



- Presentation will begin shortly
- Session will be recorded
- All attendees are muted
- Please be aware of Q&A at bottom of screen – ask your questions there
- We will address questions at various points in the session

www.chulavistaca.gov/clean



- **September 17:** Food Waste Solutions at Home and in Your Everyday Life
- **September 24:** Check It Out - Sustainability at the Library!

www.chulavistaca.gov/clean



SUMMER SUSTAINABILITY SERIES

Going Electric in Chula Vista

September 10, 2020



**All attendees are muted
Please type your questions in the question box**

A photograph of a white electric vehicle driving on a road at sunset. The sun is low on the horizon, creating a warm, golden glow. The car is in the foreground, and the road stretches into the distance. The background is blurred, showing trees and a clear sky.

San Diego Regional Electric Vehicle and Infrastructure Efforts

Susan Freedman, Senior Regional Planner
Department of Mobility and Innovation
San Diego Association of Governments

Chula Vista Summer Sustainability Series
September 10, 2020





WHAT IS AN EV?

An EV (electric vehicle) is a zero-emission vehicle that has no tailpipe emissions and promotes a clean transportation future (e.g., plug-in battery electric vehicle, hydrogen fuel cell electric vehicle)

Today we're mostly talking about plug-in electric vehicles

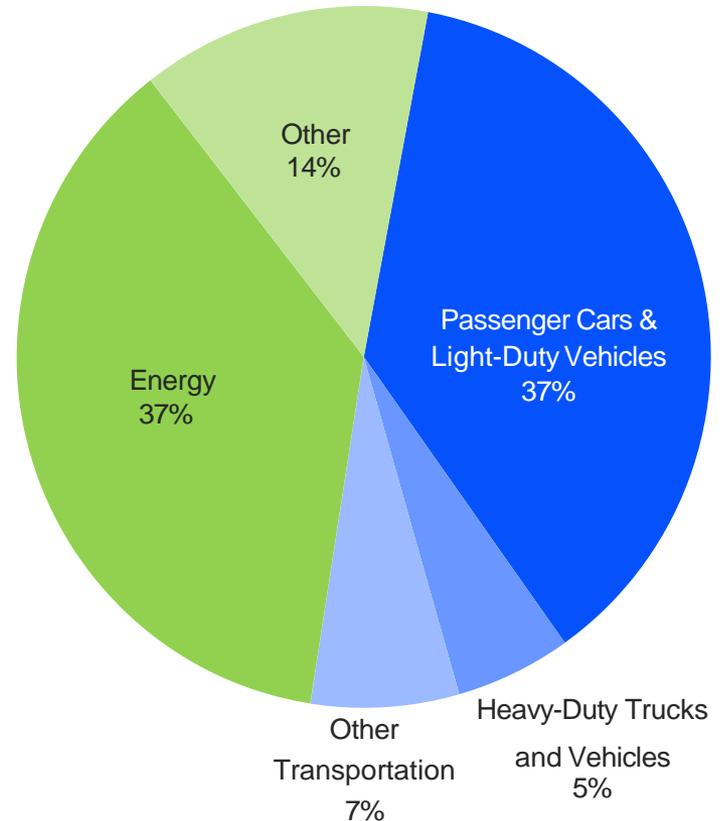


OUR CHALLENGE

Transportation is a leading cause of GHG emissions and air pollution in our County and the State.

Without accelerating EV adoption and infrastructure investments, our fight against climate change is harder to win.

Regional Greenhouse Gas (GHG)
Emissions Inventory (2012)



POLICY FORCES SUPPORTING EVS

STATE MANDATES

- **GLOBAL WARMING SOLUTIONS ACT (2006)**
Reduce California GHG emissions to 1990 levels by 2020
- **SENATE BILL 32**
Reduce California GHG emissions to 40% below 1990 levels by 2030
- **EXECUTIVE ORDER B-48-18**
5 million EVs in CA by 2030 and 250,000 EV charging stations by 2025
- **EXECUTIVE ORDER N-19-19**
Requires state government to redouble GHG reduction efforts, including accelerating progress on 5 million EVs by 2030 goal

