Update on Development of Santa Rosa EV Masterplan

April 2nd, 2025

City of Santa Rosa

NV5

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PROJECT TEAM

Organization	Staff Member	Title
City of Santa Rosa	Peter Martin	Deputy Director, Water Resources
	Madee Brandt	Sustainability Representative
Consultant Infrastructure, Financials, Resiliency	**Brent Johnson**	**Vice President**
	Arthur Tseng	**Project Manager**
	Andrew Meyer	Data Analyst
Subconsultant Fleet, Energy Analysis	Aaron Wright	Project Manager
	Maddie Henderson	Data Analyst

PROJECT BACKGROUND

- Council Work Plan FY 2023/24: Initiate development of City-wide Fleet Electrification Master Plan
  - Development of RFP and Award in April 2024
  - Obtained $210,000 grant from Federal Energy Efficiency and Conservation Block Program, remainder from one-time general funds
  - Water Department is Project Manager, teams from fleet services and all operational departments are supporting
- Council Work Plan FY 2024/25: Complete City-wide Fleet Electrification Master Plan
  - Anticipate final report in July 2025

PROJECT BACKGROUND

GOALS

- A roadmap to compliance with State Advanced Clean Fleet Regulations
- Strategy for continuity of fleet operations, city services
- Establish priority of integration with city-owned facilities

