

Electric Vehicle Charging Stations

July 2022 Project Update



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Presentation Overview

- ▶ County EV Policy Review
- ▶ EVCS Scope of Work
- ▶ Map of County-Owned, Operated and Proposed EVCS
- ▶ Fleet Replacement Schedule
- ▶ Change Management

Acronyms

EV - Electric Vehicle

ZEV - Zero Emissions Vehicle

EVCS - Electric Vehicle Charging Stations



Contra Costa County EV Policy Review

- ▶ EV Purchasing Policy (Admin Bulletin 507.1 & 508.6)*
 - ▶ All new and/or replacement vehicles shall be Zero-Emission Vehicles (ZEV)
 - ▶ EV Chargers are prioritized for fleet use, some are accessible to employees
 - ▶ Charging costs are \$0.25 per kilowatt hour (first 4 hrs. of parking free, \$3/hr. thereafter)
 - ▶ Fully electric fleet by 2030 (proposed goal in the County's DRAFT Climate Action Plan)
- ▶ EVCS Municipal Code Requirements for New (Non-Res) Construction** (74-4.006 -5.106.5.3)
 - ▶ County parking lots - 6% (on average) of total parking for electric vehicle charging spaces
 - ▶ Each EV space shall be equipped with fully-operational EVSE
- ▶ EV Readiness Blueprint (CCTA + County)***
 - ▶ Outlines strategies + goals to advance EV adoption county-wide
 - ▶ Addresses both public and private sectors



* <https://www.insidecontracosta.org/DocumentCenter/View/1663/508-PDF?bidId=>

** https://library.municode.com/ca/contra_costa_county/codes/ordinance_code?nodeId=TIT7BURE_DIV74BUCO_CH74-4MO_74-4.006AMCG

*** <https://ccta.net/wp-content/uploads/2019/07/CCTA-EV-Blueprint.pdf>

Electric Vehicle Charging Levels Overview

Level	Time Required to Recharge Battery to Full	Electrical Capacity
1	1 week	120 volts AC
2	1 day	240 volts AC
3	1 hour	High Voltage DC

*Charging times and speeds will vary. This chart is provided to communicate for understanding and represents generalized assumptions.



EVCS Scope of Work

Scope of Work	Description
Overview	50+ Level 2 stations across 15 sites, 1 to 4 ports per station; feasibility of DC Fast Charging Station(s)
Budget	\$2,500,000 (PW Sustainability Fund)
Status	Planning phase (project initiated 4/19/22)
Schedule	Goal: First install by Q1 2023, project completion within 24 months of initiation
Procurement	Design-Bid-Build and/or Job-Order-Contracting
Cost/Supply Chain	Evaluation of equipment cost increases and supply chain risks is underway (e.g transformers are 12-18 months backlogged)
Next Step	Receive and review architect's proposal
Future-Proofing	Automated Load Management Systems

Phase 1

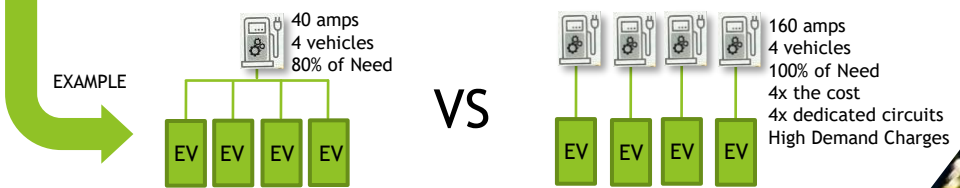
- 50 Douglass Dr
- 30 Muir Rd
- 255 Glacier Dr
- 4945 Delta Fair Blvd
- 2475 Waterbird Way