ACCELERATING THE EV MARKET

EV MARKET FORCES

45,000 EVs in the San Diego region
as of 2020

61% Increase in EV sales
in California from 2017 to 2019

\$350B Global Private Investment
in transportation electrification

48 EV models available in California
and more arriving each year

ACCELERATING EV ADOPTION

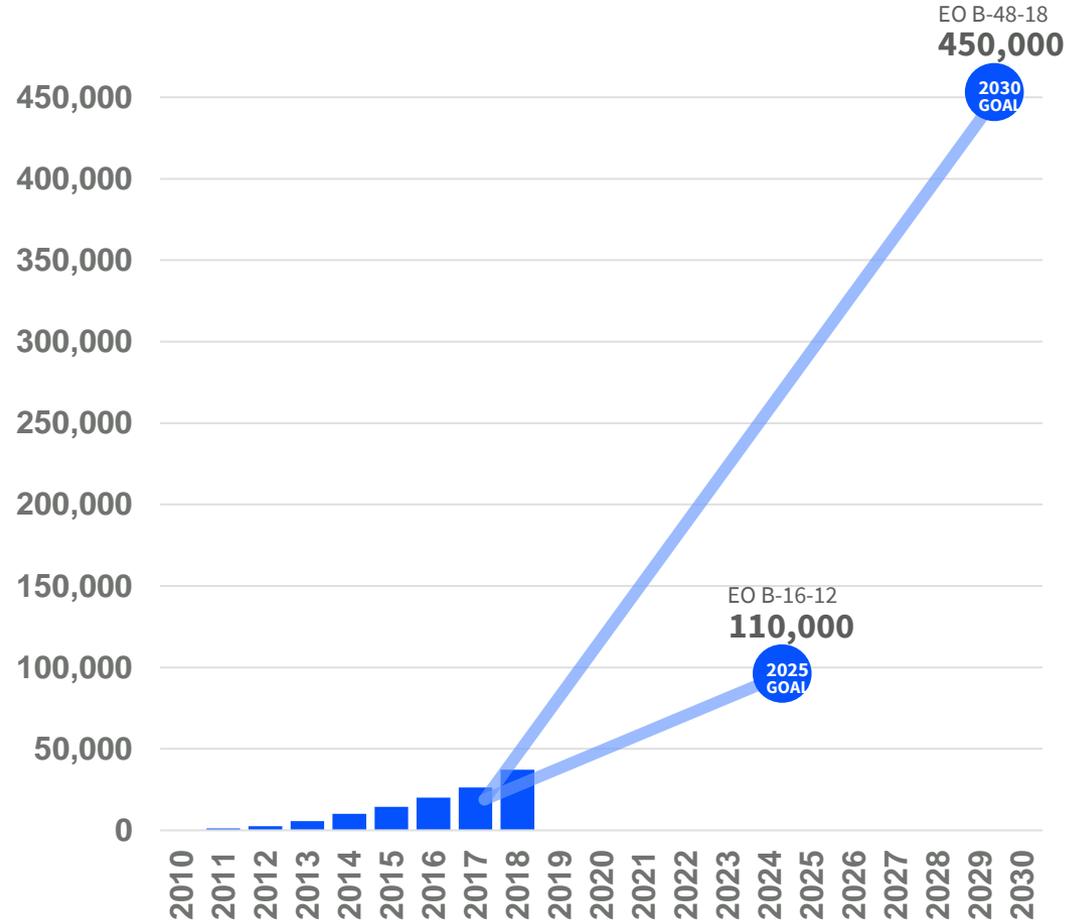
ELECTRIC VEHICLE GOALS

San Diego County

Based on our fair share of state goals mandated by Executive Order B-16-12 (1.5M ZEVs by 2025) Executive Order B-48-18 (5M ZEVs by 2030)

■ Total EV registrations

● EV registration goals
based on state mandates



Sources: CSE: Clean Vehicle Rebate Project, Includes content supplied by R.L. Polk & Co, © 2018
Regional targets based on hypothetical "fair share" of state zero emission vehicle targets.

ACCELERATING INFRASTRUCTURE

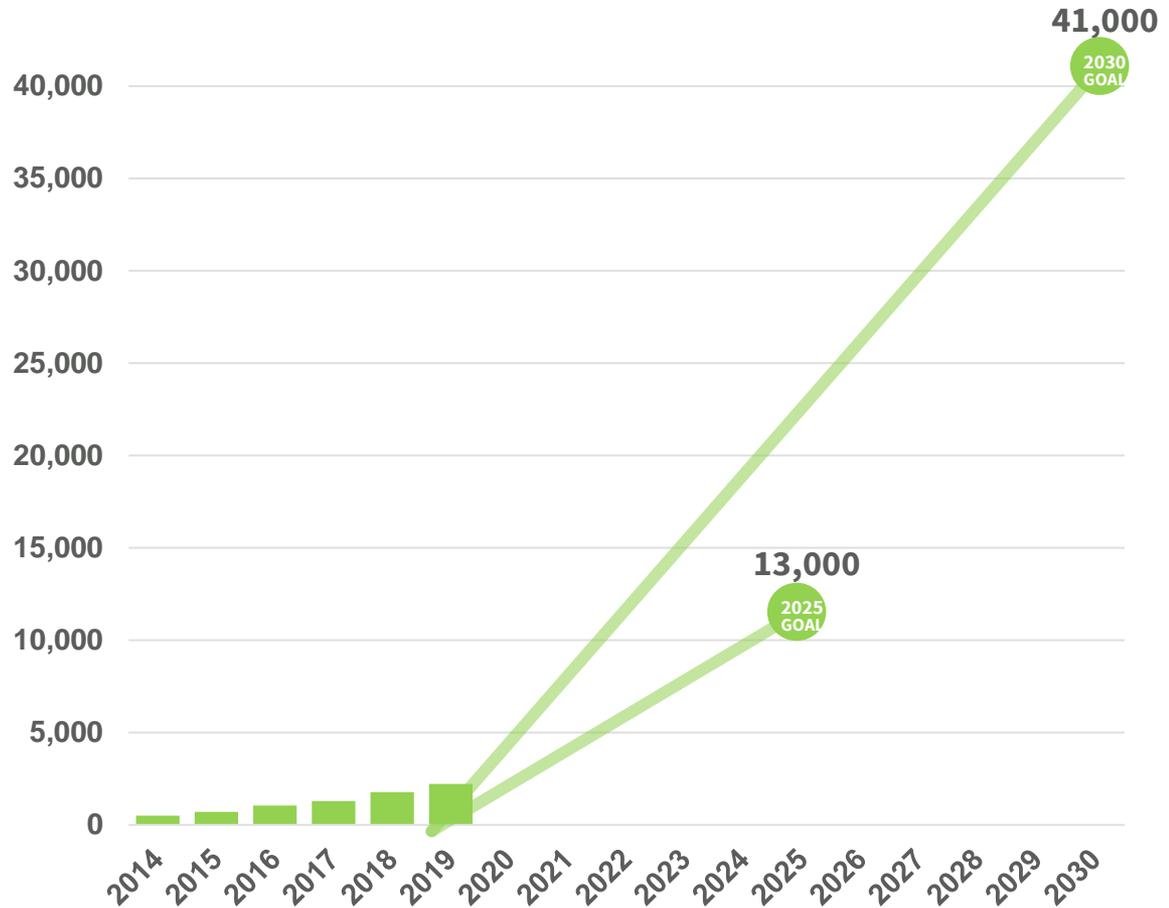
PUBLIC CHARGER GOALS

San Diego County

Based on our fair share of state goals

■ Total public EV chargers
(L2 and DCFC)