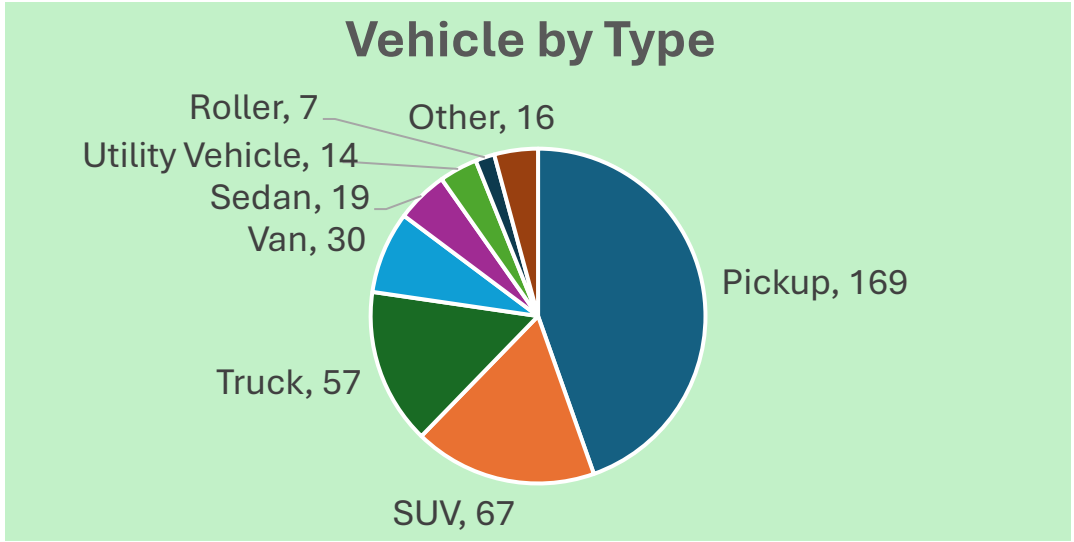
ZEV LOCAL FLEET REGULATIONS

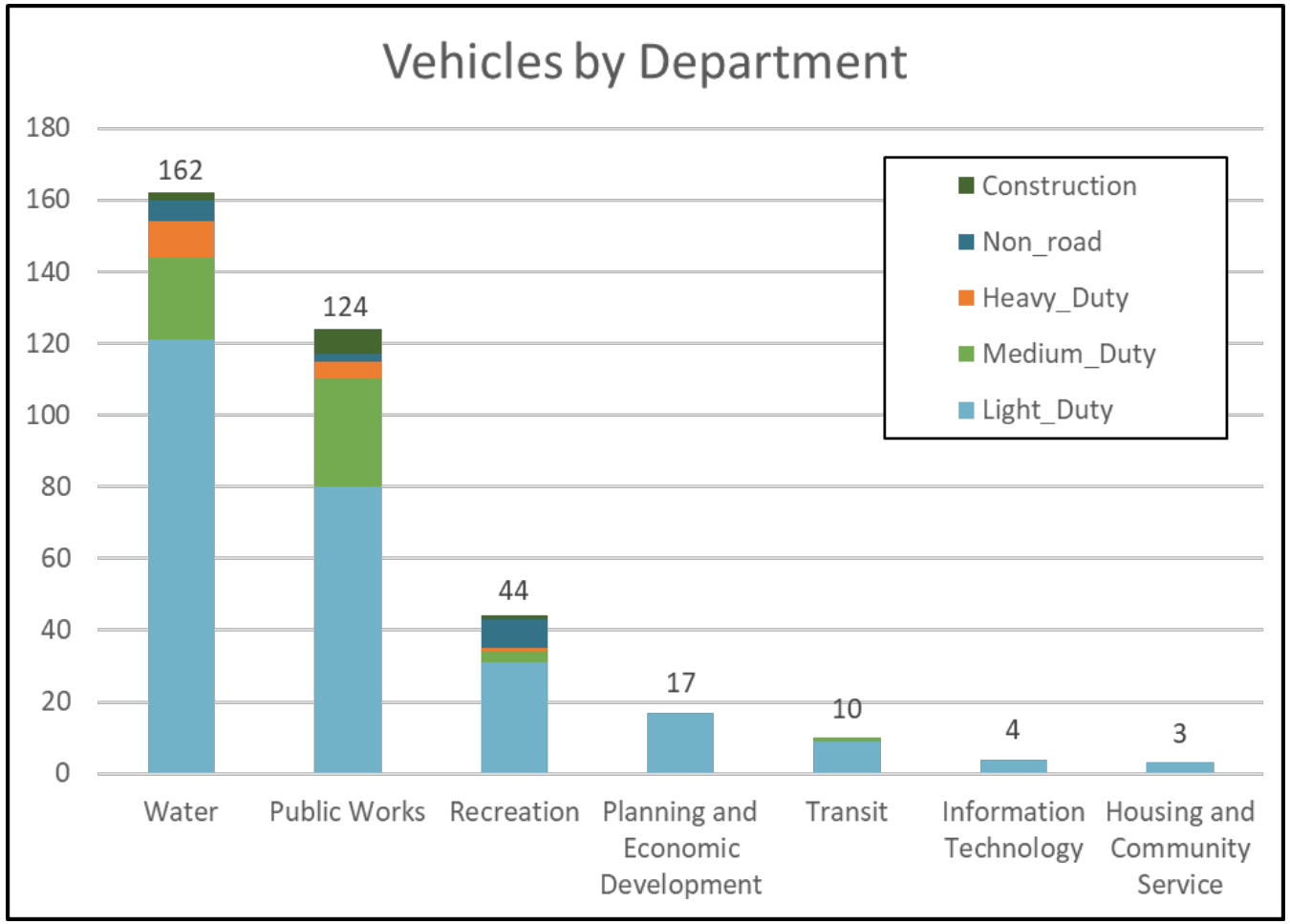
- California Advanced Clean Car II
  - Class 1-2A vehicles (<8,500 lbs)
  - Regulates sellers
  - From 2026, increasing % of vehicles sold by dealers must be ZEV
- California Advanced Clean Fleet (ACF)
  - Class 2B+ vehicles (>8,501 lbs)
  - Regulates local and state government fleets
  - Federal and Private fleets no longer included
  - Some exemptions

Timeline	Percent ZEV Purchase
From January 1, 2024	50%
From January 1, 2027	100%

CITY OF SANTA ROSA FLEET VEHICLES

- 383 Total Vehicles
  - Santa Rosa Water – 45%
  - General Funded Departments – 55%
- 17 Locations
- 7 City Departments
- 93% of vehicles reside at 7 locations