Phase 2

5-10 sites, Level 2 EVCS

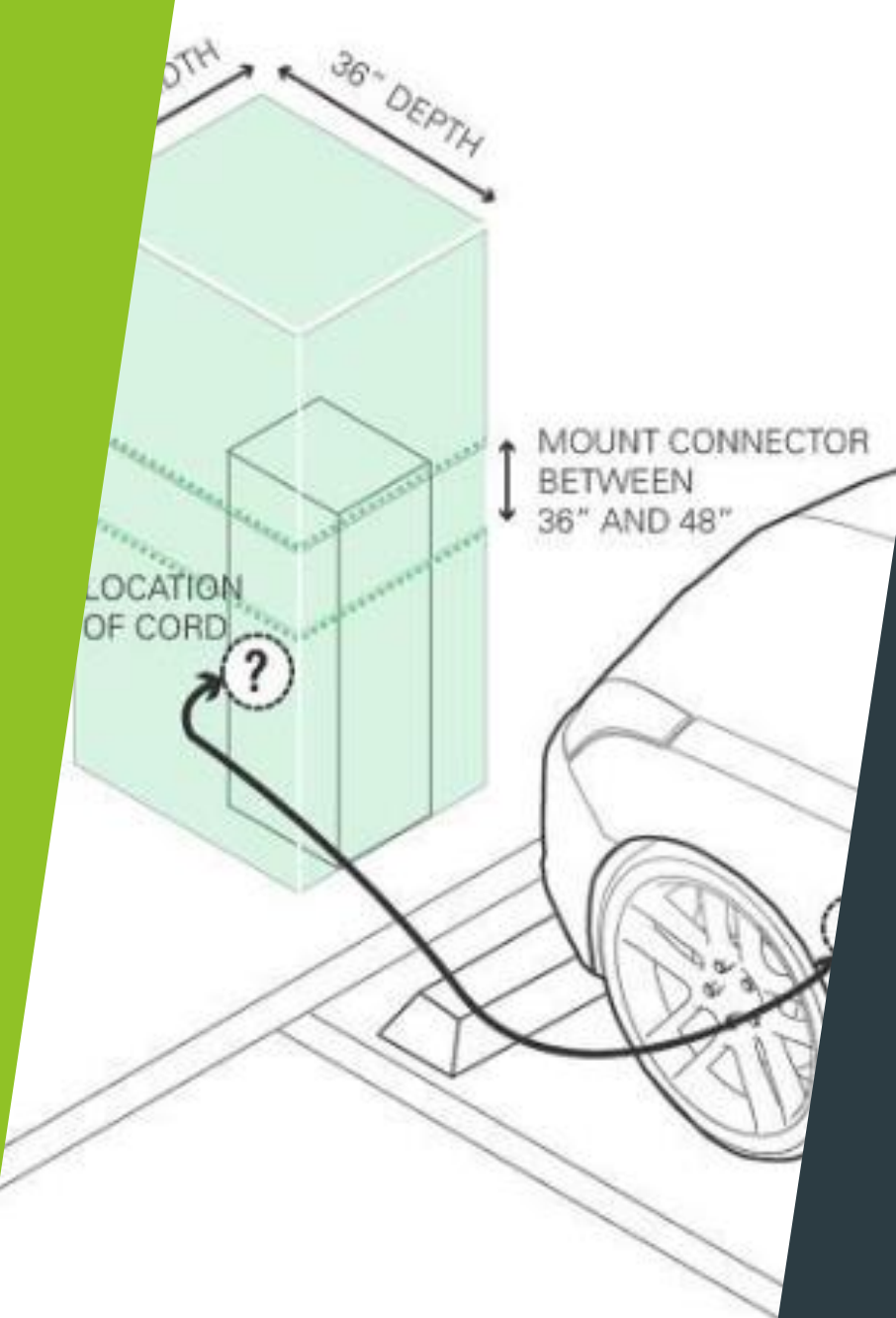
Phase 3

Remaining Level 2 sites
Level 3 site(s)

