Up to $10K per EV charger site	$35M	Available Periodically; Check Website	May be a good fit for the County, but site cost cap will likely limit investment to one to two Level 2 chargers. Public access is encouraged but not required. Grant timeline is short at only seven weeks.
BAAQMD Charge! Grant	Up to $9K per Level 2 charger and $60K for DCFC	$10M	Available Periodically; Check Website	May be a good fit for the County though eligibility criteria has historically be unclear. There is a 20% match funding requirement.

Recommendation 9.1.1: Pursue outside grant funding at the state and local level (Tables 5 and 6)

9.2 Clean Energy Tax Credits

Governments cannot directly use tax credits, but Contra Costa County previously could access EV and EVSE incentives via tax equity financing and the IRA's Elective Pay option. Two relevant federal credits were the Alternative Fuel Vehicle Refueling Property Credit (30C), which covered up to 30% of EVSE costs for qualifying sites, and the Commercial Clean Vehicle Credit (45W), which provided up to $7,500 for vehicles under 14,000 lb and up to $40,000 for vehicles over 14,000 lb.[35]

Under tax equity financing the County would partner with a third-party owner/developer. An investor -typically a bank, corporation, or insurer- provides equity, claims the tax credit and depreciation, and receives limited cash flow and a defined ownership interest for a set period before a buyout or transfer of ownership. This structure is well established in clean-energy projects and can reduce project costs and mobilize capital. It is most suitable for third-party–owned EVSE (for example, charging-as-a-service installations). Domestic banks account for 80% of the clean energy tax equity market, with the remainder of the market funded by large corporations and insurance companies.[36] Primary risks include failure to meet credit requirements, potential federal policy changes, and contractual or performance exposure to the third-party owner.

[35] As of the date of this report, both tax credits are suspended.

[36] California Tax Credit Allocation Committee, "Low Income Housing Tax Credit Programs" https://www.treasurer.ca.gov/ctcac/tax.asp

Elective Pay allows tax-exempt governments to receive the value of eligible credits as direct payments if project labor requirements (prevailing wage and apprenticeship) are met. Elective Pay is generally a better fit when the County purchases and owns vehicles directly, since 45W can effectively offset vehicle costs. Twelve clean-energy credits (including 30C and 45W) are currently eligible for Elective Pay, and over 600 municipalities have applied for reimbursement under this provision.

Federal policy and program availability are currently uncertain. A January 20, 2025 executive action and subsequent budget proposals have disrupted some IRA programs; litigation and partial reinstatements are ongoing. A House budget bill in May 2025 proposed eliminating these EV and EVSE credits by December 2025. Given this uncertainty, it is prudent to pursue tax equity and Elective Pay options promptly while monitoring federal developments and preserving flexibility should credits be reinstated or modified in the future.

Recommendation 9.2.1: Pursue tax equity financing (if available) for third-party owned EVSE.

Recommendation 9.2.2: Pursue Elective Pay to take tax credits on EV purchases directly, if available, in Fiscal Year 2026 and 2027.

9.3 Carbon Markets and Credits

Carbon markets and credits can provide after-purchase revenues which can offset the cost of EVs and EVSEs. In California, the Low Carbon Fuel Credit (LCFS) program is a market-based mechanism that caps the carbon intensity (CI) of fossil fuels from transportation sources. California fleet owners can take advantage of the LCFS program, where electricity sold for the fueling of EVs can generate credits, which can act as a partial refund for future investments in EVs and EVSE.

The County is already positioned to take advantage of the LCFS program, as it has partnered with broker FuSe to monetize LCFS credits from the County's investment in EVs and EVSE. The revenues, or "credits" from the LCFS program would be generated by the County according to measured volume of electricity (in MWh) used to fuel County EV fleet vehicles, compared to a theoretical fossil fuel baseline. The difference in CI between the electricity-based fuel and the fossil fuel creates a credit, according to a market-determined credit price. Since its inception in 2016, the market prices for LCFS have varied, reaching above $200/credit in 2020, and hovering between $50 - $100/credit for the past two years.[37] According to the research organization Rocky Mountain Institute, when LCFS credit prices reach above $200, the credit can offset more than 50% of EV fueling costs for California fleet customers, though at current

[37] California Air Resources Board, Low Carbon Fuel Standard Data Dashboard: https://ww2.arb.ca.gov/resources/documents/lcfs-data-dashboard

prices, one could expect a 20 - 30% discount on EV fueling.[38] Since the County's broker partner FuSe will take a 10% fee from expected LCFS revenues,[39] LCFS could provide a 15% discount on EV fueling costs.

Recommendation 9.3.2: Activate contractor FuSe to monetize Low Carbon Fuel Standard credits for County-sited EVSE

9.4 Competition and Bulk Purchasing

Organized competition and bulk purchasing can lead to lower prices when purchasing EVs (and perhaps EVSE) when buyers collaborate to buy assets in bulk. When EV and EVSE dealers and OEMs sell in bulk, there are significant administrative savings compared to many individual sales, and these savings can be passed on to buyers in the form of lower prices. The County has some experience with this, as it purchased more than 50 Level 2 EV chargers from the EV charging developer Flo at bulk discount pricing.

The County's EV purchases alone may not add up to enough in any given year to yield savings from bulk purchasing, but the County may be able to benefit from bulk purchasing either from an existing collaborative or by creating its own collaborative of Bay Area or County-wide municipal fleet buyers. Adding additional buyers to a collaborative is more likely to harness the savings of bulk purchasing because many fleet buyers can purchase a portion of a large purchase of one single type of vehicle; for example, one purchase of discounted electric Ford F-150s could be divided up amongst all 20+ municipalities in Contra Costa County.

The most likely organization to conduct bulk purchasing for the County and other stakeholders is the countywide Joint Powers Authority (JPA), or an existing JPA such as SPURR or Drive EV Fleets, discussed in Chapter 9. JPAs cover much of the administrative tasks and vendor vetting on behalf of member agencies, allowing members to expedite procurement and enjoy bulk pricing. Bulk purchasing can be combined with EV tax credits as well, as long as the private vendor owns the vehicle 24 to 36 months. This strategy could work in the form of a short-term lease agreement where a municipality leases the vehicle(s) for two to three years, and then purchases the vehicle at a pre-owned vehicle price when the lease ends.

Of course, participation in any pre-existing collaborative purchasing effort would require the County to assess the collaborative's alignment with County needs for EVs or EV chargers, to ensure that the County receives appropriate bids. The County is advised to assess existing collaboratives for technical alignment, such as level of EV charger, type of vehicle and charger maintenance needs. The County should also assess qualitative alignment, such as whether the existing vendors have experience with County fleets, and whether that experience was positive.

[38] Rocky Mountain Institute, "Understanding California's Low Carbon Fuel Standards Regulation," October 2023: https://rmi.org/understanding-californias-low-carbon-fuel-standards-regulation/, assuming that electricity costs 20-30 cents per kWh

[39] Broker agreement between Contra Costa County and FuSE, 2024.

Recommendation 9.4.1 For each bulk EV or EVSE purchase, assess alignment with existing municipal agency purchasing collaboratives to leverage administrative efficiency and bulk pricing.

9.5 Innovative Financing Strategies

Conversion to all-electric vehicles on a large scale requires up-front investment and brings benefits over time, such as cost savings on vehicle maintenance, reduced greenhouse gasses, and public health benefits in the form of cleaner air for communities already burdened by refinery pollution. However, up-front investment can be a significant barrier. Innovative financing strategies can reduce up-front costs, spread investments over time, reduce the risk of investments, lower the cost of financing and sometimes bring in expertise of third-party entities. Funding sources have an obvious advantage compared to financing because funding sources generally do not need to be paid back. However, funding sources tend to be finite, highly competitive, and may not cover the full cost of EVs and EVSE. Financing instruments for EVs and EVSE tend to be more abundant and likely to cover the full cost of the vehicle or EVSE project.[40] Numerous innovative financing strategies exist for transportation electrification; the following strategies have been culled for their potential to benefit Contra Costa County.

<table>
<tr><th colspan="2">Vehicle Leasing</th></tr>
<tr><td colspan="2">Leasing EVs rather than purchasing allows the vehicle user to essentially purchase only the number of years of vehicle use for that lease term. Thus, the principal cost for the vehicle is typically lower than the principal for financing the vehicle for its lifetime. Lessees pay interest on a leased vehicle, an additional cost. However, there is significantly less up-front capital required compared to a straight purchase. Maintenance costs can be included in the lease, enabling amortization of those costs over time. Lessors typically take on the risk of unexpected maintenance, repairs and vehicle defects. However, lessees may have to agree to vehicle lease terms such as mileage limits and limitations on duty cycles.</td></tr>
<tr><th>Pros</th><th>Cons</th></tr>
<tr><td>Lower or zero up-front capital required
Lower principal compared to financing entire vehicle
Maintenance costs wrapped into lease
Lessors cover risk of unexpected maintenance and vehicle defects
Enables piloting new vehicle types for a short period of time, which may be especially valuable for EVs</td><td>Interest payments add cost compared to straight purchase
Vehicle use limitations reduce flexibility
Lessee is liable for vehicle damage beyond expected wear-and-tear</td></tr>
</table>

[40] The Electrification Coalition, “How to Amp Up the Transportation Transformation: A Guidebook for Funding and Financing Electrification,” 2021

Low-Interest Financing	
Financing EVs and EVSE rather than an up-front purchase would allow the County to spread out costs over time with monthly payments of principal and interest. Some individual County departments already essentially "finance" their vehicles with County Public Works using the ISF system, so this option would be for Public Works to partner with a third-party financial institution to finance EVs in order to overcome the higher annual up-front costs that the EV transition requires. As a local government, Contra Costa County is eligible for low-cost financing only available to agencies and nonprofits, such as the California Infrastructure and Economic Development (iBank) Bank's Revolving Fund, offering interest rates typically lower than those found for traditional financing.[41] iBank and other entities also offer low-interest "bridge loans," short-term loans targeted to cover the term between the EV or EVSE investment, and the timing of incentives or rebates for the project. Revolving loans funds for clean energy, where capital from existing loans is reinvested into new loans, are becoming more popular at the state and local level.	
Pros	**Cons**
● Reduces up-front capital, which may be especially valuable as ACF milestone vehicles reach term ● Local governments eligible for lower-interest loans	● Overall payments are higher than an up-front investment ● Loans will increase the County's debt ● Vehicles depreciate as the County is still paying off the vehicle ● Tax credits may not be available

Utility On-Bill Financing
Utility on-bill-financing (OBF) is the practice of a utility paying a portion of up-front project costs for a customer, and the customer pays the utility back monthly. In energy projects where the project provides utility bill savings, the customer can essentially reimburse the utility in savings, and see no net increase in monthly utility bills. OBF can be used to invest in EVSE, though it is likely that EVSE will cause a net increase in utility bills instead of a net savings, in which case, on-bill financing acts like traditional financing, where up-front capital investment is spread across monthly payments to the utility, where there is an existing financial relationship. OBF can be paired with additional financing strategies, such as leasing. In a Lease/OBF scenario, the utility owns and maintains EVSE at the customer site, and the customer pays a monthly additional fee on their utility bill to reimburse the utility for the cost of the EVSE project. Utilities can sometimes offer more favorable terms on an OBF proposal if the customer agrees to use the EVSE in a manner that benefits the grid, in vehicle-to-grid (V2G) services. In a V2G/OBF partnership, the utility could assume control over the plugged in EVSE during grid peak events, or the customer could agree to a rate schedule that financially encourages grid-supportive behavior, possibly with "black out" times for charging. If the utility sees the

[41] California Infrastructure and Development Bank, Infrastructure Loans Website: https://www.ibank.ca.gov/loans/infrastructure-loans/

plugged-in EVSE as an asset with value, the customer's OBF obligation would be the cost of the EV chargers, less that value.	
Pros	**Cons**
• Reduces up-front capital required • Leverages existing financial relationship and billing systems with utility • Utility credit ratings tend to be high, adding to trustworthiness as a lender • Can be paired with other financial mechanisms such as leasing and V2G	• Overall payments can be higher than an up-front investment • Loans will increase the County's debt • Vehicles depreciate as the County is still paying off the vehicle • Tax credits may not be available • If EVSE is used for V2G, terms of the V2G may reduce flexibility in charging times for County vehicles

Green Bond Financing	
In green bond financing, the County would issue a bond inviting potential purchasers to buy portion of the up-front cost of EVs or EVSE, in exchange for a return that the County would pay back over time. In any type of bond financing, the government issuer can typically capture a lower interest rate than private sector financing, as the full financial balance sheet and credit of that local government is used as collateral.[42] The current County General Plan includes actions to establish a Green Bank.[43] In tax-exempt municipal bonds, the interest paid to the bondholder is exempt from Federal taxes, which further enables the bond issuer to capture lower bond interest rates than in a private sector financing scenario. "Green" bonds may also be tax exempt, and are used to finance projects with environmental or public health benefits. If the local government bond issuer has the responsibility to respond to environmental or public health pollution, a bond project that helps resolve this issue may result in net savings for the local government. In the case of EVSE, public health benefits are a reduction in GHGs and particulate matter, resulting in better air quality for the community. Over time and at a large scale, if local pollutants are significantly reduced, the County may see savings in fewer asthma cases (or other poor air quality ailments) treated at County clinics. Of course, quantifying such savings requires robust accounting.	
Pros	**Cons**
• Reduces up-front capital required • Municipal bonds typically have lower interest payment requirements than private sector financing	• Overall payments can be higher than an up-front investment • Bonds will increase the County's debt • In order to quantify net savings from

[42] U.S. Environmental Protection Agency, "Energy Resources for State and Local Governments: Municipal Bonds and Green Bonds," https://www.epa.gov/statelocalenergy/municipal-bonds-and-green-bonds

[43] Contra Costa County General Plan, 2024. See COS A14-11, p.7-49, https://envisioncontracosta2040.org/wp-content/uploads/2025/03/Contra-Costa-County-General-Plan_Final_Adopted_November_5_2024_Optimized.pdf

● Interest payments may be tax exempt for bondholders ● In “green” bonds, funded projects may carry public health benefits and potential financial savings for the bond issuer	“green” bond projects, the County must invest in robust accounting of costs and benefits, including externalities

Charging-as-a-Service with Revenue Share	
Charging-as-a-service (CAAS) enables fleet owners to use EVSE without owning or managing chargers, and pay for vehicle charging through subscription models or pay-as-you-go. Revenue sharing can be added to CAAS if the EVSE are on County-owned sites, and users other than fleet drivers use the chargers, such as employee EVs, other municipal fleets and the public. Since the third-party owner of the EVSE do not have to pay to use the site, they can structure financing to share a portion of revenues with the County every time an outside entity chargers their EV. CAAS with revenue share may not completely pay for EVSE at that site, but could create a revolving fund that could be re-invested into more EVSE as more County fleet vehicles are electrified.	
Pros	**Cons**
● Provides a potential source of funding to re-invest into a revolving fund to pay for future County EVSE ● Encourages sharing of EVSE, a cost-effective solution for the broader community	● May increase wear-and-tear on EVSE primarily dedicated for the County fleet ● Revenues may be minimal compared to overall EVSE project cost

Recommendation 9.5.1: Assess and pursue innovative financing strategies: Vehicle Leasing, Low-Interest Financing, Utility On-Bill Financing, Green Bond Financing, and Charging-as-a-Service (CAAS) Revenue Sharing

9.6 Grid and Resiliency Services

Since plugged-in EVs may act as electric batteries, great potential exists to utilize EVs to provide grid support services. Typically, an electric grid operator (utility) will seek partnership from EVSE managers where EVSE managers commit to providing capacity (battery discharge) to the grid during specified dates and times of day when the electric grid will be constrained. Examples of vehicle-to-grid (V2G) pilot projects exist around the nation, though large-scale or ubiquitous usage of this strategy has yet to emerge.

Generally, V2G projects work best for vehicle duty cycles that are highly predictable, so that grid operators can be confident that the resources will be plugged-in and available when called.

10. ZEV Transition Workforce Development

10.1 Vision for Workforce Development in ZEV Transition

As the County advances fleet electrification, a trained local workforce is essential to service the growing number of EVs and EVSE and to create quality local jobs.

In January 2025 the Public Works Energy Management Team articulated this workforce vision:

Inspire, educate, train and place program participants in high-road jobs in Electric Vehicle (EV) maintenance and Electric Vehicle Supply Equipment (EVSE) Operation and Maintenance (O&M) within Contra Costa County and beyond. We aim to create a robust local workforce able to meet the growing demand for EV/EVSE services.

The County has identified two primary skillsets: EV mechanics and EVSE O&M specialists. EV mechanics are auto technicians with specialized training in high-voltage systems, lithium-ion battery diagnostics, regenerative braking, and EV/hybrid architectures; they require additional safety training beyond standard auto-mechanic courses.[44] The County currently employs ten (10) full-service auto mechanics and has delivered two (2) EV mechanic and safety trainings. The Fleet Manager's goal is to train all full-service mechanics to service County EVs and to obtain EV-specific certifications for the Fleet Yard to become a training site.[45]

EVSE O&M specialists perform electrical and mechanical preventive and corrective maintenance, track performance metrics, and maintain uptime and billing systems. Preventive tasks include inspections, cleaning, and diagnostics; corrective work addresses failures such as vandalism, broken plugs, software or network faults, and must be resolved promptly.[46] EVSE O&M personnel are typically certified electricians; EVSE O&M can be integrated as a module within electrician training programs.

To date the County has relied on private contractors for EVSE installation and maintenance, a model that may persist given the private sector's established networks and billing platforms. Nonetheless, the County anticipates the need to hire at least one dedicated EVSE O&M specialist to ensure reliable fleet fueling and to support in-house operational requirements.[47]

10.2 Federal, State and County Workforce Development Requirements

The first step to assessing workforce development needs is to review requirements for EV mechanics and EVSE operators at the Federal, State and County level.

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[44] Electronics Technicians Association, International (ETAI): https://etai.org/overview.html
[45] Interview with Ricky Williams, Fleet Manager, September 2025.
[46] U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, "Operation and Maintenance for Electric Vehicle Charging Infrastructure." https://afdc.energy.gov/fuels/electricity-infrastructure-maintenance-and-operation
[47] Interview with Ricky Williams, Fleet Manager, September 2025.

The County already employs journey-level auto mechanics and requires a baseline set of certifications and experience for those positions. County auto mechanics must possess a minimum level of certifications from the National Institute for Automotive Service Excellence (ASE), covering topics such as engine repair, suspension and steering, brakes, electrical systems and heating/ air conditioning.[48] ASE is an independent nonprofit organization that standardizes and maintains quality vehicle repair and maintenance services by offering certifications to professionals; ASE certifications are becoming more commonly required for auto mechanics in both the public and private sector.[49] In order to achieve ASE certification, automotive mechanics must either possess two years of on-the-job training, or one year of on-the-job training and an associates' degree in automotive repair. Neither the County nor State currently have requirements specifically for EV maintenance and repair, though there are opportunities for both mandatory and voluntary courses for County employees to gain this skillset.

Generally, installers and operators of EVSE must be licensed electricians, meaning that they must complete an apprenticeship of at least three years, pass an examination that covers knowledge of building codes, the National Electric Code, and electrical theory, and maintain good standing with the California State License Board (CSLB). Additionally, the state of California requires that installers of any EVSE funded by the California Air Resources Board (CARB) or the California Energy Commission (CEC) carry an electrician's license with the state, and employ at least one worker with a certification by the Electric Vehicle Infrastructure Training Program (EVITP).[50] EVITP is an independent nonprofit borne of collaboration between government and industry partners that offers a comprehensive certification in EVSE installation to electricians, covering battery types, brand-specific installation instruction for different charger types, utility interconnection processes, Internet Protocol (IP) networking of charging stations, electrical safety, EVSE maintenance, and more.[51] To get certified, electricians must take a 20-hour proprietary training and pass a proctored exam. The EVITP certification lasts for three years. EVITP maintains lists of electricians with active certifications in every state and Canada.

10.3 Workforce Development Training and Certification in EVs and EVSE

While on-the-job training, associate's degrees and ASE certifications in automotive repair are a strong foundation for general automotive repair and maintenance expertise, these qualifications alone will not prepare automotive mechanics to address issues specific to EVs. Given the speed at which the County is transitioning fleet vehicles to all-electric, there is an opportunity to encourage and require this new skillset within the County fleet technicians. Fortunately, the ASE

[48] Sample County Job Description for Lead Fleet Technician: https://www.governmentjobs.com/careers/contracosta/jobs/newprint/790509; and for Fire Emergency Vehicle Technician: https://www.governmentjobs.com/careers/contracosta/
[49] U.S. Bureau of Labor Statistics, "Careers in Electric Vehicles." https://www.bls.gov/green/electric_vehicles/
[50] California Public Utilities Code 740.20: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PUC&sectionNum=740.20.
[51] California EVITP Program: https://evitp.org/training/

program has developed a skills test for light-duty hybrid and EV repairs, as well as an industry standard and professional certification for safe handling and basic repairs of high-voltage systems within EVs. These EV-focused ASE courses could be a reasonable additional requirement for County hires or existing technicians assigned to work on EVs.

Recommendation 10.3.1 Require new and existing County technicians to get certified by the National Institute for Automotive Service Excellence's (ASE) Light-Duty Hybrid/ Electric Vehicle Specialist Test and ASE xEV safety certifications.

While EV safety training is essential to the safe servicing and repairs of the County's growing EV fleet, the scope of possible repairs and issues that may arise from a diverse electrified fleet goes beyond EV safety. Additional curricula covering EV operations, common EV failures and resolutions, battery maintenance, diagnostic tests, and more will be useful to provide County automotive technicians with the education they need to safely service EV fleets. Fortunately, training and curricula are developing nationwide to train automotive technicians on EVs, and to integrate EV expertise into general trainings for early-career automotive technicians.

Auto mechanics and technicians positions typically require postsecondary non-degree training, most often offered through two-year community colleges.[52] Electric vehicle repair and servicing expertise could be offered as part of a standard automotive course, and/or as a separate module. Community colleges in Contra Costa County are run by the Contra Costa County Community College District (4CD), with three active colleges, two of which offer degrees in automotive fields:

1. Contra Costa College, located in San Pablo, offers two automotive services Associate of Science degrees, with one course dedicated to EVs and hybrid vehicles.
2. Los Medanos College, located in Pittsburg, offers one automotive services Associate of Science degree, and nine (9) additional skills certificates in automotive repair and technology. However, no courses are offered specific to EVs.

While a partnership with 4CD is discussed further in Section 11.4, the County should consider encouraging potential new hires to seek automotive training through 4CD colleges, and look to re-train existing employees in EV-dedicated courses offered through 4CD.

Recommendation 10.3.2 Leverage EV automotive courses offered through the Contra Costa Community Colleges District (4CD) for new and existing auto technician employees at the County.

Auto mechanics employed by the County have already received training from the Ford Motor Company (Ford) which provides instruction specific to Ford EVs that the County has invested in, such as the Ford F-150 Lightning. Ford's model for providing training is to partner with

[52] U.S. Bureau of Labor Statistics, Occupational Outlook Handbook, Auto Technicians and Mechanics: https://www.bls.gov/ooh/installation-maintenance-and-repair/automotive-service-technicians-and-mechanics.htm

educational institutions throughout the country to provide Ford-specific modules within auto mechanic training and/or certification programs. Auto mechanics with Ford training become more competitive to work at Ford dealerships and repair shops; in fact, the County has hired mechanics with previous work experience at Ford dealerships. Seeking training from EV auto manufacturers is a proven method to ensure County auto mechanics receive training specific to the County fleet.

Recommendation 10.3.3 Supplement auto technician training with automobile manufacturer- provided training, offered through local educational institutions.

Additionally, the U.S. Bureau of Labor Statistics lists the National Alternative Fuels Training Consortium (NAFTC) curricula to automotive professionals looking to expand their expertise into electrified vehicles. The NAFTC is a consortium of two-year community colleges, technical institutes and four-year universities seeking to educate new and existing automotive technicians to support the growing industry of alternative fuel and electric vehicles. The NAFTC offers holistic training and curricula for automotive technicians on EV repairs and servicing, with separate modules for first-responder vehicles.[53]

The Clean Tech Institute, an eligible training provider of the California Energy Commission, offers curricula on EVSE installation and EV maintenance and repairs. The Certified Electric Vehicle Technician (CEVT) program is a 16-week intensive that offers classroom and hands-on training for automotive technicians to become specialists in EVs.[54]

Recommendation 10.3.4 Modify the curricula and training offered from the National Alternative Fuels Training and Consortium (NAFTC) and the Clean Tech Institute to County-employed automotive technicians.

Multiple organizations offer training, guides and workshops for first responders using EVs in emergency situations, given fire hazards within high voltage systems, and the special functions that emergency vehicle responder vehicles must contain. Key organizations offering resources include the U.S. Department of Energy's Alternative Fuels Data Center,[55] the National Fire Protection Agency,[56] the Energy Security Agency[57] and more. The County's Sheriff office is the largest Departmental fleet within the County, containing the majority of first-responder vehicles. The County has an opportunity to create training curricula for both auto mechanics and County first responders to ensure that safety measures are taken when servicing and operating first responder EVs.

[53] Clean Tech Institute CEVT Training: https://cleantechinstitute.org/Training/CEVT.html
[54] NAFTC Training Modules: https://naftc.wvu.edu/courses-and-workshops/
[55] U.S. Department of Energy Alternative Fuels Data Center: https://afdc.energy.gov/vehicles/electric-maintenance
[56] National Fire Protection Agency Training for First Responders Using EVs. https://www.nfpa.org/product/nfpas-alternative-fuel-vehicles-training-program-ol/evt004
[57] Energy Security Agency: https://energysecurityagency.com/

Recommendation 10.3.5 Leverage the curricula and training offered from multiple governmental organizations to develop trainings specifically for County auto mechanics and fleet drivers servicing and operating electrified first-responder fleet vehicles.

10.4 Workforce Development Partnership Strategies and Roles

Many stakeholders throughout the County can assist in developing a sustained, local workforce ready to meet the challenge of widespread transportation electrification. Collaboration and clarity of stakeholder roles will be essential to long-term success of workforce development region-wide.

Contra Costa Community College District

As mentioned in Section 11.3, educational institutions within the region are key stakeholders in developing a new and existing workforce. The Contra Costa Community College District (4CD) has been coordinating with the County's Energy Management team on leveraging their institutions' courses to serve the needs of the County's growing EV fleet. A first step would be a deep-dive assessment to determine if the current curricula offered through Contra Costa College meets the scope and trainee capacity needed by the County, as well as other jurisdictions.

Recommendation 10.4.1 Partner with the Contra Costa Community College District (4CD) to assess current course offerings against future County training needs to identify additional resource or capacity needs.

If further curricula is needed, there are multiple avenues to add to courses, such as the resources mentioned in Section 11.3. Additionally, the Electric Truck Research and Utilization Center (eTRUC), maintains a list of California-based community colleges offering courses and certifications on EV repair and servicing, including several in the 9-County Bay Area.[58]

Joint Powers Authority

As covered in Section 8.2, the County could consider leveraging a Joint Powers Authority (JPA) to coordinate procurement and funding for EVs and EVSE. One potential function of a Countywide JPA is to support large-scale solicitations for customized workforce training programs, or a joint hiring solicitation, as many governments will need workers with similar training.

A JPA could coordinate on quantifying the regional demand for EV mechanics and EVSE O&M specialists to work on municipal fleets throughout the region, and partner with 4CD and other training organizations to sponsor trainings that will meet that need. If a solicitation is required, a JPA-led solicitation streamline the administrative burden and provide workforce benefits for all participating agencies.

[58] Electric Truck Research and Utilization Center (eTRUC): https://etruc.org/

Recommendation 10.4.2 Leverage an existing Joint Powers Authority to define and quantify demand for municipal EV workers, lead solicitations for workers and workforce trainings as needed.

MCE

MCE, the electric community choice aggregator (CCA) that serves Contra Costa County has programs and initiatives that could support Countywide workforce development on EVs. MCE recognizes that there is a growing demand for workers versed in electrification in general, as California moves towards a cleaner economy. Additionally, MCE is in the process of electrifying its own fleet, thus the CCA will directly benefit from a pool of trained EV auto mechanics and EVSE installers and O&M specialists.

In 2021, MCE launched its Green Workforce Pathways (GWP) program, an initiative to train local workers on emerging needs within the clean energy economy, with electrician training included among other fields. Since 2021, the GWP Program has trained 80 job seekers in clean energy skillsets and placed 33 job seekers with local contractors. In addition to technical skills, GWP provides no-cost networking opportunities with employers and general career-readiness training. MCE funds the first 160 hours of each new hire's wages, amounting to one month of full-time work.[59] GWP is a potential add-on to a degree or ASE certification in a new worker's journey to become an EV automotive technician or EVSE specialist. MCE may have the opportunity to expand their GWP offering with California Jobs First, a multi-state agency effort to expand regional job networks with grant funding and technical assistance.[60]

Recommendation 10.4.3 Partner with MCE to offer and expand the Green Workforce Pathways (GWP) program to train and hire emerging electricians as EV auto mechanics at Contra Costa County.

Teamsters Union

The County auto technicians are represented by the Teamsters Union (Teamsters). For each new employment contract, the County and the Teamsters collaborate to set salary, benefits and policies for existing and new auto technicians at the County.

The Teamsters are an essential stakeholder in the County's workforce development journey, as they directly represent the needs of the automobile sector and existing employees, and will help shape training requirements and funding mechanisms, in alignment with County employment

[59] MCE, Green Workforce Pathways: https://mcecleanenergy.org/building-the-workforce-for-our-clean-energy-future/

[60] Note that Pacific Gas and Electric Company serves Contra Costa County as well, and offers PowerPathway, a program to train a local workforce in utility jobs. This opportunity may assist with EV worker efforts, however 90% of graduates of that program will work directly at PG&E as utility workers: https://tbcdn.talentbrew.com/company/29673/v2_0/documents/powerpathway_information_flyerdoc.pdf

contracts. Since the Teamsters are a nationwide union, they likely will bring resources and best practices used by other jurisdictions to educate the County.

Recommendation 10.4.4 Collaborate closely with the Teamsters, seeking feedback early on any training recommendations, certification requirements, and funding for workforce development related to EV auto technicians.

Automotive Service Councils of California (ASCCA)

ASCCA is an essential stakeholder in supporting the County's ZEV transition, as it is the largest independent automotive repair organization in California, with more than 800 chapters statewide. ASCCA represents the interests of the automotive repair industry businesses and workers at the state and Federal level through advocacy as well as connections to trainings, legal services and Human Resources (HR) advice.

For the County's purposes, ASCCA serves as a powerful voice for the emerging needs of automotive technicians and businesses that represent them. In 2019, ASCCA provided feedback to the County that more community colleges and high schools need to offer EV-specific trainings to the local workforce.[61] ASCCA supports this effort directly by offering a vast library of online trainings, providing links to additional training institutions, and managing the ASC Educational Foundation, a nonprofit providing scholarships each year to lower-income high school seniors and undergraduates interested in pursuing careers in the automotive field.

The County spans two active chapters of ASCCA: the East Bay Chapter (16) and the Mount Diablo Chapter (20). The County's engagement in these two ASCCA Chapters could connect the County with a strong pipeline for trained workers, as well as supply resources for training existing County automotive technicians.

Recommendation 10.4.5 Consider a County membership in local chapters of the Automotive Service Councils of California (ASCCA) to support a pipeline of trained workers and the ongoing education of County employees.

Contra Costa County Workforce Development Board (WDBCCC)

The Contra Costa County Workforce Development Board (WDBCCC) is a unique public-private partnership that oversees workforce programs to develop strong pipelines of trained workers to meet the changing needs of industries represented within the County. The WDBCCC's Board consists of private industry, local government and union; both the County library and 4CD have board seats on the WDBCCC.

[61] See ASCCA's feedback on specific training needs related to the ZEV transition, captured in the Contra Costa County EV Readiness Blueprint, Workforce Training Program Framework & Strategic Plan, 2019: https://ccta.net/wp-content/uploads/2022/06/Contra-Costa-EV-Readiness-Workforce-Training-Program-Framework-Strategic-Plan-Auto-Mechanics.pdf

The WDBCCC is in the early stages of launching a regional Displaced Oil and Gas Worker Fund (DOGWF) Initiative, aimed to re-train workers previously employed in the fossil fuels industry to emerging sustainability fields, including electrification and renewable energy. The DOGWF aligns with California's Just Transition plan, ensuring that workers from Impacted Communities are not left behind in the clean energy transition. The WDBCCC has received $3.8M to fund training and other initiatives to prepare and deploy a growing sustainable workforce. Relatedly, the WDBCCC connects young adults interested in construction-related fields to FutureBuild, a regional partnership offering a 16-week no-cost pre-apprenticeship program which includes electrician training, which could be a foundation for transitioning into a career in EVs or EVSE servicing. The WDBCCC's role as a connector and potential funder of workforce programs in the County will be critical to ensuring a strong workforce to support the County's ZEV transition.

Recommendation 10.4.6 Partner with the Contra Costa County Workforce Development Board (WDBCCC) to connect to new and existing initiatives to train local workforces in construction and electrical fields, with a focus on equity.

Contra Costa County Departments

The County government itself has the potential to be a powerful workforce development facilitator within the region. Many departments already have initiatives and resources that could be leveraged to support workforce development for the ZEV transition. Table 7 below captures potential roles for the ZEV transition within the County government.

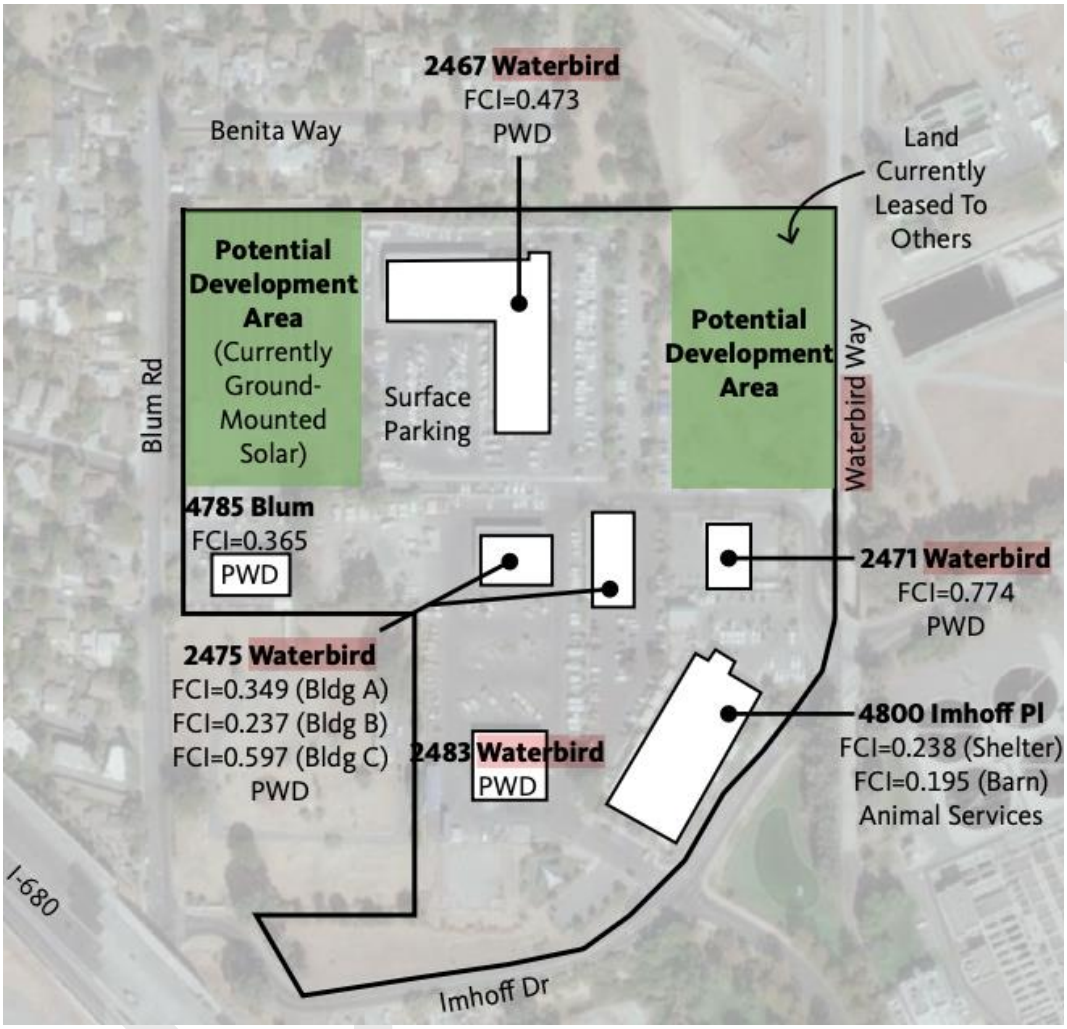
Table 7: Recommended County Department Roles in ZEV Transition Workforce Development

Department	ZEV Transition Workforce Role
Public Works/ Fleet	• Act as lead convener of County stakeholders to plan and implement workforce development initiatives that will support the ZEV transition • Host hands-on training and learning workshops at the County Fleet Yard located at 2467 Waterbird Way, which is slated for expansion and development.[62]
Department of Conservation and Development (DCD)	• Conduct outreach to community-based organizations (CBOs) within the County to gauge input on training approach, workforce gaps and ensuring equitable access to career opportunities.
Racial Equity &	• Advise the overall ZEV transition workforce development initiative

[62] Contra Costa County County Capital Facilities Master Plan, 2022: https://www.contracosta.ca.gov/DocumentCenter/View/77500/Contra-Costa-County_Facilities-Master-Plan-2022_Report

Social Justice	to build equity into the foundation of new programs and/or training approaches.

Figure 20: Fleet Yard Campus and Potential Development Areas from 2022 Capital Facilities Master Plan



With an expanded training area located in the County Fleet Yard at 2467 Waterbird Way in Martinez, the County could enable trainees to work on EVs and EVSE owned by the County, while strengthening a workforce that would in turn benefit the County as well as other fleets within the region. Existing educational programs offered through 4CD and other providers could utilize the Fleet Yard for hands-on learning, adding to content that students learn in the classroom or independent study. There are already 220 EVs and 44 EV chargers located at 2467 Waterbird Way, with additional EVs and EVSE planned for the future; this infrastructure could become educational resources for students to gain real-world understanding of transportation electrification technologies.

Recommendation 10.4.7 Utilize underdeveloped areas at the County Fleet Yard (2467 Waterbird Way) for training and hands-on learning, enabling students to hone their expertise on County EVs and County EVSE.

10.5 Funding Workforce Development

Developing a skilled workforce in a growing, new technology will require funding for new curricula, training spaces, trainer compensation, scholarships and more. Unfortunately, there are fewer grant opportunities to fund workforce development initiatives than there are grants to support clean technologies, such as EVs and EVSE. The collective knowledge of the stakeholders mentioned will be helpful in identifying funding sources.

As an initial step, the County and stakeholders could explore the Foundation for California Community Colleges (FCCC) as a source of resources and potential funding to supplement and expand programs for emerging EV and EVSE workers trained at the 4CD colleges. The FCCC acts as both a connector to funding and an expert advisor and program developer for workforce development initiatives in a variety of fields. For example, in 2024, the FCCC worked with the Contra Costa Workforce Development Board to apply for and win $750,000 for early-career healthcare workers facing barriers to employment.[63]

Recommendation 10.5.1 Partner with the Foundation for California Community Colleges (FCCC) as a connector to workforce development grants to support programs dedicated to EV and EVSE workers offered through the Contra Costa Community College District (4CD).

In 2024, the California Energy Commission published a Zero-Emission Vehicle Workforce Training and Development Strategy, in which it listed several statewide grant opportunities to fund workforce development efforts in EVs specifically. Of note is the Electric Vehicle Infrastructure Training Program (EVITP) Fund, a grant program that offered $2.7 million in 2025 to 17 regional public and private entities to offset the costs of training their electricians in EVITP to install and maintain EV chargers. Since EVITP is now a statewide requirement for electricians installing and operating most EV chargers, this funding source is likely to be released in later years, and could support a local workforce of EVSE Operations and Maintenance (O&M) Specialists.

Recommendation 10.5.2 Encourage local County grants from the Electric Vehicle Infrastructure Training Program (EVITP) Fund to bolster a local workforce to install, repair and maintain EVSE.

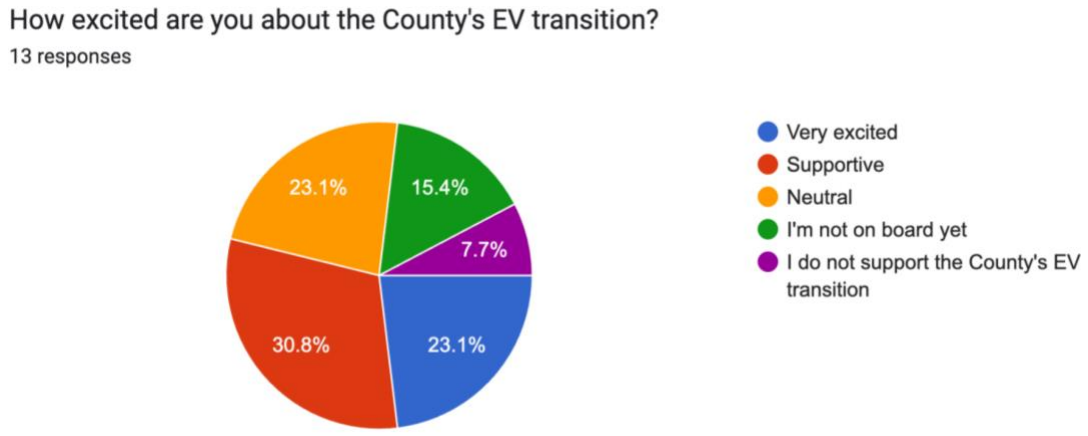
[63] AB 628: Breaking Barriers to Employment Initiative Grant Program via FCCC Fact Sheet: https://foundationccc.org/wp-content/uploads/2024/02/Breaking-Barriers-to-Employment-Awardee-List.pdf

11. EV Transition Toolkit

As outlined in Chapter 3, people are one of the primary drivers of the County's ZEV transition. People are truly a "make or break" factor in the ZEV transition, as this important work will only be accomplished with the engagement and commitment of all stakeholders in the ZEV transition, both inside the County and in the community.

Workshops held within the County have indicated that there is a wide spectrum of attitudes and education about the ZEV transition. In May 2025, the Public Works Fleet and Energy team held a meeting with 14 Department Fleet Liaisons, where participants filled out a survey that asked how they view the County's ZEV transition. More than half the participants were very excited or supportive of the transition, 23% reported feeling "neutral," and roughly one quarter were concerned or not supportive of the ZEV transition.

Figure 21: County Fleet Liaison Survey Result: Attitudes on the ZEV Transition



One year prior to the Fleet Liaison meeting, the County Energy Team held two internal workshops to solicit County employee feedback on the Strategic Energy Management Plan (SEMP), and several workshop prompts specifically targeted the ZEV transition. During a workshop in downtown Martinez where 24 employees from eight departments were present, participants were asked to rate their excitement for EVs, with a score of 10 as very excited, and 0 as not excited at all. Responses averaged a 5, right in the middle. Interestingly, the standard deviation was a 4, meaning that there were significant clusters of employees at a very high excitement level, and at a very unsupportive stance. A similar workshop was held in the Public Works Department, with 22 Public Works employees answering the same questions. The average EV excitement rating within Public Works was a 7, solidly supportive, with a standard deviation of 2, meaning that most employees were supportive to neutral of the ZEV transition.

These varying attitudes within the County towards the ZEV transition underscores the need for education on the purpose of the ZEV transition, as well as a need for resources for new EV drivers to ease uncertainty and concerns.

11.1 EV Toolkit Modules

In 2025, the County is developing an EV Toolkit targeting internal stakeholders impacted by the ZEV transition: Fleet Liaisons, County EV drivers, potential EV drivers, and employees driving their personal EVs to work. Each of these stakeholders will find materials and resources valuable to their position and interests within the ZEV transition. The EV Toolkit will exist primarily online, leveraging the *InsideContraCosta.Org* intranet site where all employees have access to files and resources. However, in some cases, there will be hard copies of key resources that employees can take away, and/or will exist within the EVs themselves for any driver to access.

The section below maps out the key components of the EV toolkit, with key audience members and platform (online or hard copy) listed.

Toolkit Module 1: EV Welcome Kit

Audience: Fleet Liaisons, County Fleet Drivers

Tools in Module and Location

Tool Name	Description	Location	Update Frequency
"Welcome to your EV!" One-pager	Colorful one-page document (or web landing page on *InsideContraCosta.Org* that welcomes first-time and curious County EV drivers, and orients drivers to online and physical resources, such as maps, how-to guides and videos for further learning.	Prominent display or landing page of the online EV Charger Toolkit on *InsideContraCosta.Org* and one-pager for drivers, and Fleet Liaisons, laminated copies in EVs.	Annually
"What is an EV?" Brochure	3-Fold laminated brochure that defines an EV as all-electric or plug-in hybrid, summarizes the basics of charging an EV, and describes the differences between a Level 1, Level 2 and DCFC charger. Includes several bullets on County's investment in EVs and EV chargers.	*InsideContraCosta.Org,* printouts handed to drivers and Fleet Liaisons, laminated copies in EVs	Annually
Welcome to	Colorful one-pager that describes	*InsideContraCosta.Org,*	Every two

your [vehicle type] One-pager	specifications of specific EVs owned by the County (e.g. Chevy Bolt, Toyota BZ4X, Ford F-150, etc) including range in miles, timing of full charge, top speed and capacity (in kW)	laminated copies in EVs	years

Toolkit Module 2: Locating EV Chargers

Audience: Fleet Liaisons, County Fleet Drivers, Employees with Personal EVs

Tools in Module and Location

Tool Name	Description	Location	Update Frequency
EV Charger Map	EV Charger Map that shows location of charger, charger type (Level 2, DCFC), and a color code for County charger or public charger. A list of chargers and addresses will also be provided on back of the map or a separate sheet.	*InsideContraCosta.Org*, printouts handed to drivers and Fleet Liaisons, laminated copies in EVs	Every 6 months
EV Charger List	EV Charger List that reflects the EV Charger Map, with additional information such as the full address, operator of the charger, charger type *and* speed, hours of operation and pricing information (if available)	*InsideContraCosta.Org*, printouts handed to drivers and Fleet Liaisons, laminated copies in EVs	Every 6 months

Toolkit Module 3: EV Charging Policies and Etiquette

Audience: Fleet Liaisons, County Fleet Drivers, Employees with Personal EVs

Tools in Module and Location

Tool Name	Description	Location	Update Frequency
EV Charging Policies and Etiquette Booklet	Colorful guide with pictures on general best practices for charging at Level 2 and DCFC chargers, including ranges of charging time and factors that may slow down charging times, such as multiple EVs using ports or extreme weather. Guide shall include advice to	*InsideContraCosta.Org*, printouts handed to drivers and Fleet Liaisons, laminated copies in EVs	Every 6 months

	generally keep EV batteries between a 20% and 80% state of charge,[64] charging planning before long trips (e.g. reviewing charger maps and potentially "topping off" charge before starting the trip), safety practices for chargers, and County workplace charging policies (see Chapter 10).		
EV Charging Policies and Etiquette Video Training Series	Series of short videos that can be viewed online, featuring real County EVs and County drivers. Short trainings shall include: Maintaining a Healthy State of Charge, Planning my Trip, Charging Safety, County Workplace Charging Policies and Etiquette, and more.	*InsideContraCosta.Org*	Annually

Toolkit Module 4: Planning for the Unexpected

Audience: Fleet Liaisons, County Fleet Drivers

Tools in Module and Location

Tool Name	Description	Location	Update Frequency
What to do When I'm Stranded - Laminated Index Card	Very short index card starting with a short sentence on "How do I know when I'm out of battery power" and then enumerated steps on what to do (e.g. 1. Pull the car over somewhere safe; 2. Call Fleet Management; 3. Wait for Assistance). Card should include steps to take after work hours and on weekends.	*InsideContraCosta.Org*, printouts handed to drivers and Fleet Liaisons, laminated copies in EVs	Annually
What to do When I'm Stranded - Video Training	Short video as part of the general video training series (Module 3) featuring a County driver modeling how to get assistance when stranded. Video should end with best practices for not getting stranded in the future.	*InsideContraCosta.Org*	Annually

[64] EnergySage, "EV charging best practices: How can you keep your battery healthy?" May 2024: https://www.energysage.com/ev-charging/ev-charging-best-practices/

Recommendation 11.1.1 Develop trainings for County EV Drivers with four (4) Modules: EV Welcome Kit; Locating EV Chargers; EV Charging Policies and Etiquette; Planning for the Unexpected

12. County ZEV Policies

12.1 Workplace Charging Policies

As the County fleet, County employees and the public adopt increasing numbers of EVs, there will be higher demand for EV chargers at County parking lots. While the County is striving to provide enough EVSE in its facilities to meet growing demand over time, there is a need to refine, clarify, and communicate workplace charging protocols and charging etiquette for all drivers using County facilities, both EV drivers and drivers of gasoline and diesel vehicles.

Fortunately, the County has an existing baseline of workplace charging protocols. After internal review, the County Energy Management Team and Fleet Manager have determined that some of these existing workplace charging protocols should remain in place, and some policies warrant changes or refinement.

Policies covering EV parking and charging at County facilities and at employee homes are covered through several Administrative Bulletins at the County. A summary of *current* EV parking and charging rules is as follows:

Table 8: Current County EV and EVSE Policies

Policy Reference	EV Rule Summary
Admin Bulletin 507.10 Vehicle Operations	Take-home EVs may only be charged at Fleet or commercial EV chargers. The County will not install EV chargers at the employee's home.
Admin Bulletin 507.10 Vehicle Operations	Personal employee EVs are charged the average rate of the County's $/kWh plus an overage fee of $3/hour if EV remains plugged in for more than 5 hours.
Chapter 82-16 - Off-Street Parking	EVs parked in designated EV spaces must be actively charging.

As the County progresses in its transition to ZEVs, a need has arisen to review and improve current EV charging policies at County facilities, with three principles in mind:

1. **Transparency:** Policies must be clear, straightforward, and communicated effectively to all drivers using County facility parking.
2. **Access:** EV drivers must have adequate access to charging and parking at County facilities and at home, and gasoline vehicle drivers must maintain access to parking spots.

3. **Integration:** The growing portion of EVs charging and parking at County facilities and employee homes must be seamlessly integrated, without cumbersome impacts to any group of drivers.

Current County policies do not differentiate between Level 2 chargers and DCFC in terms of authorized users and charging protocols. Given that these types of chargers are significantly different in the speed it takes to charge, differentiating policies are warranted.

Generally, County sites that host DCFC were selected because those sites serve as domiciles for many County fleet vehicles, and/or they are on commonly-used routes for County vehicles needing a quick charge during daytime hours. DCFC are also a great option for fleet vehicles from other municipalities such as Cities and Special Districts needing a quick charge while on their daily duty cycles. Personal employee EVs are not a logical fit for County-sited DCFC, because personal employee vehicles tend to park in one location for many hours, while an employee works at a facility. Thus, DCFC should be prioritized for County fleet vehicles and municipal fleet vehicles only.

The decision of whether to restrict County-sited DCFC to only County fleet vehicles is a decision that should be made on a site-by-site basis. For example, some County Sheriff facility parking lots are secure behind a fence, and are not open to municipal partner charging. There are some County facilities with such a high demand for quick charging services that it may warrant barring personal employees from charging at DCFC. These site-by-site decisions should be made by Fleet Liaisons, or persons designated by Departments to analyze and manage fleet needs on a departmental level. Fleet Liaisons have a direct line of communication to their Department's drivers, and possess deep knowledge of their Department's site locations where EV chargers are located.

Recommendation 12.1.1 County-sited DCFC should be prioritized for County and other agency fleets.

Recommendation 12.1.2 County Fleet Liaisons should be empowered to decide whether their Department's DCFC should be restricted to only County Fleet usage.

Because Level 2 chargers typically take four to ten hours to charge up to 80%,[65] County-sited Level 2 chargers are a good fit for vehicles that will remain parked on site during the entire workday and/or overnight. Employees' personal EVs will remain parked at their worksites during the workday, so it is appropriate to allow employees to charge their vehicles during the workday. There may also be County fleet vehicles domiciled at worksites, and those fleet vehicles could charge at Level 2 chargers either during the workday or overnight. It is less appropriate to allow other agency fleet vehicles to charge at County-sited Level 2 chargers, since those vehicles will not stay overnight and it is unlikely that an external agency employee would spend many hours at a County worksite on a regular basis.

[65] U.S. Department of Transportation, EV Toolkit, Charger Speeds and Types: https://www.transportation.gov/rural/ev/toolkit/ev-basics/charging-speed

Thus, County fleet vehicles and County employee personal EVs should have access to County-sited Level 2 chargers. It may be appropriate to reserve County-sited Level 2 chargers only for personal employee vehicles during daytime work hours, especially if there is a DCFC on site to serve County fleet vehicles. It may also be appropriate to reserve County-sited Level 2 chargers for County fleet vehicles during evening hours after the typical workday, and on weekends, so that domiciled County fleet vehicles can receive a charge when not driven. These decisions should be made on a site-by-site basis by Fleet Liaisons.

Recommendation 12.1.3 County-sited Level 2 chargers should be reserved for County fleet vehicles and personal employee EVs. Fleet Liaisons should be empowered to set reserved hours, if appropriate, for personal employee EVs and County fleet vehicles on a site-by-site basis.

The current County policy to charge personal employee EVs a fee if they remain plugged in to an EV charger for more than five hours creates a disincentive for employees to commute to work with their EVs. The standard workday is eight hours long, so in order to avoid a fee, an employee on a County site would have to move their vehicle at some point during the workday, a task that employees with gasoline vehicles do not have to do. Moreover, a vehicle may need more than five hours to charge up to 80%, depending on the energy rating of the EV and available capacity at the Level 2 charger. Some County Level 2 chargers have multiple ports, and when two or more vehicles charge concurrently, the charging speed is reduced. Thus, the five-hour overage fee should be eliminated from County policy.

Recommendation 12.1.4 Remove the overage fee of $3/hour for personal employee EVs plugged into County-sited Level 2 EV chargers for more than five hours.

Of course, there is a potential risk in eliminating the overage fee that a vehicle may stay plugged in to the charger past a full charge, thereby blocking the charger from other vehicles needing a charge. It is unlikely that a personal employee EV would be plugged in for more than ten hours, given the typical length of a workday. If any type of vehicle is plugged into a Level 2 charger for more than 24 hours, or a DCFC for more than one hour, there should be a mechanism for other users of the parking lot to contact Fleet Maintenance to address the issue via a posted phone number.

Recommendation 12.1.5 Post prominent signage in County parking lots advising drivers not to charge EVs at Level 2 chargers for more than 24 hours or a DCFC for more than one hour, or risk being towed.

The potential risk of vehicles plugged in too long at County-sited chargers could further be addressed with training and clear communication, both to employees with personal EVs and fleet drivers. While County fleet driver training can be delivered through the EV Toolkit (Chapter 9), all EV drivers can benefit from clear communication of EV Charging Etiquette.

12.2 EV Charging Etiquette

While some EV charging practices rise to the level of importance of requiring a County policy , other charging practices could fall into a category of etiquette: a best practice to be encouraged across all EV drivers, but not requiring a policy change.

The County does not currently publish and distribute EV charging etiquette, so County EV drivers - both fleet drivers and employees with personal EVs - may have differing expectations around charger use, which could lead to confusion and conflict.

EV Charging Etiquette should include guidance on best practices on charging with Level 2 and DCFC, as the County has both types of chargers at County facilities. When appropriate, EV Charging Etiquette should also differentiate between employees with personal EVs and fleet drivers with County EVs. The guide below contains recommended practices and guidance to include in published County EV Charging Etiquette

Table 10: EV Charging Etiquette by Category

Safe EV Charging ● Never use an EV charger with obvious signs of damage and wear. Call Fleet Maintenance for assistance, and move your vehicle to another charger.[66] ● If an EV charger outlet or plug is wet, do not use that charger. Call Fleet Maintenance for assistance. ● Never let a child operate an EV charger. ● Do not unplug an EV charger from another vehicle to charge your own vehicle. If a vehicle appears to be plugged in for longer than authorized (24 hours for Level 2, one hour for DCFC), call Fleet Maintenance for assistance.
General EV Charging Best Practices ● EVs should remain in a state of charge (SoC) between 20% and 80%. It is not recommended to charge past 80% using a County EV charger, as the charging speed slows down after 80% is reached, and other vehicles with a lower SoC likely need to use chargers. ● If a long trip is anticipated, “topping off” a charge can ensure that the vehicle has the range needed to complete the trip. Topping off refers to charging the vehicle up to 80%, even if the current SoC is not as low as 20%.
Level 2 EV Charging Etiquette ● Refer to guidance for specific practices for your facility, published by the Fleet Liaison. Facility-specific guidance may include restricted hours on using Level 2 chargers. ● Select a Level 2 charger if you are leaving your vehicle at the facility for hours at a time. ● Do not leave a vehicle plugged in for more than eight (8) hours. Move the vehicle as soon as possible after the SoC reaches 80%. Note that the vehicle may be towed if plugged in for longer than 24 hours.
DCFC Charging Etiquette

[66] Federal Emergency Management Agency Fact Sheet: Electric Vehicle Safety: https://www.usfa.fema.gov/downloads/pdf/publications/electric-vehicle-safety-handout.pdf

● Refer to guidance for specific practices for your facility, published by the Fleet Liaison. Facility-specific guidance may include restrictions on DCFC only for fleet vehicles. ● Select a DCFC if you need a quick charge (15 - 20 minutes) during the workday. ● Stay near your vehicle while it is charging. Note that the vehicle may be towed if plugged in for longer than 20 minutes.
Personal Employee EV Etiquette ● Refer to guidance for specific practices for your facility, published by the Fleet Liaison. Facility-specific guidance may include restrictions on what chargers employees may use, and restricted hours on those chargers. ● If there is a County fleet vehicle needing to use a charger that an employee would like to use, the County fleet vehicle has priority. Charger sharing may be an option with multi-port chargers. ● Proactively communicate with other employees with EVs at your facility about charging needs and preferences through an Affinity Group (see Chapter 9) or more informally. A well-connected network of EV drivers will result in higher charger use optimization, and fewer cars plugged in for excessive periods of time.
EV Fleet Driver Etiquette ● If there is more than one fleet driver needing to use a charger, communicate with one another about vehicle SoCs and trip needs. Generally, vehicles with a lower SoC should take priority with limited EV chargers. Charger sharing may be an option with multi-port chargers. ● If another fleet vehicle is plugged in past 80% or for an excessive amount of time, attempt to contact the driver before calling Fleet Maintenance.