PURCHASE SCHEDULE ASSUMPTIONS

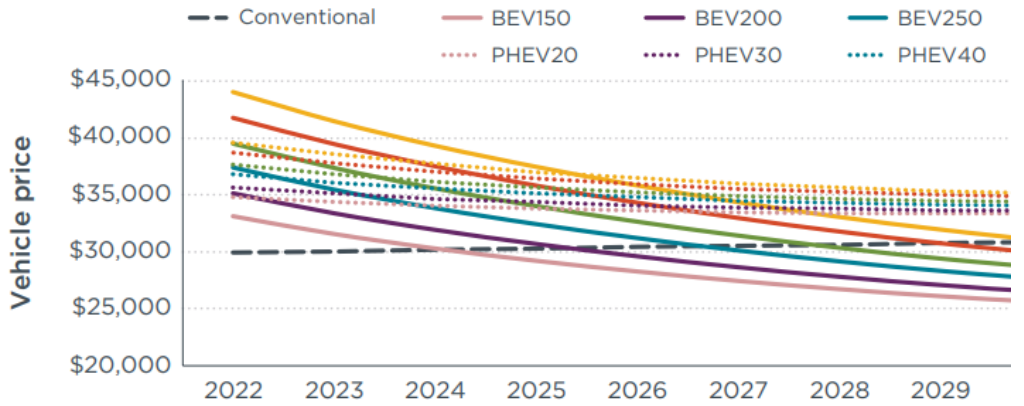
Replacements

- Vehicles are replaced at the end of their planned service life
- Overdue replacements are spread over the first 4 years of the transition
- EVs are purchased if a feasible AND suitable model is available
- Cap of $10M annually, not adjusted for inflation

ACF	2025-2026	2027 Onward
EV %	50%	100%

Costs

- EV cost reference current market prices
- EVs that are not commercially available are assumed to be 2.5x the price of their ICE counterparts in 2025
- Costs projected to the future based on International Council on Clean Transportation studies (graph below)



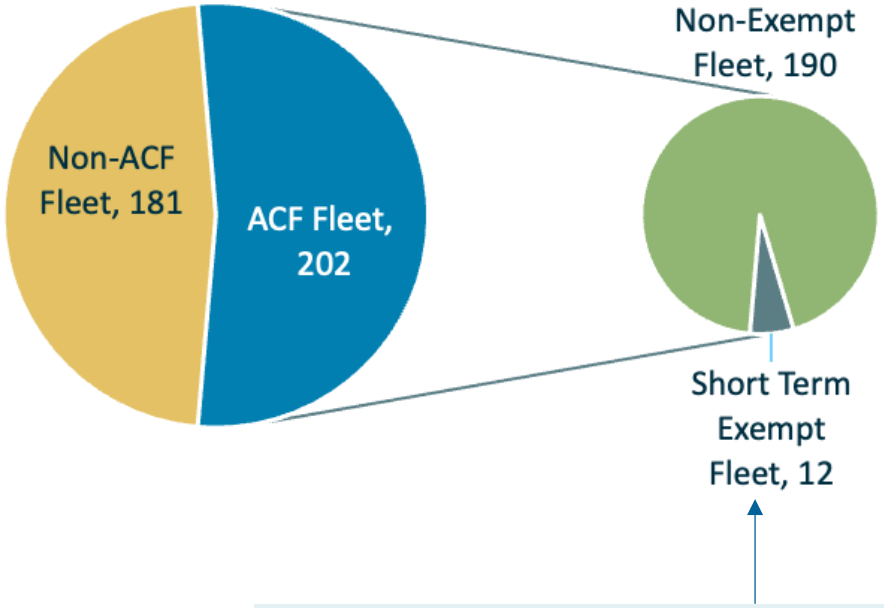
Source: ICCT

ACF COMPLIANCE REALIZATION CHALLENGES

Mismatch between vehicles that CARB considers available as an EV and those that Santa Rosa may consider suitable as an EV.

Santa Rosa considers ¾, 1, 1.5-ton EV pickups not available in 2025 since they aren't commercially sold

CARB considers those EVs available because EV van chassis can be upfit with pickup truck body styles.[1]