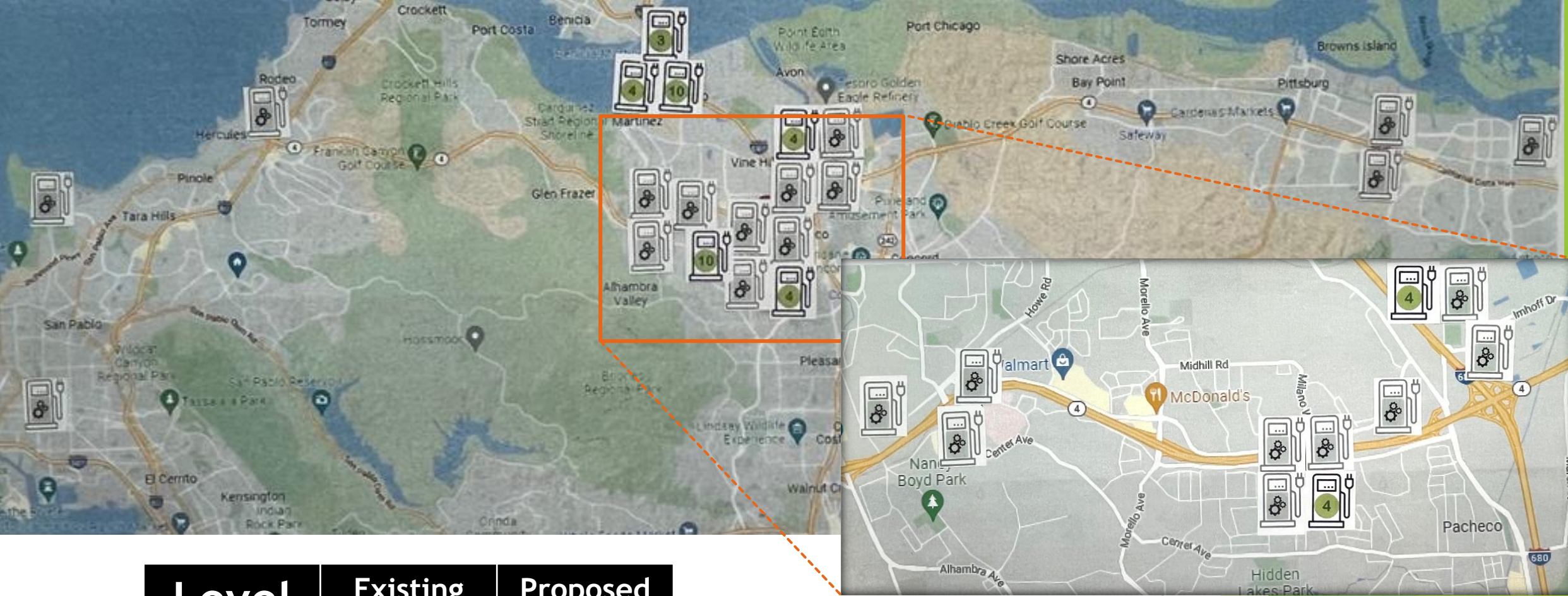


Architect's Proposed Scope of Work Components

- ▶ Feasibility study for Phase 1 sites include:
 - Technical feasibility analysis
 - Electrical capacity analysis
 - Site condition assessment
 - ADA/accessibility analysis
 - Building code review
- ▶ Electric Vehicle Charging Stations (EVCS) Master Planning includes set of priorities for future EVCS expansion:
 - Review and incorporation of relevant County policies, goals, and trends
 - Review and align with regional and state-level transportation electrification plans
 - Fleet analysis, data collection and organization
 - Site surveys Countywide
 - EV charging needs assessment (by vehicle class and use type), including dwell-time analysis
 - Utility rate and risk assessment (including rate and demand charge analysis)
 - Automated Load Management System value and cost-effectiveness analysis