Recommendation 12.2.1 Create an EV Charging Etiquette Guide (Table 10)

12.3 Take-Home Fleet EV Charging Policy

County policy currently prohibits charging fleet vehicles at employees' homes, which limits operational efficiency for roles that rely on take-home vehicles with unpredictable duty cycles; for example, inspectors with the Department of Conservation and Development (DCD).[67] Gasoline vehicles can refuel at many commercial stations; EV charging infrastructure is sparser and charging takes longer, so enabling home charging with reimbursement would remove a key barrier to electrifying variable-duty vehicles and save employees time.

Home charging introduces risks that must be managed. The County should require employee training, approved charger specifications or an approved equipment list, warranties for equipment, and a signed waiver limiting County liability for misuse or personal equipment damage. An initial step is to review existing fueling reimbursement practices (fleet fuel cards and IRS mileage reimbursement for personal-vehicle business use) to establish a consistent approach.

[67] Interview with Jason Crapo, Deputy Director of Contra Costa County Department of Conservation and Development (DCD), February 2025.

Table 11: Recommended Policies, Risks and Mitigations - Take Home EV Charging

Policy Change	Potential Risks	Mitigations
Allow employees to take fleet EVs home and charge them via at-home chargers. Employees may seek reimbursement for at-home charging costs by mileage (Admin Bulletin 507.10 Vehicle Operations)	Employees may seek reimbursement for more mileage than they drove for work duty cycles	Samsara software tracks vehicle locations at all times, enabling audits
	Employees may seek reimbursement for at-home charging when no at-home charging occurred	Samsara software tracks when and where vehicles are plugged in, enabling audits
	Employees may damage County fleet vehicle with malfunctioning at-home chargers	Clear specifications and safety certifications for at-home chargers Employees must sign waiver releasing County of liability for vehicle damage from take-home chargers

The County can reimburse home EV charging by kilowatt-hour (kWh) or by mileage. Reimbursement by kWh is most precise but administratively complex, requires meter-level or smart-charger reporting, and would diverge from the County's established mileage-based processes and complicate treatment of plug-in hybrid electric vehicles (PHEVs).[68] Reimbursing by mileage is simpler to administer and aligns with existing County procedures.

To avoid reimbursing employees for fixed vehicle costs the County does not bear—such as insurance, depreciation, and routine maintenance—the County should use the IRS variable-cost mileage rate (the medical/charitable/moving rate), which in 2025 is $0.21 per mile.[69] That rate is explicitly designed to cover only variable operating costs, primarily fuel, and therefore aligns with the County's objective of reimbursing home charging energy rather than vehicle ownership. Analysis using PG&E tariff rates shows the IRS variable rate slightly exceeds estimated per-mile home charging costs for typical County EVs, even when some charging occurs during on-peak periods; this modest premium compensates employees for using personal charging equipment without covering full fixed ownership costs. The County should account for utility territory differences, such as lower MCE rates, which will increase the margin between reimbursement and actual charging costs for some employees.

[68] Federal Internal Revenue Service (IRS), "IRS increases the standard mileage rate for business use in 2025; key rate increases 3 cents to 70 cents per mile" December 2024: https://www.irs.gov/newsroom/irs-increases-the-standard-mileage-rate-for-business-use-in-2025-key-rate-increases-3-cents-to-70-cents-per-mile

[69] Motus.Com, "2024 IRS Mileage Rate: What Businesses Need to Know" https://www.motus.com/news/2024-irs-mileage-rate/

Table 12: Fueling Cost and Reimbursement Comparison Between EV Models

EV Make and Model	Range (miles)	Actual Fueling Cost	IRS Reimbursement Cost	Difference
Nissan Leaf (40 kWh)	150	$19	$32	$13
Ford F-150 EV (98 kWh)	300	$45	$63	$18

Assumptions:

- EV fueling cost = $0.46/kWh[70]
- IRS reimbursement rate = $0.21/mile

The analysis above indicates that County employees charging fleet vehicles at home will still be overpaid slightly when receiving the IRS mileage rate for variable vehicle costs, evening when charging on-peak for part of the charging time. A slight overpayment may be appropriate, given that the County vehicle would be using an employee's personal asset (the charger) to charge. The employee's charger has its own fixed costs such as maintenance, insurance, and depreciation, and the slight overpayment on fleet vehicle charging could be contributed to those fixed costs borne by the employee. It should be noted that the above analysis is based on PG&E rates. Some County employees may live within MCE territory, which offers lower rates for EV owners. In those cases, County employees would receive a larger difference in their fleet vehicle charging reimbursement.

Recommendation 12.3.1: Modify Admin Bulletin 507.10 to allow employees to charge County fleet EVs at home and reimburse them at the IRS variable-cost mileage rate.

12.4 EV Charging Pricing and Rates

While the County does operate several gasoline fuel pumps at the Waterbird maintenance facility, the County can largely rely on public gasoline and diesel pumps in the community to fuel the fleet. This is not the case for ZEVs, as the County must rely both on public EVSE as well as EVSE installed on County facilities in every geographic corner of the County.

Installing and operating EVSE at County sites will bring a significant cost. However, the County can see returns on this investment by charging users outside the fleet to use the EVSE. Estimating and shaping overall demand for EVSE at County sites will keep optimization rates high, maintain a steady revenue source for the County from user charging, and minimize wait times. Customer rates for EVSE are a primary way of shaping demand, as overly high rates will deter users and leave EVSE as an underused stranded asset. Overly low rates will attract users to the EVSE, but may create long wait times and challenges for County fleet vehicles to use the EVSE.

[70] Based on blend of peak, partial peak, and off peak rate of PG&E's EV2 rate https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC_SCHEDS_EV2%20(Sch).pdf

Thus, setting principles for customer rates is crucial both for budgeting and for effectively managing demand at County-sited EVSE. The following sections describe principles for setting rates for various stakeholders:

County EVs

As outlined and recommended in Chapter 5, County EVs must generally have priority access to EVSE installed on County sites. There may be some exceptions to this principle, as with parking lots where there is large public demand and few domiciled EVs. However, almost every County site with EVSE has County fleet EVs domiciled that must charge while employees are at work. Additionally, every County EVSE site with DCFC was selected to serve as a hub in a larger EV charger network where County vehicles can charge on-the-go, even if the fleet vehicle is not domiciled at that site.

For fleet vehicles, the cost to charge is billed directly to the County and not to the user. If the County owns the EVSE, the rate that vehicles will use to charge will be the rate paid by the facility to the electric utility, in this case MCE. In this case, the best strategy will be to select the MCE rate(s) best fitting the charging load curve at each site.

It is advised that the County work directly with MCE to negotiate EV charging rates that are lower than the typical residential rate for charging, given that the County plans to install EVSE on a very large scale, and the County does have the option to select a competitor provider for electric service (PG&E). Charging a lower rate for County fleet vehicle charging than the average residential rate will keep costs down for the County's overall fleet transition, and will open up the possibility that the County earns a return when users outside the County fleet charge at County sites.

Recommendation 12.4.1: Work directly with MCE to negotiate a rate structure with a lower average price than residential rates for EVs.

For EVSE installed and owned by a third-party under a CAAS model, the County is advised to select the best-fit-lowest-cost CAAS provider, to keep rates as low as possible for County vehicles. This is not necessarily the best principle for rates charged to other users (see below), but in a CAAS business model, there is no downside to keeping rates charged to County vehicles as low as possible.

County Personal Employee EVs

Employee EV drivers are a vocal and important group of stakeholders to serve with County-sited EVSE. Accommodating employee EVs with access to charging fits strongly with the County's Strategic Energy Management Plan as well as the County's Climate Action and Adaptation Plan (CAAP). As the broader community adopts ZEVs at higher levels, the County will see an increase in employee EVs as well. The County must carefully consider rates charged to employee EVs, as rates will strongly influence: 1) employee EV demand for chargers; 2) employee satisfaction (or lack thereof) with on-site EVSE; and 3) fleet vehicle access to EVSE.

Employees with EVs will naturally compare the EV charging rates they are charged at the workplace with EV charging rates at public sites and the EV charging rates that they pay if they are able to charge at home. If County rates are competitive with these benchmarks, employees with EVs are likely to charge on-site without many complaints. If rates go too far above these benchmarks, employees may express dissatisfaction at the prices and assume that the County does not support their personal decision to drive all-electric vehicles. If rates are too much lower than at home or at public charging facilities, the County may see long wait times and potential conflict between County fleet charging and County employee charging.

Recommendation 12.4.2: Regularly benchmark average public EVSE rates and average local residential EV charging rates ($/kWh), and strive to keep rates charged to employees EVs within 10% of those rates.

13. Innovation Opportunities

While the primary use of the County's ZEV fleet is to transport personnel and other resources to perform County tasks, the growing volume of EVs and EVSE on County sites could be harnessed to provide additional value in the form of facility resilience and potential additional sources of income. These opportunities are emerging and may not be fully available at present, but are likely to become more ubiquitous as the County and state progress on their ZEV transitions.

13.1 Vehicle-to-Grid (V2G) and Vehicle-to-Everything (V2X) Opportunities

California is a leader nationwide in piloting vehicle-to-grid (V2G) and vehicle-to-everything (V2X) opportunities. Vehicle-to-Grid (V2G) is a technology that enables EVs to not only draw electricity from the power grid for charging but also send stored energy back to the grid, helping balance supply and demand and support grid stability. Fleets of grid-connected EVs that send energy to the grid during times of peak energy can receive payments for this critical service from grid operators, including utilities and Independent System Operators (ISOs).

Vehicle-to-Everything (V2X) expands upon the concept of V2G, allowing EVs to exchange energy and data with a wide range of systems, including homes (V2H), buildings (V2B), and other infrastructure, enabling flexible energy use, emergency backup power, and integration with smart cities. Both technologies are key to maximizing the value of EV batteries beyond transportation.

Policy momentum, new interconnection pathways for aggregations of grid-connected EVs, and rapid standardization are converging to unlock near-term value, especially for fleets. In 2019, the California legislature directed the California Investor-Owned Utilities (IOUs) to maximize achievable V2G benefits by 2030.[71] In early 2022, the California Public Utilities Commission (CPUC) approved three PG&E-led V2G pilot programs totaling $11.7 million, aimed at exploring

[71] Senate Bill (SB) 676, Bradford, October 2, 2019: https://legiscan.com/CA/text/SB676/id/2055659

how bidirectional EV charging can benefit both customers and the grid. Included in these is a commercial pilot targeting medium- and heavy-duty EV fleets at workplaces with monthly incentives and a microgrid pilot enabling up to 200 EVs (residential and commercial) to charge and discharge within local microgrids—providing resiliency during Public Safety Power Shutoff (PSPS) events.[72]

In 2025, PG&E launched its fleet V2G pilot with a fleet of electric school buses in Fremont Unified School District (FUSD). PG&E and FUSD enabled 14 electric school buses to discharge energy back to the grid via bidirectional DCFCs, and site infrastructure upgrades to handle new electric demand. Managed by an intelligent software platform, the fleet participates in PG&E's Emergency Load Reduction Program (ELRP), contributing to grid resilience during peak demand.[73]

Mechanisms to receive financial compensation for V2G are emerging in California and the Bay Area, though several exist today. Aggregations of V2G-enabled vehicles can stack several revenue streams: the ELRP, run by the investor-owned utilities (IOUs), pays performance-based incentives—commonly $2/kWh—for discharging to the grid or curtailing charging during emergency events, with no penalties for non-performance. ELRP is scheduled to sunset in 2027, though a version of the program is likely to continue beyond this date, as climate-driven grid constraints have become commonplace. ELRP is activated on average 20 times per year throughout the summer, providing participants multiple opportunities to provide energy to the grid to earn revenue.[74]

Beyond emergencies, fleets can enroll resources in the California Independent System Operator's (CAISO) market as a Proxy Demand Resource, a mechanism for distributed energy resources (DERs) to participate in day-ahead/real-time energy and ancillary services markets, independent of utilities. For vehicles, PDR creates ongoing market-set revenues when vehicles are aggregated, connected and qualified.[75] Fleets participating under CAISO-aligned programs like the California Energy Commission's (CEC) Demand Side Grid Support pathway can also receive payments when registered as PDRs, expanding monetization beyond utility programs.

The fleet vehicles most suited to V2G are those with predictable duty cycles, because vehicles must be plugged into chargers at specific times in order to discharge energy back to the grid.

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[72] "California regulators set to approve PG&E-proposed V2G pilots" Factor This, April 5, 2022: https://www.renewableenergyworld.com/electric-vehicle/vehicle-to-grid/california-regulators-set-to-approve-pge-proposed-v2g-pilots/

[73] "PG&E, "In Fremont, PG&E Helps Launch Another Vehicle-to-Grid Electric School Bus Fleet," August 11, 2025: https://www.pge.com/en/newsroom/currents/future-of-energy/in-fremont--pg-e-helps-launch-another-vehicle-to-grid-electric-s.html

[74] "California Public Utilities Commission:, Emergency Load Reduction Program Website: https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-costs/demand-response-dr/emergency-load-reduction-program

[75] "Demand and Distributed Energy Market Integration Working Group" presentation, CAISO, July 29, 2025

Peak grid hours in California are between 4pm and 9pm;[76] thus fleet vehicles that are reliably plugged in during early evening hours will be the most likely vehicles to select for V2G. Finally, a concentration of reliable-duty-cycle fleet vehicles should be clustered at one domicile with multiple bidirectional DCFC chargers.

Using the above criteria, it is possible to identify the most ideal domicile locations and vehicles within the County for V2G within the next ten years. See Table 13 below for a priority-ranked list of County facilities that could potentially serve V2G needs in the next ten years:

Table 13: Priority Ranked County Facilities for V2G

V2G Area Name	County Departments	Facility Addresses	# Vehicles Domiciled	Grid Peak Load (%)	Vehicle Duty Cycle Information	# DCFC Need by 2035
Public Works Fleet Yard	Public Works, Animal Services	2467 Waterbird Way; 4800 Imhoff Pl. - Martinez, CA	249	86%	Public Works has 70 heavy-duty trucks; Animal Services has 22 ¾-ton trucks - all likely to be parked during grid peak	20
South Martinez	Public Works, Sheriff, Health Services Juvenile Hall, Emergency Operations Center	Glacier Dr.: 30,50, 202, 220, 255; Muir Rd.: 1960, 1980, 1850 - Martinez, CA	187	84%	Sheriff has 16 prisoner vans and 64 sedans domiciled; Health Services has seven (7) outpatient buses; Fleet Liaisons to inform on parking hours.	28
Douglas Dr. Martinez	Health Services, Employment & Human Services (EHS); Information Technology; District Attorney	Douglas Dr.: 10, 30, 40, 50 - Martinez, CA	97	86%	28 Vans and box trucks assigned to the County Administrator and EHS are likely to be driven during the day and parked at peak grid hours.	7
Downtown Martinez	Sheriff and Jail	901 Court St.; 900 Ward St.; 1000 Ward St.; - Martinez, CA	56	86%	14 prisoner transit vans and coach buses domiciled across addresses, Fleet Liaisons to inform on parking hours	7
West	Sheriff	5555 Giant	61	91%	Majority of vehicles	10

[76] "Time-of-Use Residential Transition Frequently Asked Questions" PG&E https://www.pge.com/assets/pge/docs/account/billing-and-assistance/TOU-Transition-FAQs.pdf

Detention Center		Hwy, Richmond, CA			are Sheriff sedans and SUVs, likely to have unpredictable duty cycles	

The Public Works Fleet Yard (2467 Waterbird Way) and adjacent Animal Services (4800 Imhoff Place) are prioritized first because of the large concentration of heavy-duty trucks and construction equipment domiciled, most of which is expected to leave the site during the day and plug in reliably in the evening. The site also has the second-largest need for DCFC, a concentration of dispatchable energy within the next ten years. The South Martinez and Douglas Drive domicile locations are potentially well suited for V2G with large clusters of transport vans and buses in both locations, though Fleet Liaisons must inform as to whether these vehicles have reliable duty cycles with plug-in hours overlapping with grid peak times. Despite being in the most grid-constrained location, the West County Detention Center in Richmond is prioritized last because Sheriff sedans and SUVs tend to be assigned to investigators, which have highly unpredictable duty cycles and operate at all hours of the day and night.[77] Still, the Fleet Liaison may be able to identify a subset of vehicles driven by Sheriff administrators with regular hours, and thus more likely to be plugged in during evening grid peak hours. Figures 22 and 23 show maps of potential aggregations of V2G areas. These V2G aggregations are initial estimates and should be modified with a grid operator partner, either PG&E or the CAISO.

[77] Multiple interviews with Sheriff Fleet Liaison Joyce Hayes, May 2025.

Figure 22: Map of Martinez V2G Areas

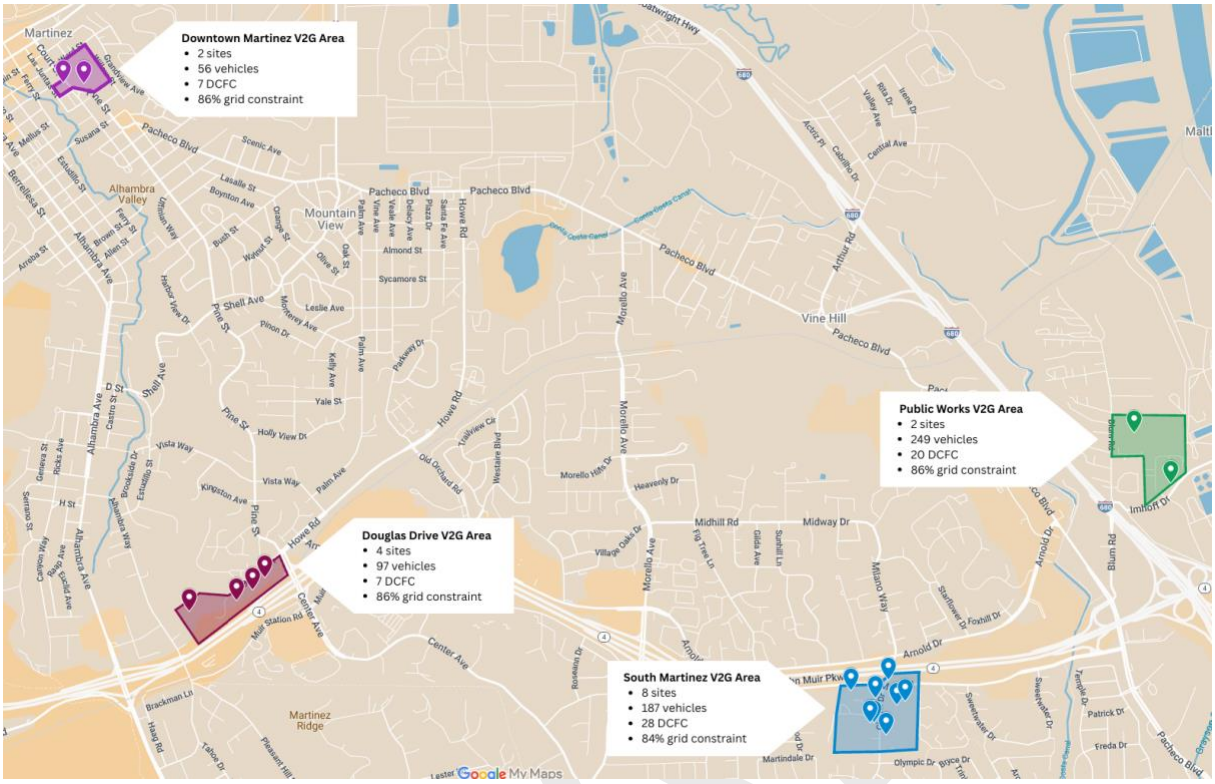
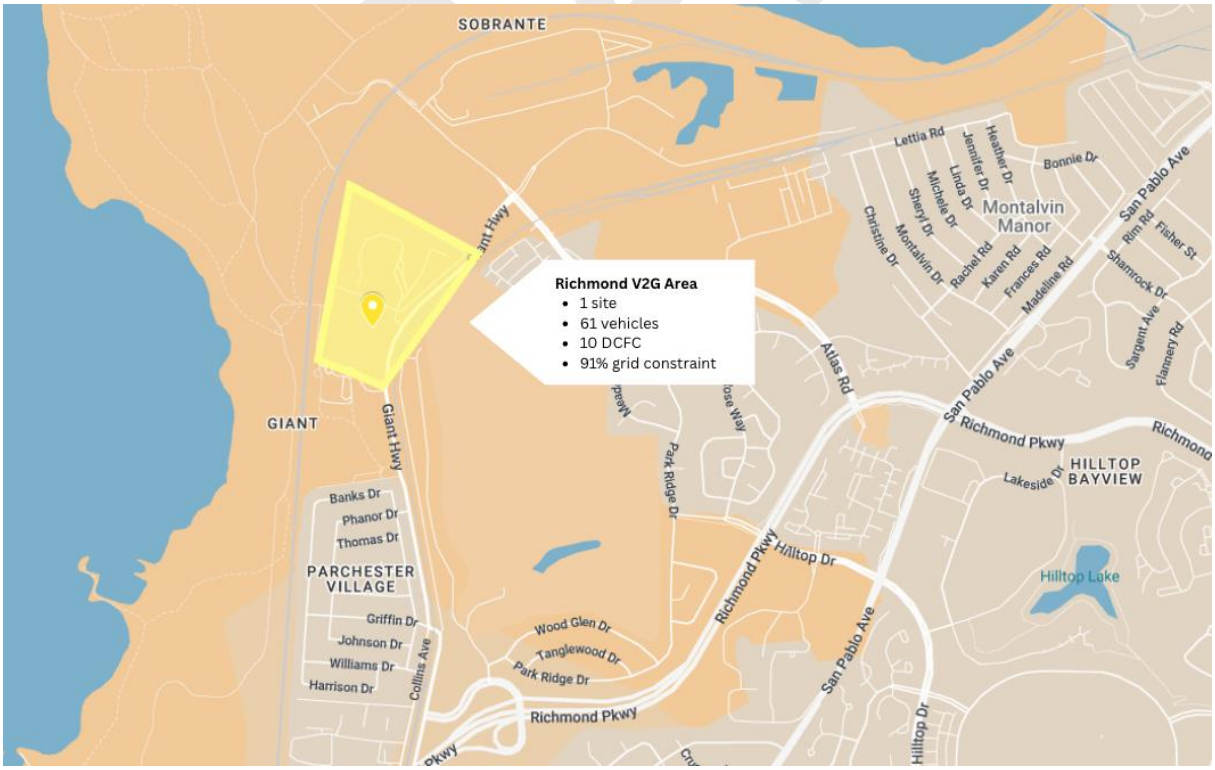


Figure 23: Map of Richmond V2G Area



Recommendation 13.1.1 Partner with PG&E and the CAISO to explore V2G opportunities for plugged in-vehicles at priority locations throughout the County (Table 13).

13.2 EVs as Resilience Resources

Aggregations of plugged-in EVs could potentially offer a resilience resource to County facilities during power outages. When the power goes out at a facility, either from a Public Safety Power Shutoff (PSPS) event or an unplanned outage, plugged-in vehicles can discharge electricity back to the building, powering critical building loads such as air conditioning, lighting, refrigeration, and outlets to charge phones and laptops. The County may have certain facilities that would benefit from continuous power, even when the grid goes down. For example, the Central County Service Center planned in Martinez will have a Data Center that must be continuously powered, otherwise the County may risk data loss.[78]

According to the California Governor's Office of Emergency Services (CalOES), extended power outages are most likely to be caused by natural disasters or extreme heat. If a power outage occurs during an extreme heat event, community members are likely to need a safe place to cool off, rehydrate, and charge their devices.[79] The County may decide to provide this service to the community, especially within planned Service Centers that already feature public-facing community services. Table 14 provides a prioritized list of County facilities for V2X resilience solely based on the available capacity from plugged-in EVs, though all sites should be integrated with existing County plans and teams focused on Countywide resilience.

Table 14: Prioritized List of County Facilities for V2X Resilience

Public-Facing Service Center	Address	Development Status	Estimated EVSE Planned	Estimated Resilience Capacity (kW)[80]
East County Service Center	Technology Way, Brentwood, CA	Planned	8 Level 2 Chargers 1 DCFC 1 microgrid[81]	538
Central County Service Center	2530 Arnold Drive, Martinez, CA	Planned	16 Level 2 Chargers 1 DCFC	454
West County Service Center	San Pablo Corridor (TBD)	Planned	24 Level 2 Chargers	906

[78] Contra Costa County Capital Facilities Master Plan, 2022. https://www.contracosta.ca.gov/DocumentCenter/View/77500/Contra-Costa-County_Facilities-Master-Plan-2022_Report

[79] California Governor's Office of Emergency Services, "Power Outages Can Make Your Summer Go Dark. Here's How You Can Prepare, "July 14, 2024: https://news.caloes.ca.gov/power-outages-can-make-your-summer-go-dark-heres-how-you-can-prepare/

[80] Assumes that Level 2 chargers are 19 kW and DCFC are 150 kW of available capacity.

[81] Assumes battery power for 50% of building loads for 12 hours, at 236 kW/2825 kW. Webcor, Perkins & Will, and County Department of Public Works draft designs for East County Service Center, August 2025.

			3 DCFC[82]	
Employment and Human Services - Workforce and Family Services	300, 400 and 500 Ellinwood Way, Pleasant Hill, CA	Existing	20 Level 2 Chargers 1 DCFC	530
Community Services Bureau, George Miller Children's Center	3068 Grant Street, Concord, CA	Existing	4 Level 2 Chargers	376
Veteran's Services Office	10 Douglas Drive, Martinez, CA	Existing	8 Level 2 Chargers 1 DCFC	302
Children & Family Services (CFS) Independent Living Skills Program (ILSP)	1875 Arnold Drive, Martinez, CA	Existing	2 Level 2 Chargers 1 DCFC	188

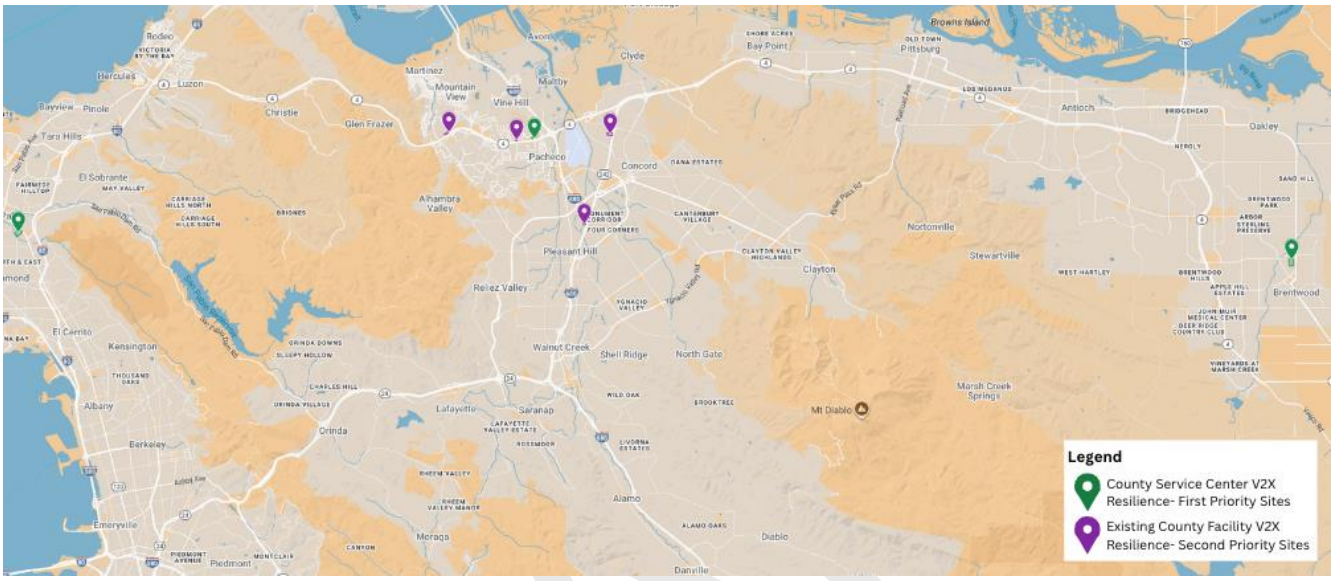
Resilience is already built into the design for the East County Service Center, as it will feature a microgrid. The nine estimated EV chargers at that site could further contribute to the building's ability to power certain loads during an outage. The Central County Service Center is prioritized next, as it has been designated as a facility with specialized resilience needs because it houses a Data Center. Finally, the planned West County Service Center is expected to host the highest volume of EVSE. At nearly a megawatt of plugged-in EVSE capacity, the West County Service Center is a strong candidate to be a resilience center. Planning for a V2X-based resilience design at these three County Service Centers additionally provides potential for community safety services at the West, Central and East regions of the County, ensuring that no population is left behind.

Following the planned County Service Centers, there are several existing County facilities that already provide public-facing services with a future need for EVSE that may be additional candidates for facility resilience and community safety services during outages. These existing facilities, captured in Table XX, offer workforce development services, child care, independent living skills training, and other community services.These facilities that offer services to the community are likely to have large rooms with seating and electrical outlets, meaning that they can easily transform into public safety cooling centers during power outages.

[82] Assumed relocation of ½ of Level 2 chargers planned for the Public Defender's office at 800 Ferry, since 31 Public Defender staff will move to the East County Service Center. Contra Costa County Capital Facilities Master Plan, 2022.

Figure 24 maps potential facilities where plugged-in vehicles (and potentially additional devices) could be used to power critical on-site loads during a power outage. The planned County Service Centers are marked as first priority, and the existing County facilities offering community services are marked as second priority.

Figure 24: Map of Potential Facilities for On-Site V2X Resilience



Recommendation 13.2.1 Design for Vehicle-to-Everything (V2X) resilience as a community service at Planned County Service Centers and prioritized existing facilities (Table 14).

14. Conclusion

Contra Costa County is committed to achieving a fully zero-emission fleet by 2035. This plan provides a roadmap for navigating the transition, addressing key challenges, and leveraging opportunities for cost savings, grid resilience, and workforce development.

Successful implementation hinges on:

Consistent Stakeholder Engagement: Continued collaboration with County departments, employees, community partners, utilities, and regional stakeholders will be critical to ensuring the plan remains responsive and effective.

Adaptive Planning and Progress Tracking: This plan will be updated regularly to reflect technological advancements, policy changes, and lessons learned. Progress will be tracked through key performance indicators (KPIs) and reported transparently to the Board of Supervisors and the community.

In closing, Contra Costa County extends its sincere gratitude to the many partners who contributed to this Zero Emission Vehicle Plan. The expertise and dedication of Glumac, Hunter Strategies, the Energy Management Team, and Fleet Manager Ricky Williams were invaluable in developing this comprehensive roadmap for a cleaner, more sustainable future for the County. Their collaborative spirit and commitment to innovation have laid a solid foundation for achieving the ambitious goals outlined in this plan.

Appendix A: Site by Site EVSE Needs

Appendix A is a site-by-site estimate of EVSE charging needs and budget for every annual budget cycle through the year 2031. Project phases were prioritized according to vehicle transition timelines, driven by vehicle replacement cycles and the Advanced Clean Fleet (ACF) regulations. Sites that have existing EVSE have been identified, and the remaining number of required EVSE ports have been calculated accordingly.

Install Year	Facility	Required EVSE Ports		Existing EVSE Ports		EVSE Gap		Budget to Cover Gap
		Level 2	DCFC	Level 2	DCFC	Level 2	DCFC	
2026	1980 Muir Rd., Martinez	4	13	0	0	4	13	$2.2M
	2380 Bisso Ln., Concord	30	2	0	0	30	2	$1.3M
	900 Ward St., Martinez	20	1	0	0	10	1	$801K
	1275-A Hall Ave., Martinez	10	1	0	0	10	1	$478K
	1330 Arnold Dr., Martinez	6	1	0	0	6	1	$349K
	40 Douglas Dr., Martinez	6	1	0	0	6	1	$349K
	13585 San Pablo Ave., San Pablo	4	1	0	0	4	1	$285K
	1420 Willow Pass Rd., Concord	6	0	0	0	6	0	$193K
TOTAL 2026 EVSE Budget								**$5.9M**
2027	30 Glacier Dr., Martinez	1	4	0	0	1	4	$682K
	30 Douglas Dr., Martinez	4	3	0	0	4	3	$620K
	150 Alamo Plaza, Alamo	1	3	0	0	1	3	$520K
	2500 Alhambra Ave., Martinez	4	2	0	0	4	2	$459K
	3017 Walnut Blvd., Brentwood	4	1	0	0	4	1	$296K
	550 Sally Ride Dr., Concord	2	1	0	0	2	1	$229K

	1875 Arnold Dr., Martinez	2	1	0	0	2	1	$229K
	595 Center Ave, Martinez	2	1	0	0	2	1	$229K
	595 Center Ave, Martinez	2	1	0	0	2	1	$229K
	847 Brookside Dr., Richmond	2	1	0	0	2	1	$229K
	12000 Marsh Creek Rd. Clayton	1	1	0	0	1	1	$196K
	1011 Las Juntas St., Martinez	1	1	0	0	1	1	$196K
	4491 Bixler Rd., Byron	1	1	0	0	1	1	$196K
	3068 Grant St., Concord	4	0	0	0	4	0	$134K
	4585 Pacheco Blvd., Martinez	4	0	0	0	4	0	$134K
	651 Pine St., Martinez	2	0	0	0	2	0	$67K
TOTAL 2027 EVSE Budget								**$4.4M**
2028	1850 Muir Rd., Martinez	6	6	6	0	0	6	$1.0M
	901 Court St., Martinez	1	4	0	0	1	4	$709K
	50 Glacier Dr., Martinez	4	3	4	0	0	3	$506K
	1026/1126 Escobar St., Martinez	0	2	0	0	0	2	$337K
	9100 Brentwood Blvd., Brentwood	10	3	10	2	0	1	$168K
	1092 Eagle Nest Pl., Danville	0	0	0	0	0	1	$168K
	4061 Port Chicago Hwy, Concord	7	1	7	0	0	1	$168K
	10 Douglas Dr., Martinez	8	1	8	0	0	1	$168K
	800 Ferry St., Martinez	12	1	12	0	0	1	$168K
	202 Glacier Dr., Martinez	12	1	12	0	0	1	$168K

TOTAL 2028 EVSE Budget								**$3.6M**
2029	2467 Waterbird Way, Martinez	64	18	40	4	24	14	$3.3M
	5555 Giant Hwy., Richmond	14	10	14	2	0	8	$1.4M
	30 Muir Rd., Martinez	26	2	26	0	0	2	$351K
	4785 Blum Rd., Martinez	2	1	0	0	2	1	$248K
	1960 Muir Rd., Martinez	20	1	20	0	20	1	$175K
	1340 Arnold Dr., Martinez	0	0	0	0	2	1	$248K
	4653 Pacheco Blvd., Martinez	2	0	0	0	2	0	$72K
	825 Arnold Dr., Martinez	2	0	0	0	2	0	$72K
	550 Eagle Ct., Byron	1	0	0	0	1	0	$36K
	2400 Bisso Ln., Concord	10	1	1	0	9	1	$501K
	2440 Stanwell Dr., Concord	1	0	0	0	1	0	$36K
TOTAL 2029 EVSE Budget								**$6.4M**
2030	4800 Imhoff Pl., Martinez	18	2	8	0	10	2	$742K
	300 Ellinwood Wy., Pleasant Hill	20	1	0	0	20	1	$937K
	4545 Delta Fair Blvd., Antioch	26	0	12	0	14	0	$528K
	220 Glacier Dr., Martinez	4	1	1	0	3	1	$295K
	1220 Morello Ave., Martinez	2	1	0	0	2	1	$257K
	255 Glacier Dr., Martinez	16	1	16	0	0	1	$182K
	40 Muir Rd., Martinez	7	0	0	0	7	0	$264K
TOTAL 2030 EVSE Budget								**$3.2M**

2031	1535 Fred Jackson Way, Richmond	2	1	0	0	2	1	$268K
	555 Escobar St., Martinez	1	1	0	0	1	1	$229K
	1430 Danzig Plz., Concord	4	0	0	0	4	0	$156K
	2120 Diamond Blvd., Concord	16	0	0	0	16	0	$65K
	2301 Rumrill Blvd., San Pablo	1	0	0	0	1	0	$39K
	625 Court St., Martinez	1	0	0	0	1	0	$39K
	3501 Lone Tree Way, Antioch	1	0	0	0	1	0	$39K
	1450 Sally Ride Dr., Concord	1	0	0	0	1	0	$39K
	3052 Willow Pass Rd., Concord	1	0	0	0	1	0	$39K
	To Be Determined[83]	17	3	0	0	17	3	$1.2M
TOTAL 2031 EVSE Budget								**$2.7M**
GRAND TOTAL EVSE BUDGET								**$26.3M**

[83] There are 42 vehicles with unassigned domiciles at the time of this report. These 42 vehicles require the number of chargers listed in the To Be Determined space. As vehicle data continues to be refined, the County may choose to assign these chargers to a domicile.

Appendix B: Departmental ZEV Transition Plans: CAAP Achievement

Appendix B displays a Department- by- Department breakdown of investments in ZEVs, maintenance costs and fueling costs in order to reach the CAAP goal of a complete County ZEV transition by 2035. The percentage of ZEV costs that is currently covered by the ISF system is also included because, generally, non-ISF vehicles are paid for directly by their Department. Please note that the total number of vehicles in this Appendix does not exactly match the 1,368 vehicles within the Fleet, because to date, some vehicles are not assigned a Department. Additionally, this Appendix is limited to Departments with more than five (5) vehicles.

Department	# of Vehicles	ZEV Cost	Maintenance Cost	Fueling Cost	Total TCO Cost	% ISF Cost Coverage
Administrator	27	$3.4M	$602K	$469K	$4.5M	87%
Agriculture-Weights & Measures	73	$6.7M	$2.8M	$1.2M	$10.7M	86%
Animal Services	27	$3.6M	$1.4M	$688K	$5.1M	90%
Clerk/ Recorder	5	$315K	$65K	$19K	$400K	50%
Conservation & Development	38	$2.1M	$1.7M	$716K	$4.5M	4%
District Attorney	40	$1.9M	$1.5M	$652K	$4.0M	91%
Employment & Human Services	126	$6.9M	$3.5M	$1.8M	$12.2M	67%
General Services	106	$11.3M	$5.6M	$2.4M	$19.3M	79%
Health Services	191	$15.8M	$5.8M	$3.0M	$24.6M	59%
Library	5	$820K	$378K	$439K	$1.6M	0%
Probation	84	$4.6M	$1.9M	$895	$7.4M	88%
Public Defender	23	$1.0M	$692K	$318K	$2.0M	100%
Public Works	222	$35.9M	$15.1M	$5.1M	$56.0M	26%
Sheriff	377	$33.7M	$7.4M	$3.6M	$44.6M	73%

Appendix C: Consolidated Recommendations Supporting the ZEV Transition

Below is a consolidated list of recommendations to support the County's ZEV transition. These recommendations focus on actions to ensure the success of County staff and drivers after major investments in EVs and EVSE (Chapters 5–7) and do not address the EV or EVSE capital investments themselves.

Recommendation #	Recommendation Text
7.3.1	Require County-sited EVSE to comply with the Open Charge Point Protocol (OCPP) 2.0, in keeping with California's CalEVIP standard.
7.3.2	Invest in a Charging Station Management System (CSMS) to control, monitor and coordinate EVSE for rapid diagnostics and reporting.
7.3.3	Adopt a 97% uptime requirement for all County-sited EVSE.
7.4.1	Partner with owners of County-leased facilities to install jointly beneficial EVSE at leased sites to prevent ~20% of County vehicles from being stranded without overnight chargers.
8.2.1	Leverage an existing Joint Powers Authority (JPA) to jointly procure EVs and EVSE at scale and coordinate grant-seeking.
8.3.1	Maintain and expand partnerships with MCE and PG&E to secure grants, receive technical assistance, and coordinate long-term planning of EVSE against grid capacity.
9.1.1	Pursue outside grant funding at the state and local level (Tables 5 and 6).
9.2.1	Pursue tax equity financing (if available) for third-party owned EVSE.
9.2.2	Pursue Elective Pay to take tax credits on EV purchases directly, if available, in Fiscal Year 2026 and 2027.
9.3.2	Activate contractor FuSe to monetize Low Carbon Fuel Standard credits for County-sited EVSE.
9.4.1	For each bulk EV or EVSE purchase, assess alignment with existing municipal agency purchasing collaboratives to leverage administrative efficiency and bulk pricing.
9.5.1	Assess and pursue innovative financing strategies: Vehicle Leasing, Low-Interest Financing, Utility On-Bill Financing, Green Bond Financing, and Charging-as-a-Service (CAAS) Revenue Sharing.
10.3.1	Require new and existing County technicians to get certified by the National Institute for Automotive Service Excellence's (ASE) Light-Duty Hybrid/ Electric Vehicle Specialist Test and ASE xEV safety certifications.
10.3.2	Leverage EV automotive courses offered through the Contra Costa Community Colleges District (4CD) for new and existing auto technician employees at the

	County.
10.3.3	Supplement auto technician training with automobile manufacturer-provided training, offered through local educational institutions.
10.3.4	Modify the curricula and training offered from the National Alternative Fuels Training and Consortium (NAFTC) and the Clean Tech Institute to County-employed automotive technicians.
10.3.5	Leverage the curricula and training offered from multiple governmental organizations to develop trainings specifically for County auto mechanics and fleet drivers servicing and operating electrified first-responder fleet vehicles.
10.4.1	Partner with the Contra Costa Community College District (4CD) to assess current course offerings against future County training needs to identify additional resource or capacity needs.
10.4.2	Leverage an existing Joint Powers Authority to define and quantify demand for municipal EV workers, lead solicitations for workers and workforce trainings as needed.
10.4.3	Partner with MCE to offer and expand the Green Workforce Pathways (GWP) program to train and hire emerging electricians as EV auto mechanics at Contra Costa County.
10.4.4	Collaborate closely with the Teamsters, seeking feedback early on any training recommendations, certification requirements, and funding for workforce development related to EV auto technicians.
10.4.5	Consider a County membership in local chapters of the Automotive Service Councils of California (ASCCA) to support a pipeline of trained workers and the ongoing education of County employees.
10.4.6	Partner with the Contra Costa County Workforce Development Board (WDBCCC) to connect to new and existing initiatives to train local workforces in construction and electrical fields, with a focus on equity.
10.4.7	Utilize underdeveloped areas at the County Fleet Yard (2467 Waterbird Way) for training and hands-on learning, enabling students to hone their expertise on County EVs and County EVSE.
10.5.1	Partner with the Foundation for California Community Colleges (FCCC) as a connector to workforce development grants to support programs dedicated to EV and EVSE workers offered through the Contra Costa Community College District (4CD).
10.5.2	Encourage local County grants from the Electric Vehicle Infrastructure Training Program (EVITP) Fund to bolster a local workforce to install, repair and maintain EVSE.
11.1.1	Develop trainings for County EV Drivers with four (4) Modules: EV Welcome Kit; Locating EV Chargers; EV Charging Policies and Etiquette; Planning for the Unexpected
12.1.1	County-sited DCFC should be prioritized for County and other agency fleets.

12.1.2	County Fleet Liaisons should be empowered to decide whether their Department's DCFC should be restricted to only County Fleet usage.
12.1.3	County-sited Level 2 chargers should be reserved for County fleet vehicles and personal employee EVs. Fleet Liaisons should be empowered to set reserved hours, if appropriate, for personal employee EVs and County fleet vehicles on a site-by-site basis.
12.1.4	Remove the overage fee of $3/hour for personal employee EVs plugged into County-sited Level 2 EV chargers for more than five (5) hours.
12.1.5	Post prominent signage in County parking lots advising drivers not to charge EVs at Level 2 chargers for more than 24 hours or a DCFC for more than one hour, or risk being towed.
12.2.1	Create an EV Charging Etiquette Guide (Table 10).
12.3.1	Modify Admin Bulletin 507.10 to allow employees to charge County fleet EVs at home and reimburse them at the IRS variable-cost mileage rate.
12.4.1	Work directly with MCE to negotiate a rate structure with a lower average price than residential rates for EVs.
12.4.2	Regularly benchmark average public EVSE rates and average local residential EV charging rates ($/kWh), and strive to keep rates charged to employees EVs within 10% of those rates.
13.1.1	Recommendation 13.1.1 Partner with PG&E and the CAISO to explore V2G opportunities for plugged in-vehicles at priority locations throughout the County (Table 13).
13.2.1	Design for Vehicle-to-Everything (V2X) resilience as a community service at Planned County Service Centers and prioritized existing facilities (Table 14).

Contra Costa County Zero Emission Vehicle (ZEV) Transition Plan

Brendan Havenar-Daughton
Public Works Energy Manager
November 10, 2025

ZEV Transition: Why Now?

Policy

- California's **Advanced Clean Fleets** Regulation requires ZEV medium- and heavy-duty fleet vehicles by 2045
- County **Vehicle Replacement Policy** requires ZEVs when vehicles age out
- County **Climate Action and Adaptation Plan** goal for County fleet ZEV transition by 2035

Stakeholders

- **45% of surveyed County employees will purchase an EV** within the next 10 years
- 54% of County employees at energy workshops are "excited" about the County's ZEV transition
- **County EV registrations have doubled** since 2021

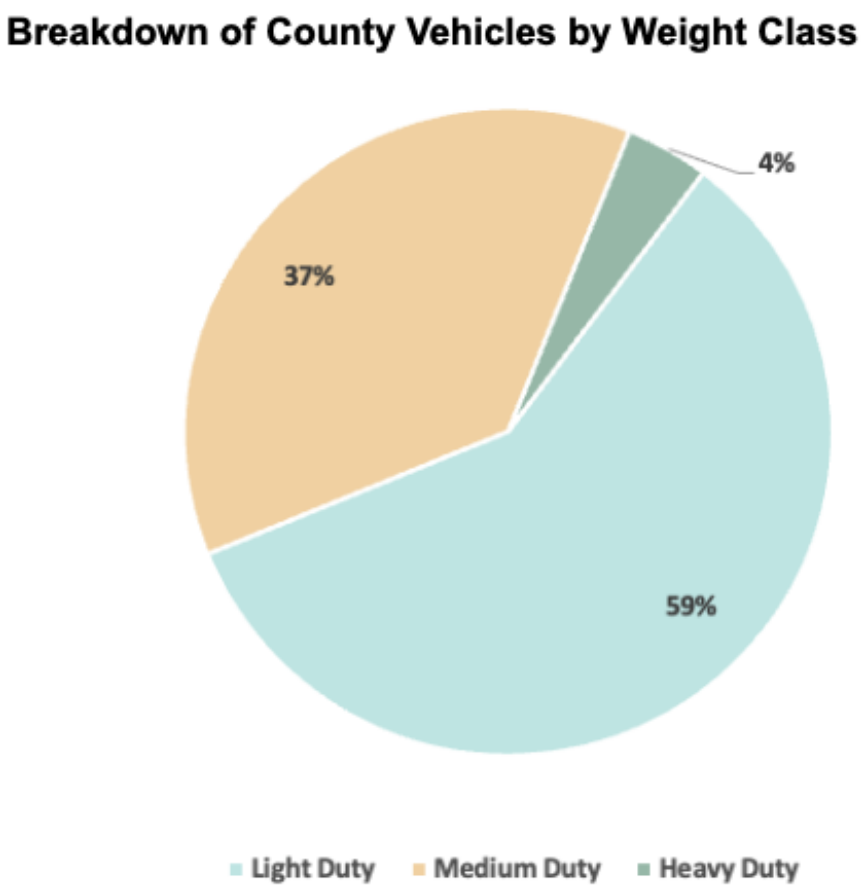
Economics

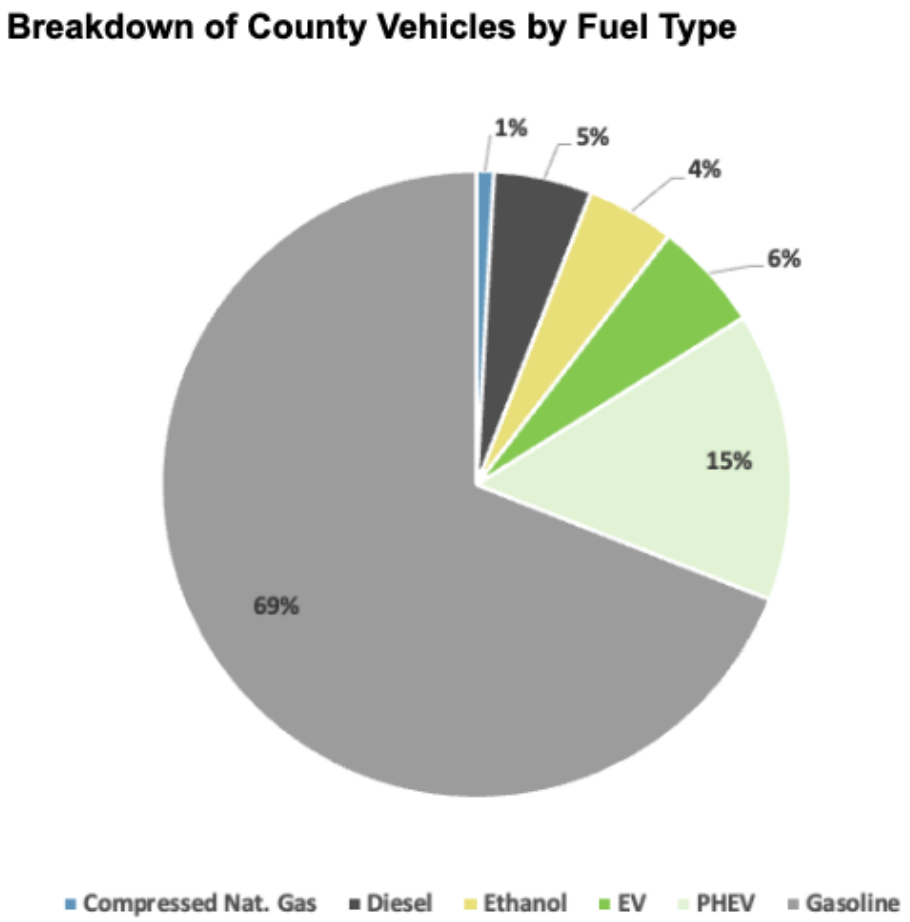
- **Many EVs present a net savings** compared to gasoline vehicles due to low EV fuel and maintenance costs
- **Nearly $1B in grants and incentives** for EVs and EV chargers are available in California

Public Health

- A full County ZEV transition will save 43,000 metric tons of carbon dioxide equivalent (C02e) and 750 pounds of particulate matter
- **Reduced air pollution within the County's Impacted Communities**

Current County Vehicles by Fuel Type and Weight Class

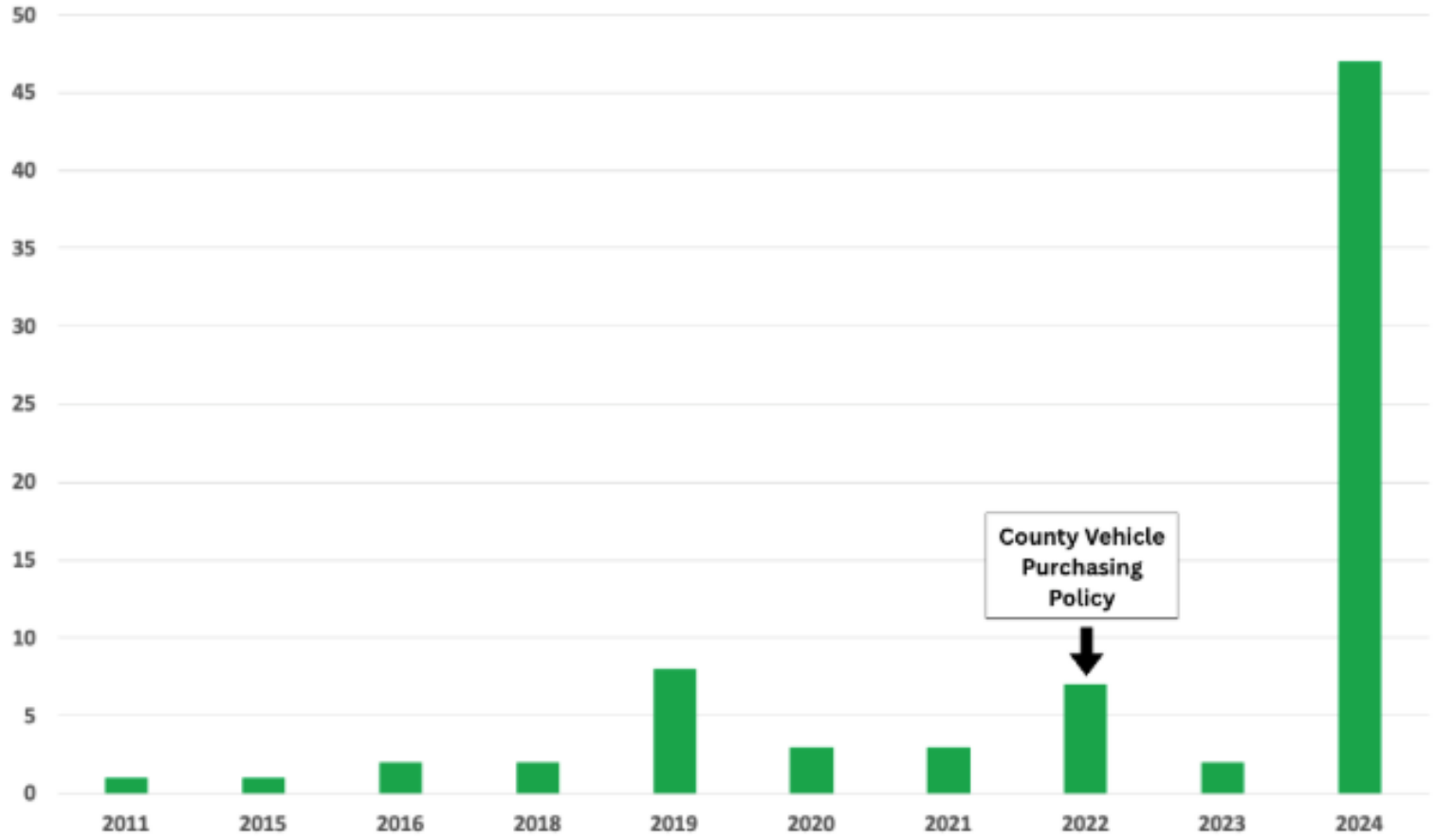




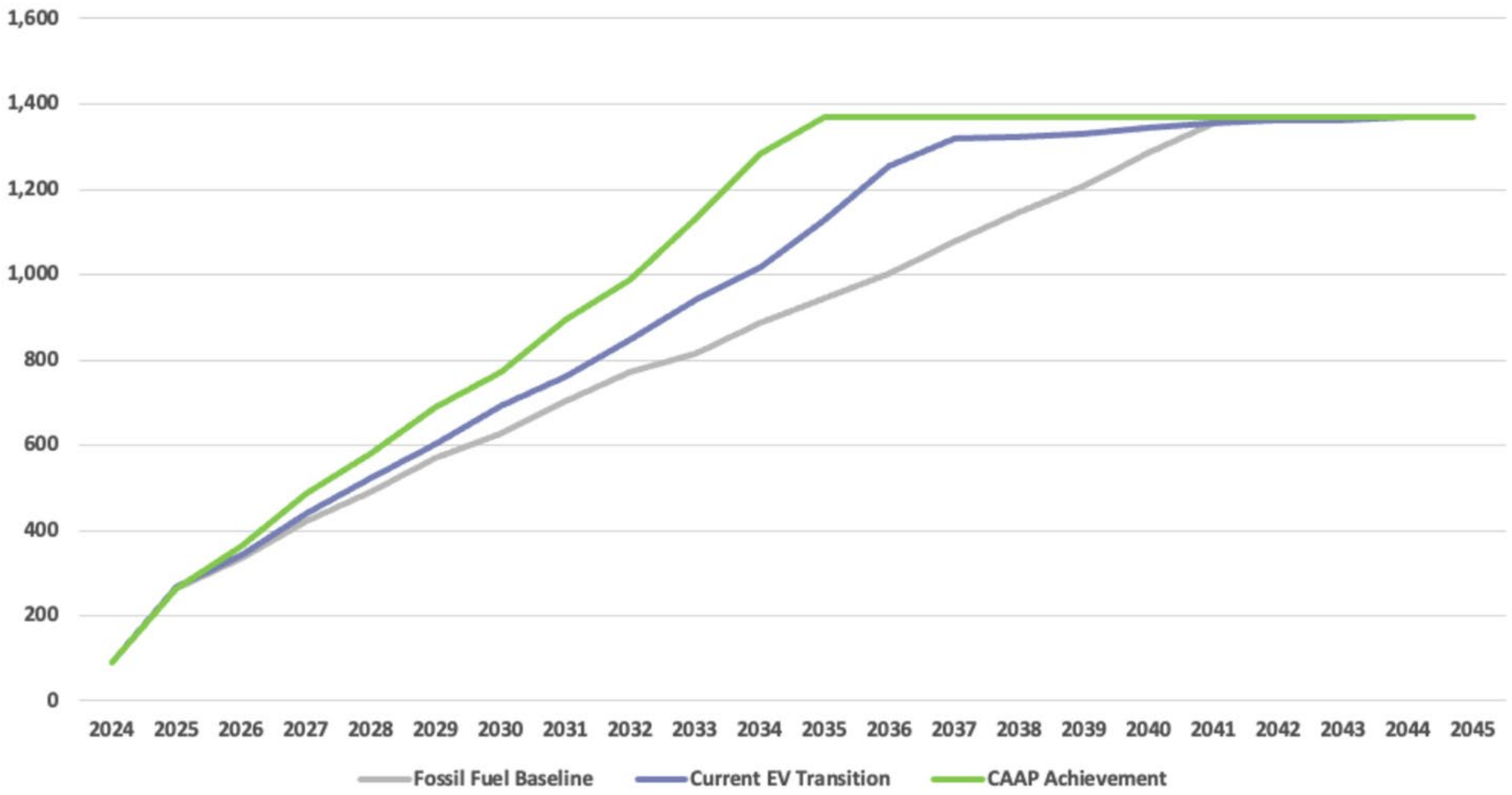
Total Fleet Vehicles: 1,368

County Vehicle Purchasing Policy Drives EV Investments

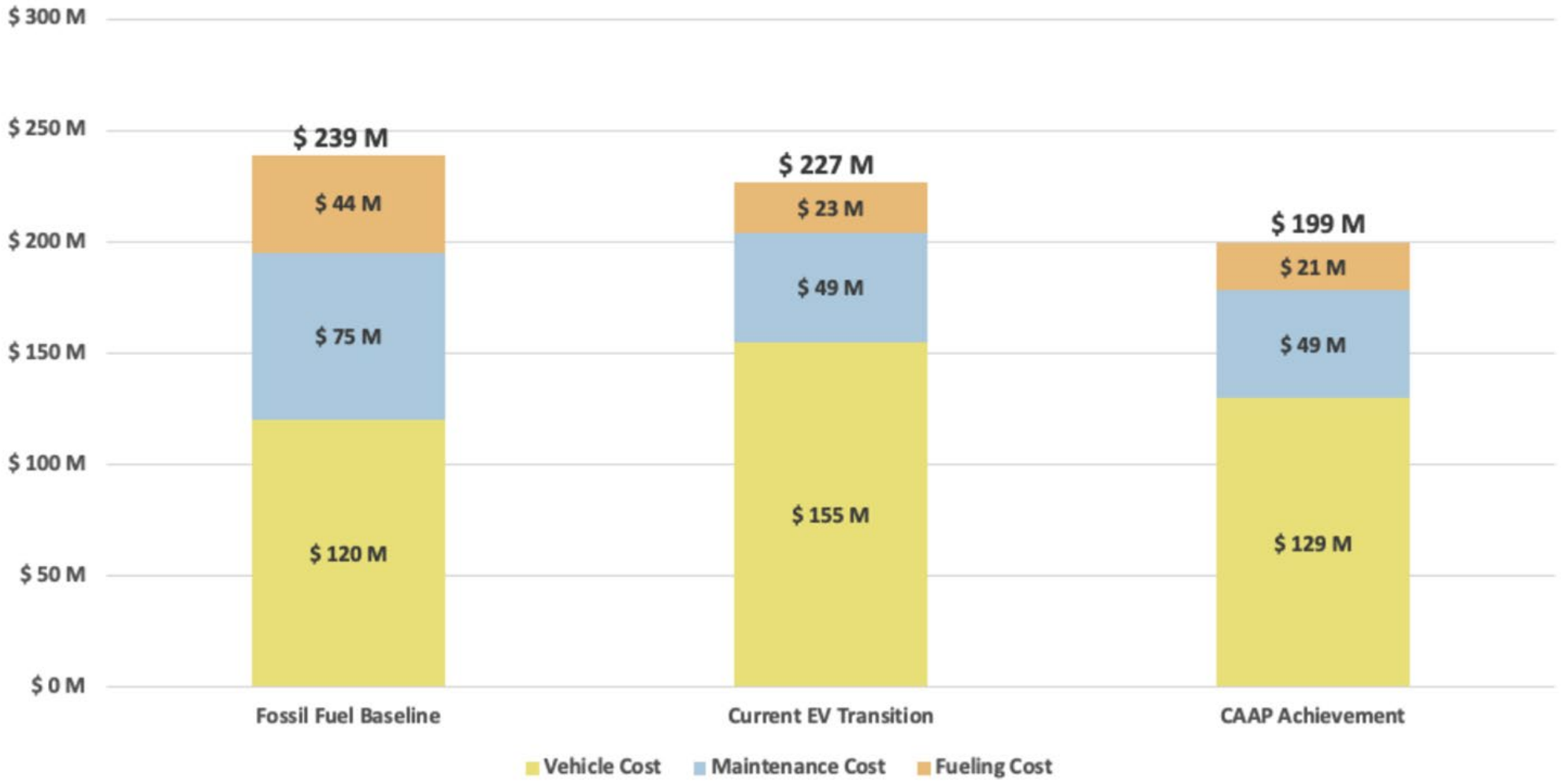
Figure 1: Historical County EV Purchases Through 2024