CARB granted categorical exemption to very few vehicle types

[1] CARB Exempt Vehicles List

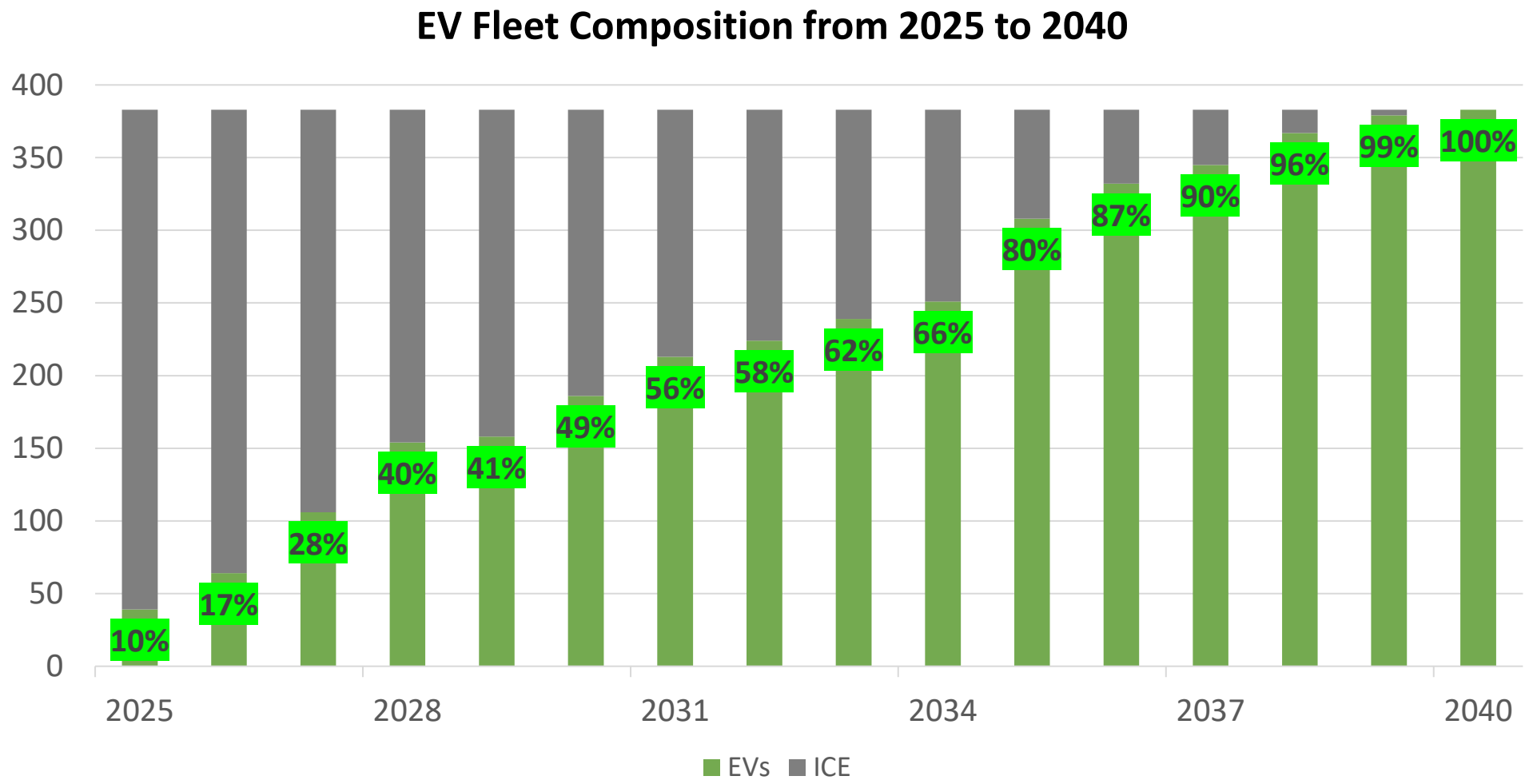
DELTA TO ACF COMPLIANCE IN CURRENT PLAN

Purchases of ACF-regulated vehicles		2025	2026	2027	2028	2029	2030
ACF Option 1	ZEV Purchase Requirement	50%		100%			
ACF – Non-Exempt Fleet	Electric Purchases	3	4	8	31	2	24
	ICE Purchases	35	35	7	9	10	0
	Percent Electric Purchases	8%	10%	53%	78%	17%	100%
ACF – Short Term Exempt Fleet	Electric Purchases	0	0	0	1	2	0
	ICE Purchases	1	0	3	0	0	0
	Percent Electric Purchases	0%	--*	0%*	100%	100%	--

- From 2025-2029, there are 151 planned ACF-regulated purchases.
- 100 are purchased as ICE vehicles
  - 78 are ¾ - 1 ½ ton pickups where no equivalent EV model is available
  - 22 are medium or heavy trucks (e.g., Work Trucks, Tanker Trucks, Sewer Jetters) that are not purchased as EV due to availability and cost