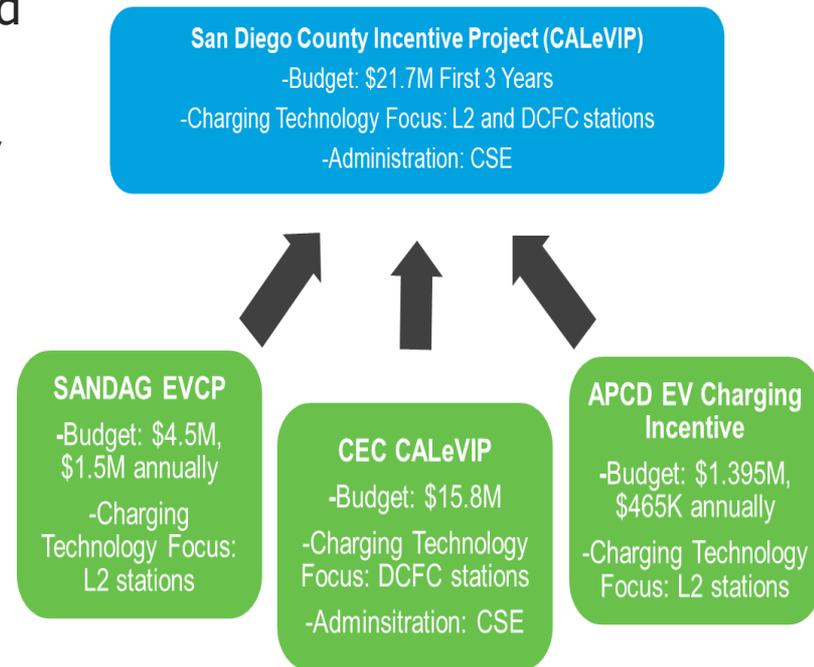
● EV charging station goals
based on state mandates



New EV Charger Program: *CALeVIP San Diego County Incentive Project*

- [Website live now!](#) Rebate applications accepted starting Oct. 27th
- 1st come, 1st served rebate program for public, workplace & communal multifamily parking spots
- \$22 million budget expected to help install:
 - 1,100 Level 2 (standard) charging ports
 - 250 DC Fast Chargers
- Up to \$6,000 per Level 2 charger and up to \$80,000 for fast chargers
- [Project Requirements](#) webinar held Aug. 27th, **next webinar October 6th from 10-noon**

<https://calevip.org/incentive-project/san-diego-county>



SDG&E and Caltrans Partnered to Bring EV Chargers to C.V. Park & Ride



- [Electrify Local Highways Pilot](#) provides public EV chargers at 4 regional park & rides
- 20 Level 2 (standard) chargers and 2 fast chargers at each location (88 total)
- C.V. location is the East Palomar Park & Ride off Oleander Avenue across from Greg Rogers Park.
- Other locations in National City, El Cajon & Oceanside



Buses are Going Electric! MTS Zero Emission Bus Pilot

- Innovative Clean Transit Rule (ICT) by California Air Resources Board (CARB)
- Convert bus fleets to Zero Emission Vehicles by 2040 (Governor's goal)
- [MTS Pilot](#) has 6 electric buses so far (2 more on the way) and 12 EV chargers
- MTS Draft ZEB Transition Plan for meeting 2040 goal at MTS Executive Committee today ([Agenda and slides](#))

A photograph of a white car driving on a road towards a bright sunset. The car is in the foreground on the right, and the road leads into the distance. The sky is a mix of orange and yellow, with a bright sun low on the horizon. The background is blurred, showing greenery and a building.

Thank You!

Susan Freedman

susan.freedman@sandag.org | 619-699-7387

[CALeVIP San Diego County Incentive Project](#)

[San Diego Forward: The 2021 Regional Plan](#)

Chula Vista Summer Sustainability Series
September 10, 2020





Please type your questions in the question box

To Buy or not to Buy an EV

Simon Freedman

Member, Electric Vehicle Association of San Diego



**Electric Vehicle Association
of San Diego**



To Buy or not to Buy an EV

- ▶ The Argument for EVs
- ▶ Cheaper to “fuel”
- ▶ Cheaper to maintain
- ▶ Rebates
- ▶ Used EVs are a bargain
- ▶ Battery Health
- ▶ Did you say charging?
- ▶ Resources



Cheaper to fuel-Here is our take on it

EV vs \$4.00/gl Gas - Cost Comparison

Truck - Gas (13 MPG) - 31¢ /mile @12,000 miles/year = \$3,692/year
(or /Large SUV)

Sedan - Gas (25 MPG) - 16¢ /mile @12,000 miles/year = \$1,920/year

EV-TOU 2 (23¢/kWh) - 5.7¢ /mile @12,000 miles/year = \$ 684/year
(@ 4 mile/kWh)

EV-TOU 5 (9¢/kWh) - 2.3¢ /mile @12,000 miles/year = \$ 486/year*



Electric Vehicle Association
of San Diego
EVAoSD.org

Gasoline calculated @ \$4.00/Gallon

* Includes SDG&E fixed fee of \$16/month = \$192/yr.