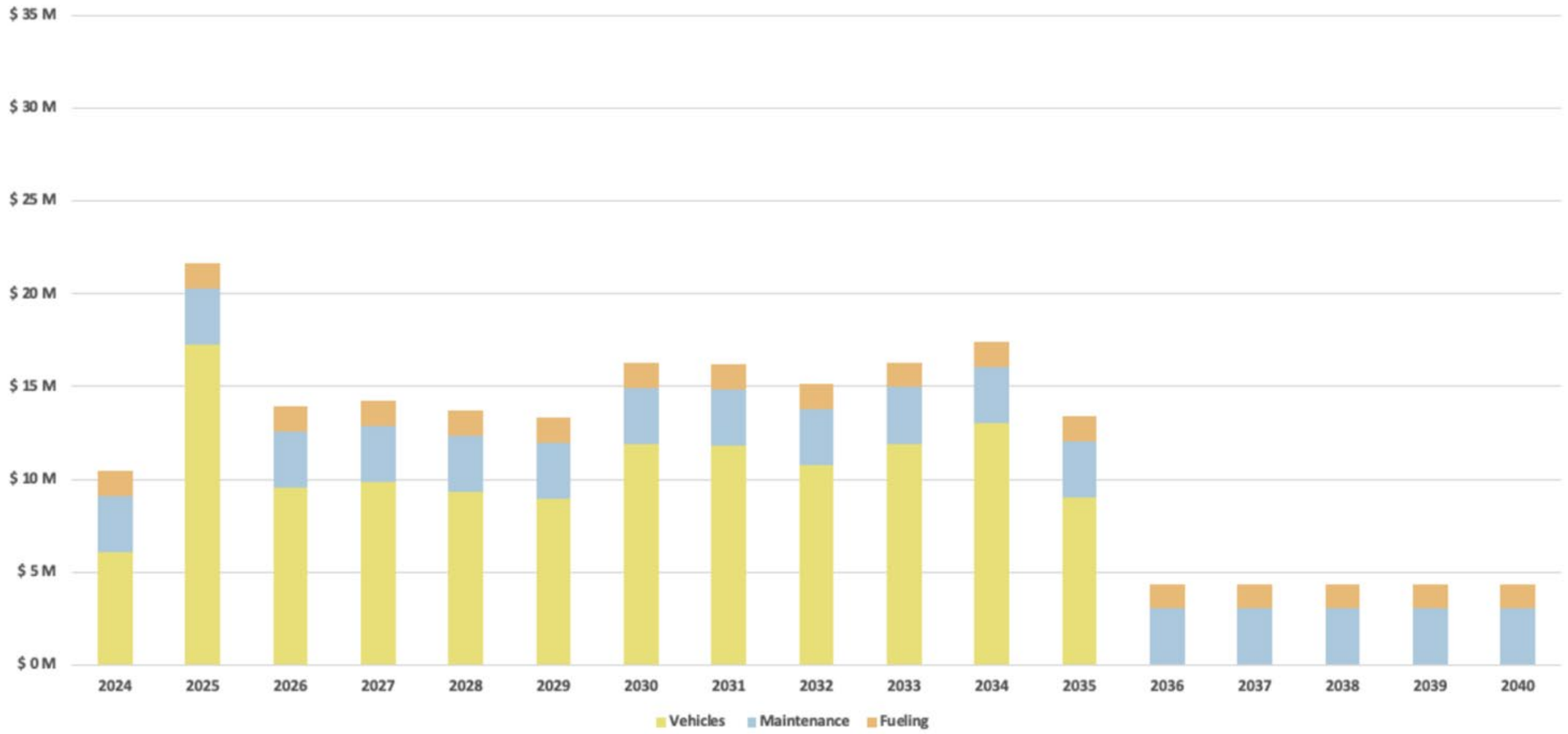
County Fleet Vehicle Replacement Curves



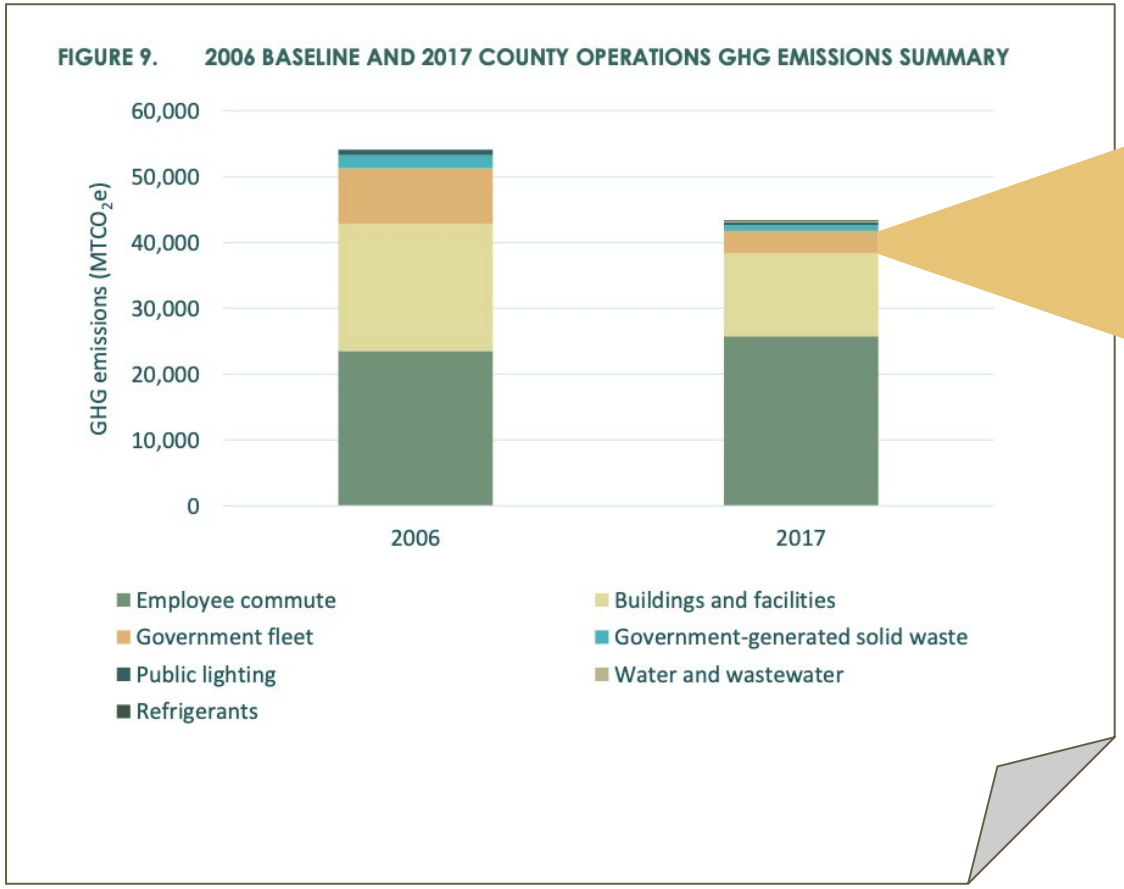
20–Year Total Cost of Ownership of ZEVs vs. Fossil Fuel Vehicl



CAAP Goal Achievement: $10M+/Year to Unlock Savings After



Transportation Electrification Achieves Our Climate Goals



An all-electric government fleet by 2035

- Reduces 2,880 metric tons of carbon equivalent (MTC02e) annually
- Removes 750 pounds (lbs) of harmful particulate matter (PM 2.5) over 15 years, reducing asthma risk to Impacted Communities
- Achieves Goal TR-2 from the County Climate Action and Adaptation Plan (2024)

Strategically Selecting County Vehicles to Transition

Transitioning Sooner

- Predictable Duty Cycle
- Driven Often
- Likely to Stay Within County
- No Vehicle Add-ons
- EV Replacement Model Exists

Example: Chevy Bolt, Admin Vehicle, Multiple Departments

Transitioning Later

- Unpredictable Duty Cycle
- Driven Less Often
- Likely to Drive Outside County
- Vehicle Add-ons Required (sirens, emergency lights, heavy-duty alternators)
- EV Model Not Yet Commercially Available

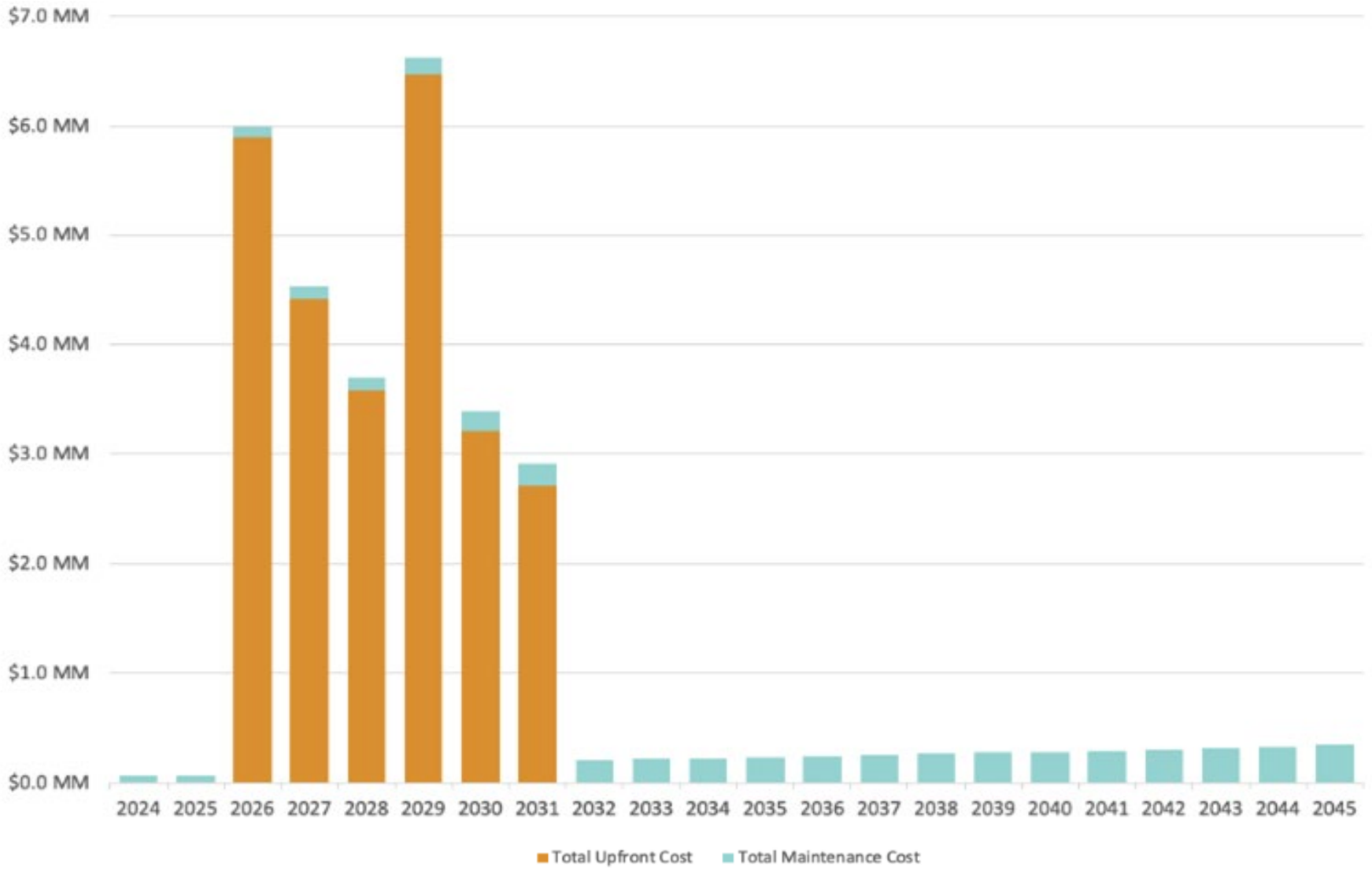
Example: Ford F-550 Super Duty (EV in prototype mode), Public Works

EV Chargers Needed at County Sites

Preliminary Infrastructure Estimates:

Term	EV Chargers Needed	Up-Front Cost	Key Sites
Immediate (1-2 Years)	• 121 Level 2 • 40 DCFC	$10.3M	• 1980 Muir Rd., Martinez • 2380 Bisso Ln., Concord • 900 Ward St., Martinez
Short (3-4 Years)	• 44 Level 2 • 49 DCFC	$10.0M	• 2467 Waterbird Way, Martinez • 5555 Giant Hwy., Richmond • 1850 Muir Rd., Martinez
Medium (5+ Years)	• 101 Level 2 • 11 DCFC	$5.9M	• 4800 Imhoff Pl., Martinez • 300 Ellinwood Way, Pleasant Hill • 4545 Delta Fair Blvd., Antioch
TOTAL	• **266 Level 2** • **100 DCFC**	**$26.5M**	

EV Charger Investments – 2024 to 2031 to Support ZEV Fleet



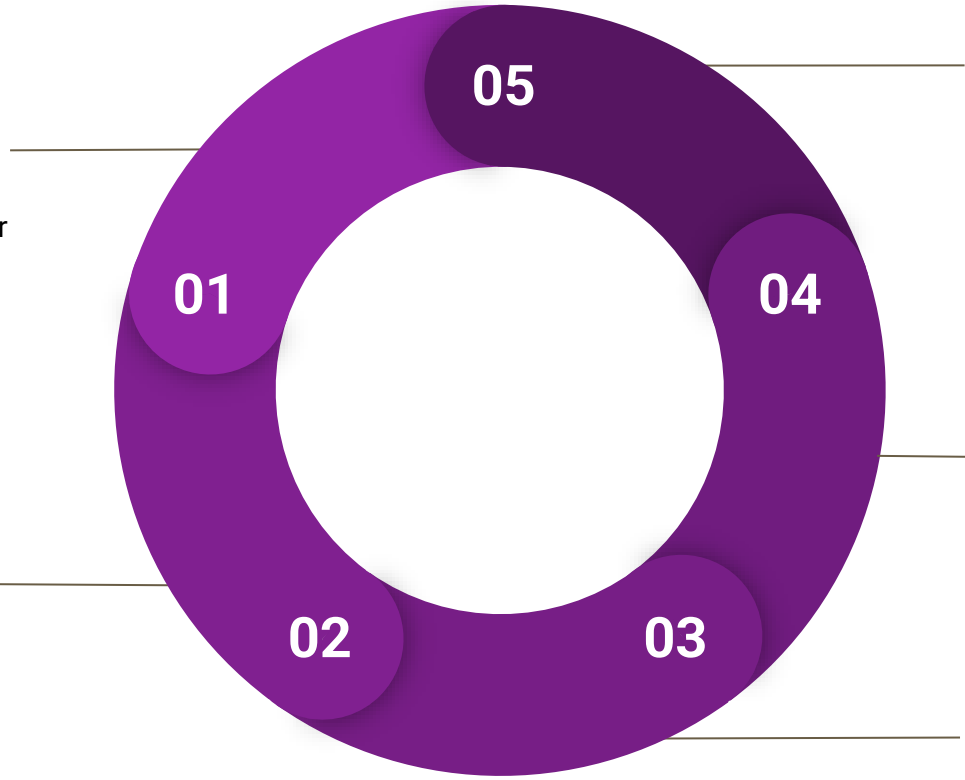
County Actions to Support ZEV Transition

County Policies

- Enable **Fleet drivers to charge County EVs at home,** reimbursable at the IRS variable mileage rate
- **Empower Fleet Liaisons** to determine levels of access to EV chargers at their Departmental sites

Workforce Development & Training

- Partner with unions, educational institutions, utilities, and the Contra Costa County Workforce Development Board (WDBCCC) to **train County auto technicians in EV maintenance**
- Leverage the **County Fleet Yard as a workforce training site**
- Launch an **EV Transition Toolkit** for County Fleet drivers



Funding & Financing

- **Pursue grant funding** from new sources such as the Bay Area Air Quality Management District and the CA VW Mitigation Trust
- **Pilot innovative financing** such as vehicle leasing, low-interest loans, utility on-bill financing and green bond financing

Regional Collaboration

- PG&E TE Advisory and C-TEC
- Leverage existing JPA (CCTA) or explore new EVSE-dedicated JPA for county-wide transportation electrification infrastructure development & management

Innovation

- Partner with utilities to form **vehicle-to-grid (V2G) clusters of EV chargers** to enhance local resilience and bring in additional revenue

EV Transition Toolkit

Welcome to your EV!

- Range: 250 miles
- Charger location: driver's side
- Charges from 10% to 80% in 30 min with a DC Fast Charger

Find a Charger

List and map of County EV chargers

EV Charging How - To

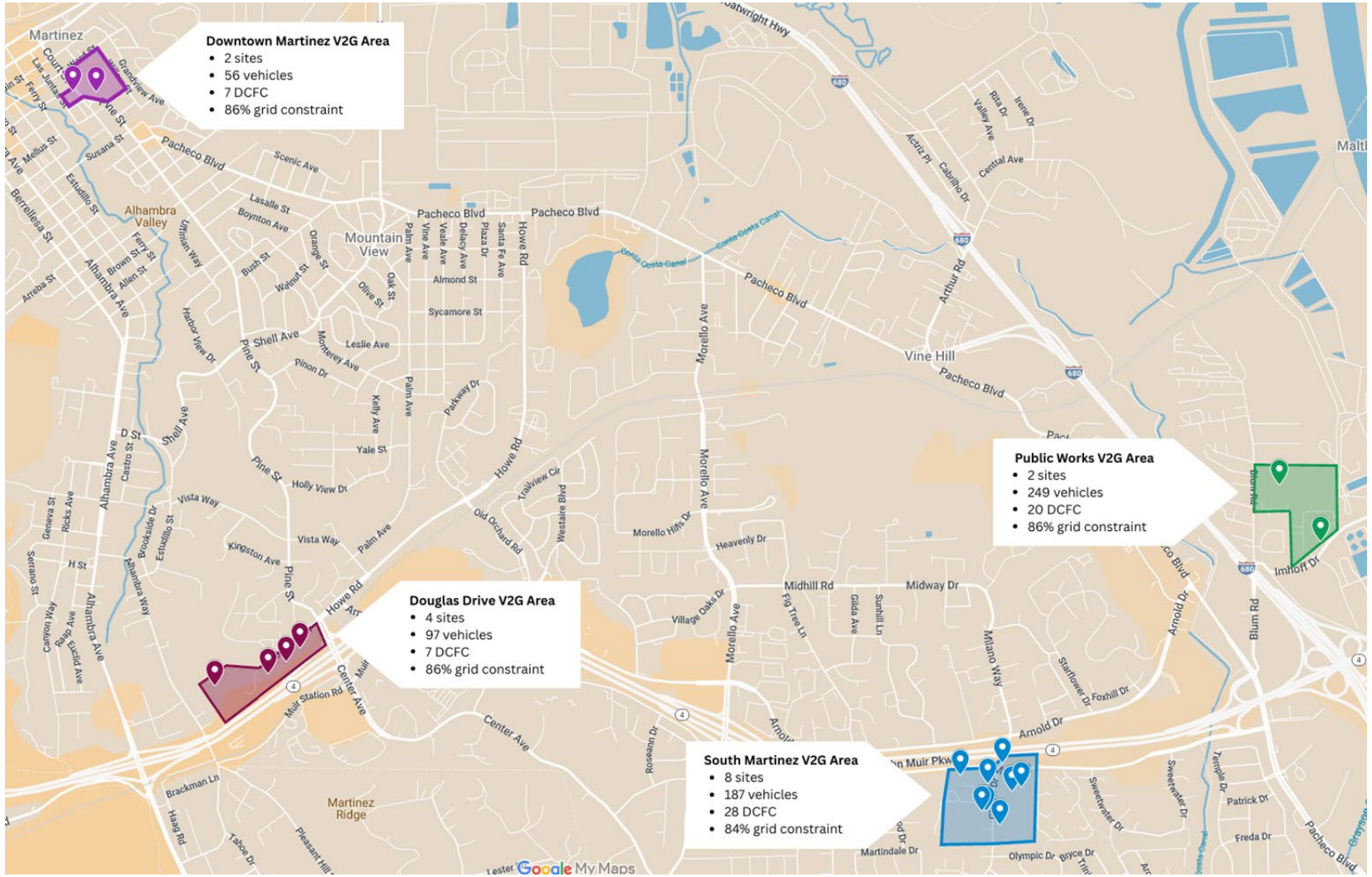
- Charge up to 80%
- "Top off" the vehicle before long trips
- Plan your daily charging, including locations and timing

Roadside Assistance

Call Fleet Services in case of stranded vehicle or accident

Empowering people with tools and knowledge for an effective transition to a zero-emission fleet.

Leveraging Vehicle-to-Grid (V2G) Opportunities



V2G Benefits

- **Additional revenues:** providing grid services to utilities and the California Independent System Operator (CAISO)
- **Local resilience:** plugged-in vehicles can ‘island’ and power critical loads during outages
- **Lower operational costs:** Managed EV charging enables charging during low-cost time periods
- **Improved asset utilization:** EV batteries serve dual roles (transport + grid services), increasing the value of the battery investment

Thank You

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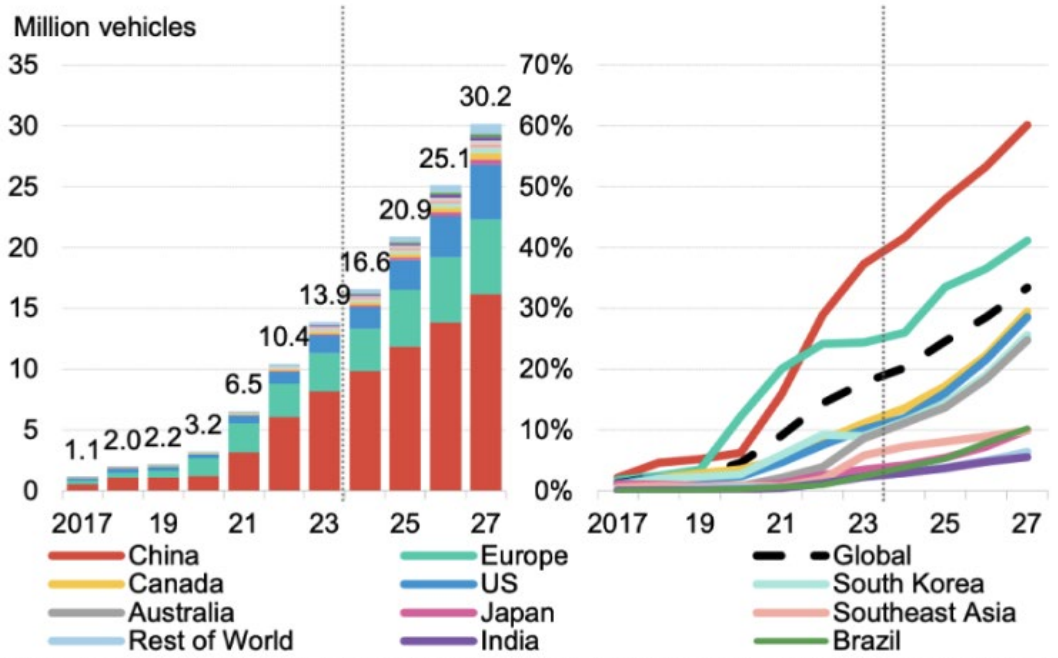
Appendix

Market Trends for EVs

Global near-term passenger EV sales and share of new passenger vehicle sales, by market



Source: BloombergNEF. Note: Europe includes the EU, the UK and European Free Trade Association (EFTA) countries. EVs here includes battery-electric and plug-in hybrid vehicles. 2023-2026 are BNEF forecasts.

Global Market

- Rapid Growth
- Diversifying EV Vehicle Types
- China leads manufacturing and sales

U.S Market

- Slowed growth
- Grants and tax credits removed
- MD and HD growing faster than LD

California Market

- Ambitious EV goals
- EV registrations flat at 25% in 2025

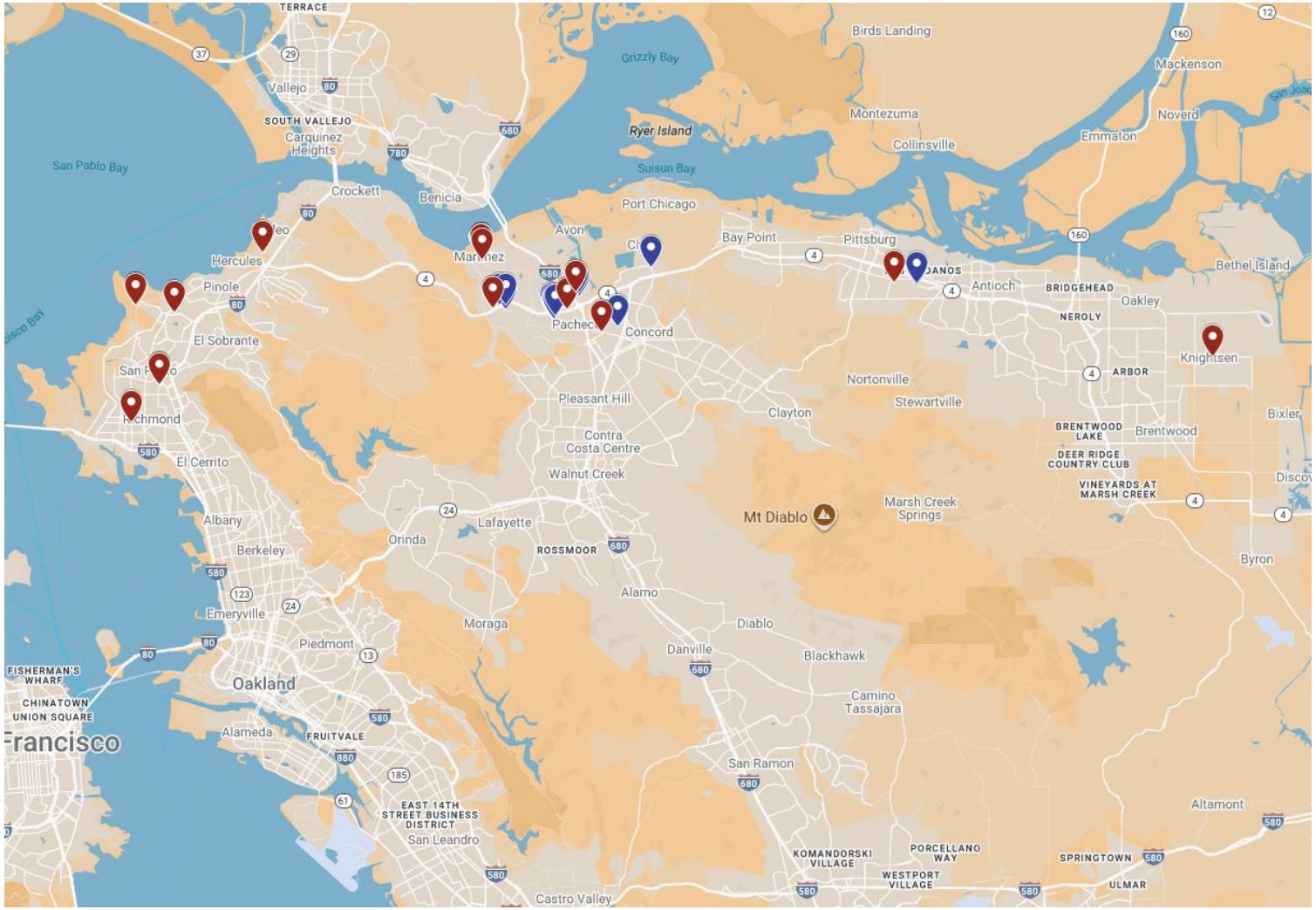
Bay Area Market

- Leads nation in EVs
- 25% of EVs statewide
- County EV registrations doubled since 2021

Workplace Charging Policy Recommendations

- ❏ Allow Fleet drivers to take home County EVs to charge at home, reimbursed by IRS variable mileage rate
- ❏ Differentiate time limits on County chargers
  - ❏ 24 hours for Level 2
  - ❏ One hour for DCFC
- ❏ Empower Fleet Liaisons to determine charger reservation hours for their Departments
  - ❏ *Example:* Personal employee EVs may only use Level 2 chargers until 4pm; after 4pm, only County Fleet vehicles may use Level 2 chargers

Current County EV Chargers



Existing and Near-Term County EV Chargers	
Level 2	279
DCFC	20
TOTAL	299

Legend

County Level 2 Charger Sites

County DCFC Sites

Key Assumptions in Total Cost of Ownership

Table 1: Key Assumptions in TCO Analysis - All Scenarios

EVs	
EV Purchase Price Annual Escalation Rate	4%
Starting Electricity Price	$0.21/kWh
Electricity Price Annual Escalation Rate	4%
EV Maintenance Cost	$0.19/mi - $0.56/mi
EV Repair Cost	$0.29/mi - $2.66/mi
Gasoline Vehicles	
Gasoline Vehicle Purchase Price Annual Escalation Rate	4%
Starting Gasoline Price	$5.00/gallon
Gasoline Price Annual Escalation Rate	4%
Gasoline Vehicle Maintenance Cost	$0.29/mi - $0.93/mi
Gasoline Vehicle Repair Cost	$0.41/mi - $2.89/mi

ACF Regulations Require Increase in ZEV Investment

Figure 2: ZEV Percentages to Comply with California's ACF Milestone Option

Percentage of vehicles that must be ZEVs	10%	25%	50%	75%	100%
Milestone Group 1: Box trucks, vans, buses with two axles, yard tractors, light-duty package delivery vehicles	2025	2028	2031	2033	2035 and beyond
Milestone Group 2: Work trucks, day cab tractors, pickup trucks, buses with three axles	2027	2030	2033	2036	2039 and beyond
Milestone Group 3: Sleeper cab tractors and specialty vehicles	2030	2033	2036	2039	2042 and beyond

File #: 25-4698 **Agenda Date:** 11/10/2025 **Agenda #:** 6.

SUSTAINABILITY COMMITTEE
Meeting Date: November 10, 2025
Subject: RECEIVE Report on Greenhouse Gas Emissions Inventory
Submitted For: SUSTAINABILITY COMMITTEE
Department: DEPARTMENT OF CONSERVATION & DEVELOPMENT
Presenter: Blake McPherson || Sustainability Service Corps Fellow | DCD
Contact: Blake McPherson | (925) 655-2866

Referral History:
An updated 2024 Climate Action and Adaptation Plan (CAAP) was adopted by the County Board of Supervisor's on November 5, 2024, which specifies that the County prepare a greenhouse gas (GHG) emissions inventory within a year of adoption of the 2024 CAAP. The 2024 CAAP also includes an action item to update the County's community-wide GHG emissions inventory every five years at a minimum and more frequently as resources are available.

Referral Update:
Our Sustainability Service Corps Fellow will provide report on the update to the County's GHG emission inventory.

Recommendation(s)/Next Step(s):
RECEIVE Report on Greenhouse Gas Emissions Inventory.

Fiscal Impact (if any):
None.

Contra Costa County

Greenhouse Gas Emissions Inventory

For the Unincorporated Community and County Government Operations

Inventory Year: 2023

Photo Credit: Adam Scarbrough

Prepared by Contra Costa County Department of Conservation and Development

October 2025

Table of Contents

ACKNOWLEDGMENTS

This report was prepared by Blake McPherson, Sustainability Fellow / Student Intern. This report was edited and reviewed by the Sustainability Team at the Dept. of Conservation and Development.

Special recognition and gratitude are expressed to the following individuals for their help with the data collection and project evaluation processes to make this report possible:

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Jamar Stamps, Principal Transportation Planner
Robert Sarmiento, Transportation Planner
David Brockbank, Conservation Programs Manager
Kristine Solseng, Principal Geographic Information Systems Planner
AiLi Pigott, Geographic Information Systems Intern
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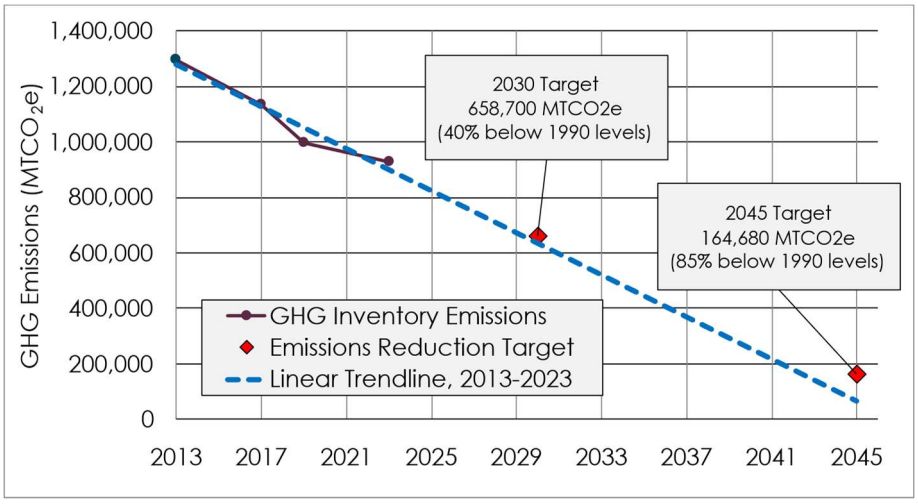
Kristin Bowman, East Bay Municipal Utility District
Stephanie Stewart, Pacific Gas & Electric
Martin Bond, MCE
Laura Wehrly, MCE
Sebastian Conn, MCE

EXECUTIVE SUMMARY

In accordance with the Contra Costa County's 2024 Climate Action and Adaptation Plan (CAAP) guidance to conduct greenhouse gas (GHG) emissions inventories at least every five years, two GHG emissions inventories have been completed for Contra Costa County for the calendar year of 2023: a community-wide GHG emissions inventory for unincorporated areas and a County operations GHG emissions inventory.

The 2023 community-wide GHG inventory results indicate that the County has continued to make progress in reducing GHG emissions compared to previous inventory years. **Figure 1** illustrates the linear trend of community-wide GHG emissions from 2013 to 2023 compared to emissions reduction targets specified in the 2024 CAAP.

FIGURE 1. COMMUNITY-WIDE GHG EMISSIONS AND TARGETS, 2013-2045



Overall community-wide GHG emissions in the unincorporated county decreased from 1,291,580 metric tons of carbon dioxide equivalence ($MTCO_2e$) in the baseline year of 2005 to 928,060 $MTCO_2e$ in 2023, a 28 percent decrease. The two largest sectors of GHG emissions in 2023, transportation (46 percent) and energy (26 percent), decreased in emissions compared to 2019's inventory, but will require reducing fossil fuel use to achieve additional emissions reductions in the future. Remarkably, GHG emissions per kilowatt-hour (kWH) of electricity consumed in Contra Costa County decreased by 96 percent from 2019 to 2023 due to electricity providers shifting toward almost entirely renewable sources, like wind and solar. However, this means any further reductions in the energy sector must come from reducing natural gas usage in buildings. The third largest sector of 2023 community-wide emissions was solid waste (24 percent). Emissions from solid waste were primarily emitted from existing waste-in-place that is decomposing at landfills in the county. The smallest sectors of emissions in the 2023 inventory include off-

Between 2019 and 2023, GHG emissions from electricity production and usage **decreased by 96 percent.**

road equipment (6 percent), agriculture (5 percent), water and wastewater (less than 1 percent) and Bay Area Rapid Transit (less than 1 percent). The land use and sequestration sector removed enough carbon dioxide (CO_2) from the atmosphere to equate to an 8 percent reduction in total emissions in the county. **Figure 2** illustrates the relative proportions of sector emissions in GHG inventories from 2005 to 2023. **Table 1** depicts the sector proportions of total GHG emissions in the 2023 community-wide inventory, with the two largest sectors of on-road transportation and energy presenting the greatest opportunities for future GHG emissions reductions in the unincorporated county.

FIGURE 2. COMMUNITY-WIDE GHG EMISSIONS AND TARGETS

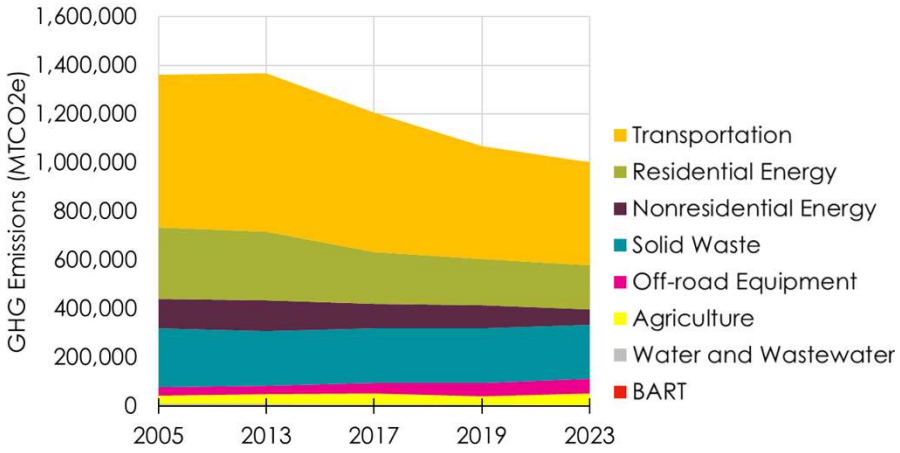
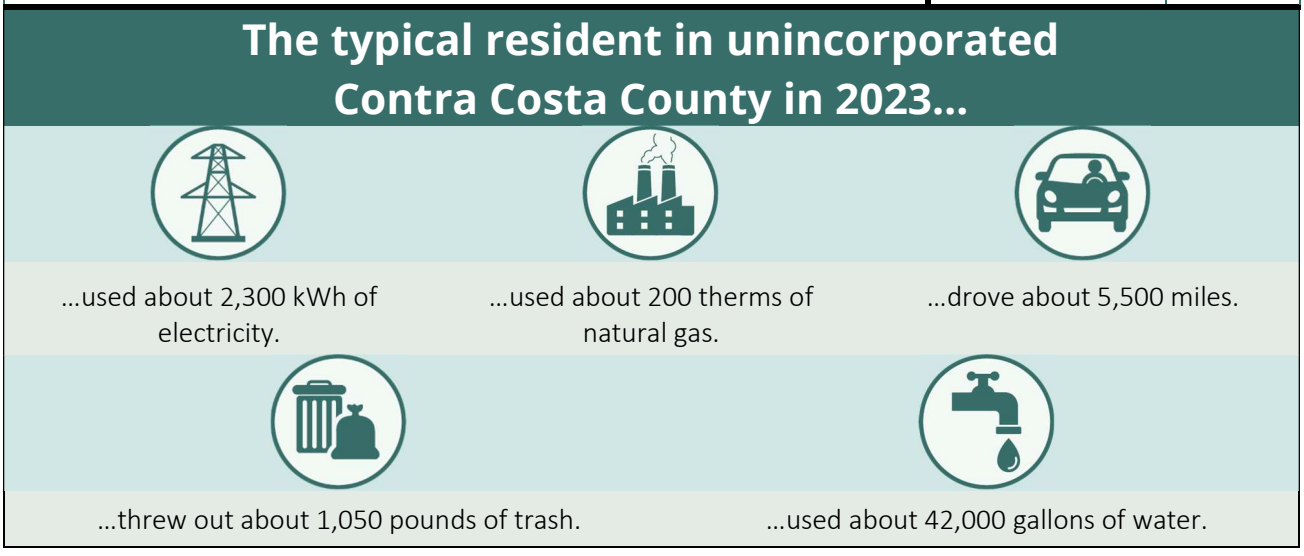


TABLE 1. 2023 INVENTORY PORTIONS BY SECTOR

Sector	Percent of Total
Transportation	46%
Energy (residential & nonresidential)	26%
Solid waste	24%
Off-road equipment	6%
Agriculture	5%
Water and wastewater	< 1%
BART	< 1%
Land use and sequestration	-8%



In addition to the community-wide GHG emissions inventories, County operations GHG emissions inventories are conducted to ensure the County is modeling its commitment to climate action and equity. County operations GHG emissions inventories were completed for calendar years of 2006, 2017, and 2023. In 2006, County operations emissions totaled 54,090 $MTCO_2e$ for the sectors reported in this inventory. In 2023, County operations

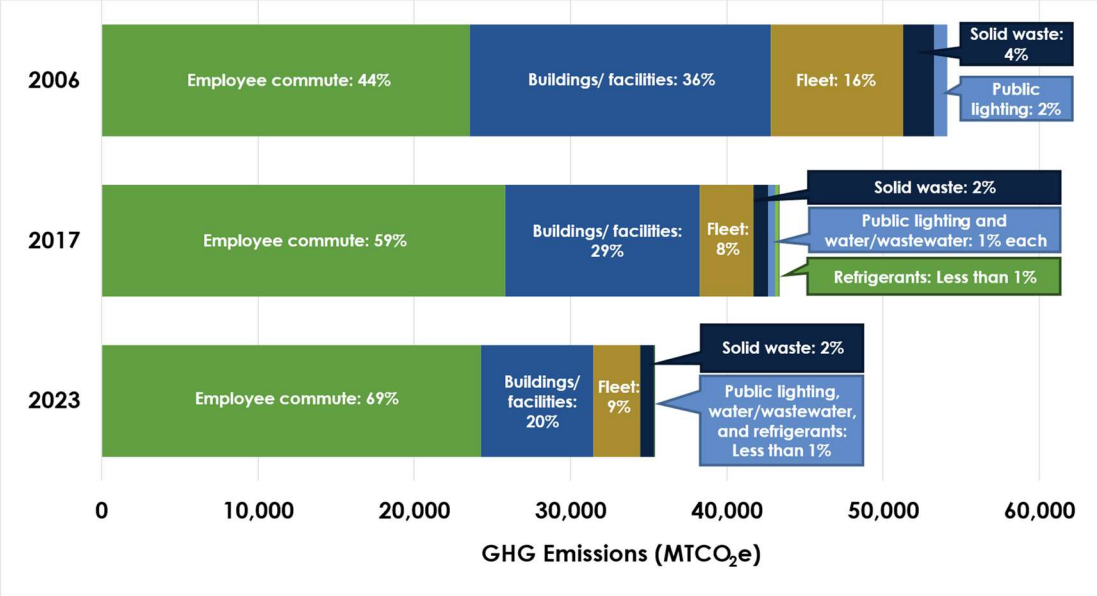
emissions decreased to 35,410 $MTCO_2e$, a 35 percent decrease in emissions, despite a 33 percent increase in the number of County employees from 2006 to 2023.

The largest sector of County operations GHG emissions in 2023 was employee commute, making up 69 percent of total emissions. Employee commute emissions have remained near-constant from 2006 to 2023 at around 25,000 $MTCO_2e$ and present the greatest opportunity for the County to reduce its carbon footprint in municipal operations. Employee commute survey results collected for the 2023 emissions inventory indicate that employees driving electric vehicles, carpooling, and working from home helped reduce commute-related emissions by 24 percent. The average commute-related emissions per-employee decreased by 22 percent from 2006 to 2023.

In 2023, County employees driving **electric vehicles**, **carpooling**, and **working from home** prevented enough GHG emissions to equal taking **1,630 gas-powered cars off the road** for one year.

Significant emissions reductions occurred within the buildings and facilities sector for County operations in 2023, attributed to cleaner electricity being provided by MCE. In the buildings sector, natural gas usage made up over 99 percent of building-related emissions in 2023, so future emissions reductions will necessitate phasing out natural gas usage. Fuel burned by fleet vehicles accounted for 9 percent of County operations GHG emissions in 2023. The smallest sectors of 2023 County operations emissions collectively made up less than 3 percent of total GHG emissions, which include solid waste, public lighting, water and wastewater, and refrigerants. **Figure 3** shows the relative proportions of GHG emissions in each sector for County operations across the three inventory years.

FIGURE 3. COUNTY OPERATIONS ANNUAL GHG EMISSIONS BY SECTOR, 2006 TO 2023



INTRODUCTION

Purpose of Inventory

In 2024, Contra Costa County's Board of Supervisors adopted the Contra Costa County 2045 General Plan along with the Climate Action and Adaptation Plan (CAAP) 2024 Update. The 2024 CAAP is intended to serve as a companion to the Contra Costa County 2045 General Plan and to mitigate greenhouse gas (GHG) emissions in the unincorporated county that result from implementation of the General Plan. The main priority of the 2024 CAAP is to achieve GHG emissions reductions and to consider equity and social justice issues in the implementation of the plan, and directing that health, socioeconomic, and racial equity considerations be included in policymaking and climate solutions at all levels.

To track the County's progress in achieving GHG emissions reductions, the County develops two types of GHG inventories at least once every 5 years: (1) community-wide inventories and (2) County operations inventories.

- A community-wide GHG inventory identifies GHG emissions that result from activities of residents of unincorporated areas in Contra Costa County (unincorporated county), employees, visitors, and other community members. Examples include GHG emissions from residents driving cars, homes using water, and businesses using electricity. The community-wide GHG inventory presented for the unincorporated county is a production-based inventory, which means that it assesses the GHG emissions produced by activities occurring in the community.
- A County operations GHG inventory summarizes emissions that are a direct result of Contra Costa County's government operations. Examples include GHG emissions from electricity and water used in County buildings or the fuel used for County fleet vehicles.

EMISSIONS REDUCTION TARGETS

The 2024 CAAP set GHG emissions reduction targets for community-wide emissions in the unincorporated county, measured in metric tons of carbon dioxide equivalence ($MTCO_2e$). The County has committed to reducing community-wide GHG emissions to 40% below 1990 levels by 2030 and reducing emissions to 85% below 1990 levels and achieve carbon neutrality by 2045, shown in **Table 2**.

TABLE 2. CONTRA COSTA COUNTY COMMUNITY-WIDE EMISSIONS GOALS

	2030	2045
Reduction Target	40% below 1990 levels	85% below 1990 levels
Emissions Goal	658,700 $MTCO_2e$	164,680 $MTCO_2e$

COMMUNITY-WIDE INVENTORY

General Methodology

CATEGORIES OF EMISSIONS ACTIVITIES

The community-wide GHG inventory assessed GHG emissions from the following 11 categories of activities, known as sectors.

- **Transportation** includes GHG emissions created by driving on-road vehicles in the unincorporated county, including passenger and freight vehicles.

- **Residential energy** includes GHG emissions attributed to the use of electricity, natural gas, and other home heating fuels in residential buildings.

- **Nonresidential energy** includes GHG emissions attributed to the use of electricity and natural gas in nonresidential buildings.

- **Solid waste** includes the GHG emissions released from trash collected in the unincorporated areas of Contra Costa County, as well as collective annual emissions from waste already in place at the Acme, Keller Canyon, and West Contra Costa landfills.

- **Agriculture** includes GHG emissions from various agricultural activities in the unincorporated county, including agricultural equipment, crop cultivation and harvesting, fertilizer application, and livestock operations.

- **Off-road equipment** includes GHG emissions from equipment that does not provide on-road transportation, such as tractors for construction, equipment used for landscape maintenance, commercial and industrial equipment, and outdoor recreational equipment.

- **Water and wastewater** includes indirect GHG emissions from the electricity used to transport water and wastewater to and from unincorporated county residents and businesses, as well as direct emissions resulting from wastewater treatment activities.

- **Bay Area Rapid Transit (BART)** includes GHG emissions associated with the operation of BART for residents in unincorporated areas of the county.

- **Land use and sequestration** accounts for GHG emissions absorbed and stored in trees and soils on locally controlled lands as part of healthy ecosystems and released into the atmosphere from development of previously undeveloped land.

- **Stationary sources** include emissions from fuel use at major industrial facilities, permitted by State and regional air quality authorities. These emissions are informational and are not counted as part of the community total.

- **Wildfire** includes emissions released from wildfires. These emissions are informational and are not counted as part of the community total due to the unpredictability of wildfires.

- **Direct access electricity** is electricity purchased directly from an Electric Service Provider (ESP) rather than an investor-owned utility company or Community Choice Energy provider such as MCE, generally to power large industrial, commercial, and institutional facilities.

SECTORS INCLUDED FOR INFORMATIONAL PURPOSES

Emissions from stationary sources, wildfire, and direct access electricity are reported for informational purposes but are not formally counted as part of the unincorporated county's GHG emissions.

Contra Costa County is home to large industrial facilities whose operations have generated significant GHG emissions and/or products that create GHGs, such as gasoline for internal combustion engines. Most of those facilities were constructed decades before land use permits from the County were required. If these facilities apply for new land use permits, the County can impose new operational requirements in some circumstances. An example of this is applications the County received in 2020 from two refineries to process renewable fuels.

There are several factors outside of the County's control that influence the operations and related emissions and energy use at these facilities. The County has therefore elected to

exclude the direct emissions and energy use at these facilities from consideration of the County's GHG emissions inventories for the following reasons:

- These facilities are regulated primarily through the Federal Energy Regulatory Commission and the California Energy Commission and are subject to air quality and emissions standards set forth by the United States Environmental Protection Agency, California Air Resources Board (CARB), and Bay Area Air District (BAAD).
- The energy used at some of these facilities fluctuates from year to year, depending on the demand for resources and the availability of other electricity-generating sources, such as hydropower or renewable resources. This makes it difficult to accurately forecast the energy use at these facilities.
- The County has limited jurisdictional authority to reduce GHG emissions from these sources because they are subject to cap-and-trade regulations set forth by CARB.
- The approach to excluding energy from sources that are outside of the County's jurisdictional control is consistent with the *U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions*[1].
- The resultant jurisdictional inventory more accurately reflects the energy use from nonresidential customers in unincorporated Contra Costa County and allows the County to focus on actions that are within its control.

Large industrial customers frequently purchase electricity directly from Energy Service Providers (ESPs) who generate electricity, a practice known as "direct access electricity." Different ESPs produce electricity from different power sources with different proportions of fossil and renewable energy. The California Public Utilities Commission (CPUC) regulates the sale of direct access electricity in California, and the identities of direct access customers and the specific ESPs from which they purchase electricity are not made available to the public. Given the County's limited ability to monitor and regulate the sale and use of direct access electricity, as well as historical inconsistences in how direct access electricity use is reported, direct access emissions are reported for informational purposes only.

[1] ICLEI – Local Governments for Sustainability USA. "U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions." July 2019. https://icleiusa.org/us-community-protocol/

Community-Wide Inventory Summary

The community-wide GHG inventory assessed GHG emissions from the following 12 categories of activities, known as sectors, from the unincorporated county. The sectors accounted for in the community-wide inventory include:

Total community-wide GHG emissions **decreased 28 percent** from 2005 to 2023.

- Transportation
- Residential energy
- Nonresidential energy
- Solid waste
- Agriculture
- Off-road equipment
- Water and wastewater
- Bay Area Rapid Transit (BART)
- Land use and sequestration
- Stationary sources (Informational)[2]
- Wildfire (Informational)
- Direct access electricity (Informational)

Table 3 and **Figure 4** show the community-wide GHG emissions for the unincorporated county during the five inventory years of 2005, 2013, 2017, 2019, and 2023. The sectors that experienced the largest percent decrease in annual GHG emissions between 2005 and 2023 were water and wastewater (72 percent), BART (71 percent), residential energy (46 percent), nonresidential energy (39 percent), and transportation (31 percent). Collectively, emissions from energy use declined 41 percent over this time period. The decrease in energy-related emissions is primarily due to electricity providers in the county providing electricity from more renewable, clean energy sources like wind and solar instead of coal or gas. Natural gas usage and emissions slightly increased from 2005 to 2023. Emissions reductions occurred in the solid waste sector, with a 9 percent decrease. Three sectors saw increases in their emissions from 2005 to 2023: nonresidential energy, off-road equipment, and agriculture.

Between 2005 and 2023, offroad emissions increased by 76 percent, which may be due to modeling differences in the data obtained from CARB. The offroad data indicates increases in use of agricultural and other types of commercial and industrial equipment. Increases in emissions in the agriculture sector can be attributed to an increase in livestock population (primarily cattle) in the unincorporated county. Though increasing, off-road equipment and agriculture are relatively small sectors in overall unincorporated county emissions.

[2] Informational items do not contribute to the emissions total for the unincorporated areas of the county.

TABLE 3. ABSOLUTE ANNUAL GHG EMISSIONS, 2005 TO 2023

Sector	2005	2013	2017	2019	2023	Percent Change 2005–2023
Transportation (excluding BART)	628,200	651,130	571,650	464,040	425,060	-32%
Energy - Residential	294,930	280,870	212,420	191,780	180,590	-39%
Energy - Nonresidential	118,740	125,350	98,850[1]	85,390	64,160	-46%
Solid waste	243,940	224,570	223,100	220,760	220,920	-9%
Off-road equipment	34,160	36,290	42,840	54,010	60,050	+76%
Agriculture	33,350	39,300	44,880	36,130	49,210	+48%
Water and wastewater	8,080	7,400	4,400	4,870	2,290	-72%
BART	1,040	1,320	1,440	190	300	-71%
Land use and sequestration	-74,520	-74,520	-74,520	-74,520	-74,520	0%
Total Annual $MTCO_2e$	**1,291,580**	**1,295,370**	**1,128,720**	**986,310**	**928,060**	**-28%**
Informational Items						
Stationary sources	13,983,030	11,956,000	11,232,290	10,867,670	8,569,854	-39%
Wildfire	14,270	66,080	0[2]	10,100	0[2]	N/A[3]
Direct access electricity	0[4]	0[4]	0[4]	74,130	0[4]	N/A

Note: All numbers are rounded to the nearest 10. Totals may not equal the sum of individual rows.

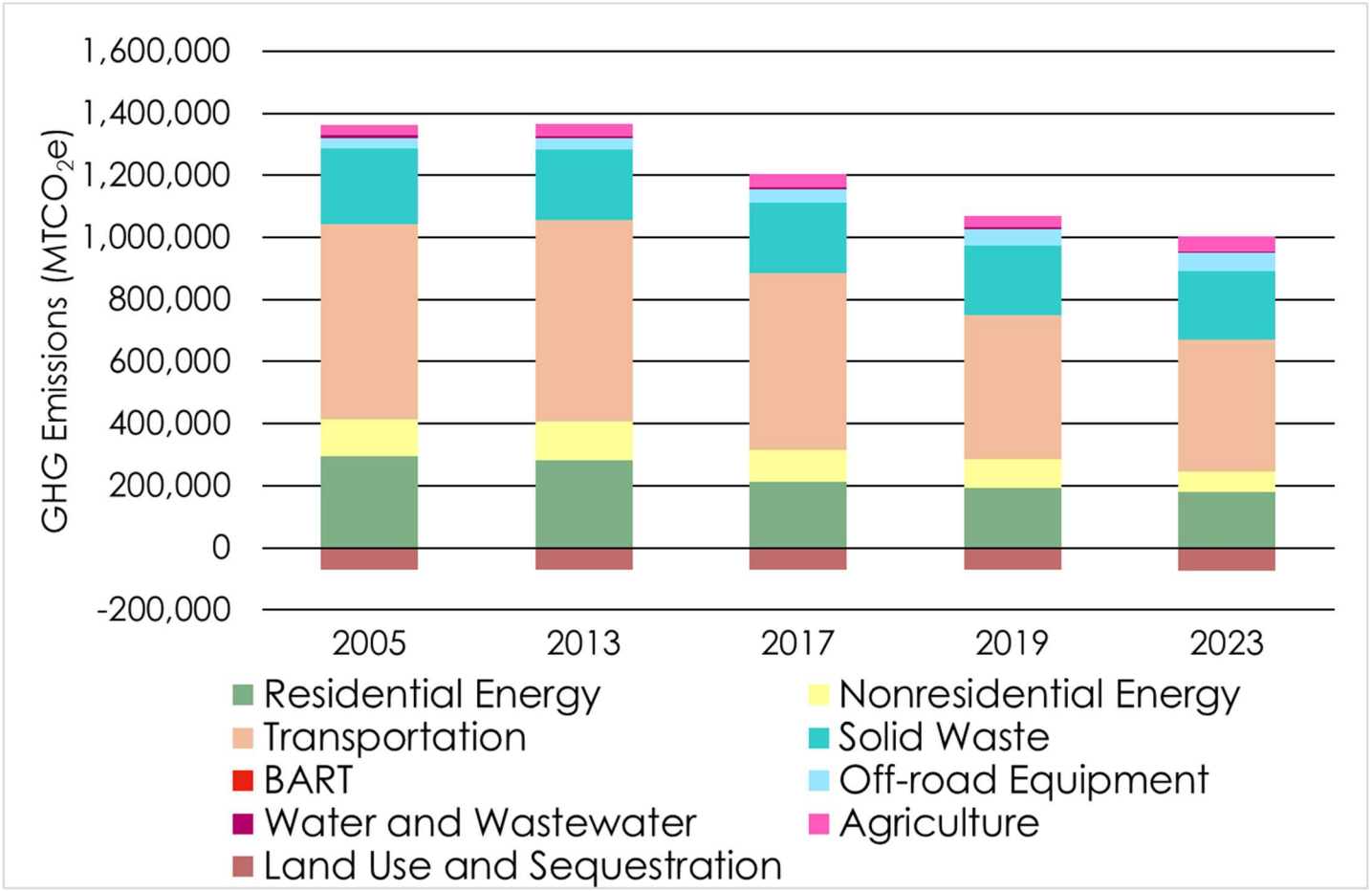
[1] Estimates of nonresidential electricity use in 2013 are used in 2017 to account for a lack of available data in 2017.