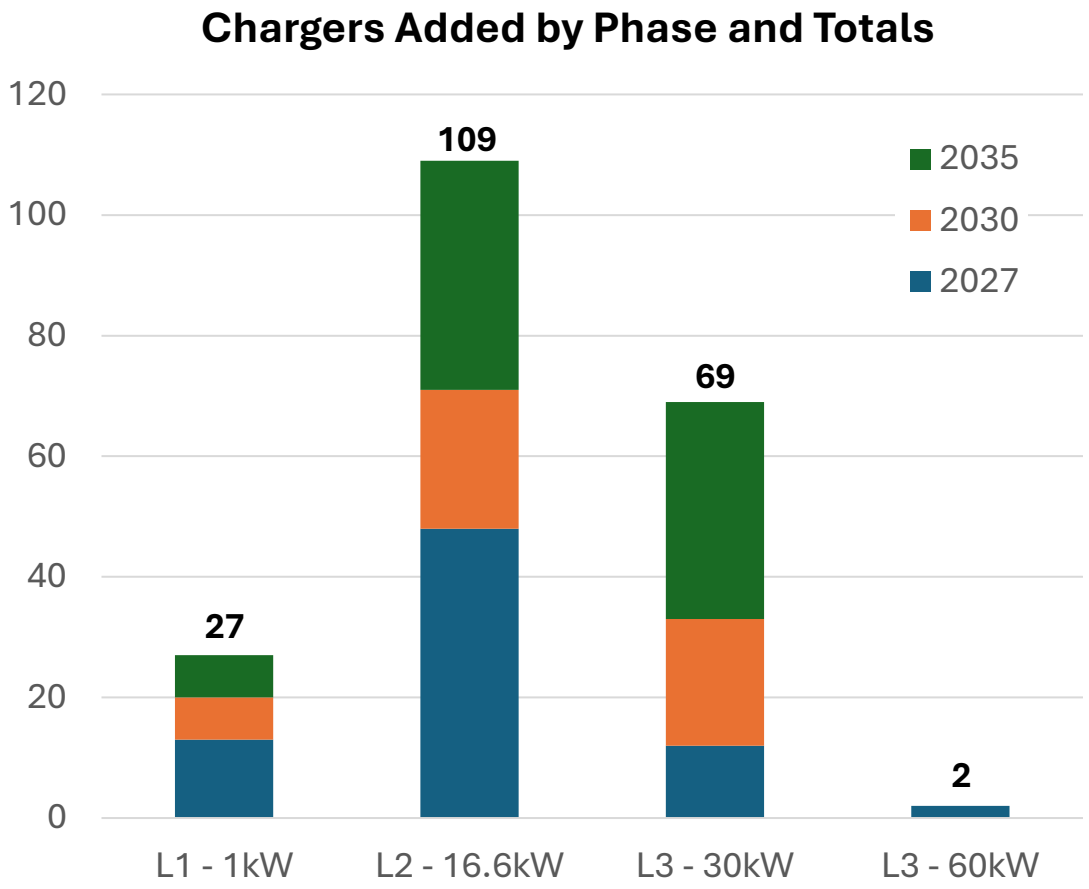
** Will need to re-evaluate annually to confirm vehicles are still in short term exemption list*