Electric Vehicle Association
of San Diego

Cheaper to Fuel, Don't take our word for it Gov't e-fuel calculator

eGallon: Compare the costs of **driving** with **electricity**

What is eGallon?
It is the cost of fueling a vehicle with electricity compared to a similar vehicle that runs on gasoline.

Did you know?
On average, it costs about half as much to drive an electric vehicle.

Data and Methodology
Updated: August 29, 2020

Find out how much it costs to fuel an electric vehicle in your state

California

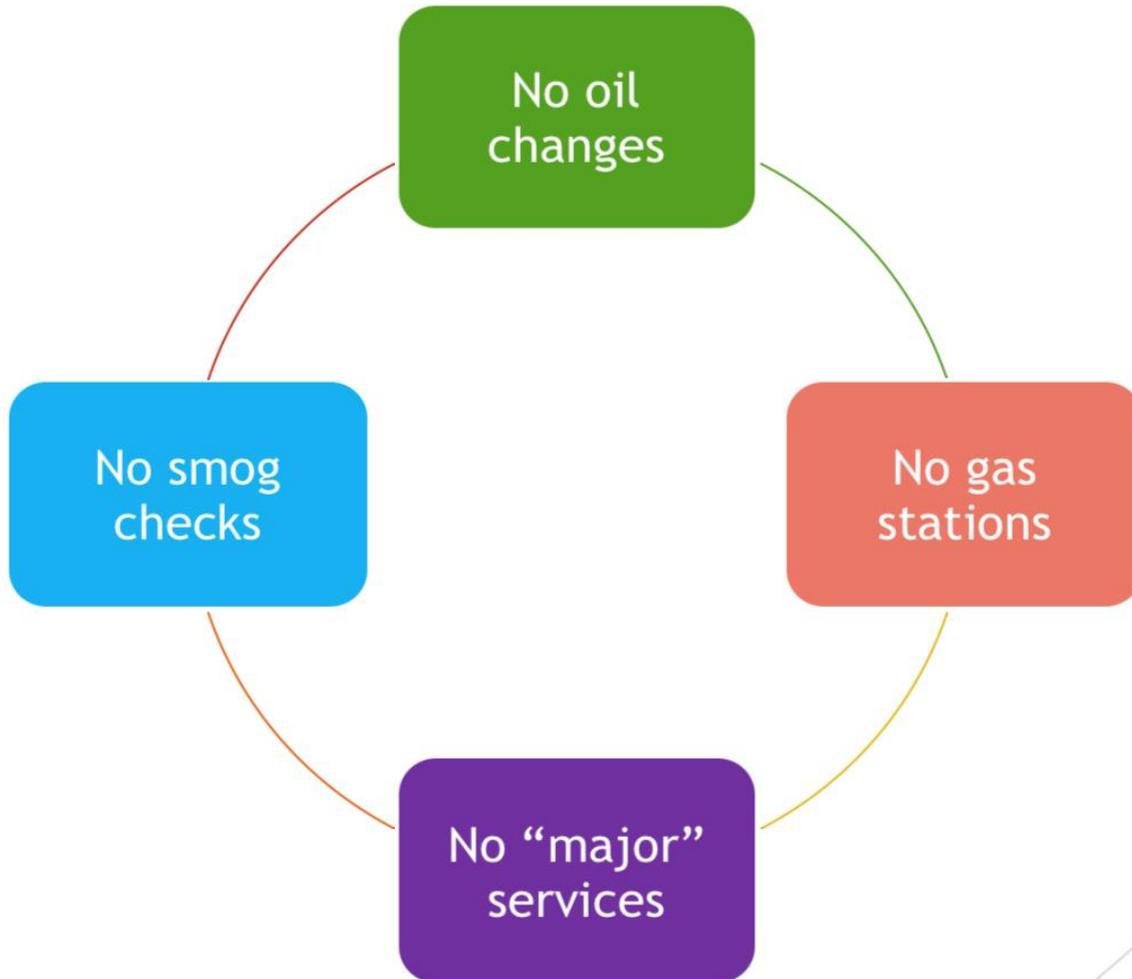
regular gasoline	3.09
electric eGallon	1.80

© ENERGY.GOV

The eGallon price is calculated using the most recently available state by state residential electricity prices. The state gasoline price above is either the statewide average retail price or a

Lower Maintenance Costs

HERE IS WHAT EVs DO NOT HAVE



Lower Maintenance Costs

More of what EVs do not have



Reduced maintenance costs because of fewer moving parts represents a 35% decrease in costs over time.

Greenlots (Shell subsidiary) "Transform your Fleet"



Rebates/Credits/New cars

- ▶ Fed Tax Credit \$7500 (0 for Tesla and GM 😞)
- ▶ State Rebate \$2000, \$4500 for low to moderate income (CVRP)
- ▶ \$1000 SDGE First Responders and School District Employees
- ▶ Up to \$1000 tax credit for EVSE





Clean Cars 4 All/CARB

- ▶ Up to \$9500 towards purchase of new or used EV with Trade in
- ▶ Low income/disadvantaged communities
- ▶ \$5 million/year





2020 BOLT EV

\$8,500 CASH ALLOWANCE¹

OR

FOR WELL-QUALIFIED BUYERS

0% APR FOR **72** MONTHS

+

\$4,750 CASH ALLOWANCE

WHEN YOU FINANCE WITH GM FINANCIAL²



Used EVs/Car Max Myev.com

4:57 PM Thu Sep 3

78%

Filters (1) [Clear filter](#)