[2] No wildfires were recorded in the unincorporated county in 2017 or 2023.

[3] Overall change between 2005 and 2023 for wildfire is not calculated because of the high degree of year-to-year variability.

[4] PG&E did not provide direct access electricity use data in these years.

FIGURE 4. ABSOLUTE ANNUAL GHG EMISSIONS BY SECTOR, 2005 TO 2023



The proportions of each GHG emissions sector compared to the total GHG emissions for each inventory year are presented in **Table 4**. The transportation sector has consistently been the largest source of GHG emissions in the unincorporated county, accounting for 46 percent of total community-wide GHG emissions in 2023 (excluding informational items). Residential and nonresidential energy combined are the second-largest source of emissions, comprising 26 percent of community-wide emissions in 2023. Of the energy-related emissions, approximately 70 percent came from residential buildings and 30 percent from nonresidential buildings. In both building types, almost all emissions in 2023 were associated with natural gas use. Solid waste was the third-largest source of emissions, accounting for 24 percent of the community-wide total in 2023. The smallest sectors of emissions in the 2023 inventory include off-road equipment (6 percent), agriculture (5 percent), water and wastewater (less than 1 percent) and BART (less than 1 percent). Detailed summaries of changes in GHG emissions by sector appear in the next section of this report.

TABLE 4. SECTOR PORTIONS OF GHG EMISSIONS FOR COMMUNITY-WIDE INVENTORY, 2005 TO 2023

SECTOR	2005	2013	2017	2019	2023
Transportation	49%	50%	51%	47%	46%
Energy - Residential	23%	22%	19%	19%	19%
Energy - Nonresidential	9%	10%	9%	9%	7%
Solid waste	19%	17%	20%	22%	24%
Off-road equipment	3%	3%	4%	5%	6%
Agriculture	3%	3%	4%	4%	5%
Water and wastewater	1%	1%	Less than 1%	Less than 1%	Less than 1%
BART	Less than 1%	Less than 1%	Less than 1%	Less than 1%	Less than 1%
Land use and sequestration	-5%	-5%	-6%	-7%	-8%
Total Annual $MTCO_2e$	**100%**	**100%**	**100%**	**100%**	**100%**

Note: Totals may not equal the sum of individual rows due to rounding.

Between 2019 and 2023, the largest reduction in emissions occurred in the transportation and energy sectors. Two possible factors influencing the GHG emissions reduction in the transportation sector include the increased number of workers with the ability to work from home following the onset of the COVID-19 pandemic in 2020 and increased usage of electric vehicles (see **Figure 5**). One major factor reducing GHG emissions in the energy sector is the significant shift of electricity sourcing by electricity providers toward renewable sources like solar and wind. The electricity provided to unincorporate county residents in 2023 was generated with 97 percent less GHG emissions compared to 2019.

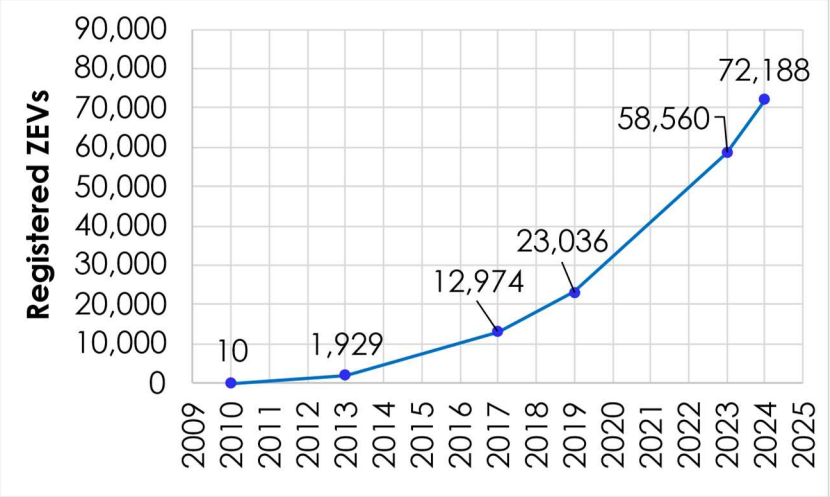
Emissions by Sector

Transportation

Transportation represented 46 percent of overall community-wide emissions in 2023. On-road transportation activity accounts for vehicle miles driven between two points in the unincorporated area, or between the unincorporated area or another community. It does not include miles for trips that begin and end in other communities but pass through the unincorporated area (e.g., from Sacramento to Oakland). Unincorporated Contra Costa County community members drove approximately 1.3 billion vehicle miles in 2005, decreasing 25 percent to approximately 955 million vehicle miles in 2023. The average daily vehicle miles traveled by unincorporated community residents decreased from 3,722,280 miles in 2005 to 2,775,180 miles in 2023, as shown in **Table 5**.

In addition to driving less miles, Contra Costa County residents have been choosing to drive zero-emissions vehicles (ZEVs), including all-electric vehicles (EVs), at an increasing rate, as shown in **Figure 5**. In 2023, Contra Costa residents registered 58,560 zero-emissions vehicles (ZEVs) in the county. ZEVs made up 7% of the light-duty vehicle population in 2023, shown in **Figure 6**. Data for both **Figure 5** and **Figure 6** was collected from the California Energy Commission[3] for the entire population of Contra Costa County. As of September 2023, there were 1,734 public and shared EV chargers operating in Contra Costa County[4].

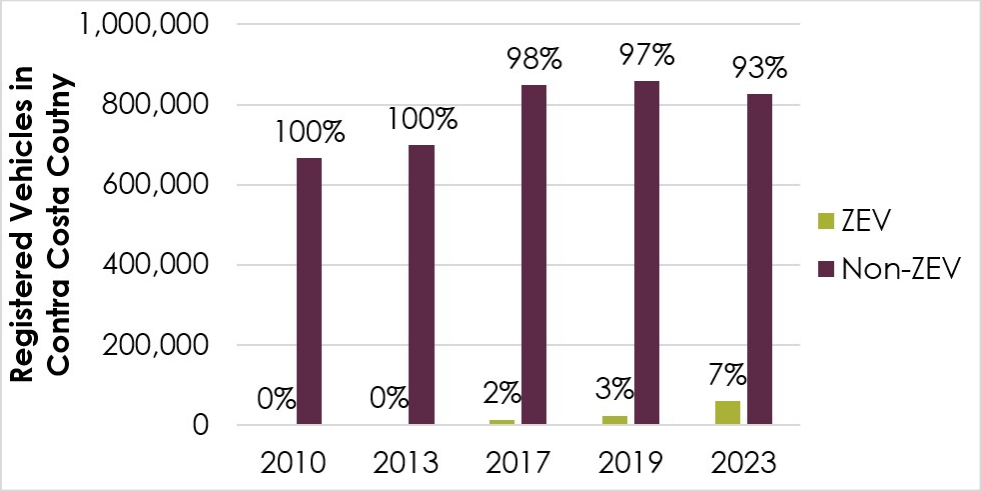
FIGURE 5. REGISTERED ZERO-EMISSIONS VEHICLES IN CONTRA COSTA COUNTY, 2010 TO 2024



[3] California Energy Commission (2025). Light-Duty Vehicle Population in California. Data last updated May 16, 2025. Retrieved from https://www.energy.ca.gov/zevstats.

[4] California Energy Commission (2025). Zero Emission Vehicle and Infrastructure Statistics. Data retrieved from report published in September 2023. Retrieved from https://www.energy.ca.gov/zevstats.

FIGURE 6. PERCENT OF TOTAL REGISTERED VEHICLES BY TYPE IN CONTRA COSTA COUNTY, 2010 TO 2023



The vehicle miles traveled (VMT) in 2005 resulted in GHG emissions of approximately 628,200 $MTCO_2e$, which decreased 32 percent to approximately 425,060 $MTCO_2e$ in 2023. A decrease in VMT occurred between 2019 and 2023, which could be attributed to the increased ability to work from home for many workers following the COVID-19 pandemic, thus reducing the number of cars on the road each day. GHG emissions related to on-road transportation likely decreased due to this reduction in VMT, increasingly fuel-efficient vehicles, and wider adoption of electric vehicles. **Figure 7** illustrates the emissions and daily VMT across all GHG emissions inventory years.

FIGURE 7. TRANSPORTATION GHG EMISSIONS AND DAILY VMT, 2005 TO 2023

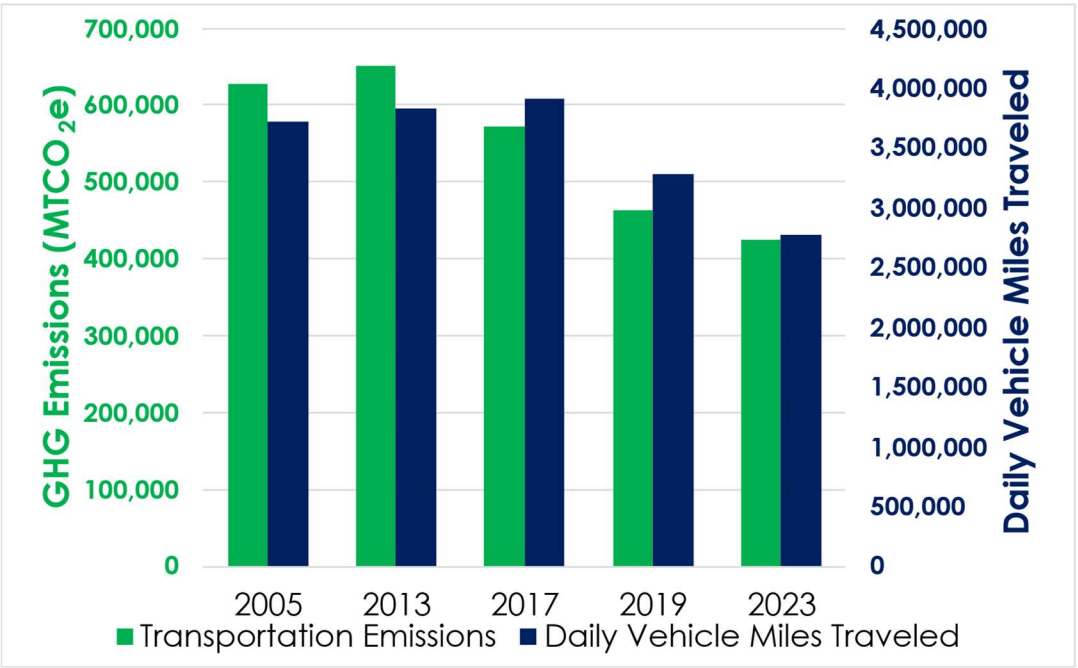


Table 5 provides a breakdown of the activity data and emissions for on-road transportation for the unincorporated area in each inventory year. For the most recent inventory for 2023, the portions of total VMT for each vehicle fuel type for on-road transportation are shown in **Table 6**.

TABLE 5. TRANSPORTATION ACTIVITY DATA AND GHG EMISSIONS, 2005 TO 2023

Sector	2005	2013	2017	2019	2023	Percent Change 2005 – 2023
Activity Data (Daily VMT)						
On-road transportation	3,722,820	3,826,320	3,911,010	3,276,400	2,775,180	-25%
Emissions ($MTCO_2e$)						
Total Annual $MTCO_2e$	**628,200**	**651,130**	**571,650**	**464,040**	**425,060**	**-32%**
Portion of total emissions	49%	50%	51%	47%	46%	-3%
All numbers are rounded to the nearest 10. Percentages are rounded to the nearest single digit.						

TABLE 6. 2023 VEHICLE FUEL TYPE BY PERCENT OF TOTAL VMT

Fuel Type	Passenger	Commercial	All
Gasoline	92.4%	28.7%	86.5%
Diesel	0.7%	69.8%	7.2%
Natural gas	0.0%	1.4%	0.1%
Electric	5.1%	0.1%	4.6%
Plug-in hybrid	1.8%	0.0%	1.6%
All numbers are rounded to the nearest single decimal place.			

Residential Energy

Residential energy represented 19 percent of overall community-wide emissions in 2023. Contra Costa County's GHG emissions from residential energy totaled approximately 180,590 MTCO2e in 2023, compared to 294,930 MTCO2e in 2005, a decline of 39 percent. Residential electricity GHG emissions decreased due to a decrease in overall use and usage of cleaner sources for electricity. Residential electricity use decreased 18 percent from 2005 to 2023, from 488,236,740 kWh to 400,194,970 kWh. Over this period, as seen in **Table 7**, a unit of electricity supplied by Pacific Gas and Electricity Company (PG&E) emitted 97 percent less GHG in 2023 than in 2005. Electricity from MCE, which supplied electricity to community residents in 2017 to present, generated even fewer GHG emissions per unit of electricity than PG&E-supplied electricity, which has also contributed to the emissions decline in this sector. In 2023, natural gas use accounted for 91 percent of GHG emissions for residential energy, while electricity accounted for less than 1 percent of GHG emissions, as shown in **Figure 8**. Natural gas use and GHG emissions have remained fairly constant from 2005 to 2023 despite a growing population. Propane and wood use and GHG emissions also declined over this period, although GHG emissions from these fuels are only a small portion of those from the residential energy sector. **Table 7** provides a breakdown of the activity data and GHG emissions for residential energy for unincorporated areas.

FIGURE 8. RESIDENTIAL ENERGY PROPORTIONS OF GHG EMISSIONS BY SUBSECTOR, 2005-2023

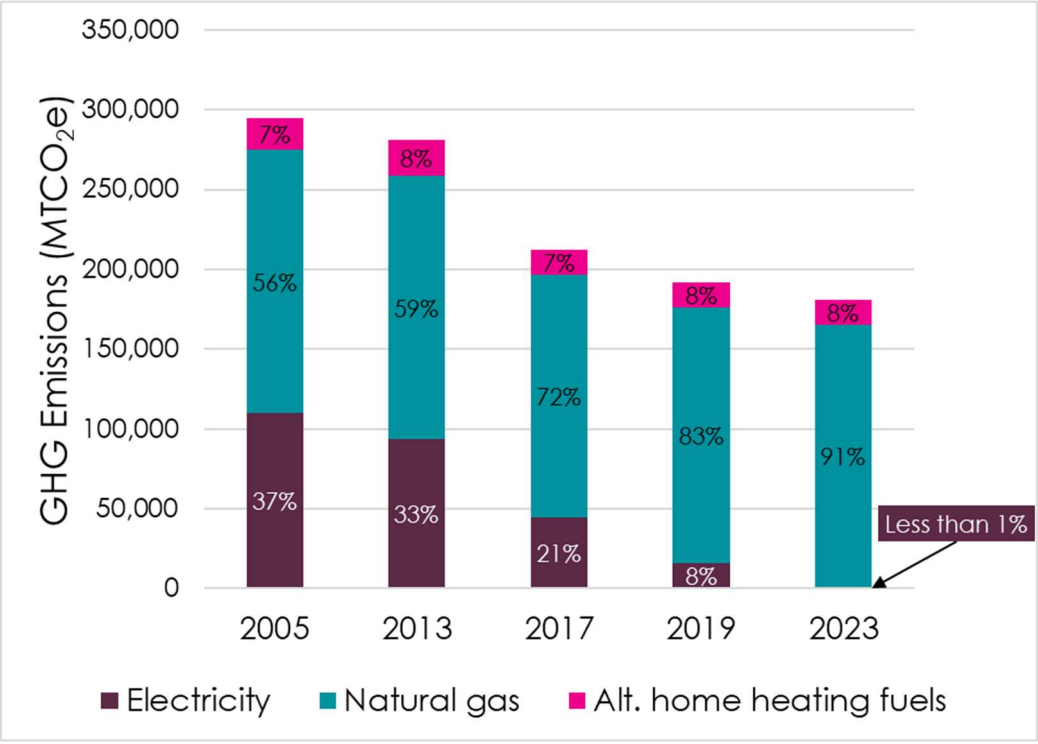


TABLE 7. RESIDENTIAL ENERGY ACTIVITY DATA AND GHG EMISSIONS BY SUBSECTOR, 2005-2023

SECTOR	2005	2013	2017	2019	2023	PERCENT CHANGE 2005–2023
Activity Data						
Residential PG&E electricity (kWh)	488,236,740	478,219,710	461,970,670	46,158,330	44,421,560	N/A*
Residential MCE electricity (kWh)	-	-	307,820	247,402,970	355,773,400	N/A*
Total residential electricity (kWh)	*488,236,740*	*478,219,710*	*462,278,490*	*293,561,300*	*400,194,960*	*-18%*
Residential natural gas (therms)	30,919,160	31,007,110	28,634,420	30,100,640	30,950,350	0%
Residential propane (gallons)	1,525,330	1,106,900	1,043,270	1,021,340	1,069,380	-30%
Residential kerosene (gallons)	13,160	10,960	8,030	16,320	10,880	-17%
Residential wood (MMBTU)	117,000	165,830	100,960	101,710	93,900	-20%
Emissions Factors						
PG&E Electricity (grams CO_2e/kWh)	226	195	96	108	6	-97%
MCE Electricity (grams CO_2e/kWh)	N/A	N/A	59	45	1.8	-97%[1]
Emissions ($MTCO_2e$)						
Residential PG&E electricity	110,120	93,380	44,510	5,000	280	N/A*
Residential MCE electricity	0	0	20	11,060	610	N/A*
Total residential electricity	*110,120*	*93,380*	*44,530*	*16,060*	*890*	*-99%*
Residential natural gas	164,570	165,040	152,060	159,850	164,360	0%
Residential propane	8,910	6,470	6,100	5,970	6,250	-30%
Residential kerosene	140	120	80	170	120	-14%
Residential wood	11,190	15,860	9,650	9,730	8,980	-20%
Total Annual $MTCO_2e$	**294,930**	**280,870**	**212,420**	**191,780**	**180,590**	**-39%**
Portion of total emissions	23%	22%	19%	19%	19%	-4%

* MCE began supplying electricity to customers in the county starting in 2017. Many PG&E customers were switched to MCE, therefore percent change values for PG&E and MCE electricity usage are not shown because the values may be misleading.
1: Percent change for this value is calculated from 2017 to 2023 because MCE did not provide electricity in the county prior to 2017.
All numbers are rounded to the nearest 10. Totals may not equal the sum of individual rows. Percentages are rounded to the nearest single digit.

Nonresidential Energy

GHG emissions from nonresidential energy comprised 7 percent of overall community-wide emissions in 2023. Emissions in this sector decreased 46 percent from 118,740 $MTCO_2e$ in 2005 to 64,160 $MTCO_2e$ in 2023. Electricity emissions from retail electricity suppliers (PG&E and MCE) have fallen significantly, due to a large increase in the portion of electricity provided by renewable and carbon-free sources (see **Table 8**). Total nonresidential electricity usage in the unincorporated county has increased 5 percent from 2005 to 2023, yet electricity-related emissions have decreased by 99 percent from 64,180 $MTCO_2e$ in 2005 to 690 $MTCO_2e$ in 2023. Nonresidential natural gas usage for the unincorporated county has not been reported by PG&E for data privacy reasons since 2013, so the reported usage in calendar years 2017, 2019, and 2023 has been trended to follow overall Contra Costa County nonresidential natural gas usage reported by the California Energy Commission using the known 2013 nonresidential natural gas usage as a baseline. This assumption was made because a large portion of industrial and commercial facilities in Contra Costa County are in unincorporated areas. In 2023, natural gas use accounted for almost all GHG emissions (99 percent) for nonresidential energy use, while electricity accounted for 1 percent of GHG emissions, as shown in **Figure 9**. **Table 8** provides a breakdown of the activity data and GHG emissions for nonresidential energy for unincorporated areas.

FIGURE 9. NONRESIDENTIAL ENERGY PROPORTIONS OF GHG EMISSIONS BY SUBSECTOR, 2005-2023

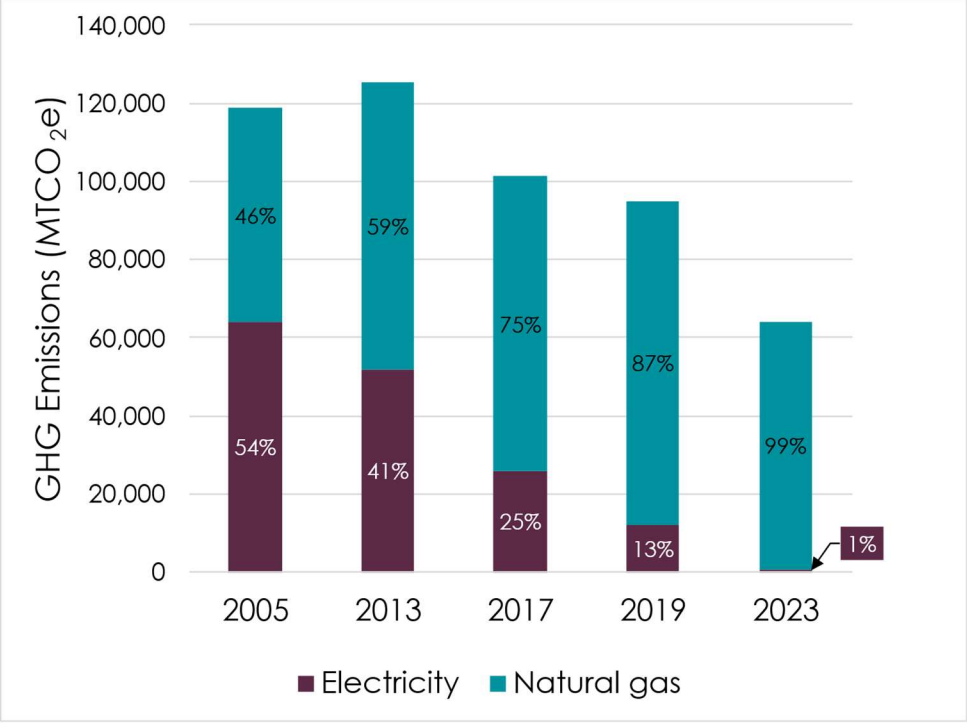


TABLE 8. NONRESIDENTIAL ENERGY ACTIVITY DATA AND GHG EMISSIONS BY SUBSECTOR, 2005-2023

SECTOR	2005	2013	2017	2019	2023	PERCENT CHANGE 2005–2023
Electricity Activity Data (kWh)						
Nonresidential PG&E electricity	284,558,070	266,216,660	266,216,660	29,062,250	36,757,068	N/A[1]
Nonresidential MCE electricity	0	0	28,730	200,181,720	264,427,110	N/A[1]
Total nonresidential electricity	*284,558,070*	*266,216,660*	*266,245,390*	*229,243,970*	*301,184,178*	*+6%*
Nonresidential natural gas (therms)	10,251,360	13,784,410	14,287,390*	15,538,050*	11,952,230*	+16%
Emissions Factors						
PG&E Electricity (grams CO_2e/kWh)	226	195	96	108	6	-97%
MCE Electricity (grams CO_2e/kWh)	N/A	N/A	59	45	1.8	-97%[2]
Emissions ($MTCO_2e$)						
Nonresidential PG&E electricity	64,180	51,980	25,650	3,150	230	N/A[1]
Nonresidential MCE electricity	0	0	Less than 10	9,040	460	N/A[1]
Total nonresidential electricity	*64,180*	*51,980*	*25,650*	*12,190*	*690*	*-99%*
Nonresidential natural gas	54,560	73,370	75,873	82,515	63,472	+16%
Total Annual $MTCO_2e$	**118,740**	**125,350**	**101,523**	**94,705**	**64,162**	**-46%**
Portion of total emissions	9%	10%	9%	10%	7%	-2%

* Due to omissions in data reported by PG&E for the calendar years 2017, 2019, and 2023, the project team assumed that nonresidential natural gas use trended with overall Contra Costa County usage reported by the California Energy Commission.
1: MCE began supplying electricity to customers in the county starting in 2017. Many customers were switched from PG&E to MCE, therefore percent change values for PG&E and MCE electricity usage are not shown because the value may be misleading.
2: Percent change for this value is calculated from 2017 to 2023 because MCE did not provide electricity in the county prior to 2017.
All numbers are rounded to the nearest 10. Totals may not equal the sum of individual rows.

Solid Waste

Solid waste sector emissions represented 25 percent of community-wide emissions in 2023. GHG emissions associated with solid waste include four subsectors:

- **Solid waste** is the material that is discarded by community members and reflects the actual waste generated by the community.
- **Alternative daily cover (ADC)** is organic material applied at landfills by the landfill operator as a means of controlling debris, odor, and pests.
- **Waste in place** is the existing solid waste and associated GHG emissions deposited in the County's landfills in previous years.
- **Flaring** accounts for GHG emissions from the combustion of gases generated by decomposing waste.

Between 2005 and 2023, total solid waste GHG emissions decreased by 9 percent due to decreases in solid waste generated and ADC applied at landfills. These decreases could be attributed to California Senate Bill (SB) 1383, which became effective on January 1, 2022, and requires all businesses and residents to separate organics and recyclable materials from trash to try to divert organic material to be composted rather dumped in landfills. As shown in **Figure 10**, most emissions in the solid waste sector come from waste already in place in the landfills in the county. In the 2024 CAAP, it was forecasted that if all GHG emissions reduction targets are met by 2045, the waste-in-place at landfills will be the largest sector of GHG emissions. **Table 9** presents solid waste emissions for each inventory year for the unincorporated county.

FIGURE 10. SOLID WASTE PROPORTIONS OF GHG EMISSIONS BY SUBSECTOR, 2005-2023

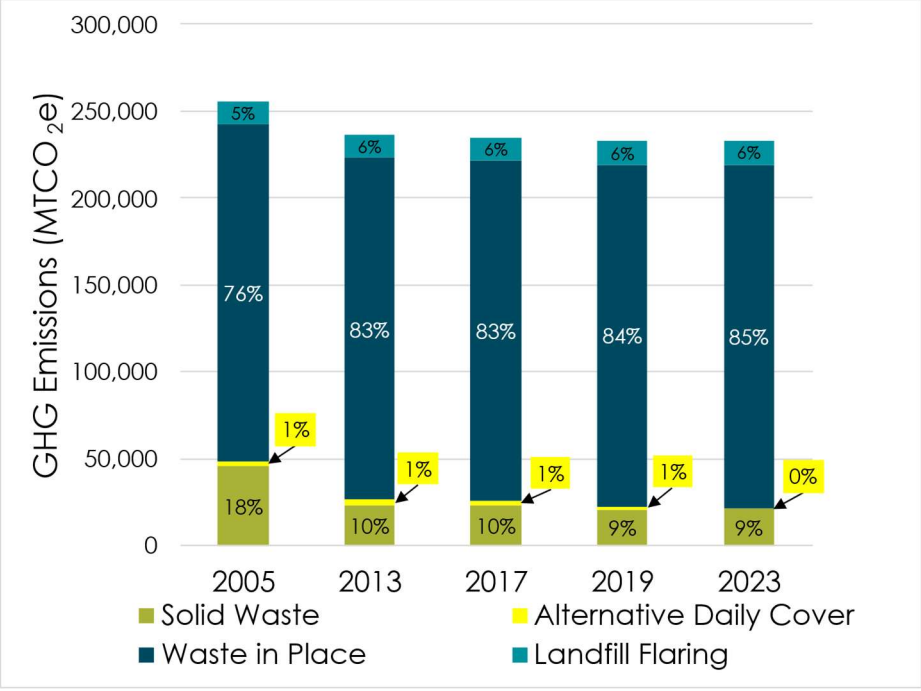


TABLE 9. SOLID WASTE ACTIVITY DATA AND GHG EMISSIONS BY SUBSECTOR, 2005-2023

Sector	2005	2013	2017	2019	2023	Percent Change 2005–2023
Activity Data (Tons)						
Solid Waste	154,820	78,790	79,520	79,340	91,640	-41%
Alternative Daily Cover	15,950	13,990	11,470	7,580	0	-100%
Waste in Place	34,455,010	41,785,650	45,776,140	47,618,290	50,624,050	+47%
Landfill Flaring	5,270	5,260	5,250	5,270	5,310	+1%
Emissions ($MTCO_2e$)						
Solid Waste	45,390	23,100	22,750	20,760	21,199	-53%
Alternative Daily Cover	3,060	3,440	2,820	1,860	0	-100%
Waste in Place	193,950	196,500	196,000	196,610	198,175	-53%
Landfill Flaring	13,610	13,755	13,550	13,590	13,703	+1%
Total Annual $MTCO_2e$	**256,010**	**236,795**	**235,120**	**232,820**	**233,077**	**-9%**
Portion of total emissions	20%	18%	21%	24%	25%	+5%

All numbers are rounded to the nearest 10. Totals may not equal the sum of individual rows. Percentages are rounded to the nearest single digit.

Off-Road Equipment

Off-road equipment emissions accounted for 6 percent of community-wide emissions in 2023. Off-road equipment emissions increased by 76 percent between 2005 and 2023. Off-road equipment types that indicate the largest increase in emissions since 2005 are agricultural equipment, transport refrigeration units, and pleasure craft. It is possible that changes in modeling methods across inventory years, as well as additional categories being tracked, may be causing a greater increase in emissions between 2005 and 2023 than reality. Note that the State provides these GHG emissions levels directly, so there is no data for equipment usage in hours used or distance traveled to display. Off-road equipment emissions in unincorporated areas of the county are shown in **Table 10**.

TABLE 10. OFF-ROAD EQUIPMENT GHG EMISSIONS ($MTCO_2E$), 2005-2023

Sector	2005	2013	2017	2019	2023	Percent Change, 2005–2023
Agricultural Equipment	1,200	1,190	1,180	10,170	9,890	+724%
Cargo Handling Equipment	900	380	330	310	1,010	+12%
Commercial Harbor Craft*	-	-	-	2,600	2,560	N/A*
Construction and Mining Equipment	6,780	7,170	8,880	7,200	1,860	-73%
Forklifts*	-	-	-	-	6,260	N/A*
Industrial Equipment	8,320	8,840	9,470	9,780	10,800	+30%
Lawn and Garden Equipment	3,580	3,280	3,760	3,880	2,820	-21%
Light Commercial Equipment	2,230	2,780	3,060	3,270	2,770	+24%
Locomotive	3,170	3,260	3,540	3,620	3,940	+24%
Oil Drilling	20	20	20	20	20	+21%
Pleasure Craft	1,890	1,810	1,800	1,830	7,420	+293%
Portable Equipment	4,830	6,240	6,700	6,970	7,610	+58%
Recreational Equipment	650	670	610	630	80	-87%
Transport Refrigeration Units	590	650	3,490	3,730	3,010	+411%
Total Annual $MTCO_2e$	**34,150**	**36,300**	**42,850**	**54,010**	**60,050**	**+76%**
Portion of total emissions	3%	3%	4%	5%	6%	+3%

* State modeling only provided emissions for commercial harbor craft and forklifts for the years shown, therefore percent change from 2005 to 2023 cannot be calculated.
All numbers are rounded to the nearest 10. Totals may not equal the sum of individual rows.

Agriculture

GHG emissions associated with agriculture in the unincorporated county comprised 5 percent of community-wide emissions in 2023. Agriculture emissions increased by approximately 48 percent between 2005 and 2023. This increase is primarily due to an increase in the amount of cattle in the county. Only data pertaining to cattle and crops were available for the inventory years shown in **Table 11**, so emissions from apiary products (like honey) or other types of livestock (chickens, goats, etc.) were not accounted for in these GHG inventories. Between 2005 and 2023, both crop acreages and the amount of nitrogen applied to crops decreased. In 2023, digestive processes of cattle (enteric fermentation) and manure management accounted for approximately 92% of agriculture-related GHG emissions in unincorporated areas, which is a typical proportion compared to past inventory years.

TABLE 11. AGRICULTURE ACTIVITY DATA AND GHG EMISSIONS BY SUBSECTOR, 2005-2023

Sector	2005	2013	2017	2019	2023	Percent Change 2005–2023
Activity Data						
Crops (acreage)	200,980	204,030	197,360	183,730	176,420	-12%
Nitrogen applied (pounds)	3,261,620	3,560,480	3,698,500	3,608,340	2,962,510	-9%
Livestock (annual population)	16,500	19,110	22,060	17,340	24,911	+51%
Emissions ($MTCO_2e$)						
Crops	3,920	4,280	4,450	4,340	3,561	-9%
Cattle enteric fermentation	28,510	33,920	39,160	30,790	44,221	+55%
Manure management	920	1,100	1,270	1,000	1,430	+55%
Total Annual $MTCO_2e$	**33,350**	**39,300**	**44,880**	**36,130**	**49,210**	**+48%**
Portion of total emissions	3%	3%	4%	4%	5%	+2%

All numbers are rounded to the nearest 10. Totals may not equal the sum of individual rows.

Water and Wastewater

Emissions associated with the water and wastewater sector represented less than 1 percent of community-wide emissions in 2023. Emissions in this sector are counted as indirect or direct emissions. Indirect water emissions refer to emissions created by the electricity required to treat and move water to where it is used. Indirect wastewater emissions refer to electricity needed to move wastewater to water treatment facilities, and to process and discharge it. Direct wastewater emissions refer to emissions produced directly by decomposing materials in wastewater.

GHG emissions from water and wastewater activity decreased 72 percent between 2005 and 2023. Community members used 36 percent less water in 2023 compared to 2005, despite population growth. Emissions associated with electricity used to move water and wastewater from one place to another, referred to as indirect emissions, declined by 99 percent from 2005 to 2023, as shown in **Figure 11**. This large decrease in indirect emissions is because electricity used to move water has been increasingly supplied by more renewable and carbon-free sources. Direct wastewater emissions did rise by approximately 199 percent from 2005 to 2023, but given that the amount of wastewater generated declined by 25 percent in this period, this is likely due to changes in modeling approaches and available data. The activity and emissions data for the unincorporated county are presented in **Table 12.**

FIGURE 11. WATER AND WASTEWATER PROPORTIONS OF GHG EMISSIONS BY SUBSECTOR, 2005-2023

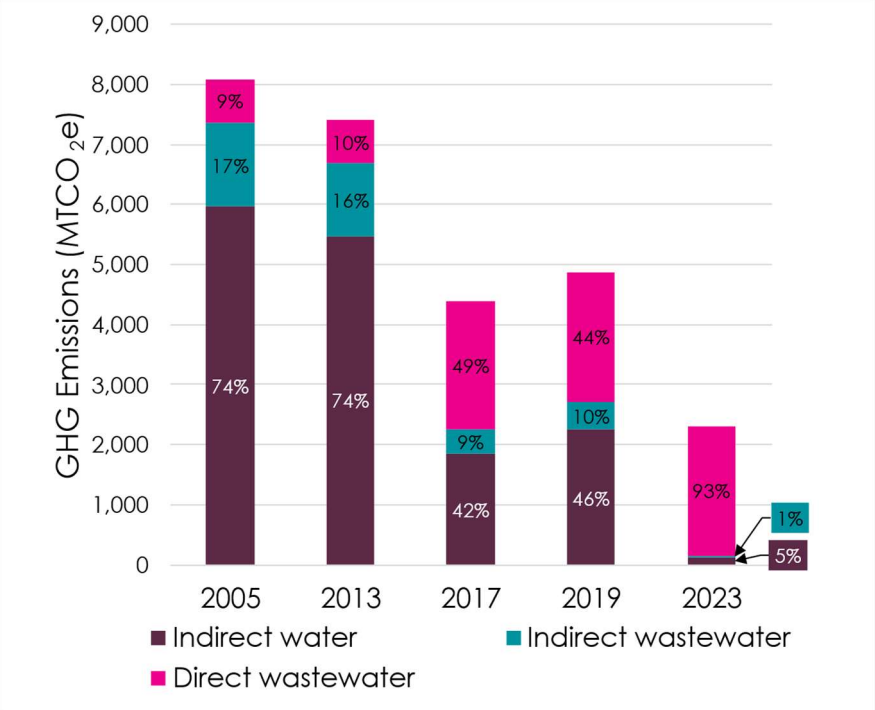


TABLE 12. WATER AND WASTEWATER ACTIVITY DATA AND GHG EMISSIONS BY SUBSECTOR, 2005-2023

Sector	2005	2013	2017	2019	2023	Percent Change 2005–2023
Activity Data (Tons)						
Water use (million gallons)	11,530	11,650	7,380	8,010	7,380	-36%
Water electricity use (kWh)	26,443,770	28,004,290	19,137,620	20,783,930	19,151,500	-28%
Wastewater generation (million gallons)	4,560	4,610	3,150	3,170	3,430	-25%
Wastewater electricity use (kWh)	6,199,120	6,198,590	4,268,050	4,295,780	4,659,764	-25%
Emissions ($MTCO_2e$)						
Indirect water	5,960	5,470	1,840	2,250	120	-98%
Indirect wastewater	1,400	1,210	410	470	30	-98%
Direct wastewater	720	720	2,150	2,150	2,140	199%
Total Annual $MTCO_2e$	**8,080**	**7,400**	**4,400**	**4,870**	**2,290**	**-72%**
Portion of total emissions	1%	1%	Less than 1%	Less than 1%	Less than 1%	-1%

All numbers are rounded to the nearest 10. Totals may not equal the sum of individual rows. Percentages are rounded to the nearest single digit.

BART

BART-related emissions accounted for less than 1 percent of overall community-wide emissions in 2023. GHG emissions associated with BART ridership in Contra Costa County decreased 72 percent between 2005 and 2023. This decline is attributable to shifts in BART's electricity portfolio toward renewable and carbon-free sources, as well as decreased ridership following the onset of the COVID-19 pandemic in 2020. BART ridership from community members in unincorporated Contra Costa County decreased 32 percent between 2005 and 2023, as shown in **Table 13** and **Figure 12**. In just one year from 2020 to 2021, BART ridership in Contra Costa County decreased by 78 percent. In 2023, BART ridership in Contra Costa only rebounded to around 50 percent of pre-pandemic levels. The decrease in BART ridership following the COVID-19 pandemic could be partially attributed to the increased adoption of remote work policies offered by employers and personal preference.

GHG emissions related to BART have also decreased partly due to BART's increased use of renewable and carbon-free sources of energy to power its operations. GHG emissions associated with one mile of travel for a passenger have decreased by 58 percent between 2005 and 2023. Notably, this emissions factor increased from 2023 to 2019. BART's 2023 Sustainability Report attributed this increase in emissions per passenger to increased market demand for renewables making it more difficult to purchase electricity from renewable sources, so electricity from unspecified sources was purchased instead.

The trends of county ridership and BART-related GHG emissions are shown in **Figure 12**.

FIGURE 12. BART GHG EMISSIONS AND RIDERSHIP, 2005-2023

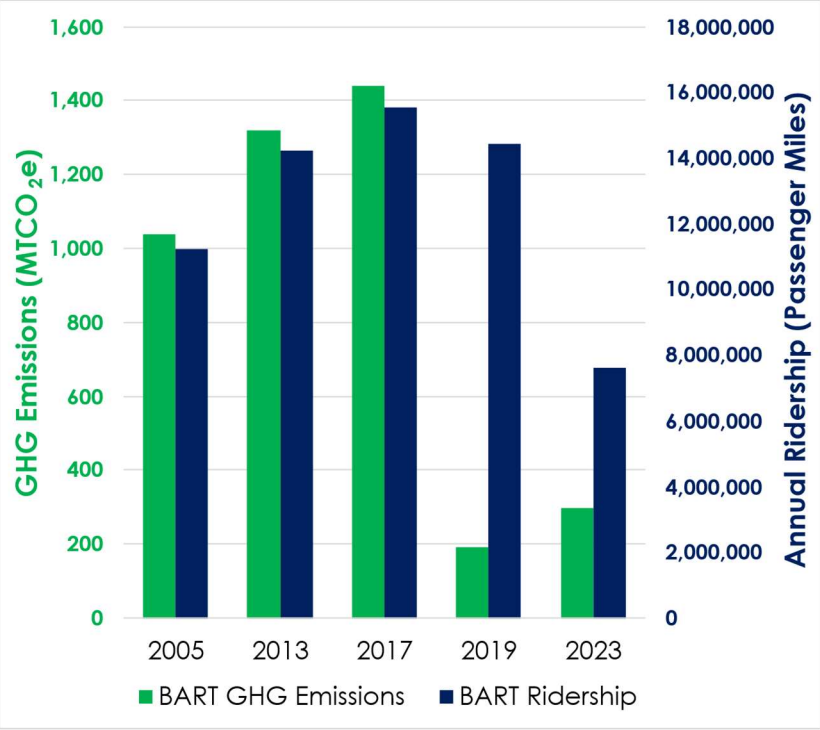


TABLE 13. BART ACTIVITY DATA AND GHG EMISSIONS BY SUBSECTOR, 2005-2023

Sector	2005	2013	2017	2019	2023	Percent Change, 2005–2023
Activity Data						
BART Ridership (passenger miles)	11,231,870	14,228,420	15,528,840	14,444,740	7,633,660	-32%
Emissions Factor						
BART Emissions Factor (kg CO_2e / passenger mile)	93	93	93	13	38	-58%
Emissions ($MTCO_2e$)						
Total Annual $MTCO_2e$	**1,040**	**1,320**	**1,440**	**190**	**300**	**-72%**
Portion of total emissions	Less than 1%	Less than 1%	Less than 1%	Less than 1%	Less than 1%	0%
All numbers greater than 100 are rounded to the nearest 10. Percentages are rounded to the nearest single digit.						

Land Use and Sequestration

In 2023, the land use and sequestration sector absorbed approximately 8 percent of overall community-wide emissions. GHG emissions from land use and sequestration can be either positive (a source of emissions) or negative (removing emissions from the atmosphere, creating what is known as an emissions "sink"). Natural lands and trees in urban areas absorb carbon, storing it in wood, plants, and soil. As a result, when natural land is preserved or when more trees are planted, emissions from this sector are negative because GHGs are being removed from the atmosphere. However, developing natural lands or converting them to a different form (for example, replacing forests with crop land) or removing street trees causes carbon to be released, creating GHG emissions.

This sector includes emission sources and sinks from three types of activities: sequestration of GHG emissions in locally controlled forested lands, sequestration of GHG emissions in street trees in urbanized unincorporated areas, and emissions caused by permanently removing vegetation from natural lands or farmlands as a part of development.

Emissions and sequestered amounts were assumed constant from 2005 to 2023 for all three activities. Between the preparation of the 2019 and 2023 inventories, a new fine-scale vegetation map[5] of Contra Costa and Alameda Counties was published in 2025, which presents the state of the landscape in 2020. The 2023 GHG inventory updated land use data for all previous inventory years with this new dataset. Acres of deciduous hardwood, eucalyptus, evergreen hardwood, forest, non-native forest, riparian forest, pine/cypress, and redwood/Douglas fir categories are totaled within unincorporated Contra Costa County as "forested land." This dataset was not used to update the acreage of urban trees.

The sequestration capabilities of locally controlled forests and urban trees were assumed to not have been changed by human activities during the inventory period. While there was some development activity that caused a loss of sequestered GHG emissions, records of when the development specifically occurred are not available, and so the GHG emissions have been assigned equally to all inventory years prior to 2023, hence the lack of changes. Forests sequestered 61,770 $MTCO_2e$ annually, while urban trees sequestered 12,750 $MTCO_2e$, for a total carbon sink of 74,520 $MTCO_2e$ for the unincorporated area, as shown in **Table 14**.

[5] East Bay Regional Park District, CAL FIRE, Tukman Geospatial LLC. 2025. "Alameda and Contra Costa County Fine Scale Vegetation Map." Map available at: <https://experience.arcgis.com/experience/0827ad50653b48b891ce891dc34620c4>

TABLE 14. LAND USE AND SEQUESTRATION ACTIVITY DATA AND GHG EMISSIONS BY SUBSECTOR, 2005-2023

Sector	2005	2013	2017	2019	2023	Percent Change 2005–2023
Activity Data (Tons)						
Acres of forested land	63,820	63,820	63,820	63,820	63,820	0%
Acres of urban trees	32,780	32,780	32,780	32,780	32,780	0%
Acres of land use changes	0	0	0	0	0	0%
Emissions ($MTCO_2e$)						
Forest sequestration	-61,770	-61,770	-61,770	-61,770	-61,770	0%
Street tree sequestration	-12,750	-12,750	-12,750	-12,750	-12,750	0%
Land use changes	0	0	0	0	0	0%
Total Annual $MTCO_2e$	**-74,520**	**-74,520**	**-74,520**	**-74,520**	**-74,520**	**0%**
Portion of total emissions	-5%	-5%	-6%	-7%	-8%	-3%

Note: Acres of forested land for all years were updated as part of the as new data became available from an updated vegetation map of Contra Costa County. This change in acreage of forested land was not attributed to land use changes, but rather a more accurate estimation of forested land in the county, so acres of land use changes were kept constant at zero acres for 2023.

All numbers are rounded to the nearest 10. Totals may not equal the sum of individual rows. Percentages are rounded to the nearest single digit.

Wildfire

Wildfires create GHG emissions by burning organic materials such as trees and plants, releasing the carbon sequestered in these materials. Larger fires and those that burn through forested areas, as opposed to less densely vegetated ecosystems, release more GHG emissions. The County reported wildfires in the unincorporated area in 2005, 2013, and 2019, but not in 2017 or 2023. The acreages and emissions of these fires for the unincorporated area are reported in **Table 15**. Although wildfire emissions and acreages were lower in 2019 than in 2005, wildfire activity varies widely from year to year and is generally expected to increase in future years due to climate change. Wildfire emissions are not calculated in the totals presented in this appendix and are for informational purposes only.

TABLE 15. WILDFIRE ACTIVITY DATA AND GHG EMISSIONS, 2005-2023

Sector	2005	2013	2017	2019	2023	Percent Change 2005–2023
Activity Data (Tons)						
Acres burned	2,070	6,320	0	1,830	0	-100%
Emissions ($MTCO_2e$)						
Total Annual $MTCO_2e$	14,270	66,080	0	10,100	0	-100%

2005 wildfires: Bragdon Fire, BNSF Fire, Byron Fire, Vasco Airport Fire, and an unnamed fire south of Antioch.
2013 wildfires: Kirker Fire and Morgan Fire.
2019 wildfires: Marsh 3 Fire, Marsh 5 Fire, Marsh 6 Fire.
All numbers are rounded to the nearest 10. Totals may not equal the sum of individual rows.

Stationary Sources

Stationary source emissions result from fuel use, such as natural gas or propane, at large industrial facilities. These facilities include refineries, power plants, factories, and similar installations. Natural gas use at these facilities may be included as part of the nonresidential natural gas use reported by PG&E. Emissions from these facilities are regulated by CARB and BAAD, not the County. Therefore, emissions from these facilities are not counted toward the unincorporated county's total GHG emissions.

Table 16 shows the emissions from stationary sources for the unincorporated area. This information is directly reported by CARB as total emissions. Activity data for stationary sources is not reported by CARB, which would include amounts of fuel burned at these facilities. In 2020, an oil refinery formerly known as Tesoro/Golden Eagle Refinery in the unincorporated county shut down operations and in the following years transitioned to producing renewable biofuels under the name Marathon Martinez Renewable Fuels. This closing of the Tesoro/Golden Eagle oil refinery was a major contributor to the stationary source emissions decrease from 2019 to 2023. Other industrial facilities, such as Phillips 66 in Rodeo,

TABLE 16. STATIONARY SOURCE GHG EMISSIONS, 2005-2023

Sector	2005	2013	2017	2019	2023	Percent Change 2005–2023
Emissions ($MTCO_2e$)						
Total Annual $MTCO_2e$	13,983,030	11,956,000	11,232,290	10,867,670	8,569,850	-39%
All numbers are rounded to the nearest 10. Totals may not equal the sum of individual rows.						

Direct Access Electricity

Direct access electricity data was not provided for the calendar year of 2023 due to data privacy reasons related to the CPUC's 15/15 Rule. See the Contra Costa County Climate Action and Adaptation Plan 2024 Update for information on the previous inventory's account of direct access electricity. Direct access electricity, supplied by an Energy Service Provider (ESP) to large nonresidential customers, is regulated by the CPUC. The identities of direct access customers and the specific ESPs from which they purchase electricity are not made available to the public. Given the County's limited ability to monitor and regulate the sale and use of direct access electricity, as well as historical inconsistences in how direct access electricity use is reported, direct access emissions have historically been reported for informational purposes only, when available.

Per-person GHG Emissions

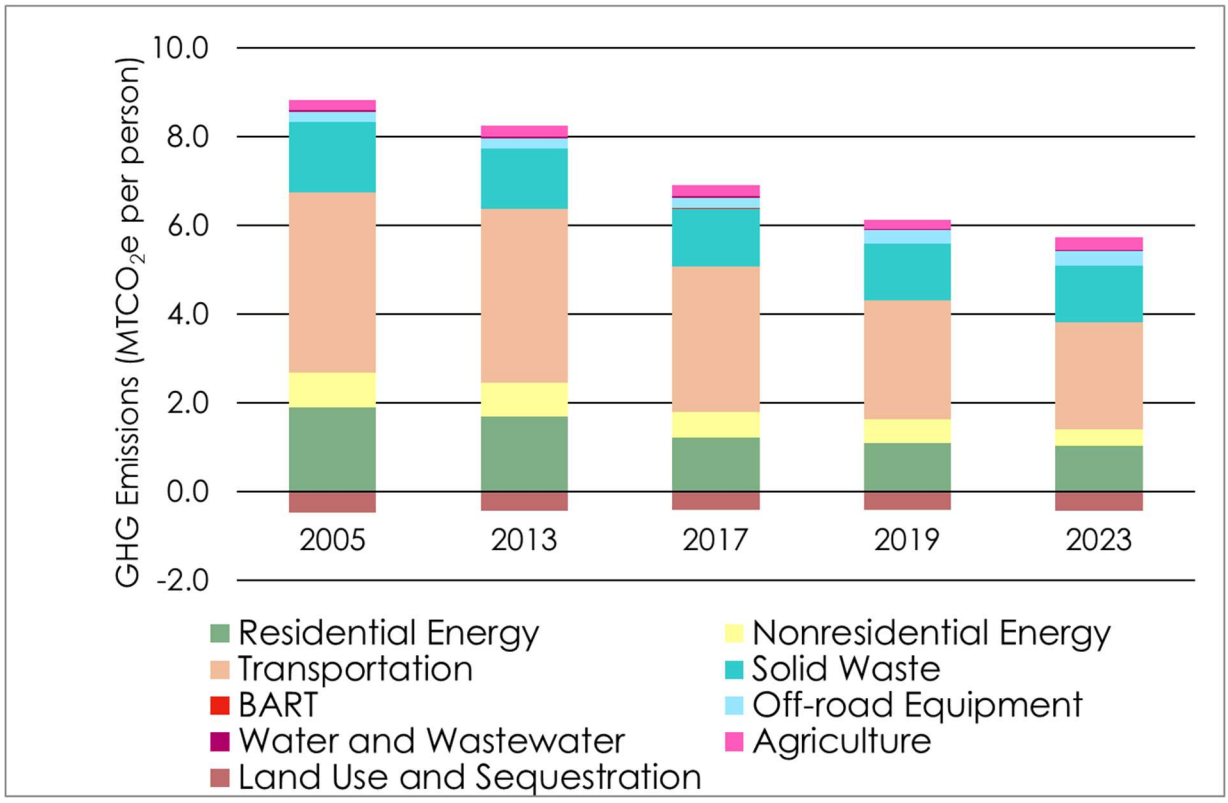
Along with the "absolute" GHG emission levels discussed previously, the per-person GHG emissions from the unincorporated county were assessed as well. Per-person GHG emissions were calculated by taking the absolute GHG emissions (shown earlier in **Table 3**) and dividing them by the number of residents in the unincorporated county for that inventory year. **Table 17** and **Figure 13** show the per-person emissions for the inventory years for the unincorporated county. Overall, per-person emissions declined 37 percent from 2005 to 2023. Most sectors saw per-person emissions decline. The two sectors that increased in per-person emissions, agriculture and off-road equipment, make up a relatively small portion of the overall emissions in the unincorporated county, as shown earlier in **Table 4**.

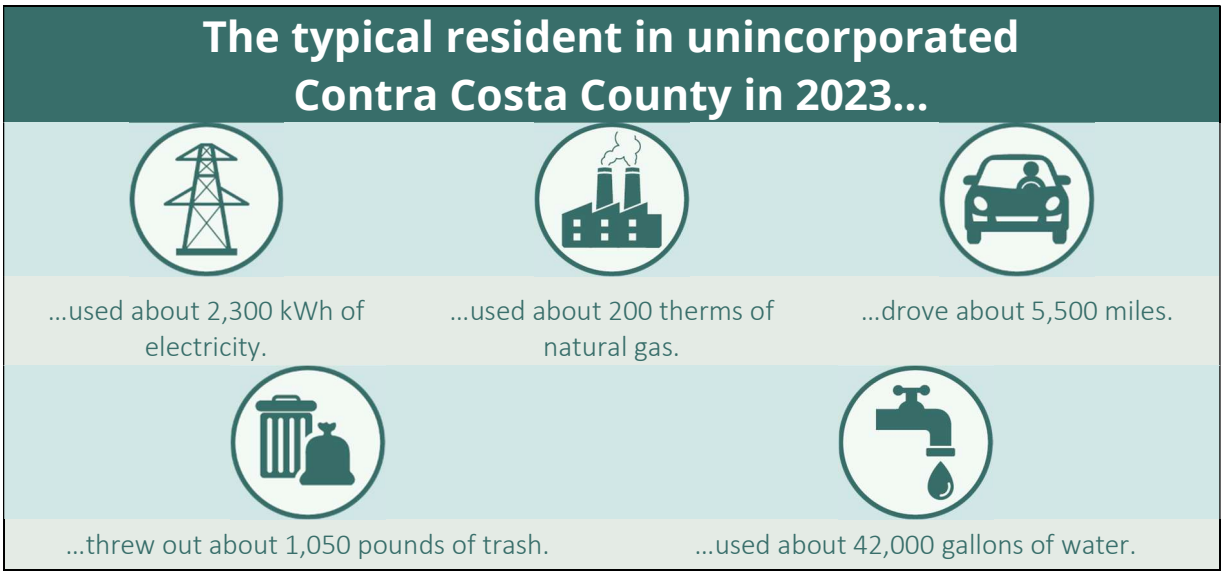
TABLE 17. PER-PERSON GHG EMISSIONS, 2005 TO 2023

Sector	2005	2013	2017	2019	2023	Percent Change 2005–2023
Population						
Residents	154,270	165,700	174,110	174,150	174,978	+13%
Emissions ($MTCO_2e$ per-person)						
Transportation	4.07	3.93	3.28	2.66	2.43	-40%
Energy - Residential	1.91	1.70	1.22	1.10	1.03	-46%
Energy - Nonresidential	0.77	0.76	0.58	0.54	0.37	-52%
Solid waste	1.58	1.36	1.29	1.28	1.26	-20%
Off-road equipment	0.22	0.22	0.25	0.31	0.34	+55%
Agriculture	0.22	0.24	0.26	0.21	0.28	+27%
Water and wastewater	0.05	0.04	0.03	0.03	0.01	-80%
BART	0.01	0.01	0.01	Less than 0.01	Less than 0.01	-83%
Land use and sequestration	-0.46	-0.43	-0.41	-0.41	-0.43	-7%
Total Annual $MTCO_2e$	**8.37**	**7.82**	**6.51**	**5.73**	**5.30**	**-37%**
Informational Items						
Stationary sources	90.64	72.15	64.51	62.40	48.98	-46%
Wildfire	0.09	0.40	0.00	0.06	0.00	N/A[1]
Direct access electricity	0.00	0.00	0.00	0.44	0.00	N/A[2]

Sector	2005	2013	2017	2019	2023	Percent Change 2005–2023
All numbers are rounded to the nearest 10. Totals may not equal the sum of individual rows. 1: Overall change between 2005 and 2023 is not calculated because of the high degree of year-to-year variability. 2: Overall change between 2005 and 2023 is not calculated because of limited availability of direct access electricity use data between 2005 and 2023.						

FIGURE 13. PER-PERSON ANNUAL GHG EMISSIONS BY SECTOR, 2005 TO 2023





COUNTY OPERATIONS INVENTORY

While GHG emissions from County government operations are a very small percentage of emissions countywide, it is important for the County to demonstrate in its day-to-day business its commitment to climate action.

General Methodology

CATEGORIES OF EMISSIONS ACTIVITIES

The County government operations emissions inventory assessed GHG emissions from the following 7 categories of activities, known as sectors.

- **Employee commute** includes GHG emissions created by County employees commuting to and from work, such as driving a car, taking public transit, walking, biking, etc.

- **Government fleet** includes GHG emissions created by the use of County fleet vehicles for County business, primarily from gasoline- or diesel-powered vehicles.

- **Buildings and facilities** includes GHG emissions attributed to the use of electricity and natural gas in County operated facilities.

- **Government-generated solid waste** includes the GHG emissions released from trash collected from County facilities that are taken to landfills.

- **Public lighting** includes GHG emissions attributed to the use of electricity for public lighting and traffic lights maintained by the County.