County-Owned, Operated and Proposed EVCS

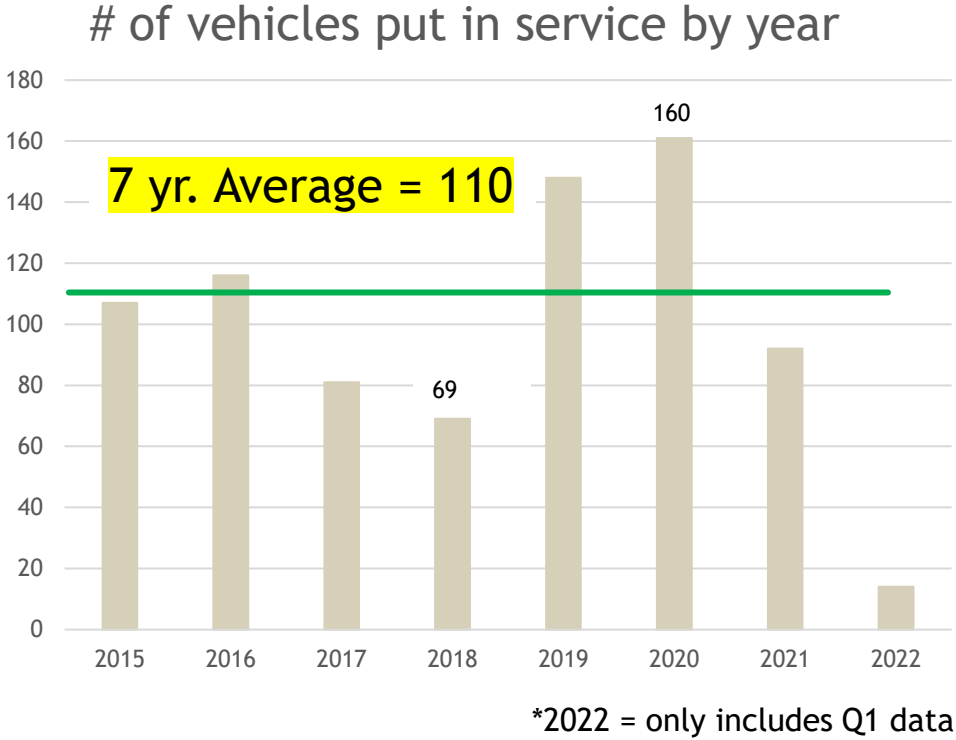


Level 2 EVCS	Existing	Proposed
8hr charge = full battery	35	50+
	6 Sites	15 Sites

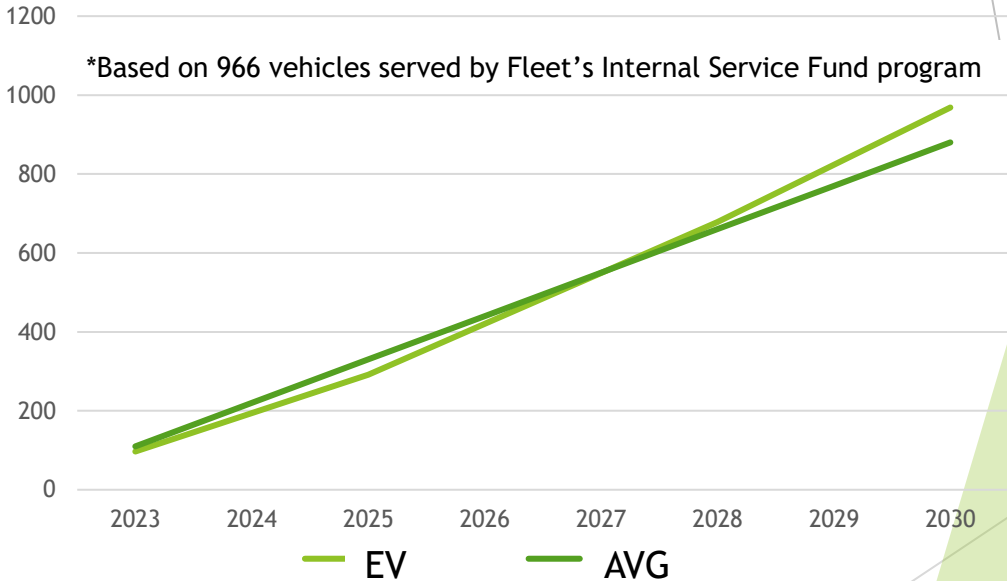
- ▶ Proposed sites are derived from 2020 Public Works analysis
- ▶ Complete Fleet EV charging map is under development

Projection of County EV Purchasing Rate to Achieve Fully Electric Fleet by 2030

Note: 100% Zero Emission Fleet by 2030 = DRAFT Climate Action Plan Goal



EV Replacement Curve Compared to Average Annual Replacement Rate*



EV Replacement Assumptions

2023-25 = 30% | 2026-28 = 40% | 2029-30 = 30%
 3 years | 3 years | 2 years



Change Management

- ▶ Energy Manager to work closely with Fleet Manager
- ▶ Fleet Manager has authority to reassign vehicles in order to expedite fleet electrification (e.g. based on EVCS availability)
- ▶ EVCS scope of work will include long-term planning to ensure successful transition to fully electric fleet (e.g. needs & opportunity assessment)
- ▶ Employee education and training are **critical** to successful adoption and utilization of EV technologies

The purpose of change management is to implement strategies for effecting change, controlling change and helping people to adapt to change.

Thank you.

Please Share
Questions and Comments



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