Electric Cars

SAVE SEARCH

Make

Type

Body Style

Year

Price / Monthly Payment

Mileage

Features

Size

Exterior Color

Interior Color

Transmission

Cylinders

MPG Highway



2017 Chevrolet Bolt EV Premier
\$21,998* • 13K miles

CarMax Kearny Mesa
Free shipping • CA to CA



2015 Nissan Leaf SV
\$9,998* • 21K miles

CarMax Kearny Mesa
Free shipping • CA to CA



2017 BMW i3 Deka World
\$17,998* • 19K miles

CarMax Kearny Mesa
Free shipping • CA to CA



2017 BMW i3 Tera World
\$20,998* • 19K miles

CarMax Murrieta
Free shipping • CA to CA



2017 BMW i3 Tera World
\$19,998* • 14K miles

CarMax Murrieta
Free shipping • CA to CA



2017 Nissan Leaf S
\$9,998* • 39K miles

CarMax Murrieta
Free shipping • CA to CA



FEEDBACK



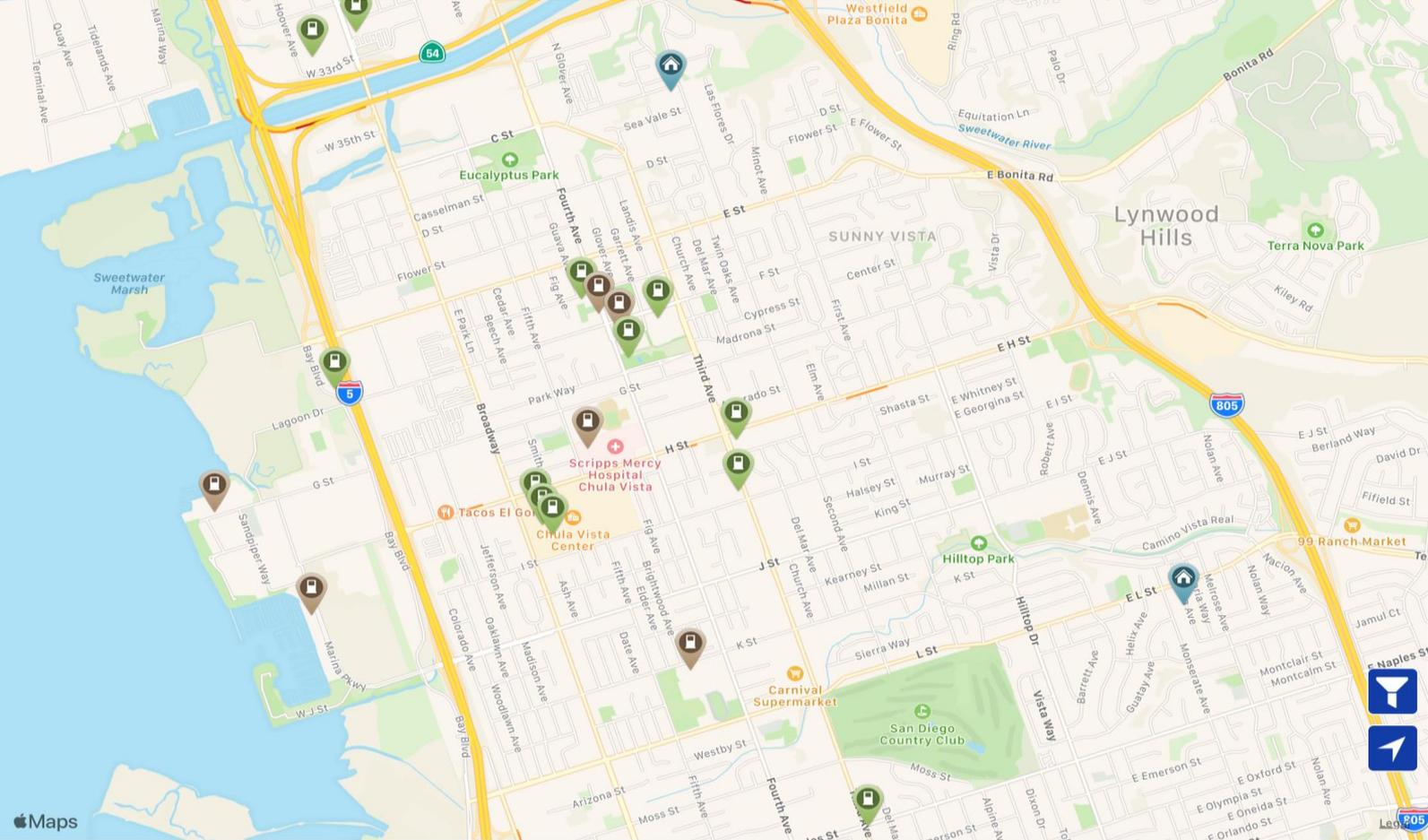
Electric Vehicle Association
of San Diego

Battery Health

- ▶ Warranty/transferable
- ▶ 8 years/100,000 miles
- ▶ Test for remaining level
- ▶ Air cooled v thermal management
- ▶ Tesla study 10% over 155,000 miles



Charging - there's an App for it/Plug share/or just Google EV Chargers



Resources

Plug in America/Car buying guide

Electrek.co

CleanTechnica.com

InsideEVs.com

GreenCarReports.com

<https://cleanvehiclegrants.org/vehicles/>

<https://www.sdge.com/limited-ev-purchase-credit>



Simon Freedman
simonf@roadrunner.com

Electric Vehicle Association of San Diego





Please type your questions in the question box

CV's EVs – On the Road to Electrification



Coleen Wisniewski – Environmental Sustainability Manager



C.V.'s – EVs: goals

- City Operations Sustainability Plan
- 7 focus areas, including transportation
- Recently met goal of having 40% of fleet transitioned to hybrid or alternative fuel vehicle by 2020
- Currently drafting new goals



2014-2020

City Operations Sustainability Plan



Chula Vista – City Operations Sustainability Plan 7

EXISTING POLICIES & DOCUMENTS

100% Clean Fleet Policy (2008 - Climate Action Plan)

- All replacement vehicles purchased for the municipal fleet should be hybrid or alternative fuel.
- Factors such as the appropriateness for the vehicle task, fueling infrastructure, petroleum displacement, and the overall cost and environmental benefit must be considered prior to purchasing each replacement vehicle.