- **Refrigerants** includes GHG emissions from leaked refrigerants from County fleet vehicles, which often have a very high global warming potential when released into the atmosphere.

- **Water and wastewater** accounts for the electricity used to transport and process water and wastewater used or generated at County-run facilities, as well as direct emissions resulting from wastewater treatment activities.

County Operations Inventory Summary

Contra Costa County conducted government operations emissions inventories in 2006, 2017, and 2023. In 2006, County operations emissions totaled 54,090 $MTCO_2e$ for the sectors reported in this inventory. In 2023, County operations emissions had decreased to 35,410 $MTCO_2e$, a 35 percent decrease in emissions despite a 33 percent increase in the number of County employees from 2006 to 2023. One of the most significant factors contributing to GHG emissions reductions for County operations from 2006 to 2023 was the shift in the sourcing of electricity in the county to almost entirely renewable sources.

Table 18 and **Figure 14** show the Contra Costa County government operations GHG emissions results of the three inventory years of 2006, 2017, and 2023. Some emissions results from the 2017 inventory (refrigerants, water/wastewater usage, and electricity usage) have been updated along with the publishing of the 2023 inventory results. The sectors that experienced the largest decrease in government operations GHG emissions between 2006 and 2023 were public lighting (99 percent), government fleet vehicles (64 percent), buildings and facilities (62 percent), and solid waste (58 percent). The sectors of refrigerants and water/wastewater were not included in the 2006 inventory but were included in the 2017 and 2023 inventories. Employee commute-related emissions only increased 3 percent from 2006 to 2023 despite a 33 percent increase in number of County employees.

Total County operations GHG emissions **decreased 35 percent** from 2006 to 2023, despite a 33 percent increase in number of County employees.

From 2017 to 2023, sectors of government operation-related emissions that decreased significantly were public lighting (99 percent), water/wastewater (88 percent), and buildings/facilities (43 percent). The decrease in each of these sectors can be mainly attributed to a significant increase in cleaner electricity provided by renewable energy sources rather than coal or gas-generated electricity. The County also switched from electricity provided by PG&E to electricity provided by MCE, which has more renewable energy content in its base plan power mix compared to PG&E. The GHG emissions associated with one kilowatt-hour (kWh) of electricity used by the County decreased 98 percent from 96 grams of CO_2e/kWh in 2017 to 1.8 grams of CO_2e/kWh in 2023.

Employee commute-related emissions have comprised the majority of the County operations GHG emissions in every inventory year and have increased 3 percent from 2006 to 2023. GHG emissions from escaped refrigerants have also increased from 2017 to 2023 due to an operational shift in how refrigerant is issued for fleet vehicles, but refrigerant emissions make up less than 1 percent of the overall $MTCO_2e$ emissions.

TABLE 18. COUNTY OPERATIONS GHG EMISSIONS SUMMARY, 2006 TO 2023

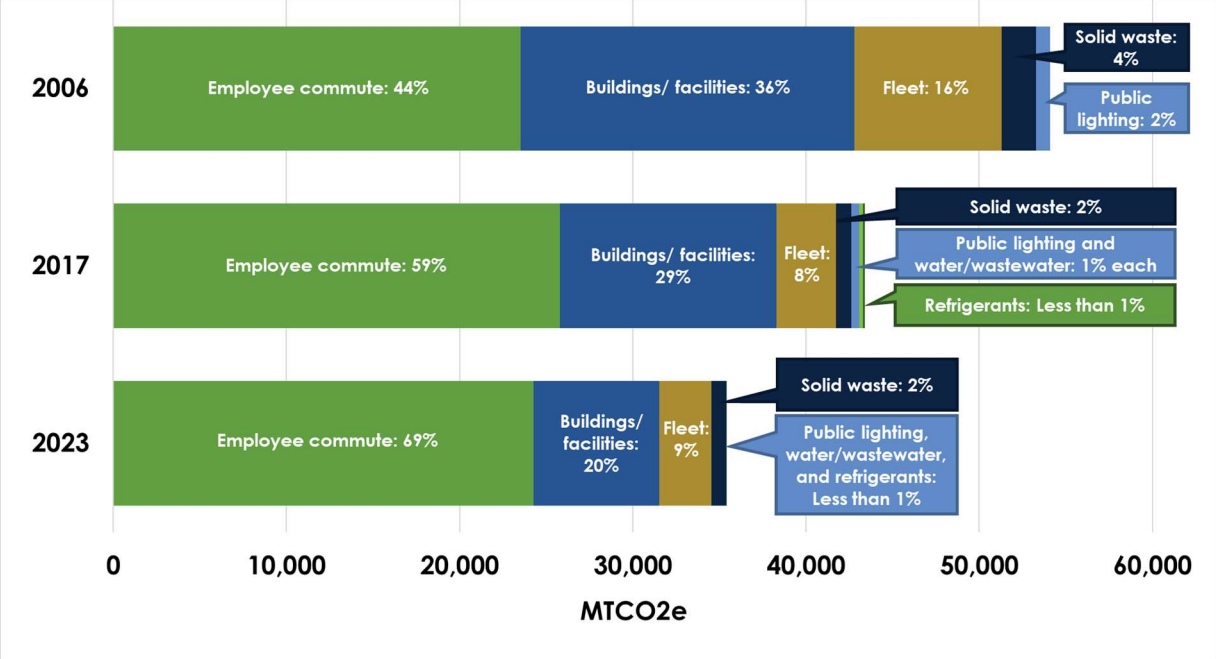
Sector	2006	2017	2023	Percent Change 2006–2023
Employee commute	23,530	25,800	24,280	+3%
Buildings and facilities	19,260	12,500	7,250	-62%
Government fleet	8,500	3,430	3,020	-64%
Government-generated solid waste	1,980	900	840	-58%
Water and wastewater	Not included	220	30	-88%*
Public lighting	830	440	4	-99%
Refrigerants	Not included	1.2	1.6	+33%*
Total Annual $MTCO_2e$	**54,090**	**43,380**	**35,410**	**-35%**

Note: The estimated number of County employees increased 33% from 2006 to 2023.

*Refrigerants and water/wastewater sectors were not included in the 2006 inventory, so the percent change value shown is calculated from 2017 to 2023.

Numbers greater than 10 are rounded to the nearest 10. Numbers less than 10 are rounded to the nearest single digit. Totals may not equal the sum of individual rows.

FIGURE 14. COUNTY OPERATIONS ANNUAL GHG EMISSIONS BY SECTOR, 2006 TO 2023



The proportions of each GHG emissions sector compared to the total GHG emissions for each inventory year are presented in **Figure 14** and **Table 19**. The employee commute sector has consistently been the largest source of GHG emissions related to County operations, accounting for 69 percent of total County operations GHG emissions in 2023. County buildings and facilities are the second-largest source of emissions, comprising 20

percent of County operations emissions in 2023. Fuel usage by County fleet vehicles is the third largest emissions source, comprising 9 percent of emissions in 2023. Smaller emissions sectors of government-generated solid waste, water and wastewater treatment, refrigerants, and public lighting combined made up less than 3 percent of the County's emissions in 2023.

TABLE 19. SECTOR PORTIONS OF GHG EMISSIONS FOR COUNTY OPERATIONS, 2006 TO 2023

SECTOR	2006	2017	2023
Employee commute	44%	59%	69%
Buildings and facilities	36%	29%	20%
Government fleet	16%	8%	9%
Government-generated solid waste	4%	2%	2%
Water and wastewater	Not included	1%	Less than 1%
Public lighting	2%	1%	Less than 1%
Refrigerants	Not included	Less than 1%	Less than 1%
Total Annual $MTCO_2e$	**100%**	**100%**	**100%**

All percentages are rounded to the nearest single digit. Totals may not equal the sum of individual rows.

Emissions by Sector

Employee Commute

Employee commute-related emissions made up the largest sector of County operations GHG emissions in 2023 by far, at 69 percent of total emissions. Although employees' personal commute is not under the direct operational control of the County, there are a variety of tools and resources available to influence employees' commute patterns. For this reason, emissions are included in this inventory. Employee commute accounted for in the emissions inventory includes travel via personal vehicles, carpool, biking, walking, and public transit.

Employees **working from home, carpooling, and driving electric vehicles** in 2023 prevented enough emissions to equal taking **1,630 gas-powered cars off the road for one year.**

In 2025, an employee commute survey was conducted to provide a sample of commute patterns and modes of transportation that County employees use to get to/from work. The survey was completed by 2,338 employees across 25 County departments, which is over 20% of the total number of County employees. The GHG emissions calculated from the survey responses were then scaled up to represent the emissions for all County employees in 2023. Notably, approximately 97 percent of commute-related GHG emissions came from employees driving alone in a gasoline-powered car in 2023. **Table 20** shows the employee commute-related emissions across the County operations GHG emissions inventory years of 2006, 2017, and 2023.

TABLE 20. EMPLOYEE COMMUTE ANNUAL GHG EMISSIONS, 2006 TO 2023

Activity/Source	2006	2017	2023	Percent Change 2006–2023
Total employee commute emissions ($MTCO_2e$)	**23,530**	**25,800**	**24,280**	**+3%**
Growth in number of County employees (from previous inventory)	Baseline	+19% (2006 to 2017)	+12% (2017 to 2023)	+33% (2006 to 2023)
Per-employee commute emissions ($MTCO_2e$/employee)	2.79	2.57	2.16	-22%
Portion of total County operations GHG emissions	44%	59%	69%	+25%

Percentages are rounded to the nearest single digit. Emissions results are rounded to the nearest 10. Totals may not equal the sum of individual rows.

In 2023, County employees' commute to work contributed to 24,280 $MTCO_2e$. This was a 3 percent increase in GHG emissions from the 23,530 $MTCO_2e$ reported in 2006 and a slight reduction from the 25,800 $MTCO_2e$ reported in 2017. The County's number of employees grew by approximately 33 percent from 2006 to 2023. However, the per-employee commute-related emissions value decreased by 22 percent from 2006 to 2023. Factors that contributed to the decrease in per-employee commute-related emissions over this time were increased usage of electric vehicles; increased vehicle fuel efficiency; and the implementation of more work-from-home options for eligible employees at County facilities. It is estimated that 7,480 $MTCO_2e$ in commute-related emissions were avoided in 2023 (a 24 percent reduction) due to employees working from home, carpooling, and driving electric vehicles. Electricity used to charge electric cars was counted as part of the community-wide GHG inventory. See **Table 21** for a summary of 2023 County employee commute activity data and GHG emissions.

TABLE 21. 2023 EMPLOYEE COMMUTE ACTIVITY DATA AND GHG EMISSIONS

Activity/Source	Activity Data	Units	GHG Emissions ($MTCO_2E$)	Percent of Emissions
Driving alone (gas, diesel, and gas hybrid)	71,988,390	Vehicle miles	23,650	97%
Driving alone (electric)	8,818,520	Vehicle miles	0	0%
Carpool (gas, diesel, and gas hybrid)	1,049,890	Passenger miles	350	1%
Carpool (electric)	133,630	Passenger miles	0	0%
Public transit (BART, bus, ferry, and Amtrak)	1,711,200	Passenger miles	260	1%
Motorcycle	59,320	Vehicle miles	13	Less than 1%
Active transportation (walk, bike, scooter)	234,280	Miles	0	0%
Total	**83,995,230**	**Miles**	**24,280**	**100%**
Informational Items: Estimated Emissions Reductions				
Emissions avoided by working from home*	12,271,850	Vehicle miles	-4,050	-13%
Emissions avoided by driving electric vehicles*	8,952,150	Vehicle miles	-2,960	-9%
Emissions avoided by carpooling*	1,423,470	Vehicle miles	-470	-2%
Total miles and emissions avoided	**22,647,470**	**Vehicle miles**	**-7,480**	**-24%**

All numbers greater than 100 are rounded to the nearest 10. Percentages were rounded to the nearest single digit. Totals may not equal the sum of individual rows.
* Emissions reduction estimates assumed that employees would have been commuting to work by driving alone in a gasoline-powered car.

Buildings and Facilities

The buildings and facilities sector represented 20 percent of County operations emissions in 2023. This sector includes electricity and natural gas use at County-owned and operated buildings and facilities. Emissions from this sector totaled 7,250 $MTCO_2e$ in 2023, a 62 percent decrease from the 19,030 $MTCO_2e$ of emissions reported in 2006. Notably, emissions from electricity use decreased by 99 percent from 6,200 $MTCO_2e$ in 2017 to just 64 $MTCO_2e$ in 2023. This means that natural gas usage comprised over 99 percent of GHG emissions from energy use at County buildings and facilities in 2023. **Table 22** shows the energy usage and associated GHG emissions of electricity and natural gas usage at County buildings and facilities during the three inventory years.

TABLE 22. BUILDINGS AND FACILITIES ENERGY USAGE AND EMISSIONS, 2006 TO 2023

Activity/Source	2006	2017	2023	Percent Change 2006–2023
Activity Data				
Natural gas usage (therms)	N/A	1,183,830	1,352,620	+14% (2017 to 2023)
Electricity usage (kWh)	N/A	41,964,520	35,128,420	-16% (2017 to 2023)
Emissions Data				
Natural gas use emissions ($MTCO_2e$)	11,360	6,300	7,180	-37%
Electricity use emissions ($MTCO_2e$)	7,670	6,200	64	-99%
Total ($MTCO_2e$)	**19,030**	**12,500**	**7,250**	**-62%**
Portion of total County operations GHG emissions	35%	29%	20%	-15%

Percentages are rounded to the nearest single digit. Values greater than 100 are rounded to the nearest 10. Totals may not equal the sum of individual rows.

Between 2017 and 2023, emissions related to electricity usage dropped by 98 percent. This decrease is attributed to a significant decrease of 97 percent in the $MTCO_2e$ emissions per unit of electricity usage because electricity provided in the county was sourced from more renewable sources and is rapidly approaching zero-emissions. The County also switched energy providers from PG&E to MCE between 2017 and 2023. MCE offered a base plan energy mix in 2023 that had approximately three times less GHG emissions associated with electricity usage than PG&E's base plan energy mix. During this time, some County electricity accounts were opted into MCE's Deep Green electricity tier, which provides electricity from 100% renewable sources. Natural gas emissions in 2023 were slightly increased from 2017, but still 37 percent less than natural gas emissions reported in 2006.

Government (County) Fleet

Contra Costa's vehicle fleet emissions totaled 3,020 $MTCO_2e$ in 2023(see **Table 23**), which represented 9 percent of County operations emissions. This was a 64 percent decrease from 2006's 8,500 $MTCO_2e$ of emissions for fleet operations. The vehicles and equipment used in the County's daily operations burn unleaded gasoline, diesel, compressed natural gas, and E85, which contribute to GHG emissions. As of 2025, the County has also begun incorporating electric vehicles into the County fleet to phase out GHG-emitting vehicles used for County operations.

TABLE 23. GOVERNMENT FLEET VEHICLE EMISSIONS, 2006 TO 2023

Activity/Source	2006	2017	2023	Percent Change 2006–2023
Fuel consumption (gallons)	N/A	387,530	356,010	-8% (2017 to 2023)
Total fleet emissions ($MTCO_2e$)	**8,500**	**3,430**	**3,020**	**-64%**
Portion of total County operations GHG emissions	16%	8%	9%	-7%

Percentages are rounded to the nearest single digit. Emissions results are rounded to the nearest 10. Totals may not equal the sum of individual rows.

Table 24 shows the County fleet vehicles' fuel usage data and associated emissions in 2023. Approximately 95 percent of County fleet GHG emissions in 2023 were from driving gasoline-powered vehicles.

TABLE 24. 2023 GOVERNMENT FLEET VEHICLE ACTIVITY DATA

Type of Fuel	Gallons Used	Emissions ($MTCO_2E$)	Percent of Emissions
Unleaded gasoline	344,890	2,880	95%
Diesel	10,200	130	4%
Compressed natural gas	870	7	Less than 1%
E-85 (gasoline-ethanol blend)	50	0.4	Less than 1%
Total	**356,010**	**3,020**	**100%**

Percentages are rounded to the nearest single digit. Values greater than 10 are rounded to the nearest 10. Totals may not equal the sum of individual rows.

Solid Waste

The solid waste sector represented 2 percent of County operations emissions in 2023. County operations generate solid waste during normal activity, much of which is eventually taken to landfills. Emissions from this sector are estimates of methane generation that will result in future years from the waste that was sent to landfills in the inventory year. As shown in **Table 25**, solid waste generated by County employees was estimated to total 840 $MTCO_2e$ in the year of 2023, a 58 percent decreased from 2006. It should be noted that the solid waste going to landfills is not directly measured from County facilities, therefore making the amount of solid waste generated by County operations difficult to track. The 2023 estimate for GHG emissions from government-generated solid waste assumed that solid waste generated by the County had the same year-to-year trend as overall county waste data from the county's community-wide inventory, which used solid waste data from CalRecycle. In other words, the same percent change (a 7 percent decrease) in unincorporated county solid waste generation from 2017 to 2023 was applied to County government-generated solid waste over the same timeframe to estimate 2023 County operations solid waste generation.

TABLE 25. COUNTY OPERATIONS SOLID WASTE EMISSIONS, 2006 TO 2023

Sector	2006	2017	2023	Percent Change 2006–2023
Total government-generated solid waste emissions ($MTCO_2e$)	**1,980**	**900**	**840**	**-58%**
Portion of total County operations GHG emissions	4%	2%	2%	-2%

Percentages are rounded to the nearest single digit. Emissions results are rounded to the nearest 10. Totals may not equal the sum of individual rows.

Public Lighting

Emissions from the energy use of public lighting owned by the County, such as streetlights, totaled 4 $MTCO_2e$ in 2023, less than 1 percent of overall County operations emissions. This was a 99 percent decrease from the 830 $MTCO_2e$ emitted in 2006. This decrease, like all other decreases in emissions related to electricity usage, was due to the sourcing of electricity from almost entirely renewable sources. **Table 26** shows the activity data and emissions from public lighting usage across the inventory years.

TABLE 26. PUBLIC LIGHTING USAGE AND EMISSIONS, 2006 TO 2023

Activity/Source	2006	2017	2023	Percent Change 2006–2023
Public lighting electricity usage (kWh)	N/A	2,390,140	2,130,340	-11% (2017-2023)
Emissions ($MTCO_2e$)	**830**	**440**	**4**	**-99%**
Portion of total County operations GHG emissions	1.53%	1.01%	0.01%	-1.52%
Values greater than 10 are rounded to the nearest 10. Totals may not equal the sum of individual rows.				

Water and Wastewater

The water and wastewater sector comprised less than 1 percent of County operations emissions in 2023. This sector includes the emissions from the electricity needed to move and process the water used and the wastewater generated by County government facilities (indirect water and wastewater), along with direct emissions caused by the processing of County-generated wastewater. Lack of reliable data for water usage in 2017 made it difficult to explain the 29 percent decrease from 2017 to 2023. A high margin of error may be present with the 2017 data, but the team was more confident with the accuracy of 2023 water usage data. Water use and wastewater generation at County facilities generated a total of 25 $MTCO_2e$ in 2023, an 89 percent decrease from 2017, shown in **Table 27**. The water and wastewater sector was not included in the 2006 baseline inventory.

TABLE 27. WATER AND WASTEWATER USAGE AND EMISSIONS, 2006 TO 2023

Activity/Source	2006	2017	2023	Percent Change 2017–2023
Activity Data				
Water usage (gallons)	Not included	206,305,440	146,131,280	-29%
Wastewater generation (gallons)	Not included	94,412,860	67,220,390	-29%
Emissions				
Indirect water emissions ($MTCO_2e$)	Not included	178	2	-99%
Indirect wastewater emissions ($MTCO_2e$)	Not included	23	0.5	-98%
Direct wastewater emissions ($MTCO_2e$)	Not included	22	24	+9%
Total emissions ($MTCO_2e$)	**Not included**	**223**	**25**	**-89%**

Activity/Source	2006	2017	2023	Percent Change 2017–2023
Portion of total County operations GHG emissions	Not included	0.51%	0.07%	-0.44%
Percent change is rounded to the nearest single digit. Values greater than 10 are rounded to the nearest 10. Totals may not equal the sum of individual rows.				

Refrigerants

Escaped refrigerants comprised less than 1 percent of County operations emissions in 2023. Vehicles with air conditioning use refrigerants that can leak from the air conditioning system during normal operations or maintenance. These refrigerants are often GHGs that trap a very large amount of heat per unit of gas, known as gases with a very high global warming potential. Refrigerant recharge data and subsequent GHG emissions from the 2017 inventory were updated after reviewing and verifying the 2017 data.

Refrigerant emissions contributed to 1.6 $MTCO_2e$ in 2023. This is an increase from the 1.2 $MTCO_2e$ emitted in 2017 because of one large refrigerant recharge in 2023 issued to the machine that refills refrigerant in fleet vehicles' air conditioning systems. Between 2017 and 2023, the County changed the internal process for tracking issued refrigerant. As of 2025, the refrigerant recharged is tracked by refilling the air conditioning machine that cycles and refills vehicles' refrigerant during service operations. The 44 ounces of refrigerant reported for 2023 was calculated by assuming the 88-ounce recharge to the machine in 2023 would last approximately 2 years, because the machine had not been refilled again as of July 2025. Emissions from refrigerants accounted for less than 1 percent of the overall County operations GHG emissions for 2023, as shown in **Table 28**.

TABLE 28. REFRIGERANT USAGE AND EMISSIONS, 2006 TO 2023

Activity/Source	2006	2017	2023	Percent Change 2017–2023
Activity Data				
Refrigerant used (ounces of R-134a)	Not included	33	44	+33%
Emissions				
Refrigerant emissions ($MTCO_2e$)	Not included	**1.2**	**1.6**	**+33%**
Portion of total County operations GHG emissions	Not included	0.003%	0.005%	+0.002%
Percent change is rounded to the nearest single digit. Values greater than 10 are rounded to the nearest 10. Totals may not equal the sum of individual rows.				

APPENDIX

Protocols

A series of guidance documents, called protocols, provide recommendations on how to adequately assess GHG emissions. The project team prepared the new GHG inventories and updates to past GHG inventories consistent with the guidance in widely adopted, standard protocol documents. These protocols provide guidance on what activities should be evaluated in the GHG inventories and how emissions from those activities should be assessed. Using standard methods also allows for an easy comparison of GHG emission levels across multiple years and communities.

- The County operations GHG inventory relies on the Local Government Operations Protocol (LGOP), which was first developed in 2008 and was updated in 2010. The LGOP is a tool for accounting and reporting GHG emissions of local government (municipal) operations and is used throughout California and the United States. The LGOP includes guidance from several existing programs as well as the state's mandatory GHG reporting regulations.
- The community-wide GHG inventory uses the United States Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions (U.S. Community Protocol), which was first developed in 2012 and updated most recently in 2019. The California Governor's Office of Planning and Research encourages cities and counties in California to follow the U.S. Community Protocol for community-wide GHG emissions.
- A third protocol, the Global Protocol for Community-Scale Greenhouse Gas Inventories (Global Protocol) was first developed in 2014 and is intended for use in preparing international community-scale GHG inventories. It is largely consistent with the U.S. Community Protocol, although it contains additional guidance and resources to support a wider range of activities that may be found in other countries. The project team has used the Global Protocol to assess GHG emissions from sources that are not covered in the U.S. Community Protocol.

GHG inventories are estimates of GHG emissions based on these standard methods and verified datasets. While they are not direct measurements of GHG emissions, the use of the standard methods identified in the protocols, in combination with accurate data from appropriate sources, allows GHG inventories to provide reliable estimates of local emission levels. Due to potential data limitations, some inconsistencies in methods may remain. Any concerns about inconsistent methods are noted in the appropriate sector discussion.

Community-Wide Inventory Data Collection Methods

TABLE 29. 2023 COMMUNITY-WIDE INVENTORY DATA COLLECTION METHODS

GHG Emissions Source	Collection Methods
Residential, Commercial, and Industrial Electricity and Natural Gas Use	• Obtain usage data for unincorporated county from PG&E, as three sector totals. • Electricity usage in kWh was multiplied by the carbon emissions factor (using correct units) for each electricity service provider (MCE or PG&E) from each provider's Power Content Label reported to the California Energy Commission. • Carbon emissions factor for natural gas usage was 11.7 lbs CO_2e/therm, provided by PG&E. Natural gas usage was multiplied by this emissions factor to yield GHG emissions.
Nonresidential Natural Gas Usage	• This would typically be included in the PG&E data mentioned above, however, it has not been provided for the unincorporated county since 2013 due to the California Public Utilities Commission's 15/15 Rule for customer data privacy. • Annual nonresidential natural gas usage data is available for the entirety of the county from the California Energy Commission, so the unincorporated county nonresidential natural gas usage for 2023 was estimated by starting at the known 2013 usage and applying the same annual percent change each year as the overall county nonresidential natural gas usage from the CEC.
Alternative Home Heating Fuels	• Overall county data and statewide data of the number of households powered by alternative home heating fuels (propane gas, kerosene, coal or coke, wood, etc.) was obtained from the U.S. Census Bureau's House Heating Fuel Survey 5-Year Estimate Table B25040. • Number of households in the unincorporated county using each fuel type was calculated by taking the overall county data and subtracting the data for all incorporated cities. • Statewide data from the U.S. Energy Information Administration's State Energy Data System was utilized to obtain the annual statewide usage of propane, kerosene, wood, and distillate fuel oil for home heating.

GHG Emissions Source	Collection Methods
	• The average usage of each fuel type per household that is heated by that fuel type was calculated by taking the overall statewide usage for each fuel type divided by overall statewide household numbers for each fuel type. • Unincorporated county home heating fuel usage for each fuel type was calculated by multiplying the statewide average of usage of each fuel type per household using that fuel type times the number of unincorporated county households using that fuel type.
Transportation	• Total daily vehicle miles traveled (DVMT) data derived from Contra Costa County's 2023 data from the CARB's EMFAC2025 V2.0.0 model for on-road transportation. The EMFAC model outputs the DVMT for each type of vehicle, so overall county DVMT is calculated by summing the DVMT from each vehicle type. In the 2019 inventory, the DVMT for the unincorporated county was calculated by multiplying the overall county DVMT by 12.5%, so this same method was used for the 2023 inventory.
Solid Waste	• Total waste tonnage and total alternative daily cover were obtained from CalRecycle's Report 1: Overall Jurisdiction Tons for Disposal and Disposal Related Uses data tool. The quarterly sum for 2023 for the jurisdiction of "Contra Costa – Unincorporated" was input to retrieve data. • The statewide 2021 Disposal-Facility-Based Characterization of Solid Waste in California from CalRecycle was the most updated study as of July 2025. The waste characterization study data was used to calculate the weighted average of GHG emissions per ton of waste generated. This allowed the tons of waste produced in the unincorporated county to be multiplied by the GHG emissions per ton of waste generated factor to yield the GHG emissions associated with solid waste generated in the unincorporated county • Waste in place data was updated from the previous inventory by importing new annual amounts of waste deposited at the Keller Canyon and Acme landfills for the years 2020-2023 from CalRecycle's Report 3: Disposal Facility Summary of Total Tons For Disposal and Beneficial Reuse Material Streams. • Waste in place emissions were calculated using the county's own customized version of the California Air Resources Board's Landfill Tool, which calculates

GHG Emissions Source	Collection Methods
	annual emissions from tons of waste in place and alternative daily covered applied at the three landfills in the county: Acme Landfill, Keller Canyon Lanfill, and West Contra Costa Landfill (now out of service).
Water and Wastewater	• Annual water usage for unincorporated county customers was provided by East Bay Municipal Utility District (EBMUD) and Contra Costa Water District (CCWD), the two largest suppliers of water in the county. • Wastewater generated in gallons was calculated using the amount of water supplied multiplied by the ratio of average amount of water in CA used indoors divided by the sum of water used indoors and outdoors. • Indirect emissions for both water and wastewater were calculated by using studied electricity usage coefficients of average amount of electricity needed to move a specific amount of water for EBMUD and CCWD, multiplied by the emissions coefficient from MCE ($MTCO_2e$/kWh), assuming the electricity was provided by the Light Green electricity tier. • Direct emissions from wastewater treatment were calculated by parsing out the types of wastewater treatment used in the county: activated sludge, advanced, and advanced with nitrification. Specific calculations were used to calculate emissions from digesters, lagoons, systems with or without nitrification, and septic tanks.
BART	• BART ridership for the month of April 2023 was obtained from BART's Ridership Reports. April has been chosen in past GHG inventories as a representative month for average ridership to project to the entire year. • Entries/exits at each BART station in Contra Costa were summed in the same manner as previous inventories to determine the average monthly passenger miles in the county. • BART's 2023 Sustainability Report provided information on total annual vehicle revenue miles (VRM), total passenger miles, total energy use per VRM, and total GHG emissions per 1000 VRM. These values were used to compute the emissions per passenger mile. • Knowing both annual passenger miles in the county and BART's emissions factor of $MTCO_2e$ emissions per

GHG Emissions Source	Collection Methods
	passenger mile, the two values were multiplied to yield BART-related GHG emissions.
Off-Road Equipment	• CARB's Off-Road Emissions Inventory, using the EMFAC2025 v2.0.0 model, was queried to obtain off-road equipment data for the entirety of the county. • Each equipment type's CO_2/day, CH_4/day, and N_2O/day were summed for the county. $MTCO_2e$/year were calculated for each equipment type. Emissions at this point were calculated for the overall county, both incorporated and unincorporated areas. • To calculate emissions for unincorporated areas, the emissions per year for each equipment type were allocated by varying methods, such as acres of agricultural land, acres of industrial land, service population, and jobs. This methodology is consistent with the 2019 GHG inventory. • For example, agricultural equipment emissions for the unincorporated county were allocated by multiplying the emissions for the overall county by the ratio of agricultural acres in unincorporated areas to the agricultural acres in the overall county.
Agriculture	• Crop and livestock data were obtained from Dept. of Agriculture / Weights & Measures in the annual Crop and Economic Report. • Crop acreage was summed for each crop type, and an emissions coefficient associated with average amounts of nitrogen applied were used to calculate crop-related emissions. Equipment-related emissions were accounted for in the "Off-road equipment" sector, not in this one. • Livestock population for each type of livestock were summed, but only cattle were accounted for in this inventory. Emissions related to manure management and enteric fermentation were calculated from the number of cattle present in the county.
Land Use and Sequestration	• Previously, the acres of each type of land use were assumed constant for all GHG inventories prior to 2023. The Alameda and Contra Costa Fine Scale Vegetation Map was published in 2025 by the East Bay Regional Park District (EBRPD), so County staff analyzed this dataset to update the acres of trees in the unincorporated areas of the county. • The GIS team at Dept. of Conservation and Development analyzed the 2025 EBRPD dataset and calculated the acres of different types of trees

GHG Emissions Source	Collection Methods
	present in unincorporated areas of Contra Costa county. • The same methodology of previous GHG inventories was used to calculate the metric tons of carbon sequestered by different types of trees (urban trees, deciduous, and evergreen) in the unincorporated county.
Wildfire	• CalFire's Historical Fire Perimeters database was utilized to search for both controlled burns and wildfires that occurred within the unincorporated county for the inventory year. Acres of fires were summed up for four ecosystem types (forest, shrubland, woodland, and grassland) and emissions were calculated using emissions coefficients for each ecosystem type.
Stationary Sources	• Emissions from large industrial sources were obtained from CARB's Pollution Mapping Tool, which displays the location of every facility that is required to report emissions to CARB and their reported annual $MTCO_2e$ emissions. These emissions were summed only for facilities that exist in the unincorporated areas of the county.
Direct Access Electricity	• Historically, direct access electricity has been provided alongside the residential and nonresidential electricity usage data from PG&E. For 2023, PG&E did not provide direct access electricity usage for data privacy reasons (the 15/15 Rule established by the California Public Utilities Commission's Decision No. 97-10-031).

County Operations Inventory Data Collection Methods

TABLE 30. 2023 COUNTY OPERATIONS INVENTORY DATA COLLECTION METHODS

GHG Emissions Source	Collection Methods
Employee Commute	• Employee commute survey of 2,338 employees conducted in 2025 by the Dept. of Conservation & Development and 511 Contra Costa. This survey collected information on modes of transit that employees take to get to work, how often they commute to work or work from home, and the distance they must travel in their commute. Survey results were used to calculate the annual GHG emissions associated with each survey response. Annual emissions were then summed within each transportation mode category (driving alone in a gas car, taking BART, etc.). Each mode's emissions were then multiplied by a scaling factor to estimate the entire County's employee commute results. • The factors of GHG emissions per vehicle mile traveled were obtained using Contra Costa County's 2023 data from the CARB's EMFAC2025 V2.0.0 model for on-road transportation. These emissions factors include those for vehicles classified as plug-in hybrid, diesel, gasoline, and bus. The emissions factors for BART and Amtrak were obtained from the BART 2023 Sustainability Report and Amtrak 2023 Sustainability Report, respectively. • Employment data (to scale survey sample results to all employees) was obtained from the County Administrator's Office. Specifically, the number of filled, regular positions on July 1 of the inventory year was used as the total number of County employees.
Buildings and Facilities	• Usage data for all County accounts from PG&E. • Obtain list from MCE of County accounts receiving electricity and their tier of service (Light Green, Deep Green, etc.). • Match County accounts with their electricity tier for MCE. All accounts apply toward buildings and facilities, expect those with rate codes that contain "LS", which are street lights that are accounted for in the Public Lighting sector. • Use MCE's Power Content Label (available from the California Energy Commission website) to assign the

GHG Emissions Source	Collection Methods
	proper emissions factor for each calculation of GHG emissions for each County facility account.
Government Fleet Vehicles	• Fuel consumption data for all fleet vehicles, parsed out by fuel type, from the Public Works Dept. Fleet Maintenance Manager. • Obtain the emissions factors for each fuel type from Contra Costa County's 2023 data from the CARB's EMFAC2025 V2.0.0 model for on-road transportation. Multiply the gallons of each fuel used by the correct emission factor to obtain GHG emissions for each fuel type.
Solid Waste	• Solid waste from County facilities is not weighed, so this sector is estimated. Apply the same year-to-year percent change from unincorporated county solid waste emissions to County operations solid waste emissions over the same timeframe of the last GHG inventory to the current GHG inventory. This appears to be how the 2017 County operations solid waste generation number was calculated, so the same methodology was used for the 2023 inventory.
Public Lighting	• Usage data in kWh for all County accounts provided by PG&E. • Repeat same steps listed above for Buildings and Facilities, but only using accounts with rate codes that begin with "LS" to signify street lighting.
Water and Wastewater	• For water usage, obtain data for all County accounts from Finance team in Public Works Dept. • Sum usage in gallons (and convert CCF to gallons, if necessary) for all County accounts. • Wastewater was calculated using the same methodology as the community-wide inventory, using the water usage data as a starting point.
Refrigerants	• Sum ounces of refrigerant provided in log of refrigerant Inventory Issue Journal obtained from the Public Works Dept. Fleet Maintenance Manager. • In 2023, a large dispersal of 88 ounces of refrigerant was logged, which was dispensed to the machine in the maintenance shop that refills the refrigerant in vehicles' air conditioning systems. Because the 88 ounces of refrigerant will likely last for multiple years before the machine needs to be refilled again, the team decided to conservatively estimate that the 88 ounces will last two years. This assumption led the team to estimate that 44 ounces of refrigerant escaped from vehicles in 2023.

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2023 Contra Costa County Greenhouse Gas Emissions Inventory Update

Prepared by:
Blake McPherson
Sustainability Fellow / Student Intern
Dept. of Conservation and Development

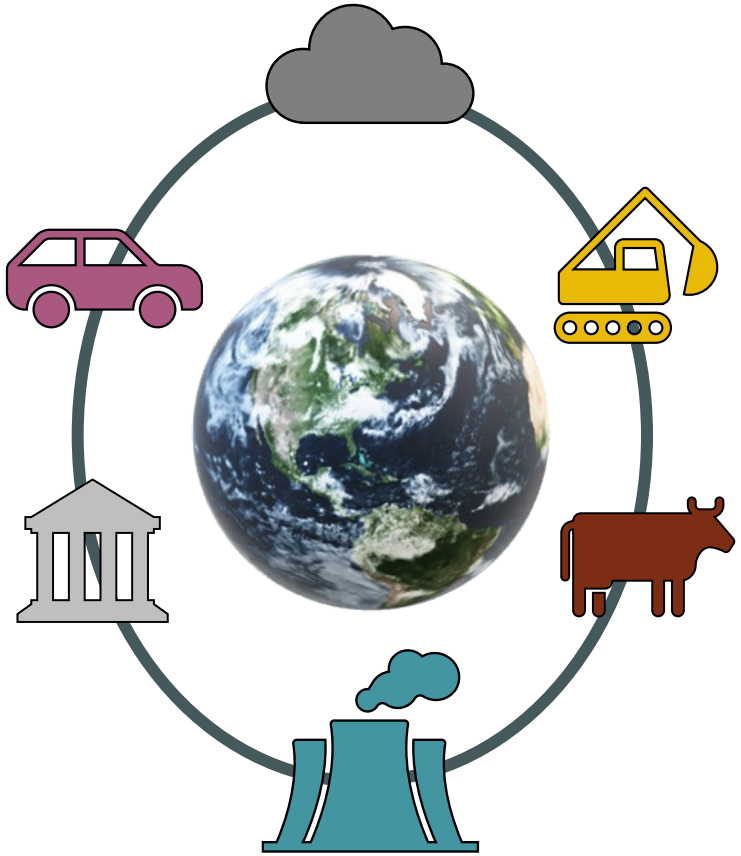
Photo credit: Adam Scarbrough

Agenda

- Greenhouse Gas Inventory Purpose
- Types of GHG Inventories
- Key Points from 2023 Inventories
- Community-Wide Inventory Results
- County Operations Inventory Results

Greenhouse Gas (GHG) Inventory Purpose

- GHGs, such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), emitted from human activity trap more heat in the atmosphere and contribute to:
  - Rising surface temperatures; adverse health effects; more unstable weather events; and climate change.
- In 2024, Contra Costa County adopted the Climate Action and Adaptation Plan 2024 Update (CAAP), which aims to reduce GHG emissions in the County with equitable solutions.
- CAAP directs staff to conduct GHG emissions inventory at least every 5 years



Types of GHG Inventories Conducted

Community-Wide Inventory

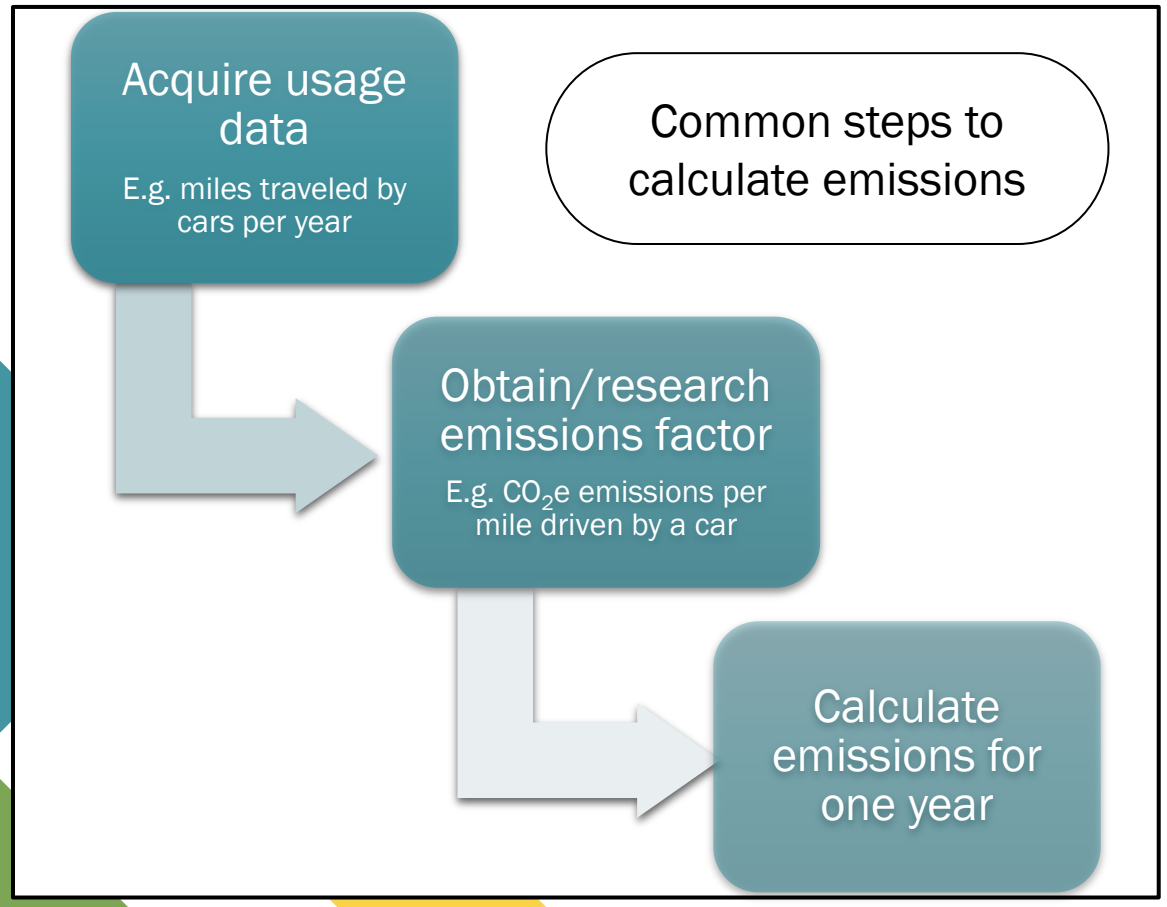
- Identifies GHG emissions from the activities of **unincorporated** Contra Costa County residents, employees, visitors, and other community members.

County Operations Inventory

- Identifies GHG emissions that are a direct result of Contra Costa County's **government operations**.

What goes into GHG emissions inventories?

- GHG inventories are conducted in accordance with *U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions*, published by ICLEI in 2019
- Data is compiled from many sources, like local and state organizations, and emissions are calculated by converting usage to emissions via an emissions factor



Sector	Data Source
Transportation	Vehicle miles traveled & emissions factors from California Air Resources Board (CARB)
Energy	PG&E-provided electricity and natural gas usage
Solid waste	Tons of waste reported by CalRecycle
Water and wastewater	Gallons of water usage from water utility companies
Off-road equipment	Direct emissions reported by CARB
Agriculture	Acres of crops & number of cattle from Contra Costa County Annual Ag Report

Key Points from Both Inventories

Community-Wide Inventory

- Emissions from the largest sectors, **transportation** and **energy consumed in buildings,** continue to decrease
- Emissions from **off-road equipment** and **agriculture** are increasing but are small portions of overall total
- **Solid waste** emissions come primarily from waste in place at landfills, and are projected to be largest emissions source in 2045 if all CAAP goals are met

County Operations Inventory

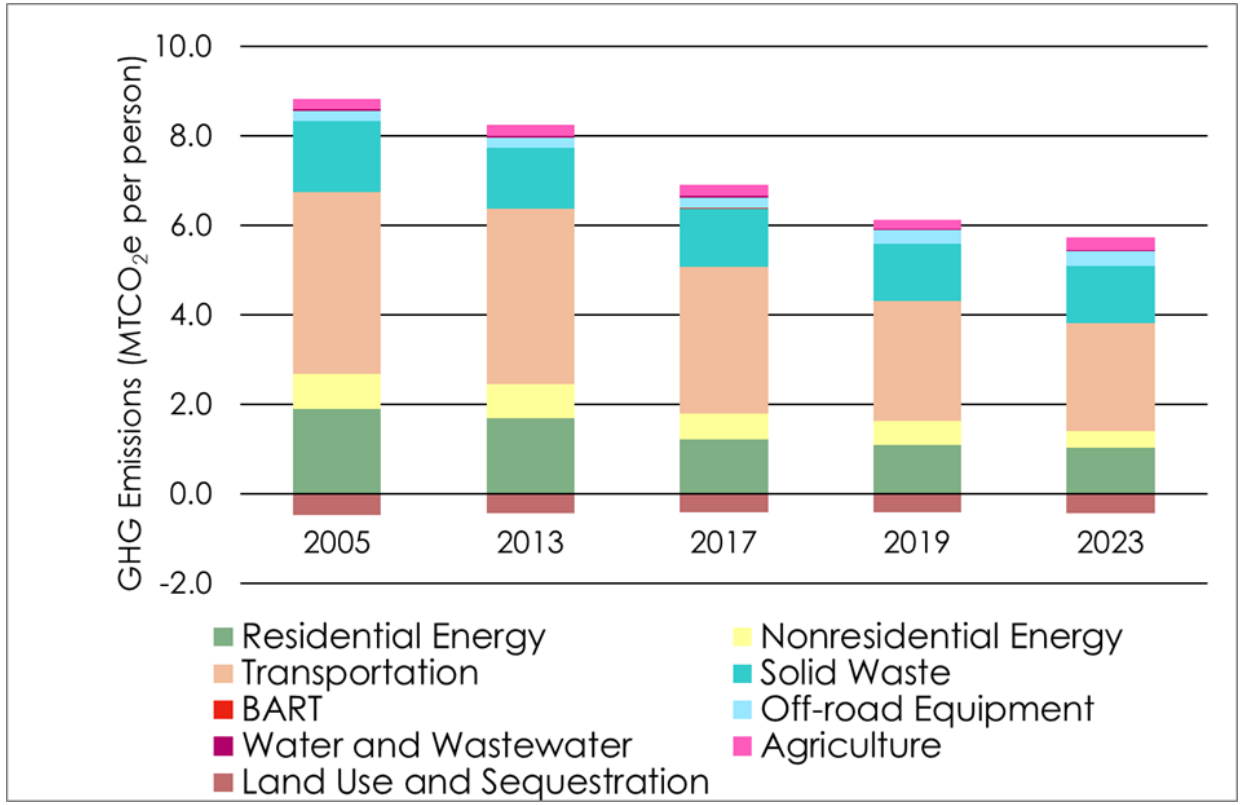
- **Energy use in buildings/facilities** sector continues to decline in emissions
- **Employee commute** accounts for almost 70% of emissions and remains near-constant
  - Remote work and EVs help reduce emissions

For both inventories, electricity is rapidly approaching zero-emissions.

Community-Wide Inventory Results

Community-Wide Inventory Summary
Per-Person Emissions

Emissions per resident **decreased 37%** from 2005 to 2023, despite a 13% increase in population

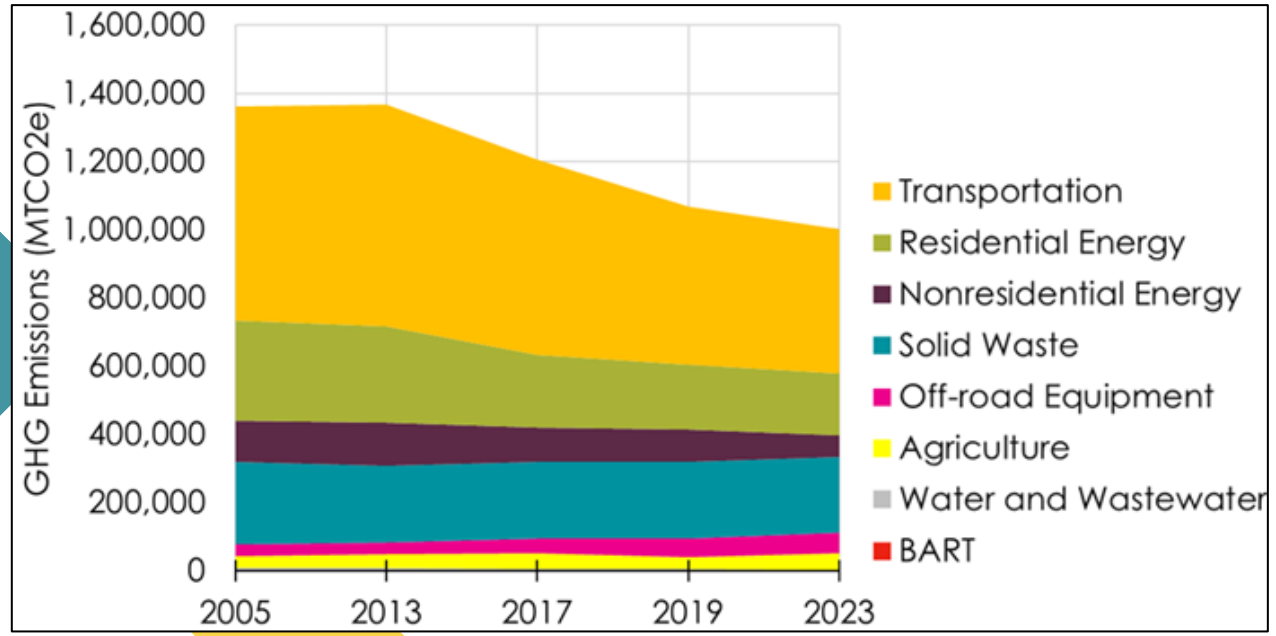


	2005	2013	2017	2019	2023	Percent Change, 2005 to 2023
Emissions per-person ($MTCO_2e$/person)	8.37	7.82	6.51	5.73	5.30	**-37%**
Unincorporated area population	154,270	165,700	174,110	174,150	174,980	**+13%**

Community-Wide Inventory Summary

- 28% decrease in unincorporated county emissions from 2005 to 2023

$MTCO_2e$ = metric tons of CO_2 equivalence

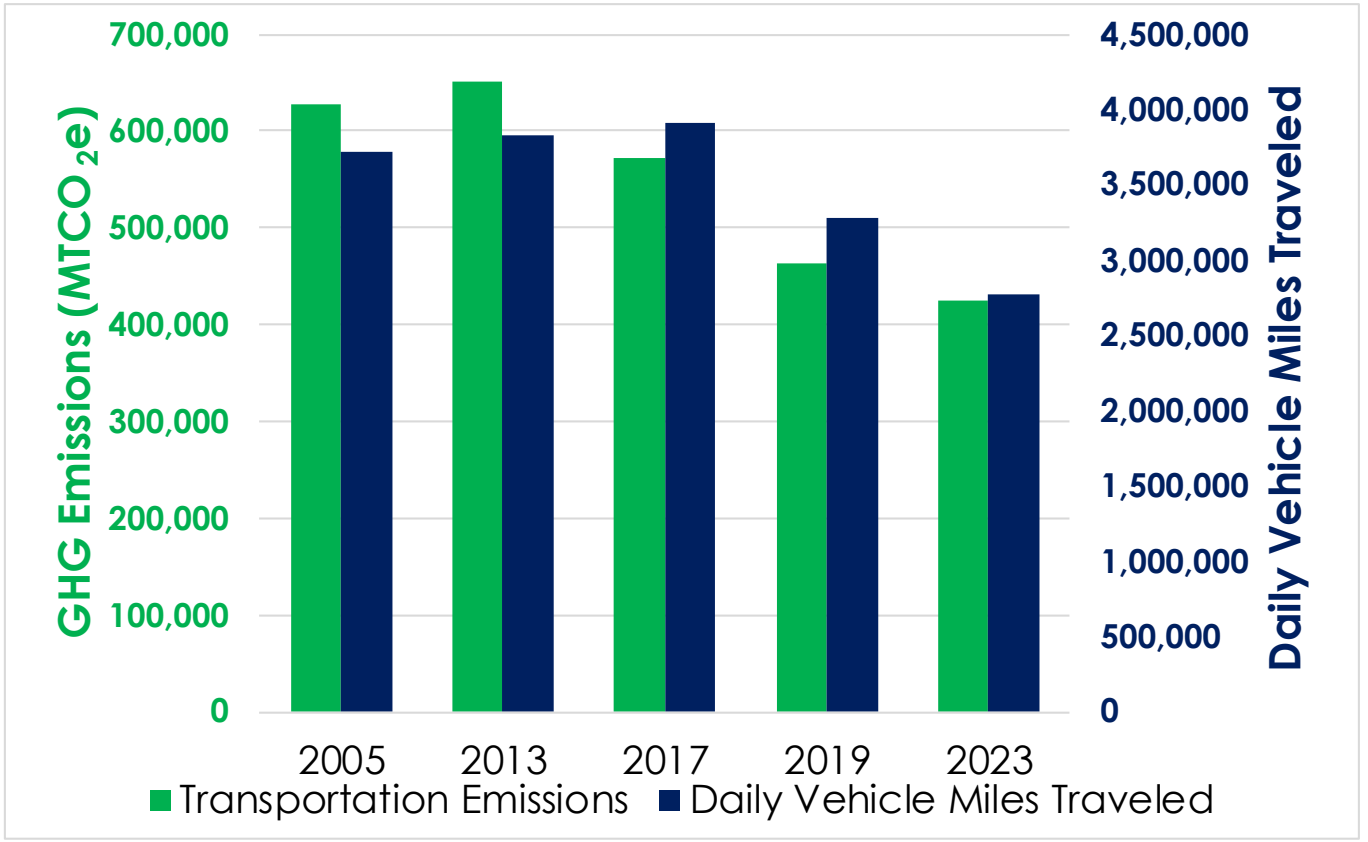


Sector	2023 Emissions ($MTCO_2e$)	Percent of Total
Transportation	425,060	46%
Residential energy	180,590	19%
Nonresidential energy	64,160	7%
Solid waste	220,920	24%
Off-road equipment	60,050	6%
Agriculture	49,210	5%
Water and wastewater	2,290	< 1%
BART	300	< 1%
Land use and sequestration	-74,520	-8%
Total	**928,060**	**100%**

Energy = 26%

Community-Wide Inventory Summary
Transportation – 46% of emissions

- Largest sector of emissions in 2023
- Emissions decreased because:
  - Decrease in daily vehicle miles traveled (VMT)
  - Increased adoption of electric vehicles



VMT Source: California Air Resources Board. "On-Road (EMFAC) – Mobile Source Emissions Inventory." 2025. Retrieved from: <https://ww2.arb.ca.gov/our-work/programs/msei/on-road-emfac>

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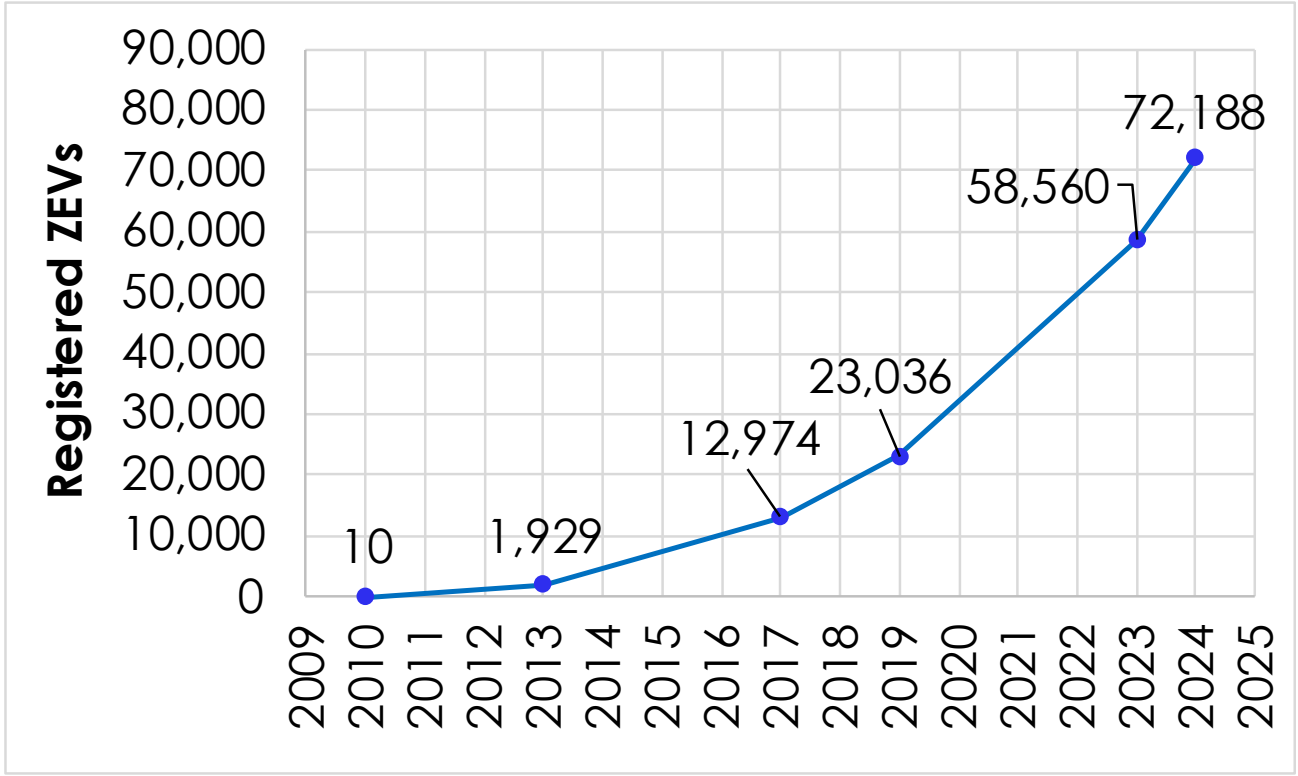

Source: California Energy Commission (2025). Light-Duty Vehicle Population in California. Data last updated May 16, 2025. Retrieved from <https://www.energy.ca.gov/zevstats>