City-Contracted Clean Fleet Policy (2008 - Climate Action Plan)

- Work with fleets under City authority to influence their expanded use of hybrid and/or alternative fuels.

FUNDING OPPORTUNITIES

- CA Energy Commission grants
- CA Clean Vehicle Rebate Program
- CalTrans Bike Locker Program

6. TRANSPORTATION

Alternative transportation helps improve local air quality, reduce traffic congestion, and is typically a more cost-effective way to commute. In addition, these transportation options help reduce employee stress and improve their well-being.

Goal 1:
Transition 40% of fleet to hybrid or other alternative fuel technology by 2020.

Goal 2:
Increase the percentage of employees who are regularly using sustainable commute options to 30% by 2020.

Baseline Year: 2013
Partnerships: iCommute San Diego
San Diego Regional Clean Cities
San Diego County Bicycle Coalition

Strategies:

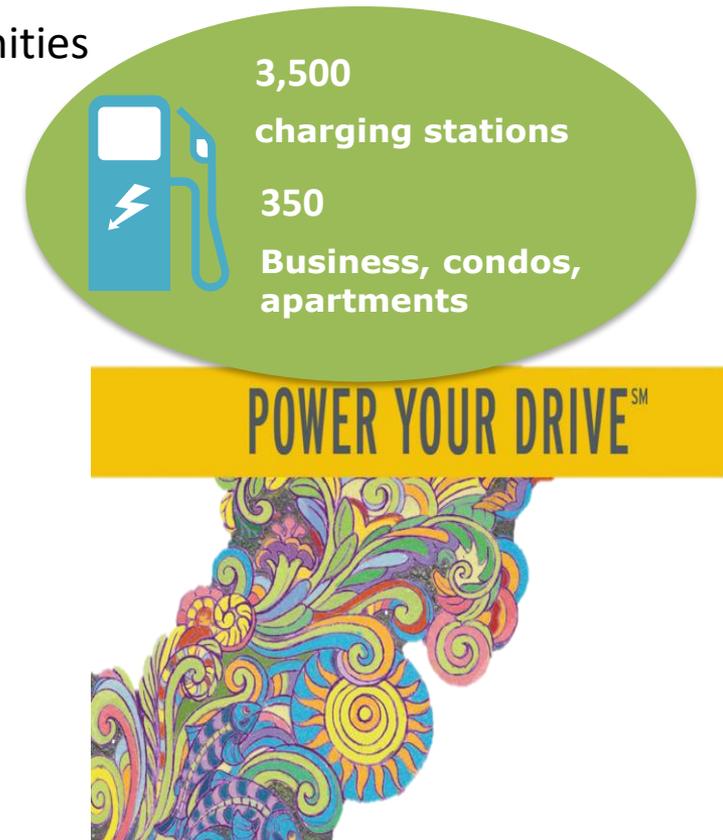
1. Install electric vehicle chargers for fleet use.
2. Designate preferred parking spaces for carpool/alternative fuel vehicles at all major municipal facilities.
3. Install outdoor bike lockers for employee use.
4. Initiate a pre-tax transit reimbursement program.
5. Expand the use of alternative work schedules and teleworking through supervisor and employee outreach.

Performance Metrics:

- % of alternative fuel/hybrid vehicles in fleet
- % of employees alternatively commuting (per pay period)

C.V.'s – EVs: facts

- Chula Vista was the first government agency to get on SDG&E's Power Your Drive interest list
 - No cost to properties in disadvantaged communities
 - Installed, owned, operated, maintained and billed by SDG&E
- Largest installation in the program
- A few unexpected bumps in the road
- Timing worked out
 - Measure P
 - Time to replace some vehicles
 - Rebates