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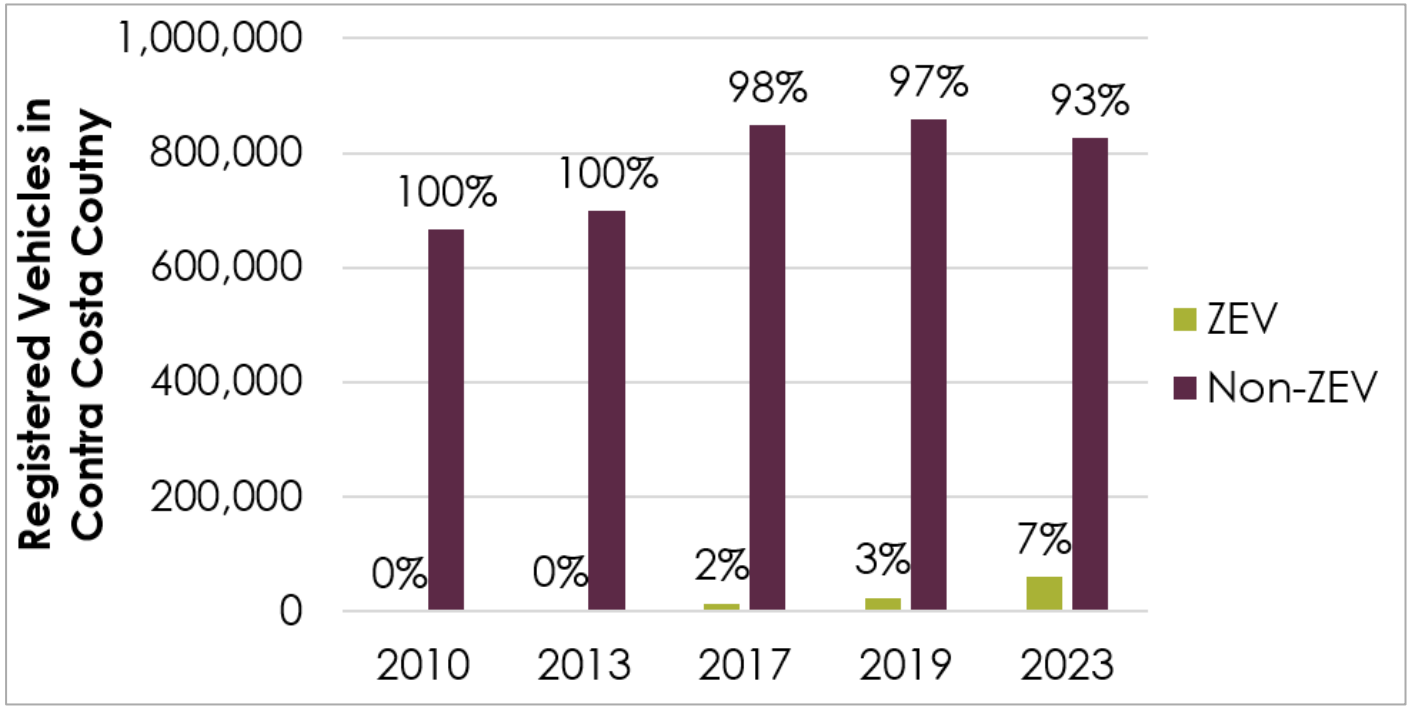
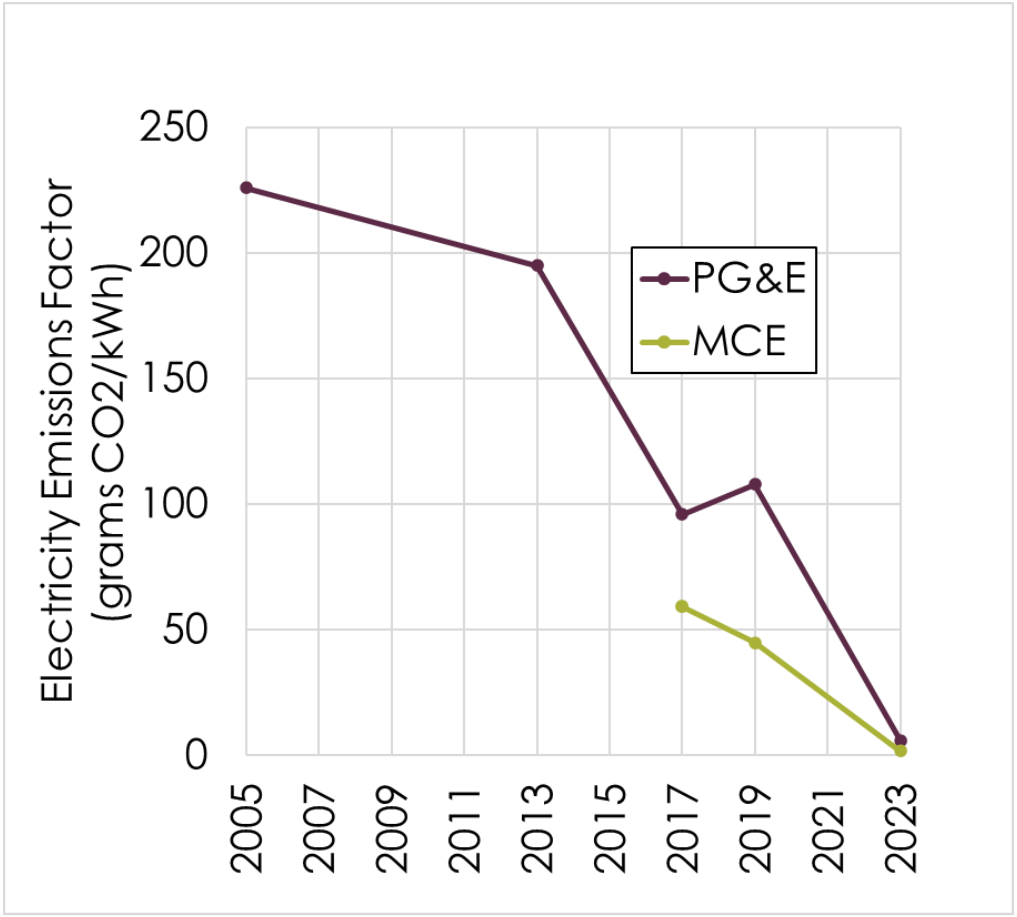


Source: California Energy Commission (2025). Light-Duty Vehicle Population in California. Data last updated May 16, 2025. Retrieved from <https://www.energy.ca.gov/zevstats>

Community-Wide Inventory Summary
Energy – 26% of emissions

- Emissions related to electricity consumption **decreased by 97%** from 2005 to 2023



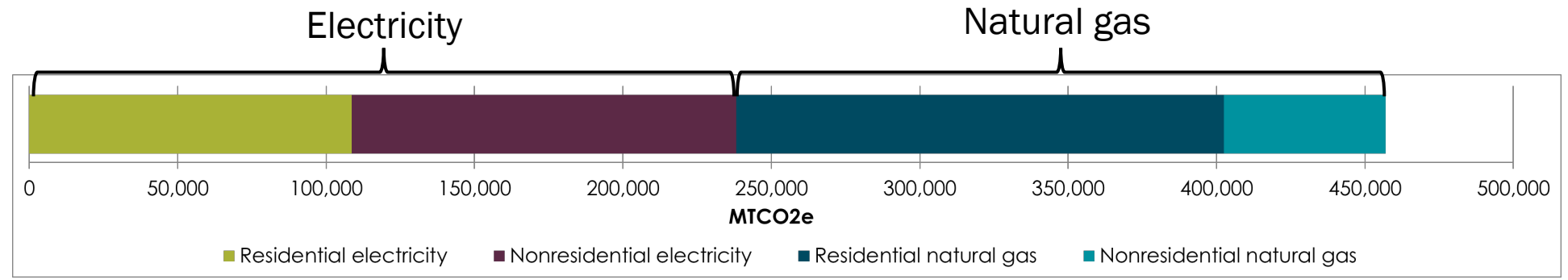
High emissions

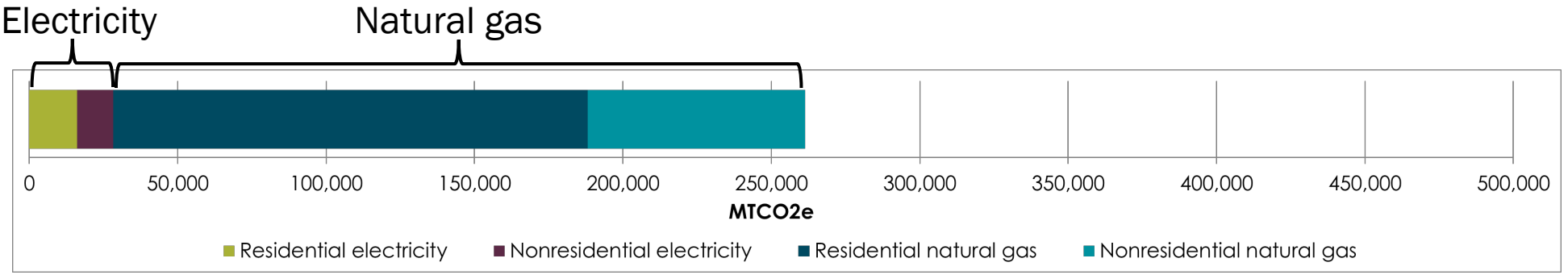
Low emissions

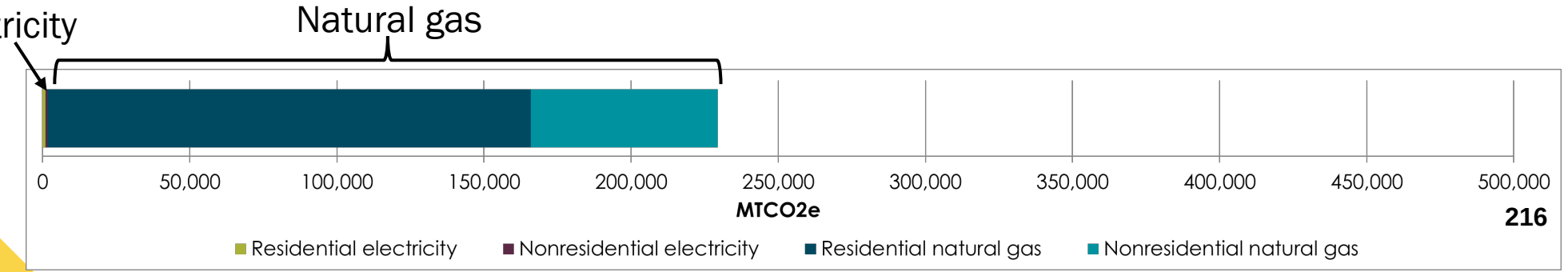
Source: California Energy Commission (2024). "Annual Power Content Labels for 2023." Retrieved from <https://www.energy.ca.gov/programs-and-topics/programs/power-source-disclosure-program/power-content-label>

Community-Wide Inventory Summary
Energy – 26% of emissions

Energy-related emissions shifted from ~50% electricity and ~50% natural gas in 2005 to almost entirely (~99%) natural gas in 2023



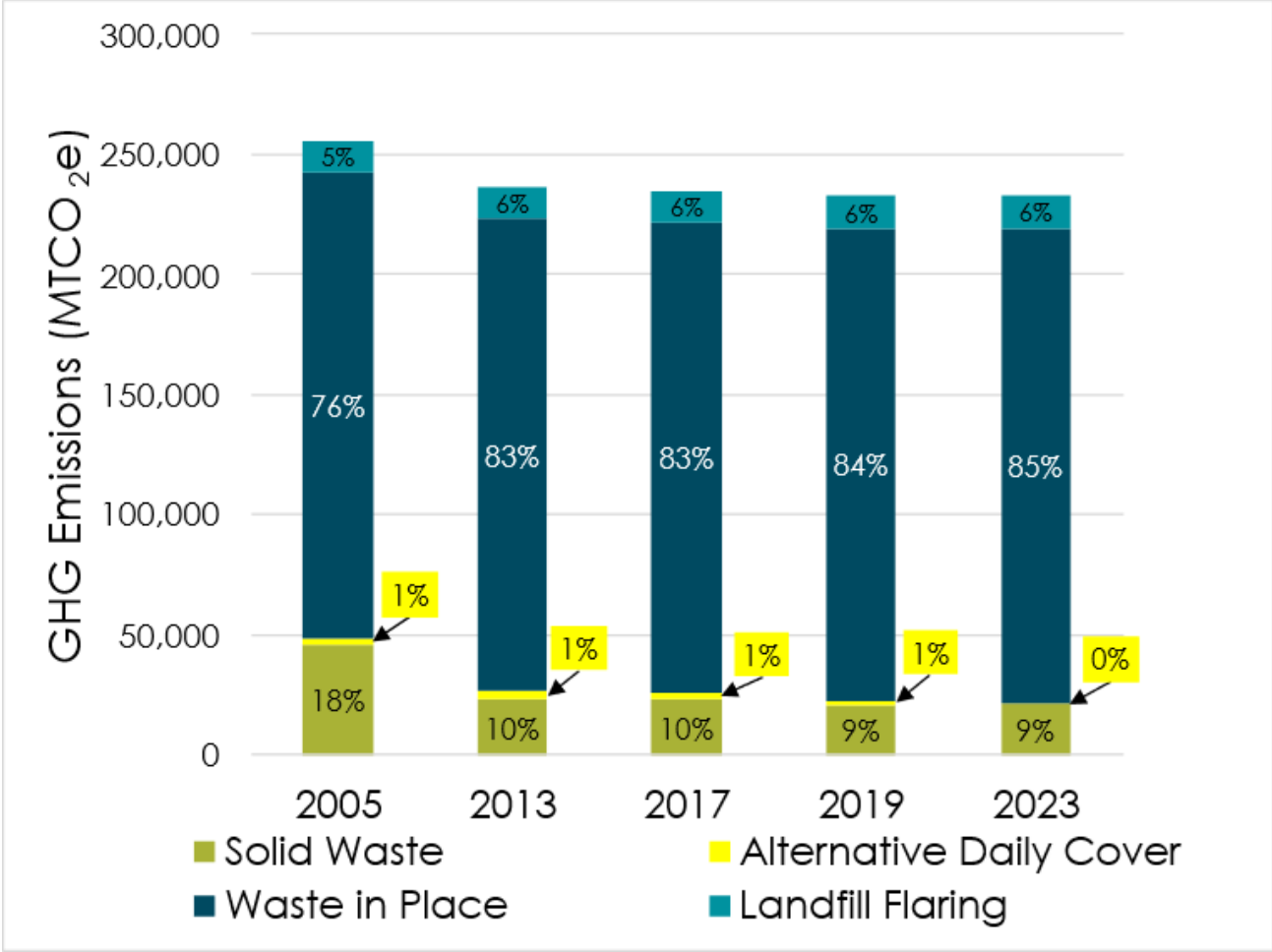




Community-Wide Inventory Summary
Solid Waste – 24% of emissions

- Between 2005 and 2023, solid waste emissions decreased by 9%, primarily due to decreases in solid waste generated
- In 2023, waste already in-place at landfills accounted for 85% of solid waste emissions

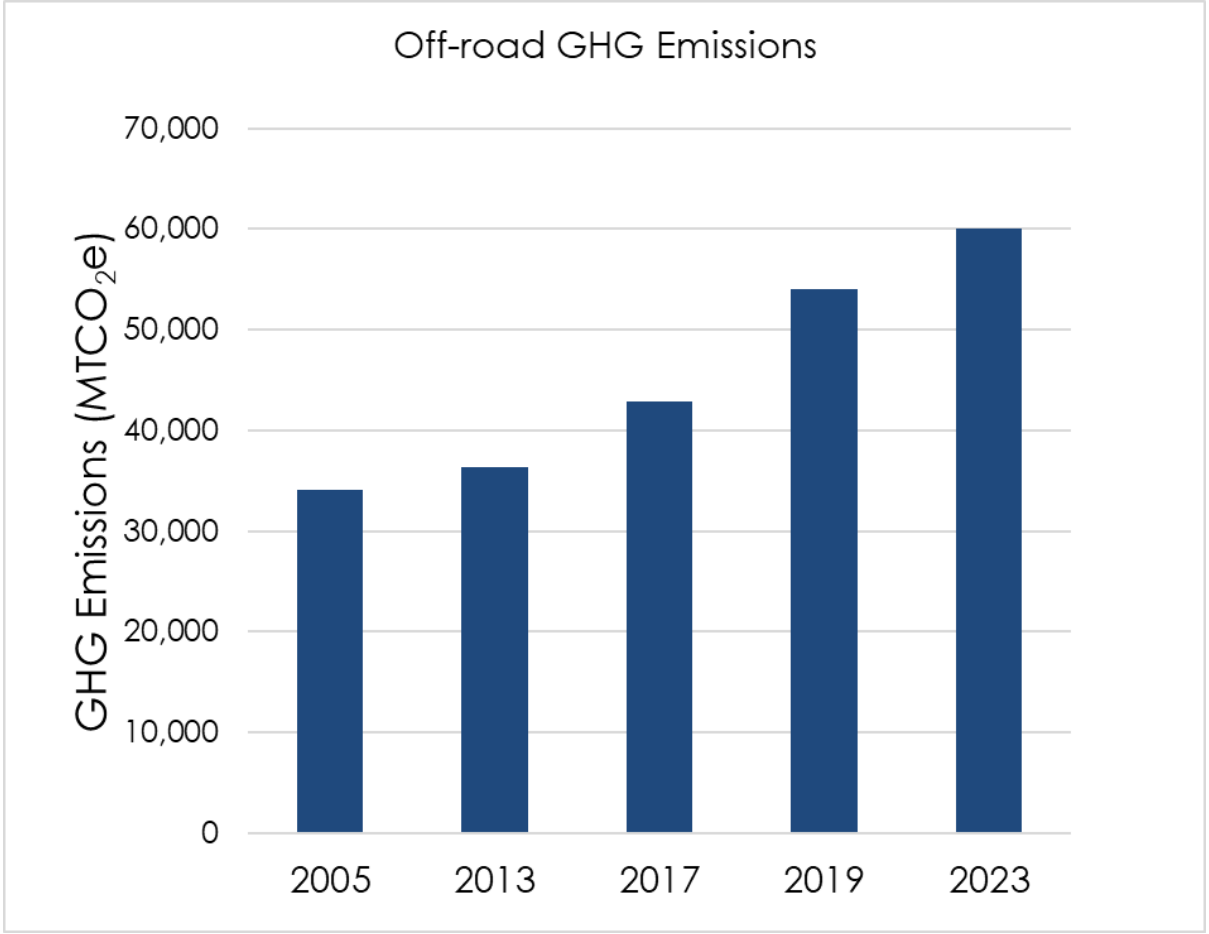
The 2024 CAAP forecasts that if all the County's GHG reduction targets are met in 2045, waste in place at landfills will be the largest GHG emissions source.



Source: California Department of Resources Recycling and Recovery (CalRecycle) (2025). "Recycling and Disposal Reporting: Reports Li
Retrieved from: <https://www2.calrecycle.ca.gov/RecyclingDisposalReporting/Reports>

Community-Wide Inventory Summary
Off-Road Equipment – 6% of emissions

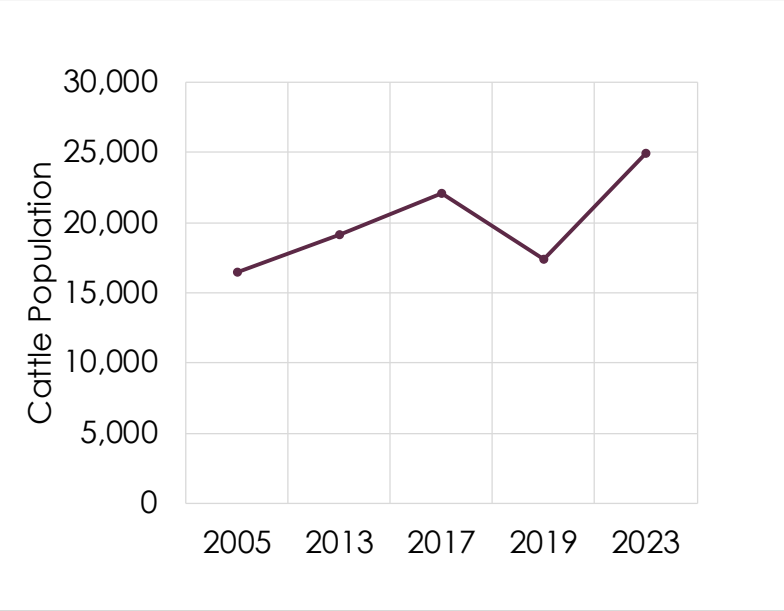
- Off-road emissions **increased by 76%** from 2005 to 2023
- The addition of more categories of vehicles being tracked and different modeling approaches could explain some increased emissions

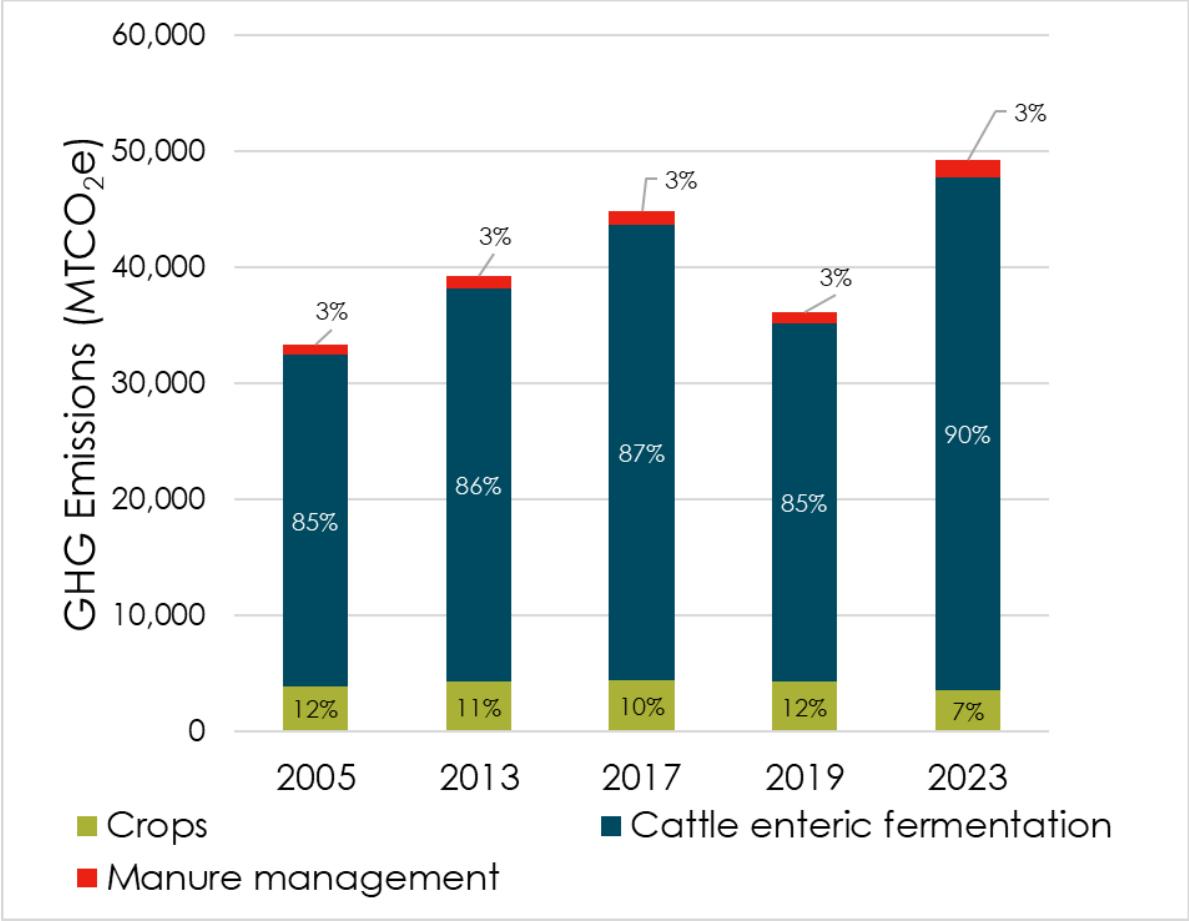


Sources: California Air Resources Board (2025). "Off-Road Emissions Inventory." Retrieved from: <https://arb.ca.gov/emfac/offroad/emissions-inventory/47ab6a5c937b039319a63afd7df94ec503ccd733>

Community-Wide Inventory Summary
Agriculture – 5% of emissions

- Agriculture emissions increased by 48% from 2005 to 2023
- Increases in emissions are primarily due to more cattle being present in the county

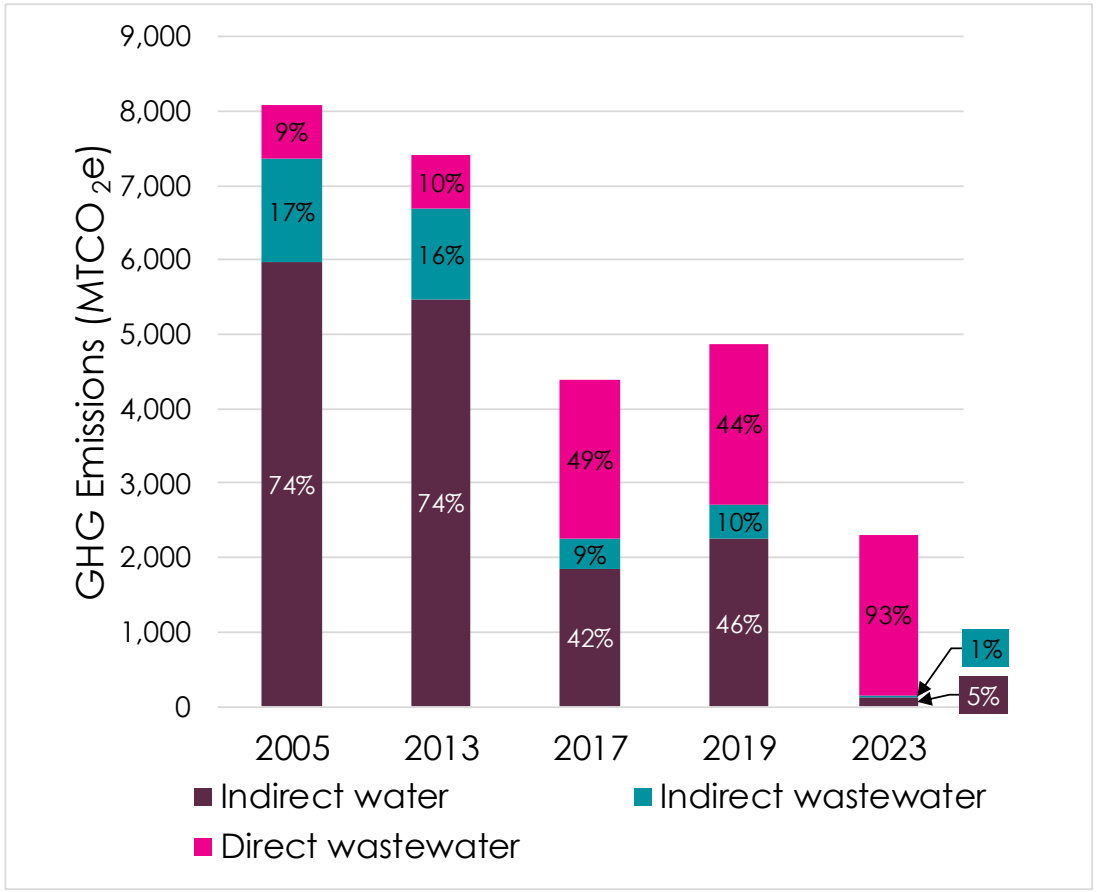




Source: Contra Costa County Dept. of Agriculture / Weights & Measures (2025). "2023 Contra Costa Agricultural Crop Report." Retrieved from: <https://www.contracosta.ca.gov/2207/Crop-and-Economic-Reports>

Community-Wide Inventory Summary
Water and Wastewater - <1% of emissions

- Between 2005 and 2023, GHG emissions from water and wastewater **decreased 72%**
  - Mostly due to nearly zero-emissions related to electricity to move water
- **Indirect emissions** are from the electricity required to pump water or wastewater from one place to another
- **Direct emissions** come from the actual treatment of wastewater



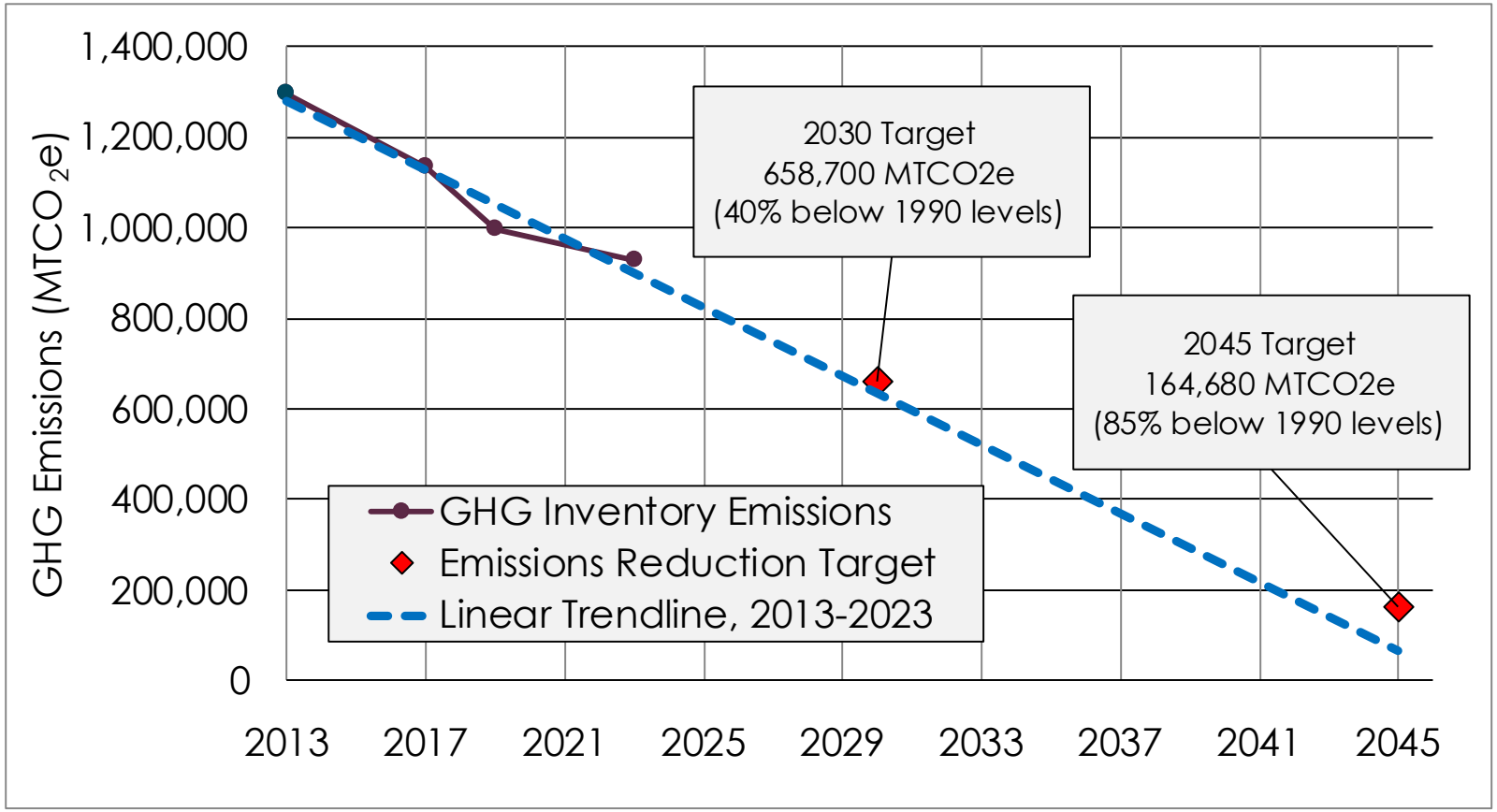
Sources: Contra Costa Water District and East Bay Municipal Utility District.
Unincorporated Contra Costa Annual Usage Reports - 2023.
Retrieved from CCWD and EBMUD Representatives.

Community-Wide Inventory Summary
BART – <1% of emissions

- From 2005 to 2023, BART emissions decreased by 72%, while ridership decreased by 32%

Source: Bay Area Rapid Transit (2025). "Ridership Reports – April 2023" Retrieved from: <https://www.bart.gov/about/reports/ridership>

Community-wide Historical Emissions Trendline vs. Targets

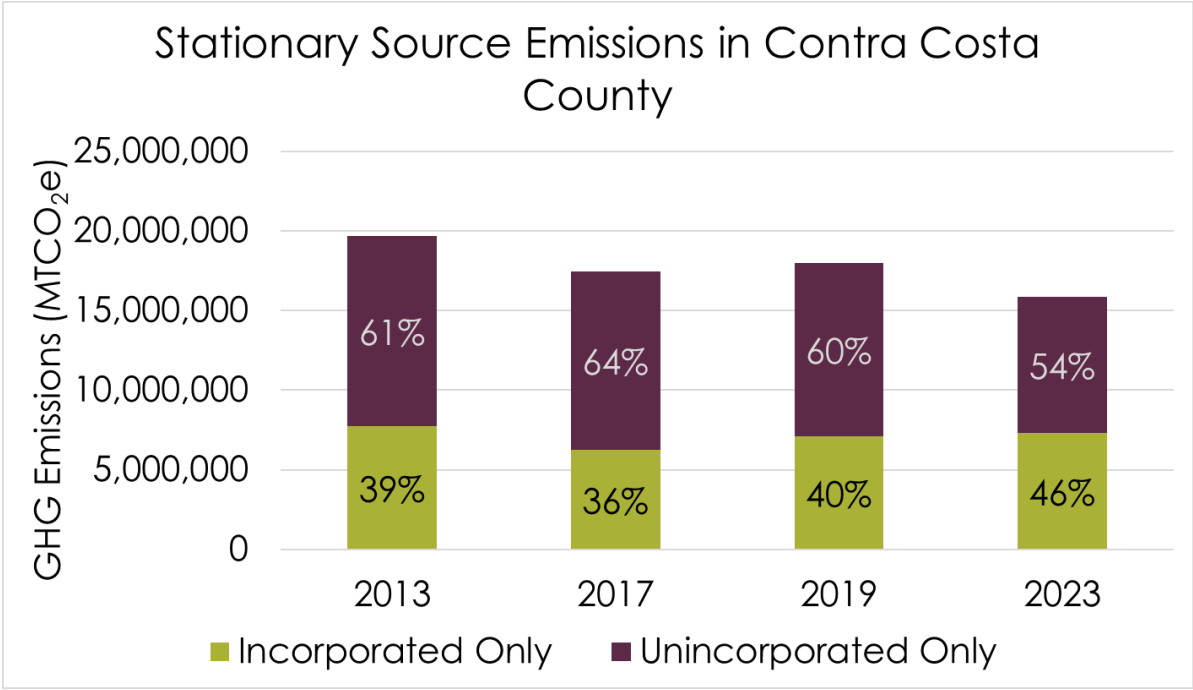


Community-Wide Inventory

Informational Items

2023 Community-Wide Inventory
Stationary Sources

- Stationary sources are not under County authority for GHG emissions
- Since 2013, emissions decreased 28% in unincorporated areas and 19% across the entire county



Sector	2013	2017	2019	2023	Percent Change, 2013-2023
Stationary Source Emissions ($MTCO_2e$)					
Incorporated areas	7,732,049	6,241,605	7,110,440	7,300,296	-6%
Unincorporated areas	**11,956,002**	**11,232,294**	**10,867,670**	**8,569,854**	**-28%**
Total	19,688,051	17,473,899	17,978,110	15,870,150	-19%

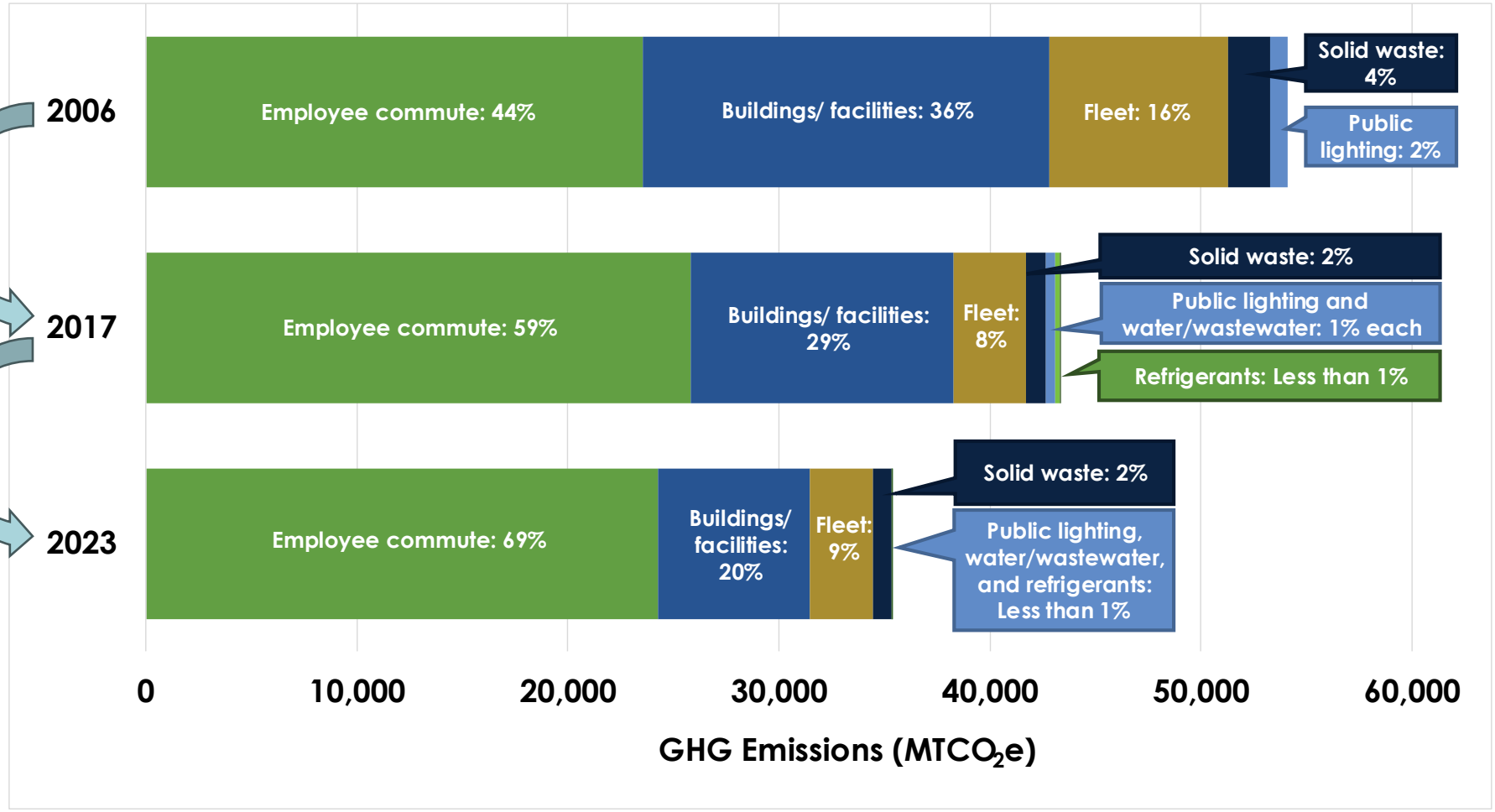
Source: California Air Resources Board (2025). "CARB Pollution Mapping Tool." Version 2.6. Retrieved from: <https://ww2.arb.ca.gov/resources/carb-pollution-mapping-tool>

County Operations Inventory Results

County Operations Inventory Summary

GHG emissions	↓ 20%
# of County employees	↑ 19%

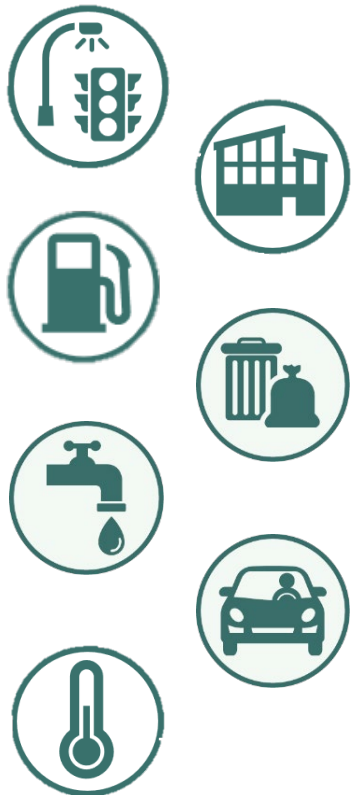
GHG emissions	↓ 18%
# of County employees	↑ 12%



2017 vs. 2023 County Operations Inventory

Consumption trends:

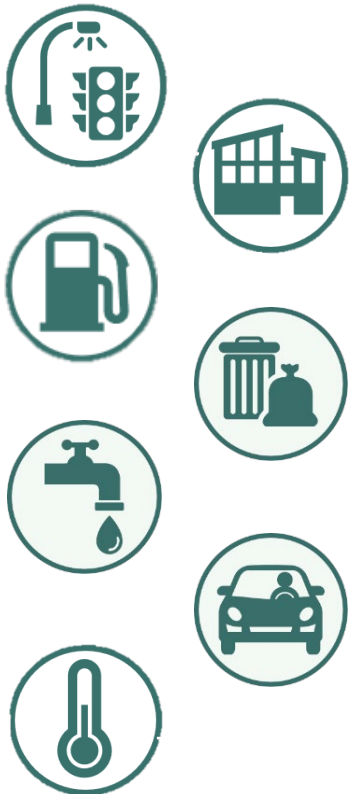
Between 2017 and 2023:	% Change
Building/lighting **electricity** usage	↓ 16%
Building **natural gas** usage	↑ 14%
Fleet fuel consumption	↓ 8%
Solid waste generation	↓ 6%
Water and **wastewater** usage (possibly large margin of error)	↓ 29%
Employee **commute** miles	0%
Refrigerant replacement (possibly large margin of error)	↑ 33%



2017 vs. 2023 County Operations Inventory

Emissions trends:

Between 2017 and 2023:	% Change
Building/lighting **electricity** emissions	↓ 99%
Building **natural gas** emissions	↑ 14%
Fleet fuel emissions	↓ 12%
Solid waste generation	↓ 7%
Water and **wastewater** emissions	↓ 89%
Employee **commute** miles	↑ 6%
Escaped **refrigerant** emissions	↑ 33%



2023 Employee Commute Statistics

- Survey responses of 2,339 employees (over 20% response rate) was scaled up to represent all employees in 2023
- **Over 95% of respondents primarily drive alone to work**
- Electric vehicle use doubled from 2019 to 2025 comprised 10.7% of miles traveled in 2025, up from 5.3% in 2019

7,480 $MTCO_2e$ (24% of commute emissions) were avoided in 2023 due to **remote work, carpooling, and electric vehicles**

Equivalent to taking **1,630 gas-powered cars off the road** for one year

Primary Employee Commute Mode	Percent of Responses
Driving alone (gas, diesel, and gas hybrid)	85.1%
Driving alone (electric)	10.0%
Carpool (gas, diesel, and gas hybrid)	3.7%
Carpool (electric)	0.3%
Public transit (BART, bus, ferry, and Amtrak)	1.9%
Motorcycle	0.2%
Active transportation (walk, bike, scooter, etc.)	1.9%

Source: 511 Contra Costa (2025). "Contra Costa County Employee Commute Survey." Retrieved response data from 511 Contra Costa representative.
Results may vary from published numbers by 511 Contra Costa due to different calculation methods.

Thank you for your time!

Questions?

Contact:
Blake McPherson, Fellow/Intern
Dept. of Conservation and Development
blake.mcpherson@dcd.cccounty.us

Special thanks to:

Contra Costa County
Jody London, Sustainability Coordinator
Samantha Harris, Transportation Planner
Brendan Havenar-Daughton, Public Works Energy Manager
Joe Yee, Public Works Deputy Director
Jamar Stamps, Principal Transportation Planner
Robert Sarmiento, Transportation Planner
David Brockbank, Conservation Programs Manager
Kristine Solseng, Principal Geographic Information Systems Planner
AiLi Pigott, Geographic Information Systems Intern
Chris Howard, Principal Geographic Information Systems Planner
Greg Spurlock, Deputy Agricultural Commissioner
Ricky Williams, Fleet Maintenance Manager
John Kopchik, Conservation and Development Director
Jason Crapo, Conservation and Development Deputy Director
Emily Groth, Sustainability Planner
Nicole Shimizu, Sustainability Planner
Demian Hardman-Saldana, Principal Sustainability Planner
Adam Scarbrough, Sustainability Planner

Other Agencies and Organizations
Eli Krispi, PlaceWorks
Kirsten Riker, Advanced Mobility Group / 511 Contra Costa
Kristin Bowman, East Bay Municipal Utility District
Stephanie Stewart, Pacific Gas & Electric
Martin Bond, MCE
Laura Wehrly, MCE
Sebastian Conn, MCE

File #: 25-4699 **Agenda Date:** 11/10/2025 **Agenda #:** 7.

SUSTAINABILITY COMMITTEE
Meeting Date: November 10, 2025
Subject: RECEIVE Report on the Contra Costa County Employee Commute Survey
Submitted For: SUSTAINABILITY COMMITTEE
Department: DEPARTMENT OF CONSERVATION & DEVELOPMENT
Presenter: Samantha Harris || Planner I | DCD
Contact: Samantha Harris | (925) 655-2881

Referral History:
In August 2025, the Department of Conservation and Development ("DCD") Sustainability Team partnered with 511 Contra Costa (County Transportation Demand Management agency) to develop and release the Contra Costa County Employee Commute Survey ("Survey"). The purpose of the Survey is to update the County operations greenhouse gas emissions data and find gaps in transit and transportation that prevent employees from using an alternative commute mode.

Referral Update:
Public Information Officers from various County departments assisted with emailing surveys to County employees, which yielded 2,338 responses. The previous employee commute survey (2019), received only 727 responses. The table below shows response rates for each County department.

2025 Contra Costa County Employee Commute Survey Response Rate by Department	
Contra Costa Health	44.4%
Employment & Human Services	22.9%
Library	5.2%
Conservation & Development	4.1%
Public Works	3.8%
Public Defender	3.2%
District Attorney	3.0%
Information Technology	2.2%
Clerk-Recorder	1.6%
Human Resources	1.5%
Elections	1.2%
County Counsel	1.0%
All other departments	Each < 1%

Survey results show that 95% of employees commute by single occupant vehicles. Of those 95%, 73% of

employees would consider using alternate commute modes.
Two key concerns from respondents were a lack of both vehicle and bicycle parking at County facilities (most notably a lack of accessible bicycle lockers and racks at the Contra Costa Regional Medical Center ("CCRMC") and insufficient vehicle parking at both CCRMC and the Martinez Detention Facility).

511 Contra Costa prepared the final Survey Report (attached). Survey results for each department are also appended, which will assist DCD staff with developing commute program and incentive recommendations for the employees in those departments. Finally, DCD staff will offer those recommendations and Survey summaries to department managers and assist with implementation upon request.

Recommendation(s)/Next Step(s):
RECEIVE Report on Contra Costa County Employee Commute Survey.

Fiscal Impact (if any):
None.

Contra Costa County Commute Survey

REPORT | Fall 2025

511 CONTRA COSTA

CCTA CONTRA COSTA TRANSPORTATION AUTHORITY

Contents

SUMMARY

This report summarizes a survey conducted in August 2025 of Contra Costa County employees regarding their commute patterns as well as electric vehicle use and interest. The survey was conducted online only, was open for a period of 3 weeks, and was promoted internally by the County Sustainability Team, housed in the Department of Conservation and Development. The Sustainability Team asked contacts in departments, particularly public information officers, to disseminate the survey, and a total of 2,338 responses were recorded. In consultation with the Sustainability Team, 511 Contra Costa designed, administered, and provided ten $20 Amazon gift cards as participation incentives. The tabulations summarized in this report include all responses, unless otherwise noted.

KEY TAKEAWAYS

Takeaway #1

Ninety-five percent of respondents drive alone to work every or most days, so the County has a great opportunity to affect mode shift and reduce the environmental impacts of employee commuting. If employees continue to view driving as their preferred mode, the County could facilitate carpool matching, offer more opportunities for telecommuting and alternate work schedules (such as 9/80s or 4/10s), and/or encourage EV adoption.

Takeaway #2

Average commute time and distance are 30 minutes and 18 miles.

Takeaway #3

Sixty-four percent of employees never work from home and 69% do not work an alternative work schedule, such as 9/80s or 4/10s.

Takeaway #4

The average employee spends $50 per week on their commute.

Takeaway #5

Eighty percent of employees say there is ample free parking at their worksites.

Takeaway #6

Of those who would consider using an alternative commute mode: 56% would consider working from home, 30% would consider using transit, 30% would consider using active transportation (biking/walking), and 24% would consider carpooling.

Takeaway #7

Eighty-five percent of employees drive a gas or gas/hybrid vehicle, and 55% of those with gas-vehicles say they are not likely to purchase or lease an EV within the next decade.

Takeaway #8

Twelve percent of employees drive a fully electric or plug in hybrid vehicle. Of those, 44% currently charge their vehicles at work and 88% said they would charge at work if more facilities were available.

FINDINGS

Findings are based on a total of 2,338 online survey responses.

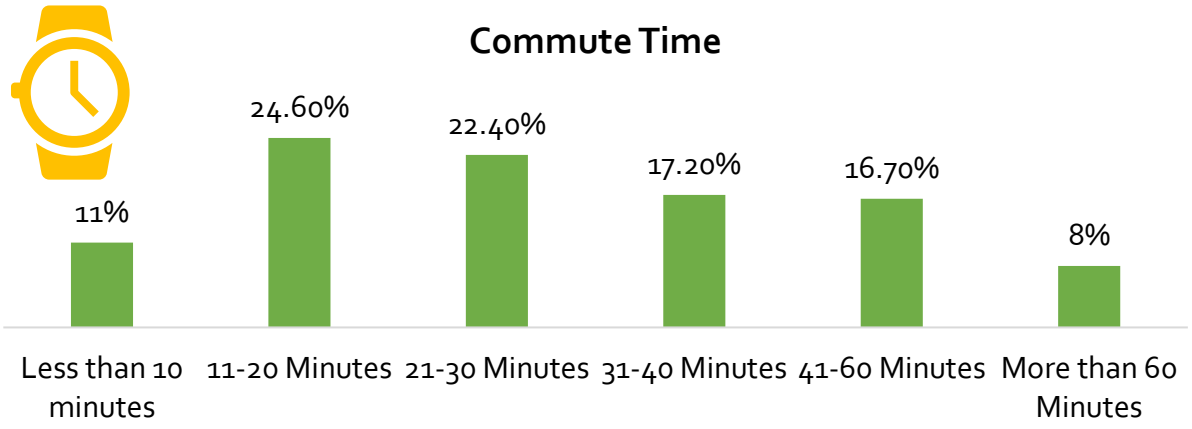
All Respondents: **Q1. Which County department do you work for?** n=2,338	
Contra Costa Health	44.4%
Employment & Human Services	22.9%
Library	5.2%
Conservation & Development	4.1%
Public Works	3.8%
Public Defender	3.2%
District Attorney	3.0%
Information Technology	2.2%
Clerk-Recorder	1.6%
Human Resources	1.5%
Elections	1.2%
County Counsel	1.0%
All other departments	Each < 1%

All Respondents:

Q2. On average, how much time does it take you to travel from home to work?

n=2,338

Less than 10 minutes	11.0%
11-20 Minutes	24.6%
21-30 Minutes	22.4%
31-40 Minutes	17.2%
41-60 Minutes	16.7%
More than 60 Minutes	8.0%



- Applying the median time for each category, 7 minutes to the shortest commute category and 75 minutes to the longest commute category, the **average commute time is 30 minutes**.
- 58% of survey respondents live within a 30-minute commute distance of their worksites while 41.9% must travel more than 30 minutes.
    - Contra Costa County employees have a shorter average commute than Contra Costa residents at large, which according to 2023 Census data is 36 minutes.
- Nearly 36% of respondents indicated their commutes are 20 minutes or less. Short car trips can often be replaced with walking, biking, or e-biking.
    - 511 Contra Costa offers e-bike rebates of $150 ($300 if income eligible) for all residents of Contra Costa County: 511cc.org/rebate
    - 511 Contra Costa can assist with funding for public bike racks at employer locations: 511contracosta.org/employers/bike-locker

All Respondents:

Q3. How many miles is your commute from home to work?

n=2,335

Minimum-Maximum Range	0 miles - 128 miles
Median - *middle value*	15 miles
Mean - *average*	18 miles
Mode - *most common response*	10 miles - 134 responses

Three outlier responses of 204, 295, and 1,711 miles that did not correlate to commute times or employee 'City/Town' were removed from the calculations.

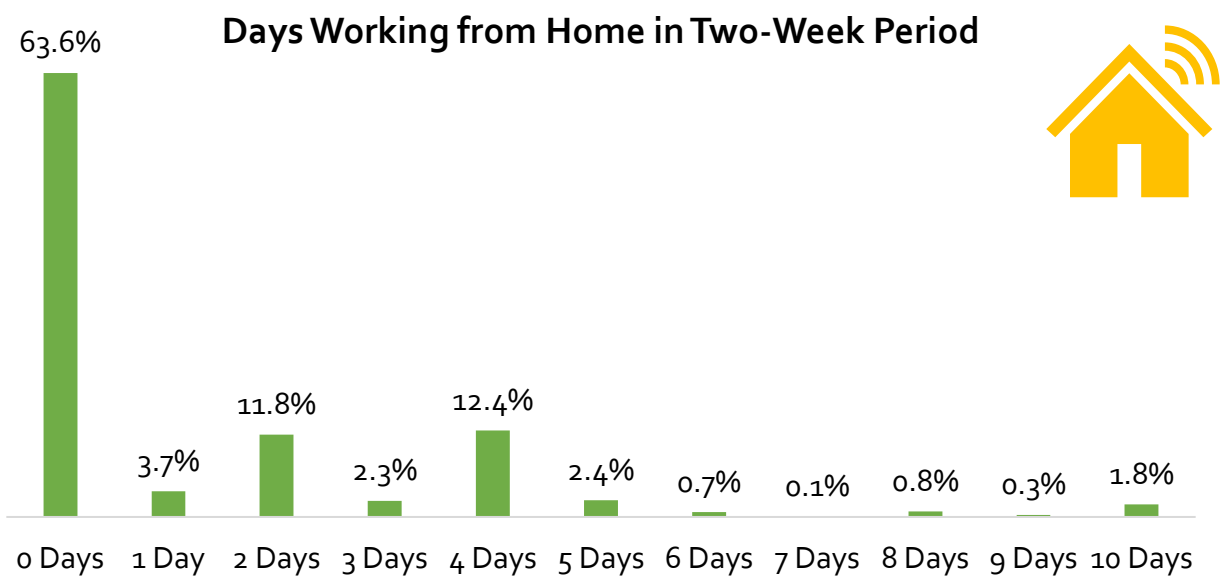
- An average bicyclist may be able to commute 10 miles in about 40-50 minutes travelling at a rate of 10-12 miles per hour (MPH). Travelling 10 miles on an e-bike, at 15-20 MPH, may only take about 30 minutes.

All Respondents:

Q4. In a two-week period, how many days do you usually work from home?

n=2,338

0 Days	63.6%
1 Day	3.7%
2 Days	11.8%
3 Days	2.3%
4 Days	12.4%
5 Days	2.4%
6 Days	0.7%
7 Days	0.1%
8 Days	0.8%
9 Days	0.3%
10 Days	1.8%

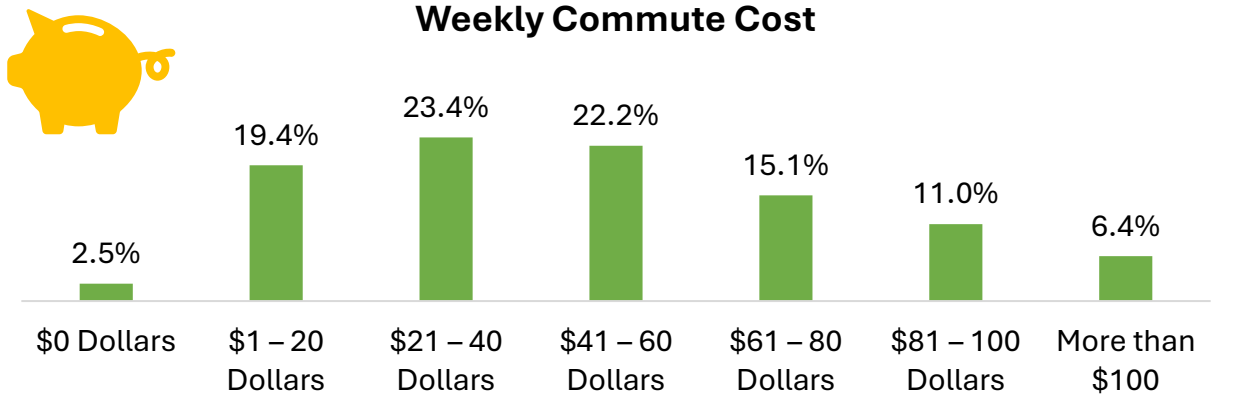


All Respondents:

Q5. On average, how much do you spend weekly on your commute?

n=2,338

$0 Dollars	2.5%
$1 – 20 Dollars	19.4%
$21 – 40 Dollars	23.4%
$41 – 60 Dollars	22.2%
$61 – 80 Dollars	15.1%
$81 – 100 Dollars	11.0%
More than $100	6.4%



Q6. **Question 6** of the survey gave the 147 respondents who cited paying "More than $100" per week for their commute the opportunity to share their weekly commute costs with the following results:

Minimum – Maximum: $9-$500
Mean *(average):* $148
Median (middle value): $130

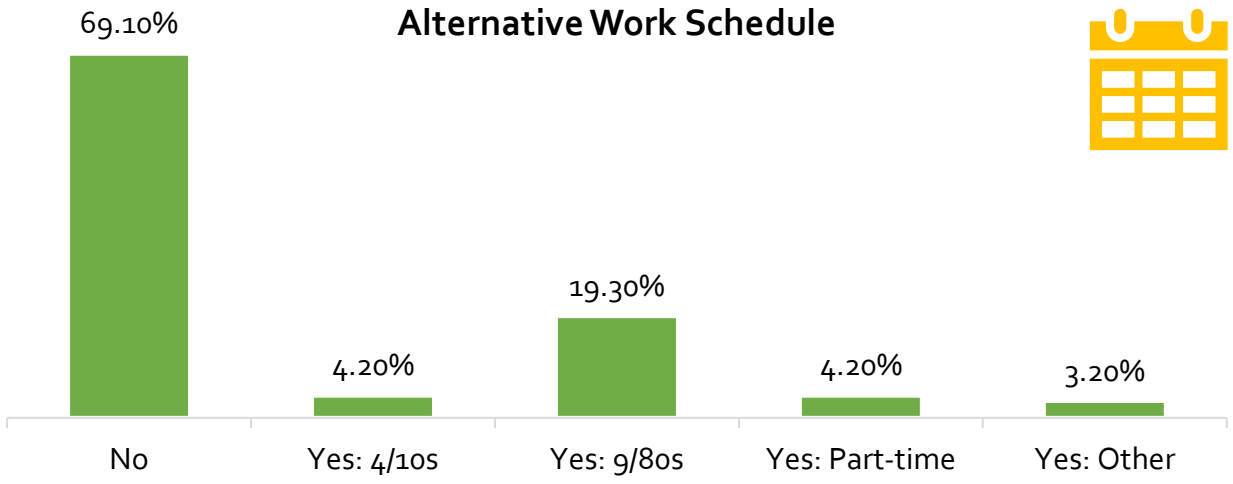
Applying the median cost for each category, and the average of $148 for those citing that their commute costs 'More than $100' per week, the **average weekly commute cost is $50 per week**.

All Respondents:

Q7. Do you work an alternative work schedule?

n=2,338

No	69.1%
Yes. 4/10s	4.2%
Yes. 9/80s	19.3%
Yes. Part time	4.2%
Yes. Other	3.2%



For those citing '**Other**', alternate or on-call schedules to accommodate medical site hours and remote/hybrid work were the predominant responses.

*From respondents who **don't** use an alternate work schedule:*

Q8. You don't use an alternate schedule; why not?

n=1,616

It's not offered	83.9%
My choice	16.2%

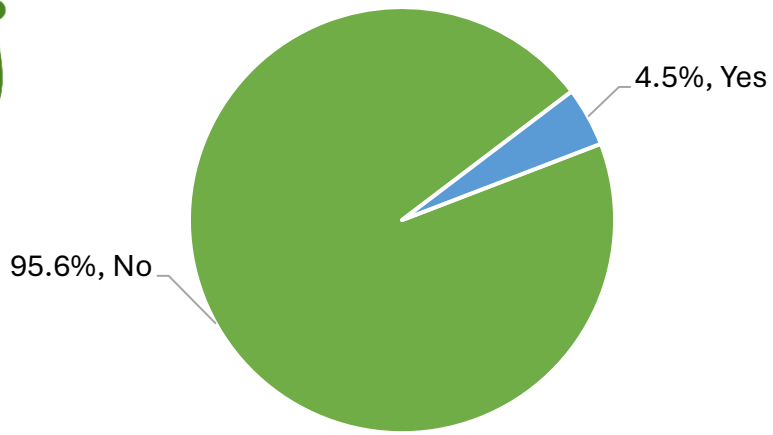
All Respondents:

Q9. Do you carpool to work at least once a week?

n=2,338

No	95.6%
Yes	4.5%

Carpool at Least Once a Week



From respondents who carpool at least once a week:

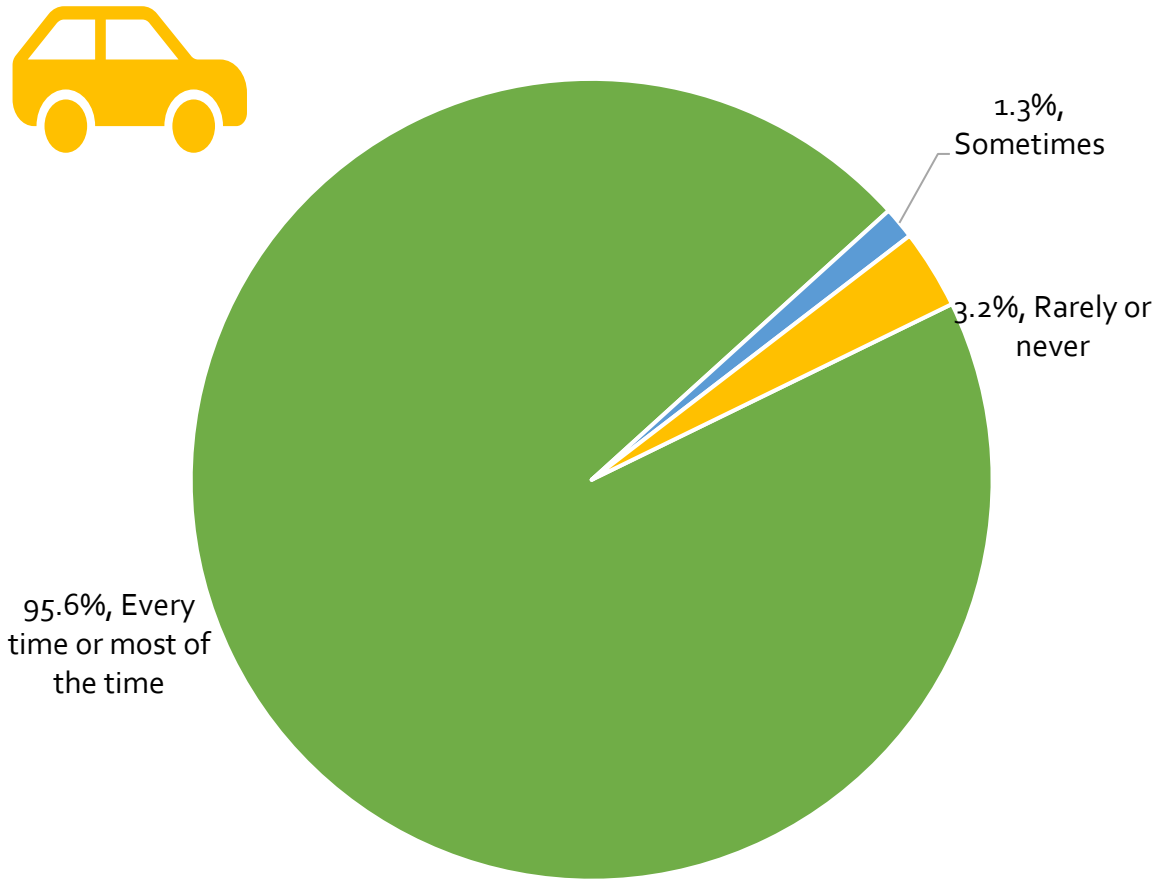
Q 10. How many people regularly share your carpool, not counting yourself?

n=104

One other person	84.6%
Two other people	12.5%
Three other people	1.9%
Four other people	1.0%
More than four people	0.0%

All Respondents: **Q 11. When commuting to your work site, how often do you get there by driving alone?** n=2,338	
Every time or most times	95.6%
Sometimes	1.3%
Rarely or never	3.2%

Frequency of Drive Alone Trips to Work



With 95% of respondents driving alone to work every or most days, the County has a great opportunity to affect mode shift.

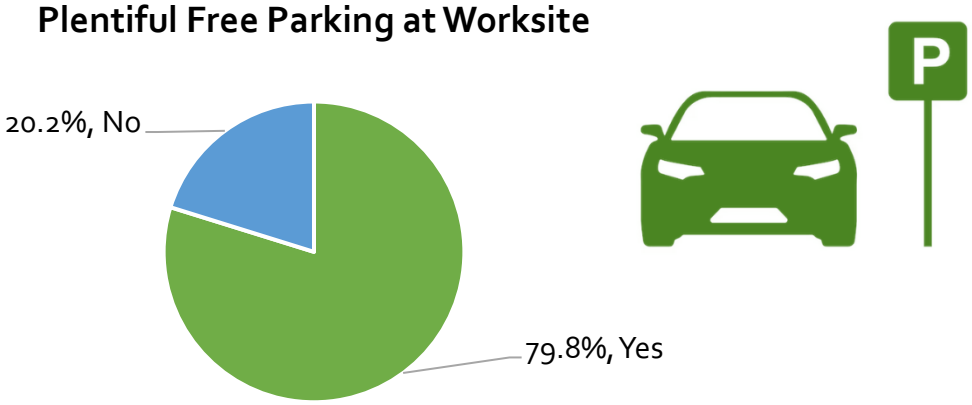
From respondents who drive alone every, or most days:

Q 12. Is there plenty of free parking at your work site?

n=2,135

Yes	79.8%
No	20.2%

Plentiful Free Parking at Worksite



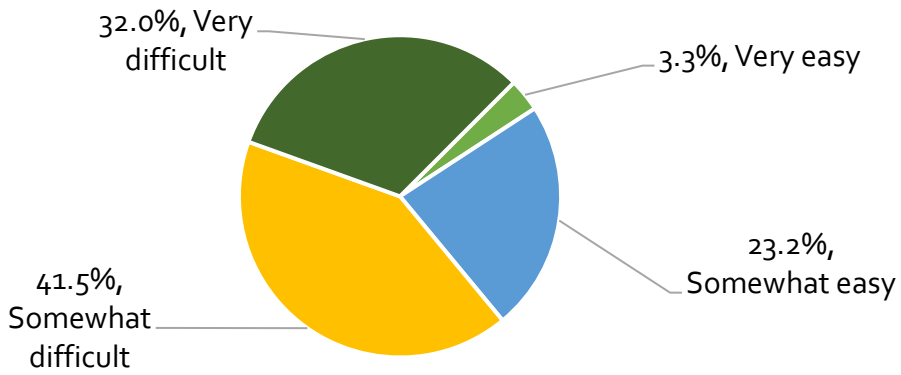
From respondents who cite there is not plenty of free parking:

Q 13. How easy or difficult is it to find free parking elsewhere?

n=431

Very easy	3.3%
Somewhat easy	23.2%
Somewhat difficult	41.5%
Very difficult	32.0%

Ease of Finding Parking Elsewhere



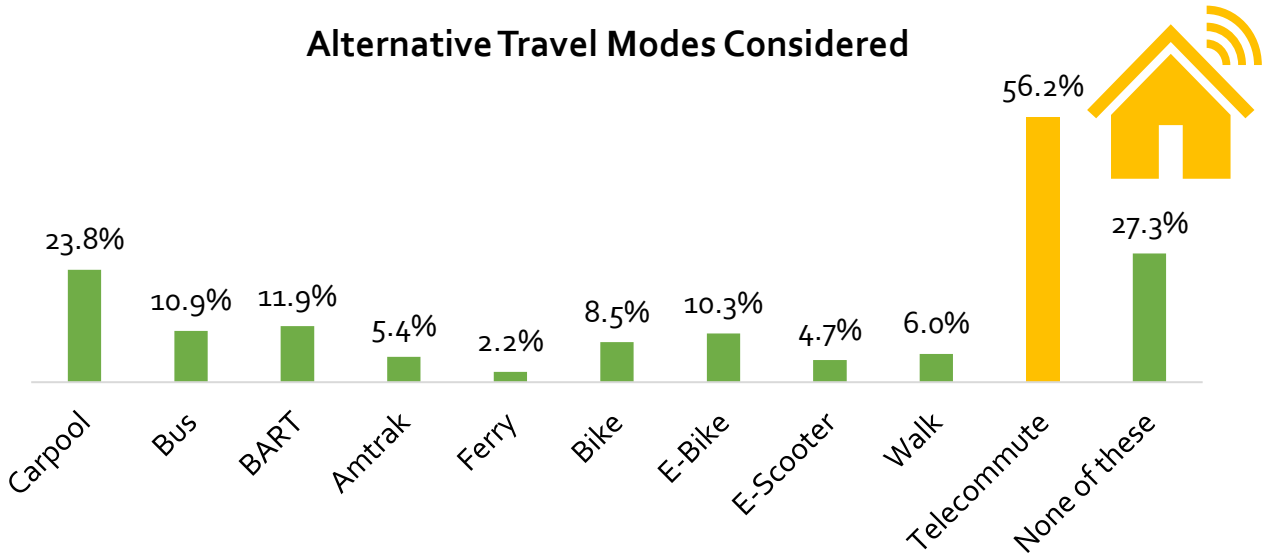
*From respondents who responded "**No**" to:*

Q 12. Is there plenty of free parking at your work site?

n=431

Which County* department *do you work for?	How easy or difficult is it to find free parking *elsewhere*?				
	Somewhat difficult	Very difficult	Somewhat easy	Very easy	Grand Total
Contra Costa Health	88	104	52	6	250
Public Defender	26	10	10	2	48
District Attorney	24	4	9	1	38
Employment & Human Services	12	5	15	2	34
Library	4	2	5	2	13
Elections	6	2	2		10
Treasurer - Tax Collector	4	3	2		9
Clerk-Recorder	4	3		1	8
Human Resources	4		1		5
Conservation & Development	1	3			4
Clerk of the Board	3	1			4
Information Technology	2	1	1		4
Child Support Services	1				1
Sheriff			1		1
Public Works			1		1
Racial Equity and Social Justice			1		1
Total	**179**	**138**	**100**	**14**	**431**

From respondents who drive alone every, or most days: **Q 14. What alternative mode(s), if any, would you consider using?** n=3,569 responses/2,135 respondents (multiple selections allowed per respondent)	
Carpool	23.8%
Bus	10.9%
BART	11.9%
Amtrak	5.4%
Ferry	2.2%
Bike	8.5%
E-Bike	10.3%
E-Scooter	4.7%
Walk	6.0%
Telecommute	56.2%
None of these	27.3%



- Of those who would consider an alternative mode:
  - 56% would consider **work from home**
  - 30% would consider **transit**
  - 30% would consider **active transportation**

- 24% would consider **carpool**

- Allowing more telecommuting (the most favorable option at 56% of respondents) and alternate work schedules (such as 9/80s or 4/10s) would eliminate the most commute trips.
- 511 Contra Costa offers incentives for using transit and active transportation: 511contracosta.org/incentives
- Since 23% of respondents would consider carpooling, the County could work with 511 Contra Costa to develop a special incentive program to encourage and reward new and lasting carpools.

*From respondents who drive alone to work **less than** every, or most days:*

Q 15. How many days per week do you use the following modes to get to work?

n=198

	One Day	Two Days	Three Days	Four Days	Five Days
Carpool	27	20	30	17	25
Bus	2	3	6	5	8
BART	5	3	4	4	4
Amtrak	2	3	4	3	6
Ferry	2	0	0	0	0
Bicycle	4	3	4	3	6
E-Bike	1	2	0	0	4
E-Scooter	0	0	0	0	0
Walk	3	2	2	5	12
Drive Alone	20	26	20	21	24
Motorcycle	1	1	0	1	0
Other	6	3	1	4	9

This question was intended to show what alternative modes those who do NOT drive alone to work every day are using instead. However, 24 of the 198 respondents cited driving alone five days a week. Additionally, the representative days in the chart add up to more than five days a week for those who answered the question. Despite these issues with responses, the table does indicate that

even those who use an alternative mode are still driving regularly and that carpool is the most commonly used alternative mode.

All Respondents:

Q 16. What are the most important factors that influence your commute choice decision?

n=8,672 responses/2,338 respondents (multiple selections allowed per respondent)

Travel time	53.6%
Flexibility	43.5%
Comfort	38.3%
Avoiding stress	37.4%
BART/bus/train is not convenient to my work	30.5%
BART/bus/train is not convenient to my home	25.1%
I don't know any carpool partners	22.7%
Cost	22.2%
Free parking	19.6%
I work late / irregular hours	17.2%
Non-driving modes seem too complicated	14.5%
Enjoyment	10.5%
Non-driving modes don't feel safe	10.1%
Other	9.6%
Environmental impact	7.2%
Not enough protected bike lanes or sidewalks	6.3%
Not enough secure bike parking	2.8%

- Two-hundred twenty-four responses were provided as '**Other**' factors that influence commute mode choice. The most common responses were:
  - Children's needs: 62
  - Personal car needed for work: 41
  - Home is too close/too far from work: 17
  - Transit not viable/no other options: 18
  - Errands/personal tasks before, during or after work: 12

With more than 95% of respondents driving alone to work most of the time, the above responses show that employees find driving to be faster, more flexible, more comfortable, and less stressful than using other modes.

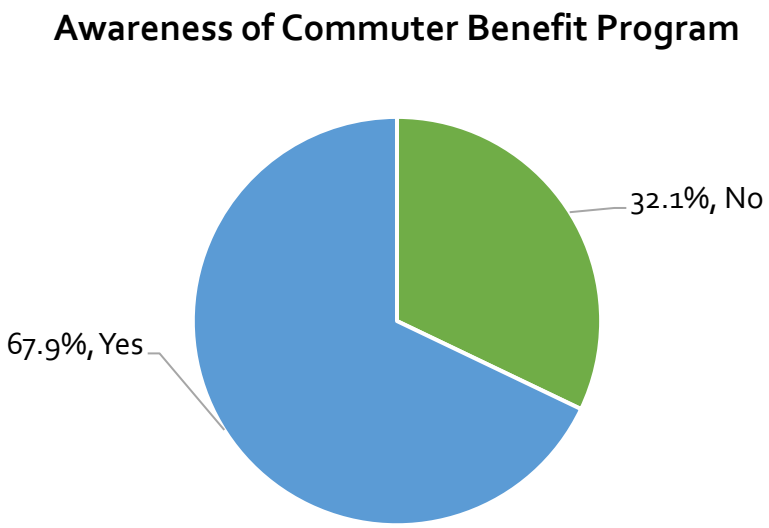
If employees continue to view driving as their preferred mode, the County could still try to reduce environmental impacts by facilitating carpool matching, offering more opportunities for telecommuting and alternate work schedules (such as 9/80s or 4/10s), and encouragement of EV adoption.

All Respondents:

Q 17. The County offers a Commuter Benefit Program that lets employees use pre-tax earnings to pay for their work-related Clipper and Amtrak fares. Were you aware of this benefit?

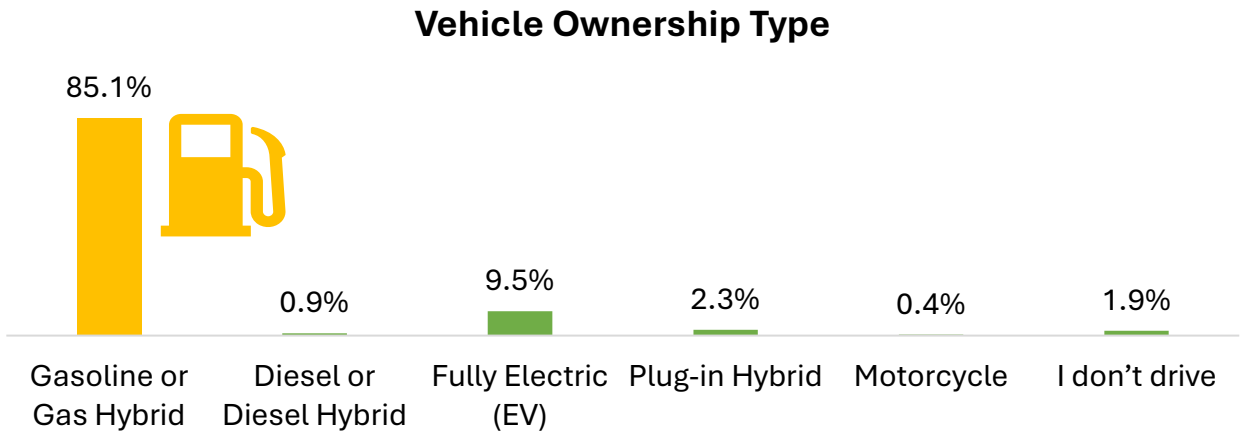
n=2,327 (Not a required question. Not all respondents answered)

Yes	32.1%
No	67.9%

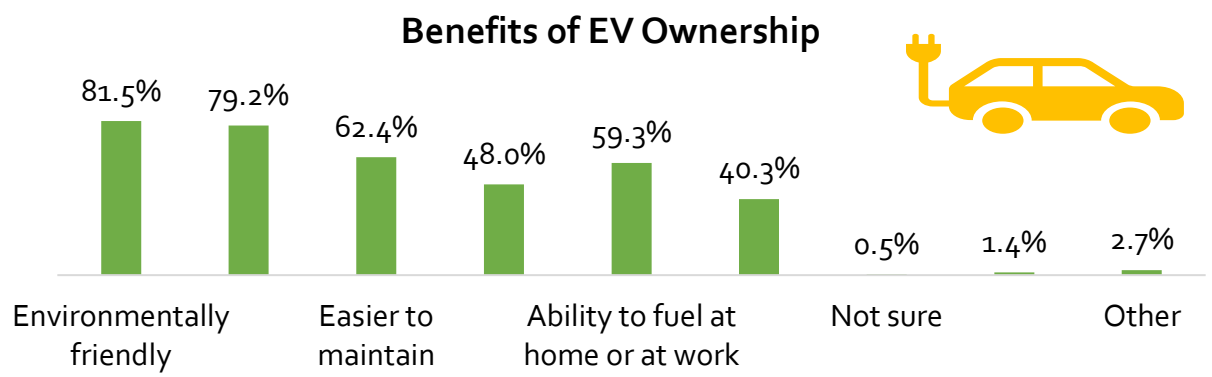


Q18. Question 18 of the survey gave employees the opportunity to submit their email address to "learn more about opting in to the Commuter Benefit Program to save money on Clipper or Amtrak." **635** emails were collected.

All Respondents: **Q 19. What type of vehicle do you drive?** n=2,338	
Gasoline or Gas Hybrid	85.1%
Diesel or Diesel Hybrid	0.9%
Fully Electric (EV)	9.5%
Plug-in Hybrid	2.3%
Motorcycle	0.4%
I don't drive	1.9%



From respondents who drive a fully electric EV: **Q 20. Which of the following would you consider to be benefits of owning or leasing an EV?** n=829 responses/221 respondents (multiple selections allowed per respondent)	
Environmentally friendly	81.5%
Charging an EV is more affordable than buying gas	79.2%
Easier to maintain	62.4%
Rebates and tax credits may be available	48%
Ability to fuel my vehicle at home or at work	59.3%
EVs have other features that I like	40.3%
Not sure	0.5%
None of these	1.4%
other	2.7%



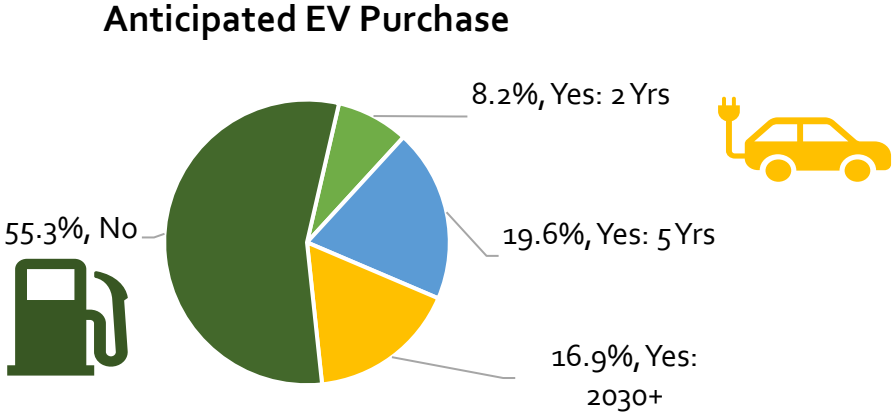
Of the six 'Other' responses, three survey takers noted access to HOV lanes as a benefit. [Note: CA has eliminated HOV access for single occupant EVs as of Oct 1, 2025.] The three remaining responses cited specific issues about charging at work: that it should be free, that charging at work is a benefit, that charging is not available at their worksite.

*From respondents who do **not** drive a fully electric EV:*

Q 21. Are you likely to purchase or lease an electric vehicle (EV) within the next several years?

n=2,117

Yes, within the next two years	8.2%
Yes, within the next five years	19.6%
Yes, after 2030	16.9%
No, I am not likely to purchase or lease an EV within the next decade	55.3%



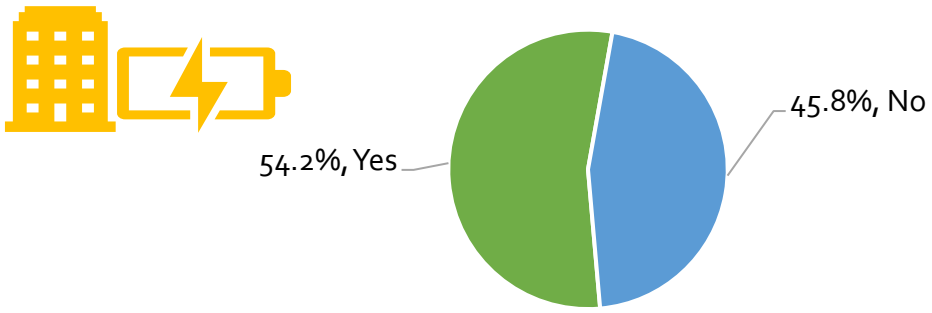
*From respondents who do **not** drive a fully electric EV.*

Q 22. Would you be more likely to buy an EV if there were charging stations available at work?

n=2,117

Yes	54.2%
No	45.8%

Worksite Charging Influence Purchase Decision



Although 55.3% of all respondents (that don't currently drive an EV) said they are **not** likely to purchase an EV within the next decade, over half said they would be more likely to purchase one if charging stations were available at work.

From respondents who do not drive a fully electric EV:

Q 23. Do you have any concerns about purchasing an EV instead of a gas car?

n=2,117

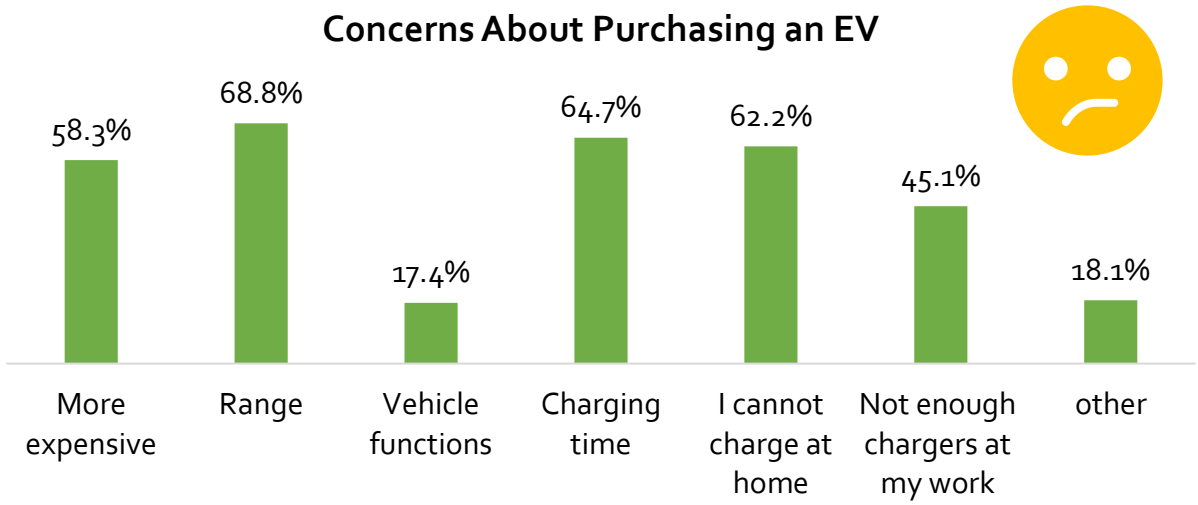
Yes	54.0%
No	46.0%

From respondents who do not drive a fully electric EV and have concerns:

Q 24. What concerns do you have about purchasing an EV instead of a gas car?

n=3,828 responses/1,144 respondents (multiple selections allowed per respondent)

They might be more expensive	58.3%
I am worried about range	68.8%
I don't know if they have the functions I need in a vehicle	17.4%
Amount of time needed for charging	64.7%
I cannot charge an EV at home	62.2%
There are not enough chargers at my work site	45.1%
Other	18.1%



- Of 207 'Other' responses, the most common concerns about purchasing an EV:
  - Environmental impacts of batteries and raw materials: 32
  - Charging limitations at home, travelling, or work: 24
  - Safety of batteries: 23
  - Personal choice or preference: 23
  - Cannot afford a car in general: 15

- The County could do several things to help nudge those who do not currently anticipate switching to an EV in the next 10 years:

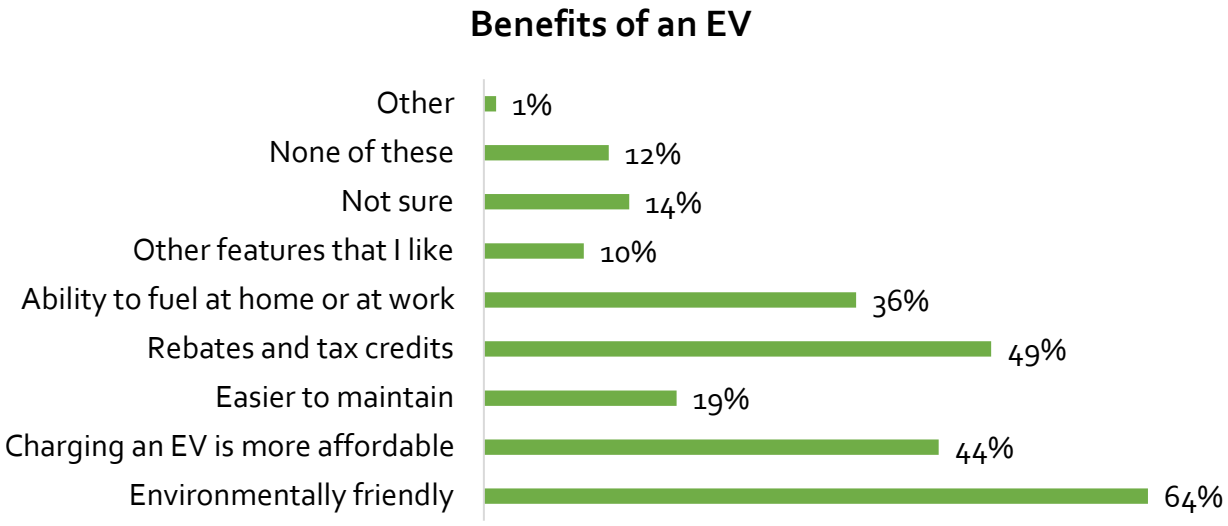
- Provide education about current and near future average range estimates. Many new EVs have similar or greater range than typical MPG averages of new ICE vehicles. epa.gov/greenvehicles/electric-vehicle-myths#Myth6
- Provide education about current and near future average cost estimates. While EVs currently have higher upfront costs, their total cost of ownership is often lower due to significant savings on fuel and maintenance, which can outweigh the initial purchase price within a few years. Plus, with improved battery technology and increased production and competition, future prices are expected to continue falling.
- Provide facts with links to reliable sources about EVs' environmental benefits and footprint of battery manufacturing / raw materials. Though EVs have a higher initial carbon footprint than ICE vehicles due to battery production, they become significantly cleaner over their lifespan, typically surpassing ICE vehicles in lower lifetime emissions after around 15-20K miles. epa.gov/greenvehicles/electric-vehicle-myths#Myth2
- Install more charging infrastructure at work sites.

*From respondents who do **not** drive a fully electric EV:*

Q 25. Which of the following would you consider to be benefits of owning or leasing an EV?

n=5,283 responses/2,117 respondents (multiple selections allowed per respondent)

Environmentally friendly	64%
Charging an EV is more affordable than buying gas	44%
Easier to maintain	18%
Rebates and tax credits may be available	49%
Ability to fuel my vehicle at home or at work	36%
EVs have other features that I like	10%
Not sure	14%
None of these	12%
Other	1%



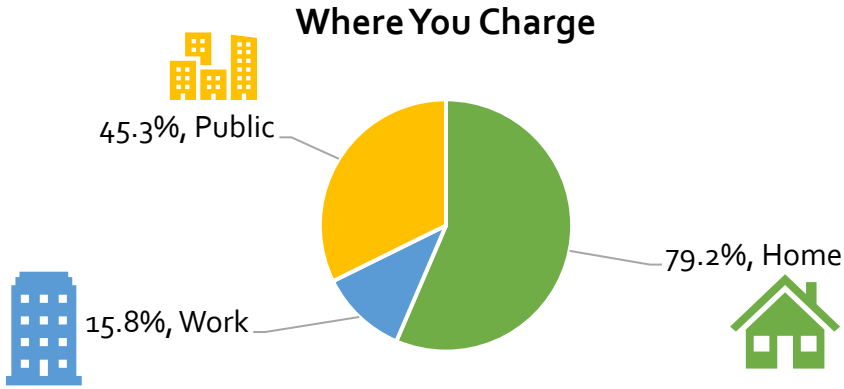
- Twenty-six responses were provided as '**Other**' benefits of owning or leasing an EV; however, most responses were reasons they would *not* own one. Three benefits receiving three comments each were:
  - EV's are quieter
  - More Affordable
  - I can use the carpool lanes [*Note: CA has eliminated HOV access for single occupant EVs as of Oct 1, 2025]*

From respondents who drive a fully electric EV:

Q 26. Where do you charge your EV?

n=310 responses/221 respondents (multiple selections allowed per respondent)

Home	64.4%
Work	44.1%
Public charging stations	18.7%

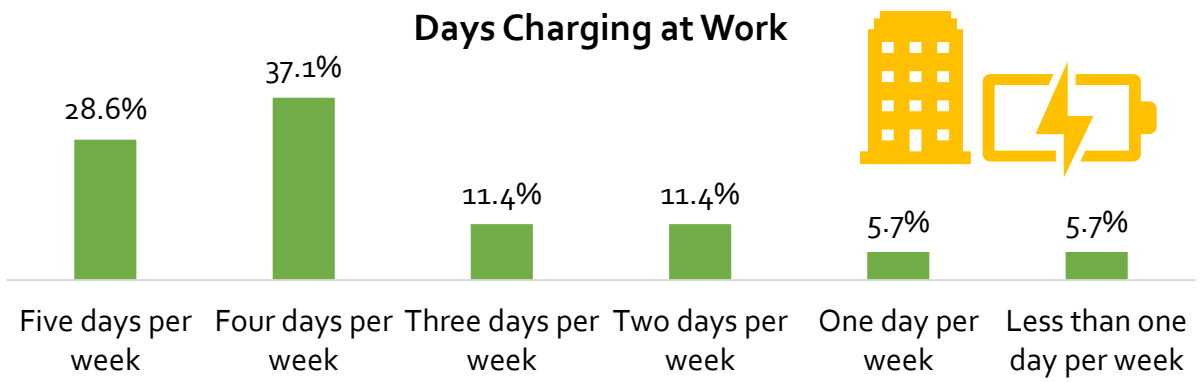


From respondents who own a fully electric EV and charge at work:

Q 27. On average, how many days per week do you charge your EV at work?

n=35 responses

Five days per week	28.6%
Four days per week	37.1%
Three days per week	11.4%
Two days per week	11.4%
One day per week	5.7%
Less than one day per week	5.7%

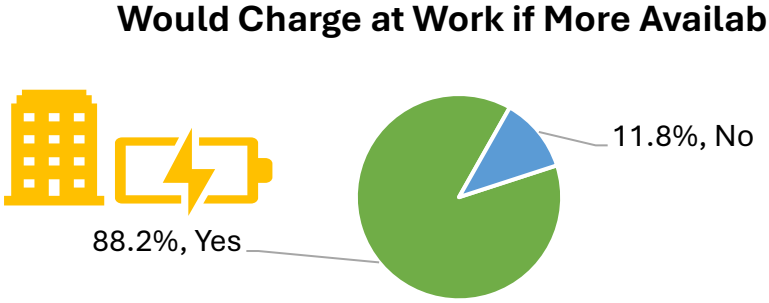


From respondents who own a fully electric EV:

Q 28. Would you use EV chargers at County offices and facilities if more were available?

n=221 respondents

Yes	88.2%
No	11.8%



From respondents who own a fully electric EV:

Q 29. Please write the address of the facility where you would be likely to use an EV charger, if more were installed.

n=174 respondents

Antioch	
2335 Country Hills Drive	2
4545 Delta Fair Boulevard	3
4549 Delta Fair Boulevard	1
4703 Lone Tree Way	1
Brentwood	
104 Oak Street	1
151 Sand Creek Road	1
171 Sand Creek Road	4
Clayton	
12000 Marsh Creek	2
Concord	
1400 Civic Court	1
1470 Civic Court	2
2151 Salvio Street	2
2170 Systron Drive	1
2400 Bisso Lane	5
2425 Bisso Lane	2
2500 Bates Avenue	4
2731 Systron Drive	2
3012 Willow Pass Road	1
3052 Willow Pass Road	1
4071 Port Chicago Highway	1
Hercules	
151 Linus Pauling Drive	1
Kensington	
61 Arlington Avenue	1

Martinez	
10 Douglas Drive	3
1000 Ward Street	2
1025 Escobar Street	2
1026 Escobar Street	1
1220 Morello Avenue	1
1340 Arnold Drive	4
25 Allen Street	1
2500 Alhambra Way	26
2530 Arnold Drive	4
255 Glacier Drive	6
30 Douglas Drive	6
30 Glacier Drive	1
30 Muir Road	4
40 Douglas Drive	6
4800 Imhoff Place	1
50 Douglas Drive	3
555 Escobar Street	4
595 Center Avenue	6
597 Center Avenue	5
777 Arnold Drive	7
800 Ferry Street	6
900 Ward Street	3
901 Court Street	1

Orinda	
26 Orinda Way	1
Pleasant Hill	
300 Ellinwood Way	2
391 Taylor Boulevard	1
400 Ellinwood Way	3
500 Ellinwood Way	3
Richmond	
100 37th Street	1
1160 Brickyard Cove	1
1275 A Hall Ave	2
1305 MacDonald Avenue	3
1501 Fred Jackson Way	1
3811 Bissell Avenue	1
5555 Giant Highway	2
Pittsburg	
2311 Loveridge Drive	8
San Pablo	
13601 San Pablo Avenue	2
3211 Auto Plaza	1

All Respondents:

Q 30. Do you have any concerns or issues related to your commute that are not captured in this survey?

n=879 respondents

- Of the 879 respondents, 345 cited 'No comment'. Several respondents made comments on multiple topics. As a result, 558 total responses were noted. The most common concerns or issues cited:
  - Transit Not Available/Reliable/Timely and Safety:87
  - Availability of Remote/Hybrid Work Option: 69
  - Traffic: 58
  - Parking Issues at Worksite: 51

- Biking / Walking: 31
- Bridge Toll Costs High: 30
- Commute Distance/Time: 28

The full responses are included below **(verbatim)** and on the following pages. Responses have been grouped by topic of comment.

Comment Category: Accessibility Issues

I am disabled and cannot drive. I literally live down the street from my work site (3 miles on the same cross street) yet cannot take a bus there and do rideshare because there is no bus that runs down Ygnacio Valley Road. I am unable to utilize the commuter benefits program as there are no Lyft Shared around Walnut Creek.
disabilities, time, money, trade-in
distance and accessibility
Commuting from Pittsburg to San Pablo by BART and Bicycle causes lots of stress takes very long and it forces me to go down stairs and up at the transfer station MacArthur and another transfer to light rail at Pittsburg. Very complicated and hard on my joints to go up and down stairs with a heavy bike. Taking the elevator makes me loose my train and it adds 15-20 more minutes to the long complicated commute. That's why I ride a motorcycle.

Comment Category: Biking / Walking

2500 Bates is an industrial, not walking/biking safe work site. Also, buses do not come over here often enough, not even to take you to Bart.
Although I choose to bike to work, there are a few sections of my commute that feel unsafe with how close I have to get to cars. Either due to bumps and debris in the bike lane (Alhambra), or lack of a bike lane (Elderwood, Glacier).
Bike trails to get to work such as lights, bike stops(emergency supplies/pump) for early morning bike commuters to improve safety
I can reach my worksite using a combination of bike and bus, but bike safety is an issue with no protected bike lanes.
I commute by Amtrak. My biggest concern is walking to the train station during the fall and winter when the time has changed and the sun sets early. Sometimes there are unhoused people that are around that make the walk uncomfortable/unsafe.
I used to bike because it was environmentally friendly, and it could get exercise in, but drivers have gotten crazy.
I wont walk because its not a safe route to get to work
It is dangerous to go by foot through Todos Santos side streets
My commute could be safer and less stressful with improved bike infrastructure; i.e. protected lanes, more trail connectivity. We could use additional capacity now that traditional bikes are sharing lanes with eBikes and scooters
Safe Bike Lanes between Concord and Martinez are needed
Safe bike lines
Side streets are not always a safe environment to walk around to commute for work
The area the office is located is not safe. Not biking or walking safe.
Are Bicycle rebates or discounts available?
is there stipends or discounts for purchasing bikes to commute?
No incentives from the County to bike to work

Biking / Walking cont.

add additional secure bike racks
Biking to work would be more realistic if there were safe bike lock areas that are less accessible to the public. Specifically, at CCRMC hospital, having the bike racks near the general entrance exposes bikes to a lot of public foot traffic. If bike racks could be installed in a less public but still highly visible location such as the courtyard in front of the cafeteria, more employees would feel comfortable and safe locking their bikes during the work day.
I bicycle 1-2 times a week to my closer sites. I work in three locations. There are limited facilities for changing or storing my bike or items like shoes and change of clothes at work. I still do it but it takes a lot of organization and energy.
I would bike most every day if there was a secure spot to lock up near the ED entrance.
Insufficient bicycle parking at county buildings. The lack of secure bicycle parking (for both employees and residents) at most county buildings discourages the use of bicycles as a mode of transit. I would like to see more resources devoted to alternative transit, not just car parking.
please provide secure bicycle or ebike parking at MDF for staff or even for others, ebikes & escooters are very popular and perfect for this setting, thanks
there is not enough secure bike parking in front of the CCRMS hospital for employees
We do not have enough safe bike racks WITHIN the campus for employees to safely store bikes. It would be beneficial for the hospital to put bike racks in areas where only employees have access to. Suggestion would be next to the cafeteria by the garden. On the side of building 1
Work campuses should have bike stations so that possible repairs can be made.
When I worked in another county building there were showers available. My commute is short (but uphill) and I could actively commute by bike/run/walk but not feasible here because no facilities to shower/change as before.
Administrative Bulletin 535 prohibits the use of bicycles/e-bikes in section II. A - "A department head may not authorize the use of other forms of private transportation, including 2 and 3-wheel vehicles (e.g., motorcycles, mopeds, motor scooters, bicycles, and all-terrain vehicles). " This makes it a challenge to commute by bike/e-bike if you need to get between locations for meetings throughout the day. Updating this policy to permit the use of bikes/e-bikes to get between County work locations would increase the number of days I commute by bike or e-bike.
I only walk to work and I don't think the questions in this survey have really allowed me to accurately convey that I walk to work 100% of the time and my car is not a factor at all in my commute. I walk 0.2 miles to work and was not able to input that value because it wouldn't accept decimals or any other way to express that my commute was less than one mile.
I take my motorscooter (legally a motorcycle) to work 8-9 months out of the year when the weather allows is rather than drive my car. Scooter gets 88 MPH; car gets 24 MPG. I hate driving cars but love riding my scooter. I will not get any significant means of electrical transport because I can't afford the cost to upgrade my electrical service to add an outlet be able to charge them at home. I used to have an electric bicycle, electric stand-up scooter, and electric moped, but because of my old electric system all the controllers were ruined due to a power spike despite having a surge protector, and I'm not doing that again - but I couldn't take them to work anyway, because I go up a steep hill that maxes out my motorscooter's abilities, but less a small electric transportation device's abilities. I hope you can temper my responses with this information, because my not being able to explain this in your set questions is going to make your statistical data not reflect my situation.

Comment Category: Bridge Toll

Any assistance with tolls for commuters would be great. Maybe something similar to the clipper/Amtrak deal.
are we reimbursed for the bridge toll?
Bridge toll is getting more and more expensive. Would be nice if the county offered bridge toll assistance in addition to the clipper card/amtrak fare assistance.
bridge tolls (many of us live in Solano Cty and pay $8 a day JUST in tolls. would like pre-tax option or stipend for that.
Bridge tolls; it would be nice if those could be considered.
Can county shoulder the toll fee please? Thank you.
Commuter benefit should be eligible to use for tolls
Fastrak discount or rebate program with EHSD
Get reimbursement for fast Trak
I hope there is a discount prog. for people who pay toll fee. It's not cheap to pay $8/day plus gasoline
I pay the toll to cross the Benicia-Martinez bridge. I think there should be a discount on tolls for County employees.
I would appreciate if the County would wholly or partially paying for my toll charge ($8/day)
I would love a toll reimbursement program.
needs some help to pay the Tall Bridges
Rising toll costs for the bridges. We can't use commuter benefits toward toll costs.
So many people in my office live in Solano County because it is more affordable than Contra Costa County. We are incredibly frustrated that we do not receive any sort of benefit or rebate or pay for the ever-increasing bridge toll.
The bridge tolls keep rising with no compensation for the cost
to get discount for toll gate fee/commute expenses as I cross the bridge daily roundtrip
yes pay trolls
it's very expensive commuting to work paying that expensive bridge toll. CCC management should take that into consideration & if an employee can do their job tasks at home why not allow them to do that as long as they're getting their work completed
Daily Bridge Tolls
High cost of bridge toll
Rising cost of toll fees
The cost of tolls to cross the bridge adds up to a decent amount of money per month
The rising cost of bridge toll makes it financially difficult to commute
toll fees
toll prices, added commute stress, less time with my family
Yes, I cross a bridge and pay toll to commute between work and home.
Yes, I pay $40 in toll a week
You should ask how much do you spend weekly to cross the bridge.

Comment Category: Carpooling

Carpool are used by vehicles who only have one passenger during rush hour. There should be more patrol or monitor to the carpool.
Cheaters in the carpool lane
CARPool lane for EV's is being eliminated as of Sept 30 if no legislation is enacted
County should offer VANpool options

Carpooling cont.

Try to create a group of community of people within the county that commute to the same location to carpool with
I would love to carpool if able to connect with co-workers
If would be nice if County has a carpool bus or car that pick up and drop off employees in particular locations where more than 5 employees resides.
It would be nice if there was a van carpool from Antioch to Arnold Drive in Martinez, since a lot of us work here.
Some sort of county ride share program should be implemented for county workers, particularly the large population of Clerks, nurses, etc that both work in the county and live nearby.
What about consider a carpool using a company vehicle that would be assigned to 4-5 people living in the same area (e.g. Concord, Clayton, Bay Point), have a meet up area. Then set a scheduled driving rotation. Whoever is driving will have the car, others will park at a convenient and safe place for pick up and drop off.
I'm an introvert and don't want to socialize in the morning or afternoon commute with carpooling. I like my quiet time during my commute to prepare for my day or decompress from my day.
I don't want to have to ride with others. Don't want to have to make small talk, be late if they are late, worry about commute when they take time off or notifying them if I take time off, don't want to be exposed to illness during cold and flu season. Flexibility to leave if dependents need me or if I get sick.

Comment Category: Children Limit Commute Options

As a parent I need flexibility that public transit does not provider, i.e. if I need to leave due to a sick call
As a parent, I would like to bike or walk to work, but I usually need to take my kids to/from school or activities before or after work, which dictates the use of a car. Also, I have my current gas-powered car serviced by my father-in-law, who is a mechanic, at the cost of parts only. Since he doesn't know how to work on EVs, I would have to pay a lot more to get an EV serviced.
childcare makes it difficult to carpool with others. I live in American Canyon and I'm not sure of the commute options available to get to Martinez.
Drop offs -children to school
Flexibility needed to drop off/pickup school children
Have to drop off children at school in the AM
Have to stop by day care on the way home.
I need to use a car to coordinate childcare and time management
I think it is challenging to consider alternative transportation methods when you have the responsibility of transporting kids to daycare before and after work, especially with car seats.
Location of childcare, limited Childcare hours and strict work hours leave little room/flexibility for public transit delays, sweaty bike rides in summer heat (in work clothes or w/ no showers at work)
No. I would walk if I didn't have to transport my child.

Comment Category: Commuter Benefit / Incentives Needed

The commute benefit program is not designed for our situation, where parking is free. It seems more designed for people who park at a BART station and commute to an urban center. Too many County offices are not proximate to BART. It's an 8 mile bike ride from the nearest BART station to my office. The total trip is 90 minutes each way. I can drive in under 30 minutes each way.
The Commuter Benefit Program is not available to all county employees, unfortunately.
there should be a commuter benefit for those of us that cannot take public transportation from our homes
Why is the commuter program limited to Clipper and Amtrak? I'd like to be able to put away pre-tax money to pay for tolls.
I wish the commuter benefit allowed me to set aside more than $350, since my monthly train pass is $516. Even if the additional $166 were after tax, it would make the purchase simpler to have all the funds in one place.
The "Parking Benefit" debit card DOES NOT WORK at Martinez meters. Or it works so sporadically that it is not dependable.
If there are more environmentally friendly ways to commute, it would be nice to have travel route assistance to learn how to coordinate safe/timely arrival and departure from our job sites.
Lack of support or incentives to use sustainable transportation.
Reimbursement for environmentally friendly options would make it easier to utilize
Why do you not have more incentives or information to encourage people to commute.
Instead of offering discounts for Clipper cards and Amtrak, maybe offer a stipend gas card for those who live 20+ miles away from work.
I believe employees should be on the clock/paid for their commute time.
I wish county pays for employee commutes.
Not a concern, but a thought. Travel time included in working hours for modes that are environmentally friendly. Example: Walking gets 1hr comp time, biking gets 30 mins, bart gets 15mins. If biking both ways included 1 hr of comp time and I only had an 8 hour day instead of a 9 hour day, that would incentivize me to bike more than just the bike to work day each year.
If there are more environmentally friendly ways to commute, it would be nice to have travel route assistance to learn how to coordinate safe/timely arrival and departure from our job sites.
im not offered anything as a temp even though im supporting this company
Cannot afford to purchase an e-bike or EV. If the county provided a discount to purchase, then maybe it would be in my budget.
Employee benefits for driving an EV
How about giving incentives or discounted LV that the low income employees can afford

Comment Category: Commute Distance/Time

The TIME required to commute by transit is HUGE compared to driving. Safety is also a major factor.
The highway I travel on is highly congested, and it takes me an hour to get to and from home, even though I only live 17 miles away. If my department offered an alternative schedule, I would likely accept it.
Commute distances can vary depending on which site visiting
Commute is ridiculous
commute on Hwy 4 during commute hrs is murderous
Congestion and population increase increases travel time

Commute Distance/Time cont.

Contra Costa, and this area especially, are not geared to anything but driving. I have no desire to make my commute two hours each way in order to take the bus and then bart and then bus again. Our public transport sucks.
Driving 5 days a week with traffic for 50 minutes to 60 minutes is very hard and inconvenient😒
I live on rural roads often road closures, or road work that can add to my commute time. Roads often flood in winter or trees or rock slides into road.
I was asked about my commute from my home to my place of work but not the other way around. My commute into the office takes 30-40 minutes but on the way home that can range from 40-70 minutes depending on HWY 4.
Less time with my new born from time of travel
Long time commute than expected and mor cost
My commute is stressful, 29 miles takes over an hour with normal traffic, longer if there is an accident. often times I am late to work even when leaving early enough. working 4/10s or 9/80s would be a big help for most of us that work for the county .
My commute is very long and it would be great if an option could be provided to transfer offices to decrease overall commuting time and decrease the impact to the environment from commuting 60+ minutes a day.
My drive home from work can vary up to an hour even though it's only 25 miles away
The amount of time my commute takes away from my family time.
The amount of time spent commuting can be better spent at home. 45 minutes to an hour to drive 15 miles when i can work from home and save the gas and stress seems like a logical solution.
The impacts of accidents, road closures and other traffic shenanigans that delay a normally long commute even further.
The number of miles and commute time from work to home. It only mentioned from home to work. My commute in the evenings is 45 mins to go 5 exits most nights.
The ride home takes double time than the ride to work
The time involved in commuting door to door if taking alternative transportation, e.g., public transit
time
too far
Wasted time commuting to office when telecommute is a viable option; excessive pollution is another result of sitting in traffic which could be quickly reversed if more telecommute options were available.
Not being able to afford to live in the same community one serves is extremely frustrating and exhausting.
Not enough pay to cover my 2hour commute. My area pays less income, therefore the reason why I commute.
The pay in Contra Costa County is not high enough to afford living in the city I work in (San Ramon) so almost everyone that works here has to commute 20+ minutes to get to work, and nobody wants to come here as a substitute since it's so far out of the way of where people live.
A long commute may cause tiredness and burnout many dangerous/risk may occur.
All of these questions only had to do with time and money and yes, those things are really important, but nothing is mentioned about the mental health of staff who have to commute for an hour+.

Comment Category: Cost of Commuting

The increase in gas and the cost of a vehicle
Maintaining car cost for commute
Insurance Costs, and road conditions
insurance higher because I drive during commute hours
I also have a lot of wear and tear on my vehicle, tires and oil changes and damage to my windshield due to commuting that is never taken into consideration.

Comment Category: County Work Vehicles

The county doesn't provide electric vehicles
I start and end my day in different locations, and drive my work truck home most days to be able to do so.
There would need to be enough county cars available if I had to travel during the day if I didn't have my car. Social Workers use the vehicles and they are sometimes hard to reserve at smaller offices
We have county cars at our site; however, the number of them is so limited that I have to use my personal vehicle to travel to court to allow for the social workers to use the county cars to transport children. We like the EV cars, but often if we have to transport a child down to southern California or somewhere far, the EV cars are not realistic. We can't stop with a child in the car for however long it takes for the car to charge.

Comment Category: Driving is the Only / Fastest Option

driving is the fastest route to and from work as I am counter commute.
Driving takes me 60-90 minutes. Public Transportation takes me 2 hours from my home. Amtrak does not provide good time frames to take the bus and is too far from my home then at work. Carpool lanes no longer is a benefit to work as it only saves at most 5 to 10 minutes on the freeway.
As a home visitor using anything other than my car isn't an option. I cant bike to East County from Central County with my medical equiptment.

Comment Category: Driving Safety

Highway 4 is dangerous and an extremely difficult commute in both directions. Unannounced road work, frequent accidents, shootings, random pedestrians on highways, not able to use the commute lane, sucking additional revenue from commuters by charging them to ride on roads we've already paid for, potholes which ruin alignment, tires, etc., we are ruining our environment, and for what? To make sure people show up every day? Forcing people to come in 3 or more days a week, when working from home is easier, employees are happier, just as much, if not more work gets done. I work longer when remote, because I don't' have to worry about how bad traffic is going to be going home. Dealing with traffic is the most frustrating part of my day and I've considered retiring for this reason alone.
Dangerous drivers (excessive speeding and lane changing and shootings) on Highway 4
Driving is scary in this area. People are dangerous, have been road raged several times,
driving through sketchy neighborhoods in car

Driving Safety cont.

Have been rear-ended by a hit and run. Caused major issues with concussion, headaches, neckaches, buzzing in ears, etc. See it happening on daily basis, and have major concerns it could happen again due to the speeds of others, carelessness of "cutting in" so many using their phones while driving and slamming of brakes on a continual basis. Very spooky on Highway 4 and alternate routes.
Highway 4 has progressively become more dangerous over time
Hwy 4 is dangerous
I use Hwy 4 to commute to work, there are many accidents because of careless drivers.
its risky driving on hwy 4, but i have no choice
James Donalan can be dangerous to drive due to speeding cars
more vehicles, more congestion, bad roads all lead to more accidents
Only crazy drivers on the freeway and how much more dangerous it seems.
Road rage and my health sitting down at work and in the car
Road rage safety, people are very unhinged. I've been a victim to road rage and my car was damaged by another driver on purpose.
Safety driving because of all the vehicles on Hwy 4
Safety. I was almost run off the road yesterday trying to get home by another bad driver. I worry about road rage and my safety, especially when I'm in my county shirt.
Stress and Risk driving with crazy driver.
Very dangerous driving conditions occur daily on HWY 4, especially in the evening.
yes, accidents happen, and we are very likely to at some point be involved in an accident because we drive on a daily basis and therefore probability of is higher

Comment Category: EV Charging Limitations

1) Not all EV owners can charge their car while at work due to there not being a lot of EV chargers at County employee lots. Employees would need to relocate their EV car after 4 hours. Will staff be offered time to move their EV after 4 hours into their shift? What is the County's vision for EV parking if more people owned EV's and need to charge car while at work? 2) What if there is a power outage and one needs to charge their EV?
availability of charging stations
EV chargers in downtown Martinez are regularly broken, and there are only 7 open to the public
EV charging stations at my job but is limited to county use only even if most of the time are completely unused
How frequently I would need to charge an EV when commuting to work. How far I can travel on fully Charged EV?
I don't have a garage, so I can't charge an EV at home. I really want to buy an EV, but my work site doesn't have EV charging stations. I would buy an EV in a heartbeat if I could charge it at work. I'm reluctant to rely on private charging stations because I've heard that they are broken or in need of maintenance. I can't buy an EV until I know for sure where I will be able to charge it regularly and reliably.
I wish there was a charging station at Pittsburg Health Center
I wish there were more EV chargers at my work. Some are not made available to me.
if there is charging stations in work station, i will opt to buy an EV
need more EV chargers at work location
Not enough public chargers near 900 Ward in Martinez

EV Charging Limitations cont.

the new office space across from the HR building on Escobar has a whole fleet of EV chargers but the Public Defender's Office does not have access to them. This seems unfair for no reason. Let us charge!
We are in a leased space that has EV charging stations. If we move, this is an uncertainty we face, and I would like my next space to have every charging station. Not paying for gas was an incentive to get an EV car.
We have EV chargers at our work that just keep getting vandalized/destroyed (wires have been cut at least 3x). Would not recommend fixing/replacing again.
We need More EV charges at work. Strong powered units. We have 2 at 50 Douglas and don't work efficiently
Why county didn't provide enough charge station even for their county cars?
why we don't have charging station in our work even for county EV CAR ?
Initial cost to purchase an EV car, no charging station nearby both at home or work, my current vehicle suffice my needs
I used to drive my second car, an EV to work, but it got near totaled in a hit and run collision in the EV area in the parking garage at WCHC. I am not the only one this has happened to. Many messages to parking administration about setting up some barriers or redesigning the EV parking area in a way that makes the cars less vulnerable were unanswered. After that I resumed driving to work in a gasoline powered car and park upstairs. I also take BART/Bike/Ferry when my commute is in daylight, which unfortunately is not often, mostly in summer.
Only way EV seems to be possible is by owning a home to charge at.... do not have that. Buying a new car is a significant investment.
I don't want a EV because it takes too long to charge
I have heard EVs take a long time to charge and need to be charged often. I am concerned that on a long drive I won't have access to charge my vehicle and if I do have access it will take much longer to get to my destination due to the charge time.
consider free charging via solar

Comment Category: EV Environmental Concerns

No but electric vehicles have a negative impact on other countries which is why I would never buy one
Production of EV batteries is destructive to environment. The electric grid is already stressed amd there is no convenient way to charge at home. Would consider EV when batteries/vehicles are safer (not prone to deadly fires) and more environmentally friendly in production and maintenance, and when EVs become significantly less expensive.
WHERE ARE ALL THE USED BATTERIES GOING TO GO?
I am not sure that EV is more environmentally friendly than gas. The batteries eventually get disposed of somewhere. What happens to environment when making batteries do we know that yet? I want to telework to not commute so much.
Besides the environmental impact, which is very important, there are also considerations such as road usage, vehicle emissions, and other road hazards that are always present. It is crucial to understand how important it is for some employees to be at their specific work locations and whether there are closer alternative options available.
EV cars cause severe radiation and inflammation in the body based on the technology used. If they made a radiation free EV care I would purchase one.

EV Environmental Concerns cont.

EV Tech is not fully developed and may be better for local air quality, but currently generates tons of hazardous waste from low lifespan batteries and manufacturing.
Here are some things to consider: Some of our staff work two and a half days from home. This means they may come into the office half a day and then travel back home for the remainder of their shift. This makes carpooling or timing of public transportation tricky. I live in an apartment in Moraga without EV charging capability and work in Martinez. I am lucky to generally travel against traffic for my commute. I also have to be flexible during the day as a manager for running errands between offices or work related locations so I need my own vehicle. Also, one thing missing from your survey is if people think electronic vehicles are actually environmentally friendly at all. For example, the lack of infrastructure to responsibly dispose of the batteries which are more expensive, fail more often, and need replacement more often than those in a gas vehicle.