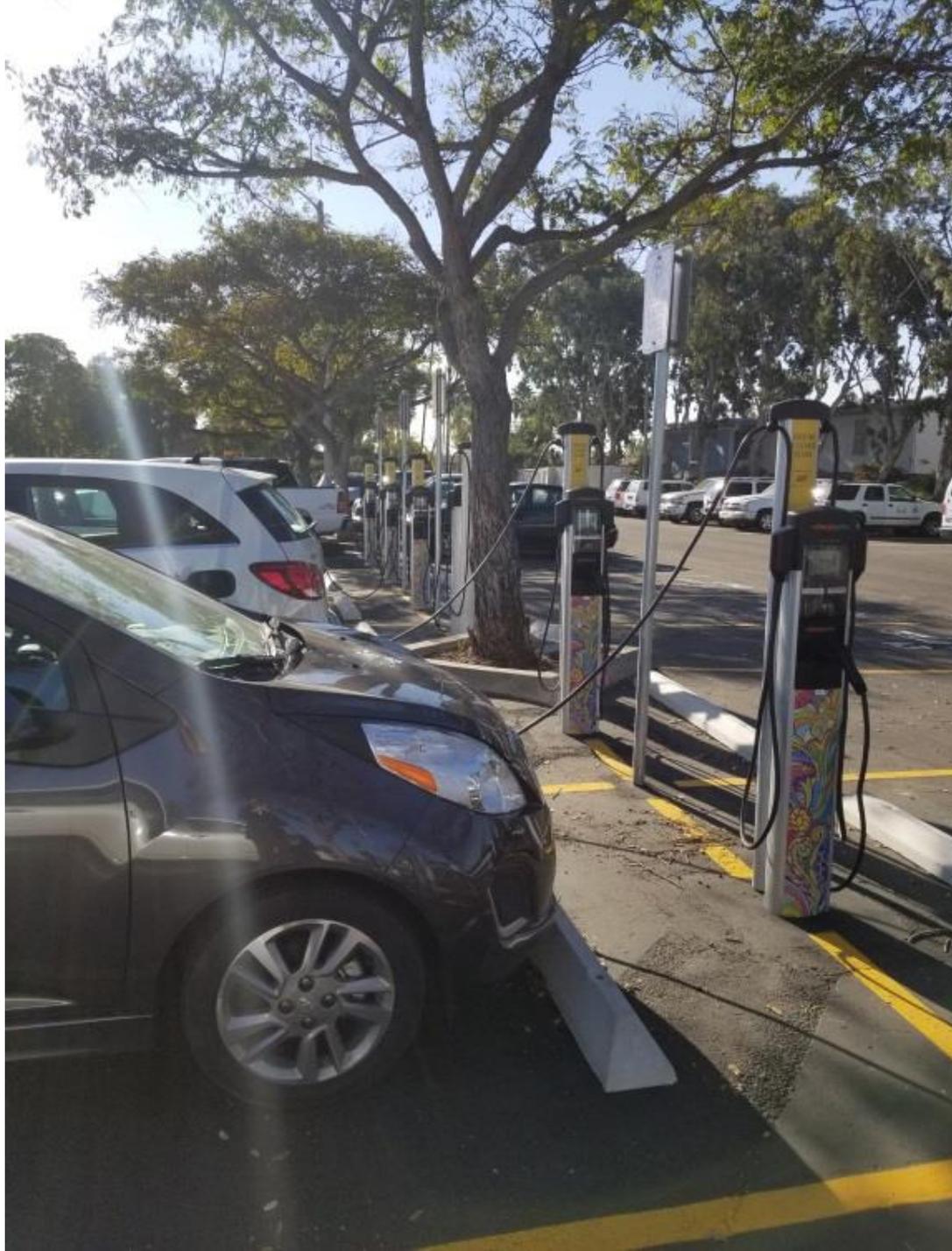


City of Chula Vista EV Charging – 123 ports



A collaborative process with City staff and SDG&E to site chargers in the most optimum locations.

- Chula Vista Civic Center – 34
 - Fleet – 18 chargers
 - Employees – 16 chargers
 - \$0 – disadvantaged community
- Chula Vista Public Works – 37
 - Fleet – 24 chargers
 - Employees – 13 chargers
 - \$23,310 (\$630 per charger)
- Chula Vista Police Department – 52
 - Fleet – 35 chargers
 - Employees – 17 chargers
 - \$32,760 (\$630 per charger)
- Total: \$56,030 (avg. \$456 per charger)





C.V.'s – EVs: rollout



C.V.'s – EVs: why

Electric Fleet:

- Direction and support
- Development of policy
- Classes of eligible vehicles



C.V.'s – EVs: stats

2018-2019:

- All electric: 0 to 29
- Plug-in hybrid: 0 to 15

2021:

- Plans to purchase 2 EVs

Preliminary Cost Savings Analysis for first 12 months of use:



	<i>M&R Cost per Mile</i>	<i>Down Time Hours</i>	<i>Fuel Cost</i>
<i>Old Vehicles</i>	\$0.15	1,566	\$10,310
<i>B.E.V.s</i>	\$0.03	257	\$2,610
<i>Percent Decrease</i>	80%	84%	75%

C.V.'s – EVs: implementation

Construction Inspection:

Chevy Bolt Cargo BEV

Uses: travel to meetings; performing inspections, which are often off-road and carrying various tools like levels and straight edges.

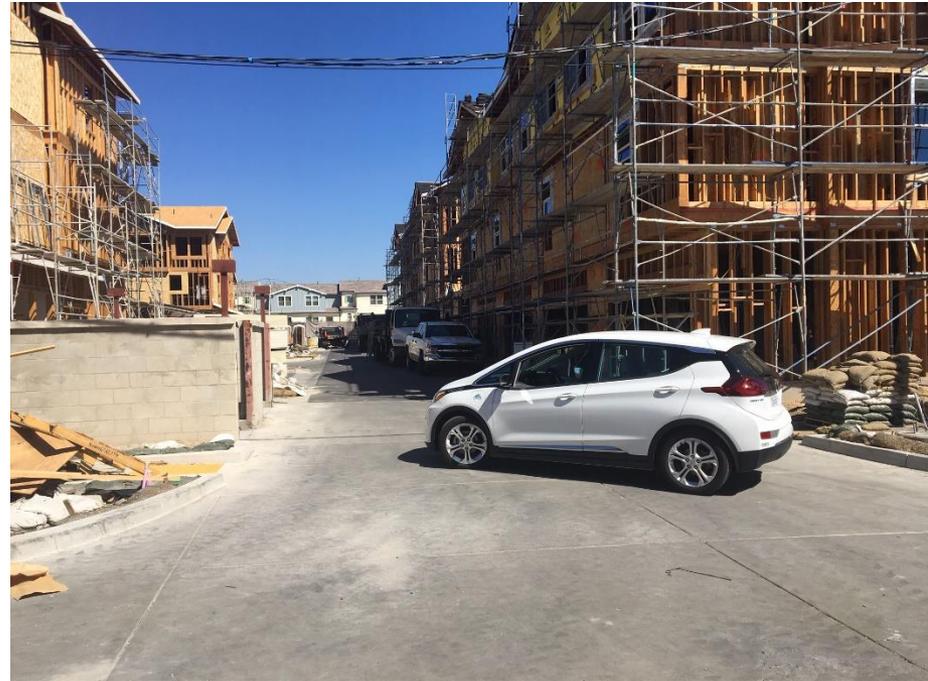


C.V.'s – EVs: implementation

Fire Department:

Chevy Bolt BEV

Uses: Fire inspections of new construction sites and existing businesses.



C.V.'s – EVs: implementation

Police Department:

Investigative Division

Ford Fusion PHEV

Detectives respond to crime scenes & conduct follow-ups.

Senior Volunteer Patrol

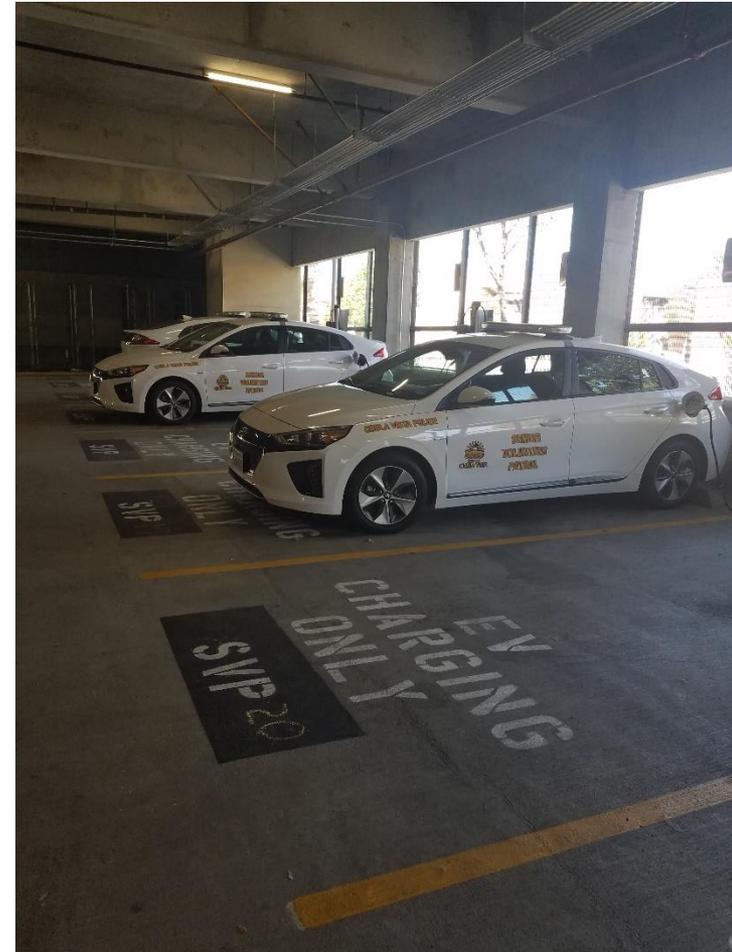
Hyundai Ioniq BEV

Marked SVP units used for patrols, outreach and to respond for assistance (traffic control, missing child)

Community Policing Officers

Mitsubishi Outlander PHEV

Used by Community Service Officers to respond to calls for service to investigate crimes, take reports and assist police officers.



C.V.'s – EVs: implementation

Development Services

Department:

Code Enforcement
Hyundai Ioniq BEV

Uses: Drive to and from Site Inspections;
drive to and from San Diego Superior Court
and other meetings; light off-road trek with
the Chula Vista PD HOT TEAM



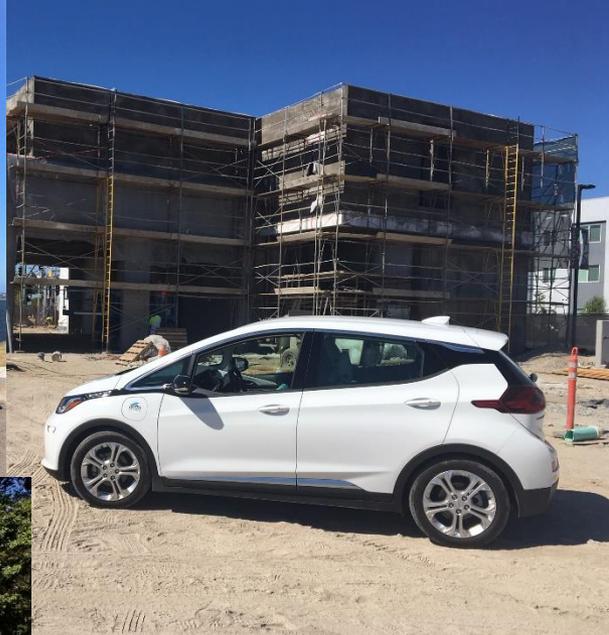
C.V.'s – EVs: implementation

Office of Sustainability

Chevy Bolt BEV

Uses: residential and business visits for recycling, waste, energy efficiency, water conservation and organics programs; travel to/from meetings throughout San Diego County.





C.V.'s – EVs: contact

Coleen Wisniewski

Environmental Sustainability
Manager

cwisniewski@chulavistaca.gov





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