Comment Category: EVs Generally not Viable

I don't believe having an electric vehicle has a lot of benefits, considering the distance I drive round trip to/from work, as "range" doesn't consider daily "stop & go" traffic, which lessens the range an EV can go. It doesn't consider running the AC/heater and having more passengers, if carpooling was an option. All of these lessens the range of an EV. And, I understand getting to a full charge can take a long time, let alone trying to charge it at different charging stations...if you don't have the right EV adapter, you might not be able to use the charging machine. Why EV manufacturers were not required to make a "universal adapter" for all EVs is insane! Gas vehicles can use the same gas pump(?) Also, I understand that EV batteries don't last forever, cost a fortune to replace, and if they catch on fire, fire departments are not equipped to quickly put out the fires... So, safety is a concern... And, what happens to the old batteries? Are they recyclable? How is that more environmentally friendly? I just don't believe that CA or the US for that matter has the infrastructure (i.e. electrical grid) to support EVs. Folks can barely afford a gas motor vehicle at the current prices and interest rates, so not sure an EV is affordable for most...
I drive a lot, and the EVs I see are sometimes pretty flimsy. I'd want to know that they had been around long enough to have good safety and reliability ratings.
What about when the power goes out for days at a time
I don't know that an EV would be as safe to park on the street where I live.
EV vehicle is NOT economical in the long run, and cost more to produce and use than gas powered, also not coinvent.
At the end of the month, my commute will increase considerably. I can't risk an EV leaving me stranded on the road, and I don't have the time to let it charge for extended periods of time, unless I'm asleep. And that only happens once per day, what about the rest of the time when my charge runs low and I don't have a second vehicle available to meet my needs?
Effective 8/31, I will be losing the option/benefit to ride in the HOV lane in my electric vehicle.

Comment Category: Flexible Start Times/Work Schedules

Flexible start times for traffic conditions would be helpful
I would like to mention the mental stress of sitting in traffic before our workday starts is extremely exhausting. A regular 15–20-minute commute turns to an hour commute when driving from Antioch. If the county provided flexibility with Hybrid schedules, I know employees including myself would feel less stressed out before starting the day.

Flexible Start Times/Work Schedules cont.

I would like to work a 9/80 schedule and might be able to soon.
If you work 50 miles or more away from job site you should be offered county car to drive site to site or... have the option to work hour shifts.
More flexible start and end time would be great to avoid sitting in traffic if working remote once a week is not an option
Require ALL government agencies to offer alternate work schedules to ALL employees and not just for an elite few!
The impact of the stress level of 5-day commute for people that works regular hours 8AM-5PM, without work from home or 9/80 options
To be giving the option to have a hybird schedule or schedule options 4/10's etc
When alternative schedules are not available, it increases traffic, therefore leading to having to leave your home earlier, causing stress and anxiety to get to work on time. It takes time away from family and the ability to take our kids to school.
Would LOVE a 4 10's work week.
I live in Sacramento and commute to Richmond. I drive from home to the downtown parking structure. 10 minute walk to the Capital Corridor. About 90 minute train ride without delays to Richmond (delays are often). 5 minute walk to the Richmond office. Same on the return trip home. I leave the house at 435 am and get home just before 6 pm. An 8 hour work day is a just less than 14 hours and I do this 3 days a week. A 4x10 work schedule would be beneficial. Occasionally I will drive but its horrible on the way home, going to work is fine as I start at 7am. I do use the Navia commuter benefit. Some employers I commute with also give employees stipends, CoCo does not. I'm not against buying an EV but Richmond does not have charging stations and the State is taking away the carpool/EV lanes. There is no time saving benefit for an EV now.

Comment Category: Personal Vehicle Needed for Work

I also use a car to be able to travel to and from in person meetings including community meetings and collaborative meetings during work hours where otherwise public transportation is not reliable. My colleagues and I will usually carpool to those meetings. The other advantage of having a car is being able to transport equipment and supplies to and from meetings.
I am a field inspector and sometimes I am required to use my personal vehicle to travel to each inspection site.
I sometimes have to drive to other sites and would need to have my car. Thank God my supervisor allows me to work from home 2 days/week, especially since my commute is 80+ miles roundtrip.
I work in Public Health and drive to do home visits
not enough county cars, having to use personal vehicle for work
Not only do I use my vehicle to commute to work, but because there are not enough county vehicles, I have to use my vehicle for work with clients.
Not really. The main issue I use my car is because I also use it for official county business.
Once I arrive at my office, I often need to drive to other locations in the county for meetings, so commuting and carpooling isn't really an option.
The need to drive between offices daily
Using personal vehicles for travel and field work. Maintenance is expensive, gas is more expensive.
Work requires the use of a vehicle to get to each court location so hard to do anything else but commute solo

Comment Category: Personal Vehicle Issues

Having a vehicle allows me to run errands after work.
I have to sometimes travel during work and it's time sensitive (during lunch hour) and/or long distance.
I often do multiple stops and grocery shopping on my way home from work
Other people and activities depend on my use of my car.
If no lunch room or personal office available employees use their car to eat
It takes away from flexibility both before and after work. Can't stop for something on the way home
I work 2 full time jobs so often I am coming from one job to the other so I cant carpool or take public transportation not enough time.
car broke down at this time.
car repairs
I require a lot of flexibility

Comment Category: Parking Issues at Worksite

inadequate parking at workplace, BRIDGE TOLL, unsafe drivers and unmaintained roads
Adequate amount of parking for employees
At CCRMC we have very limited parking. I work evening shifts and often have to park in the neighborhood because there is no space for parking at the hospital. It is very frustrating to come into work like this.
build a new parking structure
Can we please get a parking garage that would help not only patient parking but for employees as well to make commuting easier so we can all be on time.
County needs to build a parking space at Martinez hospital as it's hard to find a parking spot during weekdays. Also county needs to reimburse for any parking tickets that employees get due to unavailability of parking in the designated parking spots.
Employee parking is limited.
Extremely limited parking at work location (CCRMC) and dangerous for pedestrians.
Free access to parking is essential and not readily available at my worksite.
Having to pay for parking in Martinez is really difficult
I don't want to lose normal parking spaces because of charging stations. A parking garage at the hospital would be helpful. The shuttle service lot is too far away for backup parking if you don't find parking at the hospital. It only makes sense to park there if you go directly to the shuttle lot.
If my work location relocates, parking will be a big challenge. This could happen within the next few years. I work in a city-owned facility overseen by the county.
Instead of asking us about commute, bring an EV charger, create an employer-only parking lot at 500 Ellinwood Way, Pleasant Hill, CA
it's difficult to park past 9am, my shift starts at 10am. Even if attempting to come in early (around 9:30am), employee parking lot is still full, my car already got side swiped when parked on the street, there were no cameras and its expensive to fix the big dent on my car. it is not safe to street park in our area
lack of parking at Martinez health center
Maybe make a bigger parking space please. sick and tired of nurses taking all the parkings and all the valet does is park more cars behind the vehicles.
More allotted safe parking for employees IE (Bikes and Motorcycles)
more handicap parking available in the hospital lot

Parking Issues at Worksite cont.

More parking
more parking spots
My only concern is the parking situation (lack of parking and lack of parking for the patients)
No covered parking where I work. Solar panels/EV charging combos would be a great incentive.
no designated parking available at detention facility martinez for employees. we have to share parking with court people
no parking at CCRMC. at all, shuttle service not convenient for irregular and night hours/shift work
Not enough free parking near worksite for County employees in Downtown Martinez
not enough parking in Martinez
Not enough parking spaces in our current building space
Nurses need convenient Parking close
Only concern is finding a place to park when I arrive to work
only issue is finding parking at my place of work
Parking at CCRMC is horrible. It leads providers to park unsafely in the neighborhood and have unsafe street crossings across Alhambra. The off campus parking with shuttle adds untenable time to commute which would limit the time I could spend with my family or doing other necessary tasks
Parking at the hospital in Martinez is too hard to find! We need help!!!
Parking availability within my work premises
Parking Garage?? Employees need more parking
Parking lots sometimes are very congested and the spots are a bit narrow/you cant open car door because trucks and large cars pin you in. Also lack of lighting and bumping cement makes it easy to trip and fall. The parking lot is too dark at night
parkings are hard to find after 9am.
Some questions doesnt apply to me so I answered in general like the parking is generally hard in my work site but since I work day time I do not have a problem finding one when I go to work. But when I have a DR'S appt of my own in the middle of the day I have to come in atleast 1hr before to give myself time to look for parking.
Sometimes there is not enough parking because of jury duty and I end up having to park really far or pay for parking, which isn't ideal.
There are not enough parking spaces for employees, forcing us to park on the streets in the residential area. This causes several problems. Residents complain about employees parking in "their spots" (I have received notes threatening to tow my car). Employees have to cross several high traffic intersections, risking getting back cars. In fact this happened twice this year that I know of. Lastly, it adds extra time to commute, since employees have to account for the walking time to avoid being late.
There is a lack of parking and the parking lot is too far.
There is no parking space for staff available
There seems to be less available free parking at 1025 Escobar lot, especially on busy meeting days
We just need more parking for employees
we need more parking at Martinez health center
We need more parking spaces available at Center Ave., Martinez. Sometimes, we need to park across the street because our parking lot is 100% full.
I don’t feel safe walking to my car when I work past 8pm
Parking and the safety of parking when working late hours

Parking Issues at Worksite cont.

Raccoons, foxes, and other wild animals in the parking lot, especially at night--they rummage through the trash bins;
Safety for women
Need security cameras at the employee parking
Personal safety during dark months; I have to walk in the dark from employee parking lot to Degnan Medical Library. Why can't we have safe parking spaces in the Martinez Bldg 1 parking lot for our personal safety?

Comment Category: Remote/Hybrid Work Request

Flexibility of work schedule or some Telecommuting would eliminate stress, mentally and financially, even if only 2 days per week
2 days of remote work would be beneficial
All County employees should be eligible for remote/hybrid work.
Alternative/Hybrid work schedules should be offered to more employees. There are too many commuters on the road.
Commute adds additional stress, county BHS is not entertaining the conversation on doing hybrid model of working from home 1-2 days when a 50% of work is virtual
Commute from Vacaville, due to appropriate rental cost. Gas and bridge toll are consuming. It would be nice per county policy to allow more days telecommute.
Commuting takes a lot of time and drains my energy. I'd rather work from home than commuting to and from office for a total of 10 hours per week.
County should offer more work from home options, even if merit based (or if trust is broken, etc)
DA's Office should offer two days of remote work to employees, just like other departments
Everything I do at work I can do from home. All meetings happen via Teams. Save county money on building costs and improve employee costs and moral by allowing 100% remote work.
Everything that we do in the office can be done fully remote. We do not need to be in the office.
Explain why, if we're so committed to the environment and energy and cost savings, ALL workers must work in office on a regular basis even when the work can be performed demonstrably well via WFH. Explain why CCC is against regular WFH, in spite of all the obvious benefits.
I also commute 2 days per week to West county which is 66 miles and takes 3 hours of driving roundtrip. I'm not allowed to work remotely although my job duties would support it.
I am only able to work from home one day per week. Two to three days per week would be preferred.
I can do many elements of my job remotely, but this is not permitted per agency policy, leading to pollution, wasted gas and time.
I drive to Danville most of the week(sometimes to Richmond) because I don’t get the option for an AWS or work from home.
I strongly believe the expansion of work from home flexibility would have the most positive environmental impact, and is the best solution, especially for positions that are not client-facing.
I support hybrid remote schedules that remove vehicles from the roads, reduce commute costs and stress for employees, and improves work-life balances of employees supporting the public of this county.
I think you should be able to have a 9/80 and 2 WFH days
I want to work from home all the time

Remote/Hybrid Work Request cont.

I wish that County would allow more WFH days or more flexible hours for jobs that do not require to see clients to lessen congestion on the freeway.
I wish we could work from home 3 days a week.
I would like more work from home availability/flexibility. I am able to take one work from home day a week. We are required to select a specific day of the week (mine is Tuesday) and cannot move that day if I have court/in office obligations that require me to come into the office. I currently take one work from home day every few months because of work requirements. Ideally I would be able to move the day so that I can actually take the WFH day each week. I would also like to have more than WFH day per week.
I would like the opportunity to work from home. Traffic is pretty bad.
I would like to have the opportunity to work from home
I would love to have a more ecofriendly commute. But there has to be a balance between convenience and environment. Any other options for me right now take easily twice as long for me if not more- cost money and would mean a lot of extra coordination. Other than working from home I really don't see a way to combat this.
I would love to work from home at least 3 days a week
i would love to work remotely more
If given the opportunity, I prefer working from home, due to gas prices and stress of commute.
If the option to work from home was there, I would take it.
I'm concerned the County will remove work from home options and therefore increase the cost of commuting. it would make it unaffordable for me to continue working in the County
It's longer than I'd like and our management hates us working from home or flexible hours despite our position almost needing it. And our mental health. Which they also don't care about.
Just to reiterate the increase of stress, more consumption of time, increase risk of accidents and increase in pollution by having to commute to work/work on-site
Limited number of days to telecommute
More work from home days on NON phone days are needed
More work from home days should be allowed
My commute is 1hr.20mins each way. The traffic is exhausting. Would like the option to work from home, since all I do is computer work.
Our office is trying to bring us back to the office full-time. In shared offices, it is harder to speak with clients and to concentrate on our writing. Studies have shown employees are more productive and happier when offered remote work. I am spending more money on gas and on parking, in an economy that is not stable. Our pay has not gone up and we have never been offered permits for parking. We are able to complete our work from home and have never had any difficulties meeting deadlines. We should continue to be able to have remote days.
Our office needs to be more supportive of work from home. We are currently allowed one day per week, but that does not apply to all staff and management does not seem to support this by making some meetings in person only.
Please offer alternative work schedule or telecommute (work from home) for all Medical Records Coders not only for HIM department but also for any departments like ours Finance/Patient Accounting. Thank you.
Remote work options are the best way to ease commute disadvantages.
The only way to avoid my commute is to be allowed to work remotely from home every day
The vast majority of my work can be performed remotely. There is no viable way to my office via bike. The GHGs that I expend getting to and from work are unnecessary.
There is no benefit to working at an office when all of our work is done on a computer.
We can't work from home while on probation. If there as an e-learning day, there should be an ability to work from home.

Remote/Hybrid Work Request cont.

We should be encouraged to telecommute on "Spare the Air" days or on days we feel sick but not too sick to work (more flexibility on remote work policy)
We simply could be allowed to work remotely
We work as Navigators that are required to be all over the county 7 days a week. We have all been denied a WFH day and 9/80. There is no work life balance for us and burn out is happening amongst most of us because of this. Our a vehicles take a beating also and 70 cents a mile doesn't make up for all the wear and tear.
WFH options can help with pollution, traffic, and better work life balances
WFH should be more available
Work 4/10 and work remote 1 day per week, would like to work remote 2 days per week as allowed by County's Remote Work 50% remote policy, and cut my commute days even more. Public Works policy doesn't allow it; even though our division got a Walford Award for support during the pandemic when we (the programmers) were 100% remote. Makes no sense to me.
work from home has been almost fully discouraged in our department. in fact it has been such an obstacle to be approved for it because we have been denied everytime. Most recently the last opportunity we were given our application our WFM options for days to be out of the office were only Tuesday, Wednesday, and Thursday. So before WFM requests can be approved it is already insinuated that monday and friday work days would not be allowed because people would not be productive. it wasn't announced why would upper management prohibit 2 out of 5 days to entire departments but speculated that would be the most understandable reason. somehow i believe WFM it is not even worth it because it seems management do not trust employees which results in increased micromanagement and focus on productivity logging than actual work.
Work from home options are extremely limited despite my entire function being 100 computer/web based. As a Systems analyst I'm given a laptop that I carry with me on my more than an hour long 22 minute commute so that I can work on that laptop in the office on web-based systems. The County's limitations on overall duration of weekly work from home are entirely arbitrary and counter to any green initiatives or employee satisfaction. Remote work schedule and offerings should be expanded dramatically where possible.
Work from home options for clerks
Working from home would solve everything including the costs the County pays to rent our building unit considering we are not in direct in person care.
Would like more remote options or flexability to reduce the amount of commute.
Would like more Work from Home opportunities.
would like the option for more remote work days
Would love partial remote option. Complete my field work outside and chart at home vs office
Would love the option to Telecommute 1 to 2 days a week OR work from Loveridge CCCFPD location 1 to 2 days per week to save on commute time and gas.
County employees should have an option to work closer to home. By providing employees with the option to work closer to home it supports a healthier work-life balance while benefiting the company, the environment, and the employees.
It would be nice if we were placed closer to our home
Working Closer to Home Office
Would like more alterative work start locations
The county should allow employees to work from home (WFH) additional days based on the miles from home to work. I work a regular schedule so I am can only WFH two days a week. My commute and work productivity would increase if I could WFH more than two days. There should be accommodations made when employees commute more than 100 miles round trip. My commute is 1hour and 30 minutes one way and 146 miles round trip. I commute 3 hours a day

and could be working instead on driving. This will increase positive life balance, healthy habits and work morale.

Comment Category: Road Maintenance

The roads are not well maintained
The roads are terrible, whether I drive an EV or a gas vehicle, the roads are costing me in repairs to my vehicle, tire replacements, alignments, and more
The state's lack of maintenance of the highways
Horrible maintenance of public highways

Comment Category: Schedule Limits Commute Options

I have multiple work sites within a day
I start my drive at 4:30AM so not easy to rideshare
I travel to different work sites on different days
My schedule can change same day. I can be scheduled for west county side and then be moved to east or central county and vice versa. The change in work location can also be last minute as well.
Ride sharing is not really an option as my hours differ from most of the other employees that work here.
We have to commute during working hours. Carpool can not be an option.
Would love to take Amtrack and bus to work but my work schedule is not flexible enough to accommodate the train and bus schedules. I can

Comment Category: Shuttles Don't Accommodate Solano

There are shuttles available but it's only beneficial for those that live in the east bay side of the bridge. Those of us that live on the other side like Solano and work in the hospital would benefit from a Shuttle stop by downtown Martinez where parking is available. Therefore, we can find parking and just ride the shuttle to the hospital, instead of looking for 10+ minutes for parking a mile away, getting into altercations over parking or inconveniencing the neighbors. Not to mention potentially getting run over just trying to cross the street. I feel that it's counterintuitive for someone from the other side of the bridge to go through traffic and another highway, adding 15 to 20 minutes to commute just to ride a shuttle for another 15 minutes. The current shuttle can easily pick up workers downtown after the hospital drop off, go back to the hospital and continue on the route.
They provide a shuttle service to work but only accommodates personnel coming from one direction. Does not accommodate people coming from Solano direction.
To make taking Amtrak easier, it would be great to have some sort of free shuttle from the downtown Martinez station to the County offices along Highway 4 in Martinez. Also, some form of incentive to make the price of a train ticket less expensive would be beneficial; the roundtrip on Amtrack from my home to work and back home costs about half the price of a tank of gas :(

Comment Category: Traffic

The issue I have is being docked for time due to bad traffic.
Heavy traffic and expensive bridge toll cost
Terrible traffic and unsafe driving conditions, bad roads
The issues with my commute are: the traffic volume, the unpredictable accidents, and dangers of driving
The amount of traffic congestion on east bound Highway 4 from about Pittsburg/Antioch on, in the morning. Is there anything being done to address this influx of commuters in the future, especially as far East County areas like Oakley and Bethel Island continue to build and grow? Also, having the option to offer a flexible work schedule (e.g. 4/10s, 9/80, hybrid work-from-home) would be a great option! Thank you.
Parking and traffic on highway 4
traffic, less parking space if I don't arrive early.
Traffic creates mental stress, vehicle wear & tear, and seems unnecessary as my particular job can be fully performed from home. Weekly meal prep for lunches and leaving my pets alone for extended periods also create stress. Remote work days ease mental stress, give me the ability to use my break times more effectively, reduce vehicle wear & tear, and help the environment. Being away from home for ~11hrs/day (~2hrs for commute both ways, 8hr work day, 1hr lunch) is not conducive to a positive mental state or optimal productivity. I feel departments should asses what positions can be offered more remote work due to the nature of duties and the County should expand the maximum allowed hours per week that remote work is offered for those who's positions may qualify and those who may wish to take advantage of such opportunities.
A lot of lights. Stop, go, stop go, etc. A lot of traffic.
A minor concern for my commute when going to the office would be allowing a lot more time to arrive from West Contra Costa County to Downtown Martinez because of the schools and hospitals where it is important to drive at a slow pace given the number of people crossing Alhambra Avenue in Martinez. It can be an unpredictable commute time depending on the number of students, staff and patients are in the areas of the schools and hospitals.
Amount of traffic
car accidents
Cities need to STOP building. There is no room on the freeways and they just keep building new developments which put more and more people on the roadways.
Commute traffic is horrific
crazy and uninsured drivers.
Drivers in the far left lane leaving football fields of distance between them and the next car out. Passing lane = PASSING LANE. Thank you... that felt cathartic. Like it needed to be said.
Extreme traffic on hwy 4
Freeway Shootings, constant accidents, not enough alternate routes.
Getting stuck behind an accident can be challenging. If that happens, I could be stuck for a short period of time or hours! It takes over an hour to drive but only 30 minutes on the train. I would need to adjust my schedule as the train usually gets me into Antioch at 9am.
Heavy traffic if there is a road blockage and/or car accident as there are only two lanes available on HWY 4 when coming from 80
Highway 4 is hell on Earth.
Highway 4 is horrendous going home.
Highway 4 is ridiculously congested.

Traffic cont.

HWY 4 is unpredictable, daily. I can give myself an hour to get to work (which technically only takes 25 minutes with no traffic) and there are times when I don't make it on time, and other days, I make. HWY 4 SUCKS!
I commute from Brentwood, so I have to take the 4 freeway, and the traffic is insane
I commute on highway 4 and there is an accidently weekly. It's unpredictable and just requires me to leave really early for work.
I don't know if this is the place to bring up that Hwy 4 (between Port Chicago and Bailey) has entirely too much traffic :)
I have noticed that there is higher traffic due to people being required to work in the office.
Local restriping surface streets that eliminate lanes for cars
More and more traffic everyday with no way to make the commute more bearable. There are just more people on the road and they don't pay attention while driving.
Not knowing if there will be an accident or something out of my control that will make me late for work and then I'm awop'd that time.
not really I am a remote worker but times I have to drive into the office the commute can be a pain
Nowadays accident is typically happening every day, commuters are prone for accident and or will be stressed of the traffic as a result of an accident.
Ongoing traffic problems
People drive too fast on highway 4, it's bad
School traffic is outrageous
Street Traffic
street traffic is worse than highway 4
Too much traffic doubling my commute time.
Too Much Traffic Everyday
"Traffic" stated as full comment 14 times
Traffic - mostly because people commute out of their residential area due to not having enough employment available in the area.
TRAFFIC AND DRIVE TIMES ARE INCREASING LEADING TO MORE STRESS AND LOSS OF TIME
Traffic and Time lost commuting.
TRAFFIC BECAUSE OF THE SCHOOL BESIDE THE BUILDING
Traffic congestion trying to get back home
traffic getting worse every year
traffic heading home
Traffic in the morning has gotten heavier.
traffic is crazy
Traffic on Hwy 4 is very bad heading West bound
Traffic, rude and aggressive drivers, tail gating and big wheeler trucks.
Traffic, traffic, traffic and big subdivisions keep being built on highway 4! There needs to be alternate routes for highway 4.
traffic/accidents during rush hours
Yes, traffic is an issue. I use highway 4 and Interstate 80, and just one accident on either one can cause major delays getting home. One accident in each road can mean a commute of almost 3 hours. sigh.

Comment Category: Transit Not Available/Reliable/Timely, and Safety Concern

I live out of county, BART and AMTRAK are not available. There should be commuter benefits for out of county workers, such as toll discounts etc.
public transportation safety. Also I need to drive to client homes.
There is no direct mass transit to my work location. My leadership does not support AWS and Remote Work like they did in the past. I would do more remote work if allowed.
There is very limited free parking at the office and there is no public transport option from where I live to the office. Additionally, for work we have to go to various different locations a day at times.
A bus or shuttle from North Concord Bart to downtown Martinez
Amtrak times are not convenient for my commute time; there is not a direct bus route from BART to CCRMC; the Shuttle service is more than halfway from my house to CCRMC so there's no point in driving most of the way to have to wait on a bus.
As much as I would love to take an alternative means of transportation to work, due to the location of my home and workplace, my options are severely limited. There is only one bus line here that operates hourly, now. And to get to that bus line, I would need to take BART, then another bus line. EVs are also very expensive. It would be nice if there was something in the commuter benefits for gas.
BART is not in my area in the North Bay.
BART reach is a major factor. I take BART anywhere I can but there is no BART station near my work.
Before I had my driving license, I took local transport. There were multiple times that the bus either did not show, the times listed online were incorrect/inaccurate, or the bus would not stop to pick me up. There are also no buses to take me home after work because they don't run late enough. If my public tranport was better and more convenvient, I would most likely still be using it. If I had a hybrid vehicle, I would use that to commute, but I do not work/make enough to afford one.
bus should run more often at the work building
Bus will take longer, bart no available and walking or bike line unavailable
Could we not arrange bus shuttles from neighboring cities where several employees reside?
Downtown Martinez does not have good public transit accessibility from West County or Berkeley/Albany area
Evaluation of free shuttle service at the alternative parking spot was not included in the survey. Free shuttle service is great and safe. Perhaps a way to introduce EV is to have them as a shuttle service alternative to the parking hassle.
Extending Bart to Martinez area
Frequency of buses
getting to ferry or train or bart is far for me
I believe I would take BART more often if downtown Martinez was more accessible to BART. I also would be more interested in Amtrak if the timing was closer to my schedule and did not require more time to get to the station closest to where I live.
I commute from Richmond to Martinez -- public transportation is VERY inconvenient.
I don't have a car so I'm forced to take busses to work. However it seems like after the schedule changes and line changes from AC Transit, the busses are becoming less and less reliable. The times they arrive at the stop do not match the times advertised on the AC Transit website. It's both stressful and frustrating.
I don't think I have many public transportation options.
I don't understand why Bart was never considered to be build to Martinez considering there are a lot of county employees that would Bart to work instead of driving. No one wants to get on the Bus that takes and hour or two to get to a destination.

Transit Not Available/Reliable/Timely, and Safety Concern cont.

I have considered taking the bus, but there is no direct route, I would need to transfer. Also because I live <5 miles from work it is easier to just drive.
I just want a bus that takes me to this building
I live in an area that there are no buses available, plus the nearest BART is about 15 miles away. My only choice is to commute in my gas vehicle to work. I would have changed to an EV if there were chargers at my work location, but unfortunately that is not the case. And even at my work location they will need several chargers since there are several EV's in there.
I live in Vacaville and would consider taking the Amtrak, but there is no easy way for me to get from the Amtrak station to my office on Muir Rd
I live in Vallejo, I work at 255 Glacier. There isn't any bus lines that make that connection without going through Walnut Creek first. biking is just a little too far. Living in Martinez is not affordable enough to make the move.
I live near BART, but can't use it. I would have to transfer from BART to BUS to get to work and would I be allowed to have a more flexible schedule so I can do this(it would probably take longer to get to work)? I am willing to start later and leave later (driving on HWY 4 doesn't make a difference, same traffic in my commute-both ways), but I am not given that option. Nor am I given the option to work from home. If there was an express bus from Hillcrest to Martinez, but how would we get to all the other offices? Can there be a shuttle that goes from each location? ie: Bart to Center/Pine, CCRMC, Downtown Martinez? I bet it just might be used.
I live on the other side of the bay. There is no reliable public transportation options. We're not considered in any plans for traffic or transportation. If anything, the North Bay feels like an afterthought in any planning and the exclusion in any services other than SolTrans proves that no agency cares about the region outside the East Bay and San Francisco. There's more than a quarter of a million people in Benicia, Vallejo, and Fairfield with only three express lines that connect those residents to the rest of the greater Bay Area. Just to put in to perspective how ridiculous this is, it takes 191 minutes to go from Crockett to Six Flags in Vallejo. For a 5.9 mile trip that should take no more than 10-12 minutes, it's approximately 19 times as long to rid the bus than to drive over the bridge. So, no, there are no good options for any trips from the North Bay to the rest of the Bay Area. Until such time as agencies add more lines between such locations, public transportation is a joke. Now, imagine how long it takes to get to any of the libraries in Contra Costa County using any method other than a car and you'll understand why you need to do better.
I live too far to walk, bike, or e-bike. Bart doesn't go to San Ramon or Martinez.
I usually take BART then walk ~1 mile. It is affordable and pleasant, and a little bit of exercise, but ends up taking a long time for how short a total distance it is.
i well like to save some money on getting to work, maybe a bus can pick up
I wish public transit were more convenient.
I wish the county would provide free buses from the workplace to Bart.
I would consider doing BART, however, will ended up being more time and more expensive.
I would love to take the bus to work, but it takes too long.
I would take Bart if it came to CCRMC, lack of parking at CCRMC and shuttle is 20 minutes each way (too long), lack of charging stations at work has prevented me from getting electric car, Genentech style buses that left Berkeley and came right to campus I would do, or a very frequent bart shuttle
I would take public transportation if that option was convenient from Berkeley.
I'd really like there to be an emphasis on improving public transit rather than electric vehicles.
I'd really like to use public transit or carpool but don't know of any options.

if there was a parking lot w shuttle in Pinole near the highway, people living in West County might be more likely to use it. if we have chargers, worry people will sit on them all day - like there are certain people who always park in the doc "on call" parking spots who work there all day
If there were a convenient (timely, fast, works with my schedule) shuttle from BART to my office (30 Muir), I would strongly consider switching from driving to BART/shuttle.
If there were a reliable bus route or shuttle near my job and home, and/or a discount/help to buy a bike/e-bike/scooter/e-scooter would help, because walking for 1 hour-1 1/2 hours to and from work is not ideal.
if there were an efficient, frequent shuttle or bus from concord bart station to my office at 2425 bisso, I would take it and not drive.
it is very unfortunate that bart is a) unreliable and b) not close to martinez, and that there is not a good bike path all the way from the bart stations that DO exist to Martinez. Amtrak is excellent, but can also be unreliable, and i wish offered more commuter trains between emeryville and martinez. i am invested in figuring out non car ways of getting to work and appreciate any changes that make bike/train/bart commute more reasonable. additionally, wd be great to have the bike trail go all the way to WCHC in San Pablo.
It takes me between 15 to 30 minutes to commute from home to work and vice versa by car, but it would take me 1 hour 30 minutes to do so via public transportation, so that is why I do not use public transportation to travel to and from work.
It would be great to focus on making public transportation more reliable and efficient and giving people a subsidy to utilize these options.
It would take me 2.5 hours one way vs 25 min driving. I do not have that kind of time due to the demands of my job and riding on a bus is not productive time. I live in Vallejo and would have to do 3 transfers and bus service to my house is limited hours.
Lack of shelters at some transit stops make it less desirable to commute during inclement weather.
Looked into riding the bus but it turns my 20 min commute into 1 1/2 hours with transfers and there is not a covered bus stop near my house which makes winter usage problematic
Mass transit in the bay area is abysmal. This forces us to
My drive = 20 min. Public transit = 1hr&15min (Bart and transfer to bus). Amount of transfers and time difference between drive/public transit is very important
Need More commute options from Suisun
no available public transportation and not able to carpool due to childcare pick up and occasionally need to drive to county clinics.
no Bart station in martinez
No bus connection from BART to work.
no direct bart here Or cal train
Not enough affordable public transportation for long distances
Not enough reasonable transit options from West county area
Poor reliable public transportation in May Valley
Problems with bart
Public transit would take much longer (almost 3x as long), and cost 25% more. I love taking BART and Amtrak but the cost and time to get to Martinez are prohibitive.
Public transit would take over two hours and 15 minutes one way from my home to my workplace: 12 miles. Our public transportation system is inadequate!
Public Transportaion stops working early in
Public transportation is usually my preferred method of transportation but it would take hours to get to work this way. Contra Costa is not as connected as Alameda County where I live.

Transit Not Available/Reliable/Timely, and Safety Concern cont.

Public transportation is very poor in Contra Costa County. I live in San Ramon and for the most part it is less time and less hassle to drive. My work hours are also unpredictable in that I a couple of times a week I stay pass my work ending time so that makes car pooling challenging.
public transportation on my route (at least) doubles my commute time. Some modes a lot more than doubles.
Selecting another mode of transportation from where I live would double my current commute time.
Taking the bus is like the Odyssey -takes too long and fraught with dangerous encounters
The bus near my home does not go directly to BART.
the commuter options are not available in my area
There is absolutely no public transport available to me without me having to drive to access it which is ridiculous and concerning for a senior citizen. There should be frequent bus services in suburbs like San Ramon but they are non-existent where I live.
There is no benefit to me utilizing public transportation or buying an EV vehicle due to high costs, inconvenience, and time.
Train requires multiple transfers and I'm not sure the schedule would line up or if I would be waiting at the transfers for extended periods of time
travel between counties is hard if BART does not go direct.
We need a BART station in Hercules and in Martinez
We were moved to Bates and this location is not public transportation friendly.
When working in the Martinez office, there is no viable public transportation option.
While taking public transportation (bus) from home to work is possible, it would require too many connections and take too long
Would be nice to have shuttle from Martinez BART to hospital.
Would like to know if the County would consider a Shuttle to get to and from Work like they've had in the past
yes- a commuter shuttle would be great
sexism makes traveling alone more dangerous for me as a woman on public transit, there is little being done to combat the rise of violence against women
Public transportation between Walnut Creek and Martinez is by bus only. The 20-minute drive turns into 90 minutes by bus and bus transfers, one-way. Doesn't make sense to spend 3 hours a day to & from work using public transportation options available today. While I would consider carpooling, that limits flexibility, and makes for difficult coordination when there are changes, planned or last-minute.

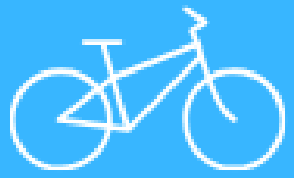
Comment Category: Other

Contra Costa County should implement a school bus system for all public schools to help working parents and the environment…….
I drive the smallest & most frugal hybrid car available.
I take the Link service in the county
Lunch commute not considered
Questions all related to if one lives in CCC vs living in another county to commute.
My commute is one-half mile and your form would not allow for less than 1 mile.
Questions all related to if one lives in CCC vs living in another county to commute.

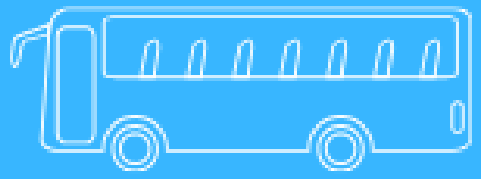
Other cont.

Yes, what help are works going to obtain to make all of these changes in our financial world to by these overpriced cars to use to do our county jobs?
Question about miles to work should say for round trip. My round trip to work is 12 miles total.
The weather plays an impact on how I commute
Only that I sometimes drive our EV and sometimes drive our gas car, so hard to choose which one.
My Commute is short and I can drive most of the roundtrip on Electricity but have gas as well
I rarely if never drive to work.
I'm solely dependent on my car to get to work. That's not a great position to be in.
You don't know that my spouse has had an EV car for years.
The County is currently laid out poorly for non-car travel, and development choices (new County office and facilities locations) continue to require the use of cars for access.

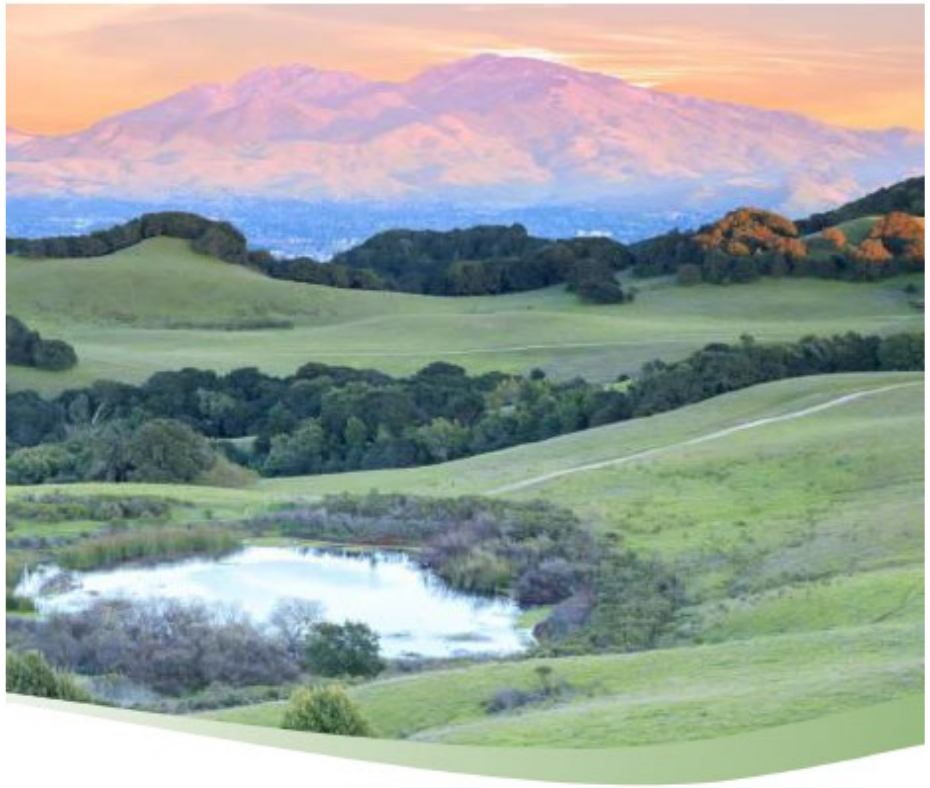
Contra Costa County Employee Commute Survey



Samantha Harris
Department of Conservation and Development
Transportation Planning



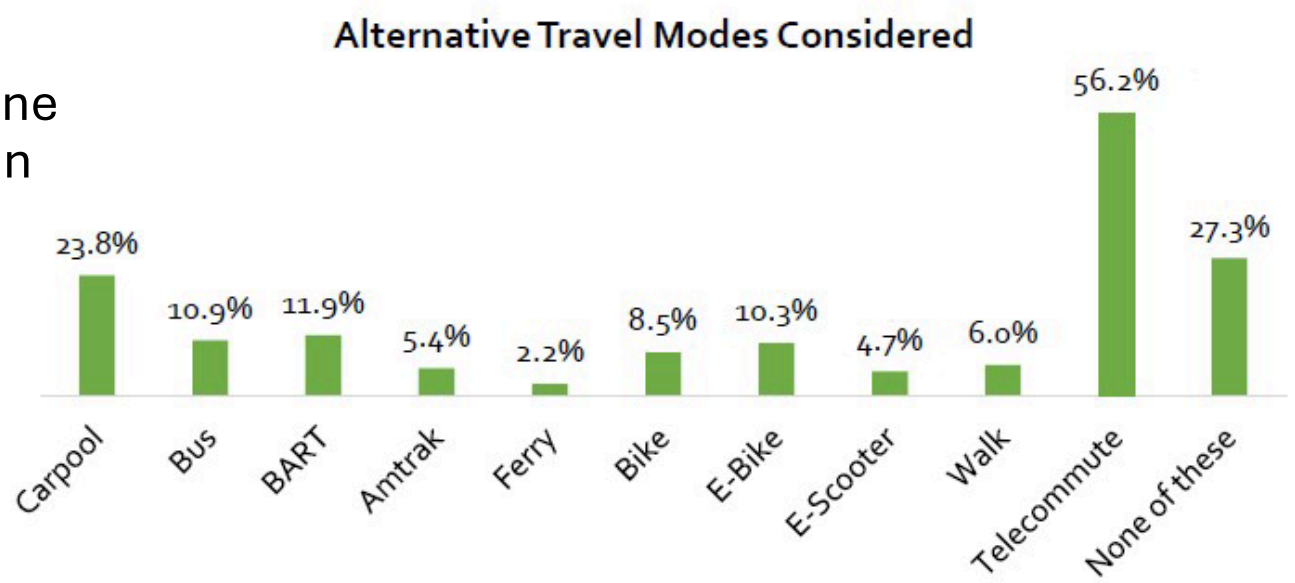
- Update the County operations greenhouse gas emissions data
- Find gaps in transit that prevent employees from using an alternative commute
- Help promote transit programs

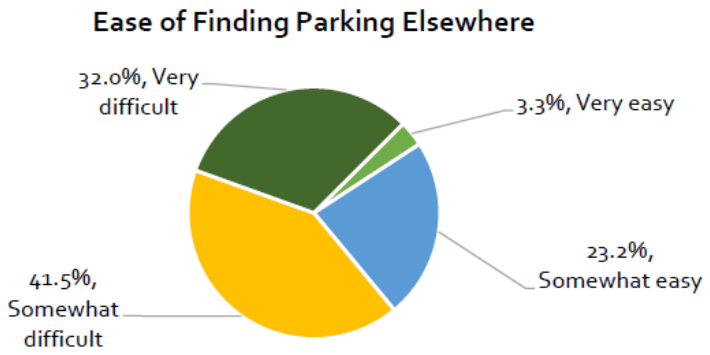


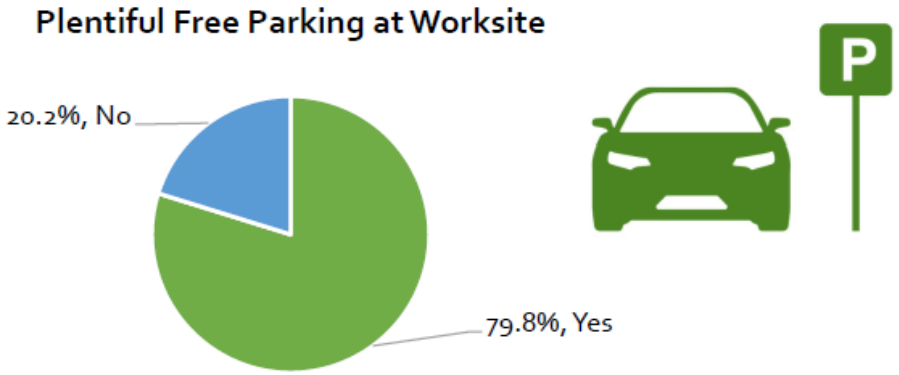
- 2019 Survey: **727** responses
- 2025 Survey: **2,338** responses and **558** comments
- Received a Contra Costa County Commute Survey report along with separate reports for each department from 511 Contra Costa
- 10 respondents received $20 Amazon gift cards from 511 Contra Costa
- 29 respondents received stickers

Commute Modes

- **95%** of respondents **currently** drive alone every or most days
- **73%** of respondents who drive alone most days would consider using an alternative mode
- **24%** would consider carpooling
- **30%** would consider transit
- **30%** would consider active transportation
- **56%** would consider telecommuting







Parking

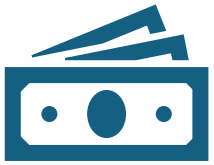
- **20%** of respondents feel that there is not enough free parking at their worksite
- **32%** of those respondents expressed it is very difficult to find parking elsewhere
- **41.5%** said it is somewhat difficult
- **58%** of respondents who feel there is not enough free parking, work for Contra Costa Health
- **15** comments were submitted stating a lack of parking for Contra Costa Regional Medical Center employees

Bicycle Parking

- Lack of bicycle parking
- Received 8 comments and one email requesting bicycle racks and lockers at Contra Costa Regional Medical Center and Martinez Detention Facility
- **19%** of the respondents that drive alone expressed interest in commuting by bicycle/e-bike

Commuter Benefit Program

68% of respondents were not aware of the Commuter Benefit program before taking the survey and **635** respondents requested more information on the program



Allows you to pay for work related transportation costs with pre-tax dollars

Only 10 County employees are currently participating in the program

Next Steps

- Deliver department specific reports with suggestions and resources to improve their employee's commute
- Staff will work to connect departments and employees to existing commuter resources
- Educate commuters about programs and incentives

Electric Bike Rebates

Free Bus Passes

Bike Locker Funds

Vanpool Discounts and Bonuses

EMPLOYEE COMMUTER BENEFIT PROGRAM

Samantha Harris

Department of Conservation and Development

Phone: (925) 655-2881

Email: Samantha.Harris@dcd.cccounty.us

File #: 25-4700 **Agenda Date:** 11/10/2025 **Agenda #:** 8.

SUSTAINABILITY COMMITTEE
Meeting Date: November 10, 2025
Subject: DISCUSS Potential Agenda Items for 2026 Meetings of the Sustainability Committee and PROVIDE DIRECTION
Submitted For: SUSTAINABILITY COMMITTEE
Department: DEPARTMENT OF CONSERVATION & DEVELOPMENT
Presenter: Demian Hardman-Saldana || Principal Planner | DCD
Contact: Demian Hardman-Saldana | (925) 655-2816

Referral History:
The Sustainability Committee focuses on implementation of the County's *Climate Action and Adaptation Plan* (CAAP). The Committee meets every other month (January, March, May, July, August, November) and adds special meetings as required.

Referral Update:
Items for the Sustainability Committee agenda typically are identified by the Chair and staff to the Committee. The Committee would like to discuss items for its meetings in 2026. Potential agenda items include:

- Update on overall implementation of the Climate Action and Adaptation Plan
- Update on the County's work on Just Transition
- Update on the use of low-carbon concrete in projects approved by the County or built by the County
- Update on the Community Emissions Reduction Plan for the City of Richmond, CA
- Update on implementation of sustainability and environmental justice policies in the General Plan
- Update on the County policy on warehouses and the Climate Action and Adaptation Plan
- Update on the CAAP dashboard
- Update on the County's economic development program and how it supports CAAP goals
- Update on the County Tree Plan (aka Urban Forest Management Plan)
- Update on new State legislation that supports CAAP goals (i.e., AB 546, air purification devices to be covered by insurance)
- Discussion of options for funding full implementation of the CAAP

The Committee can add additional items or modify those identified as needed.

Recommendation(s)/Next Step(s):
DISCUSS Potential Agenda Items for 2026 Meetings of the Sustainability Committee and PROVIDE DIRECTION

Fiscal Impact (if any):
None.

File #: 25-4701 **Agenda Date:** 11/10/2025 **Agenda #:** 9.

SUSTAINABILITY COMMITTEE
Meeting Date: November 10, 2025
Subject: RECEIVE Report from the Sustainability Commission Chair, or Designee
Submitted For: SUSTAINABILITY COMMITTEE
Department: DEPARTMENT OF CONSERVATION & DEVELOPMENT
Presenter: Shoshana Wechsler || Chair | SUSTAINABILITY COMMISSION
Contact: Demian Hardman-Saldana | (925) 655-2816

Referral History:
This is a standing item of the Committee.

Referral Update:
The Sustainability Commission Chair provides an update at each meeting of the Sustainability Committee on the work of the Commission.

Recommendation(s)/Next Step(s):
RECEIVE Report from the Sustainability Commission Chair, or Designee.

Fiscal Impact (if any):
None.

File #: 25-4702 **Agenda Date:** 11/10/2025 **Agenda #:** 10.

SUSTAINABILITY COMMITTEE
Meeting Date: November 10, 2025
Subject: RECEIVE Report on staff activities that support sustainability goals
Submitted For: SUSTAINABILITY COMMITTEE
Department: DEPARTMENT OF CONSERVATION & DEVELOPMENT
Presenter: Demian Hardman-Saldana || Principal Planner | DCD
Contact: Demian Hardman-Saldana | (925) 655-2816

Referral History:
This is a standing item of the Committee.

Referral Update:
PLEASE SEE ATTACHMENT(S).

Recommendation(s)/Next Step(s):
RECEIVE Report on staff activities that support sustainability goals.

Fiscal Impact (if any):
None.

SUSTAINABILTY STAFF REPORT FOR SUSTAINABILITY COMMITTEE
November 10, 2025

Activities that have occurred since the report prepared for the Sustainability Commission's meeting on August 25, 2025, are listed below. Activities are keyed to goals in the 2024 Climate Action and Adaptation Plan.

ACTIVITY	2024 CAAP GOAL
Department of Conservation and Development	
Staff selected technical and community engagement subconsultants to support the development of the Contra Costa Resilient Shoreline Plan. Staff are in the process of contracting with both the technical and community engagement subconsultants. Applications for the Contra Costa County Shoreline Leadership Academy closed on October 15, 2025. Staff are coordinating with the San Francisco Bay Conservation and Development Commission and larger Shoreline Leadership Academy team to select academy participants and continue curriculum development. The Contra Costa County Shoreline Leadership Academy will begin in January 2026 and will complement the County's work funded through its Ocean Protection Council Senate Bill (SB) 1 Grant.	Goal 5 – Resilient Communities and Natural Infrastructure
Staff continues to work and plan the activities funded by the U.S. Department of Energy's (DOE) Energy Efficiency and Conservation Block Grant (EECBG). Staff continues to work with a technical consultant, San Timoteo, to develop an inventory of existing buildings and cost analysis for transitioning the unincorporated County's existing building stock to all-electric to support the County's Draft Clean Energy Roadmap. This task is ongoing and expected to be completed by the end of 2025. Staff will be releasing a solicitation to select an entity to implement energy efficiency upgrades for licensed childcare facilities in August/September. It was planned to be released in July, but additional time was needed to refine the scope of work and ensure it complies with the Federal Government priorities. Once the solicitation is released, we will also execute the contract with CoCoKids to work with County staff to partner and identify licensed home-based childcare facilities that are eligible for energy efficiency and all-electric transition retrofits.	Goal 1 – Clean and Efficient Built Environment Goal 6 – Climate Equity
Staff have entered into contracts with partners for the Urban Forest Management Plan (The Watershed Project, Sustainable Contra Costa, Civicorps, Workforce Development Board of Contra Costa County). Rincon Consultants is being retained after a competitive bid process to provide the technical support for developing the Plan. The project team is beginning work on all aspects of the project and will soon begin recruiting for the Learning Academy, a program open to residents in	Goal 5 – Resilient Communities and Natural Infrastructure

ACTIVITY	2024 CAAP GOAL
Impacted Communities. The team is also planning for an initial tree planting demonstration, tentatively looking at December 13 at a location in Bay Point.	
The Draft Clean Energy Roadmap for Existing Buildings will be recommended to the Board of Supervisors to consider for adoption in November.	Goal 1 – Clean and Efficient Built Environment
On May 1, 2025, the County received a Notice of Termination Award from the U.S. Environmental Protection Agency (EPA), cancelling the $19 million Community Change Grant for the North Richmond Community Resilience Initiative. The County continues to contest the termination.	Goal 1 – Clean and Efficient Built Environment Goal 5 – Resilient Communities and Natural Infrastructure Goal 6 – Climate Equity
The County continues to implement the Bay Point/Pittsburg Energy Enhancement Pilot Program, funded through a grant from the Keller Canyon Mitigation Fund. The Pilot Program offers rebates to cover up to 50% of the project cost (maximum of $8,000) for the installation of qualified electric heat pump heating, ventilation, and air conditioning (HVAC) systems in eligible single-family homes. The first phase of the Pilot Program ended on June 30, 2025. After the first phase ended, the Pilot Program was extended due to remaining funding with expanded eligibility from July 1, 2025, through March 31, 2026, or when funding ran out, whichever came first. Since then, all available rebates have been reserved, and the Pilot Program is not accepting any more Rebate Reservation Forms.	Goal 1 – Clean and Efficient Built Environment Goal 6 – Climate Equity
Climate Emergency Resolution: • *Just Transition*. County staff anticipate releasing a Request for Qualifications for the Just Transition Economic Revitalization Plan on October 24, 2025, with a due date for submissions of November 21, 2025. • *Interdepartmental Climate Action Task Force*. The G3 Champion meeting on October 8 covered the County's progress and processes related to purchasing recycled-content paper products; low-waste office events; and a brainstorming session on communicating the CAAP's goals and opportunities to get involved in implementation. • *All-Electric Building Ordinance*. On May 1, 2025, a new ordinance adopted by the County went into effect that amends the County building code to increase energy efficiency standards for newly constructed residential buildings, offices, hotels, and retail buildings to meet the County's Climate Action Plan goals. Once the appropriate energy modeling and cost-effective studies have been completed, staff will begin analyzing how the County's more stringent energy efficiency ordinance will be affected by the new 2025 Building Code that will become effective on January 1, 2026. Staff is also looking at other building types to consider for higher energy efficiency standards in the future under the new 2025 Building Code. In November the County Board of Supervisor's will be considering adopting several local building code amendments to be included as part of its adoption of the State's 2025 Building Code.	Goal 1 – Clean and Efficient Built Environment Goal 7 - Leadership

ACTIVITY	2024 CAAP GOAL
Staff organized the third quarter Energy Efficiency Collaborative on October 2, 2025, to discuss outreach opportunities related to BayREN's new income-qualified single-family program, EASE Home; learn about the Bay Area SunShares Program; and hear about potential building code updates.	Goal 1 – Clean and Efficient Built Environment
Staff is planning for the fourth quarter meeting of the All-Electric Working Group later this year.	Goal 1 – Clean and Efficient Built Environment
Staff organized the third quarter Sustainability Exchange on September 11, 2025. Sustainability Exchange attendees learned about local environmental education at the Carquinez Regional Environmental Education Center (CREEC) in Crockett from CREEC and Contra Costa Resource Conservation District staff. Attendees had the opportunity to support future restoration efforts by repotting native grasses at the CREEC greenhouse. After the restoration activity, a subset of the Sustainability Exchange visited the Crockett Historical Museum and were accompanied by the museum's wonderful volunteers.	Goal 7 - Leadership
Staff are participating in a proceeding at the California Public Utilities Commission (CPUC, R. 24-09-012) to implement Senate Bill 1221 (2024). SB 1221 requires the CPUC to identify up to 30 neighborhoods that will be pilot projects where gas lines will be removed rather than replaced. The County is participating in order to monitor the potential for neighborhoods in Contra Costa County to participate in this program, if that is of interest to residents. The County submitted opening comments on August 8 that describe the County's work to bring clean energy to homes and businesses and highlight issues to consider. On September 10, the County submitted reply comments that recommend the CPUC focus on facilitating as many pilots as possible in order to explore what works, and what does not, when converting neighborhoods to all-electric. The CPUC is expected to issue guidance on how this process will proceed by the end of the year.	Goal 1 – Clean and Efficient Built Environment
Staff are participating in the Rising Sun Center for Opportunity's Climate Careers Externship Program. Staff are working with an extern from August through November to update the energy efficiency toolkits offered as part of the Contra Costa Library's Library of Things.	Goal 1 – Clean and Efficiency Built Environment
Staff, in partnership with the Ambrose Recreation and Park District, were awarded a $25,000 PG&E Resilience Hubs Feasibility Study Grant. The grant will be used to fund an analysis of the Ambrose Community Center in Bay Point to determine what is needed for the Ambrose Community Center to act as a resilience hub for the community. The project will leverage BayREN's new Energy Roadmapping service for free technical and engineering support to analyze the Ambrose Community Center's existing energy usage and identify opportunities for cost-effective energy savings and resilience measures. This may include analyzing the size of a battery storage system to complement the site's existing solar panels. The project will help inform the County's CAAP strategy to establish and maintain resilience hubs.	Goal 5 – Resilient Communities and Natural Infrastructure
Staff completed an update of the County's greenhouse gas emissions inventory, looking at both community-wide emissions and emissions from County operations. The inventory was presented earlier in today's meeting.	Goal 8 - Implementation

ACTIVITY	2024 CAAP GOAL
The fall 2025 issue of the quarterly Sustainability in Contra Costa County newsletter was published on September 30, 2025. The newsletter included articles on the Contra Costa County Shoreline Leadership Academy, the BayREN Business Program, Bay Area SunShares, and more. See Sustainability in Contra Costa County | Fall 2025	Goal 7 - Leadership
DCD Transportation Planning staff, in collaboration with the Public Works Energy Manager and 511 Contra Costa, administered an employee commute survey. Over 2,300 County employees participated in the survey, over 20%. The results were shared earlier in the October 27, 2025, Sustainability Commission meeting.	Goal 5 – Clean Transportation Network
In the community: • Nicole Shimizu (Sustainability) and Humberto Rodriguez (Weatherization) attended the 2025 County Block Party on August 28, 2025 at the Antioch Community Center to share information about energy efficiency programs, the County Weatherization Program, and relevant sustainability initiatives. In case you missed the event, the Contra Costa County Office of Communications and Media produced two videos covering the event (English video; Spanish video). • Ryan Hernandez attended a Coastal Cleanup Day on September 20, 2025 in North Richmond to promote the Contra Costa County Shoreline Leadership Academy and the Contra Costa Resilient Shoreline Plan.	Goal 1 – Clean and Efficient Built Environment Goal 6 – Climate Equity Goal 7 - Leadership
Sustainability staff continue to monitor state and federal grant opportunities and prepare to apply for projects that will support key climate goals around all-electric buildings, active transportation, sea level rise, climate resilience, and Just Transition.	All
Health	
Community Wellness Program - One Bay Area Grant 3: Street Smarts Contra Costa • Starting this school year, 2025-2026, the Building Healthy Communities (BHC) Program launched a new Safe Routes to School program called Street marts Contra Costa. • The BHC Program is one of three providers of Street Smarts Contra Costa - a countywide Safe Routes to School initiative funded by the One Bay Area Grant program. Contra Costa Transportation Authority serves as the prime recipient of the grant and countywide coordinator of Street Smarts Contra Costa. • The BHC Program offers Street Smarts Contra Costa to all public schools in West Contra Costa (West Contra Costa Unified and John Swett Unified) and public high schools in Central and East Contra Costa (Liberty Union High School District, Antioch Unified, Pittsburg Unified, Mt. Diablo Unified, and Martinez Unified). • Schools in this service area may request Safe Routes to School programming by completing a Resource Request Form • Program offerings include in-class bicycle and pedestrian safety education, walk & roll to school technical assistance, lunchtime bicycle and pedestrian encouragement activities, and active transportation club development.	Goal 4 – Clean Transportation Network Goal 6 – Climate Equity

ACTIVITY	2024 CAAP GOAL
• Street Smarts Contra Costa (Diablo) offers the program to public elementary and middle schools in Central and East Contra Costa and in Lamorinda. In the San Ramon Valley, Street Smarts Contra Costa (San Ramon Valley) offers the program to all grade-levels.	
Library	
Sustainability staff are working with Library staff to update the energy efficiency toolkits, as described above.	Goal 1 – Clean and Efficient Built Environment Goal 7 – Leadership
Sustainability staff are working with Library staff to develop opportunities to use Library branches to engage with community members on CAAP implementation.	Goal 7 – Leadership
Ongoing	
Staff participated in professional learning opportunities regarding environmental justice, carbon sequestration, climate resilience, communication and facilitation strategies, race and equity, and related.	All
Staff participated in regional activities.	All

Attachments