RESULTS – EV ADOPTION TREND



RESULTS – EV CHARGERS

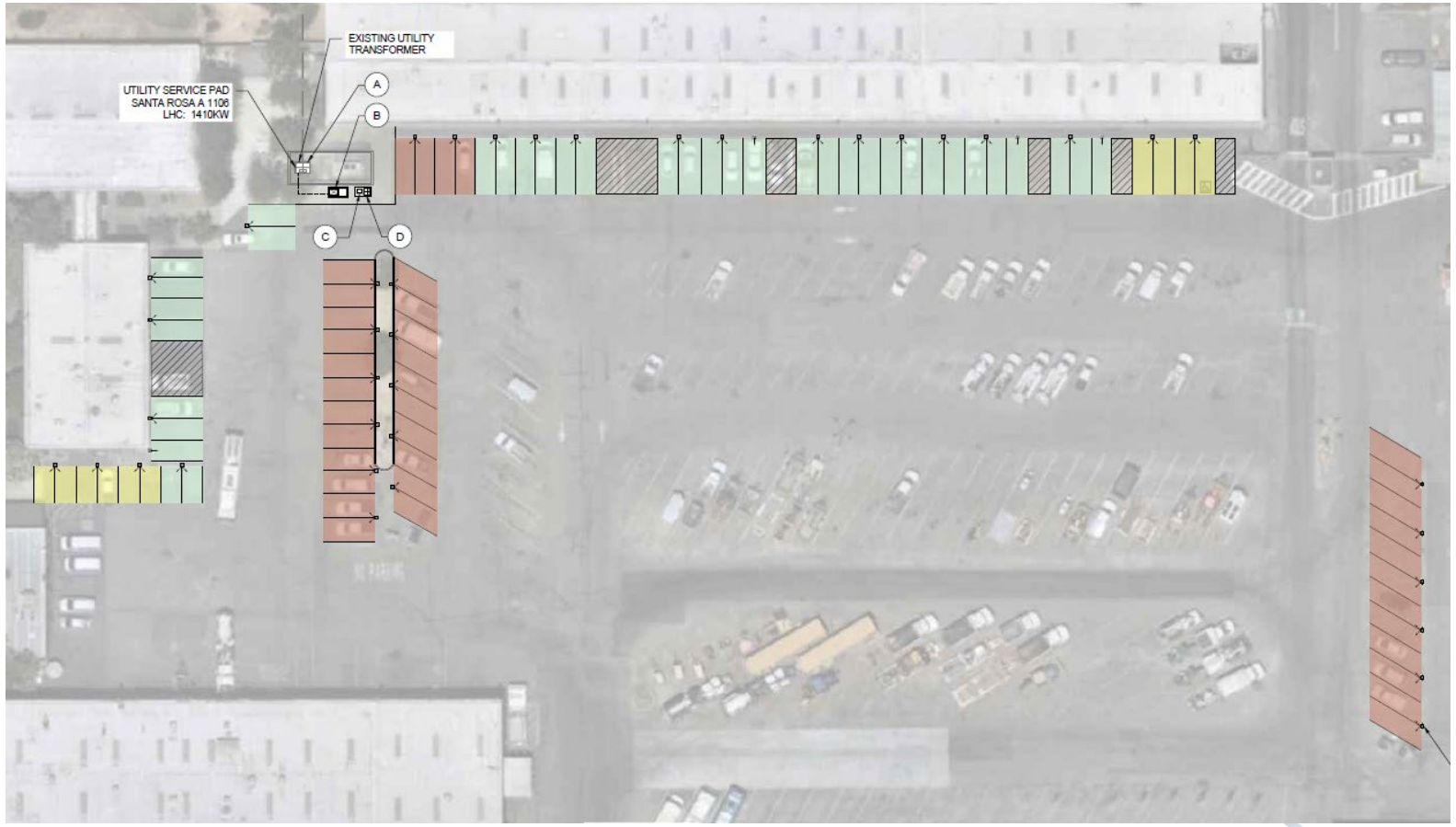
- Level 2 chargers providing up to 16.6kW is sufficient for most operational needs.
- Level 3 chargers needed for larger vehicles with bigger energy demand.



EXAMPLE RESULTS – EV CHARGER LAYOUT AT MSC NORTH

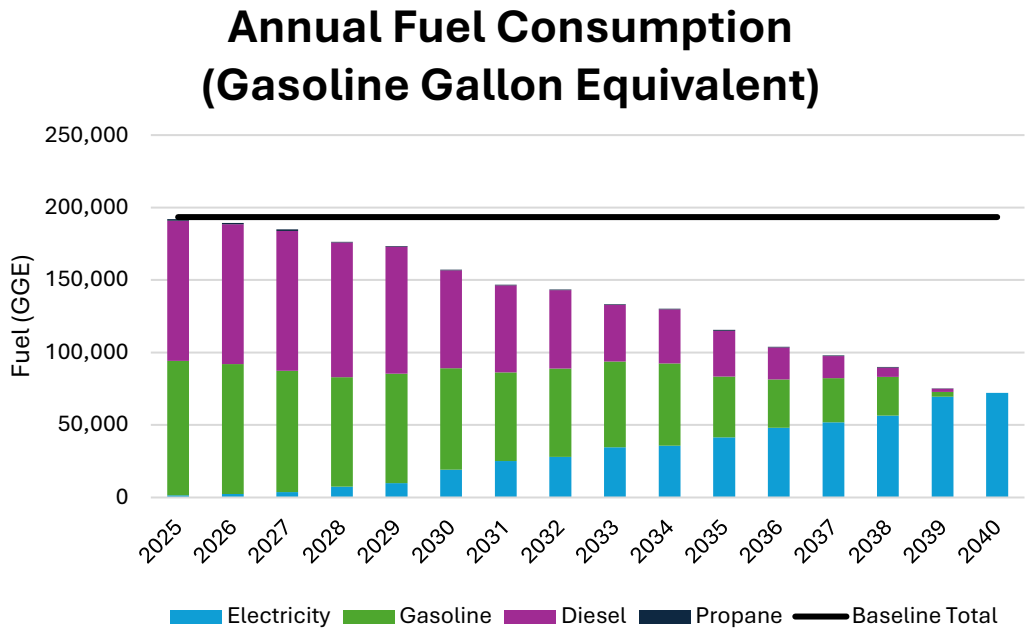
PRELIMINARY EVSE PORT COUNT & POWER LEVEL .

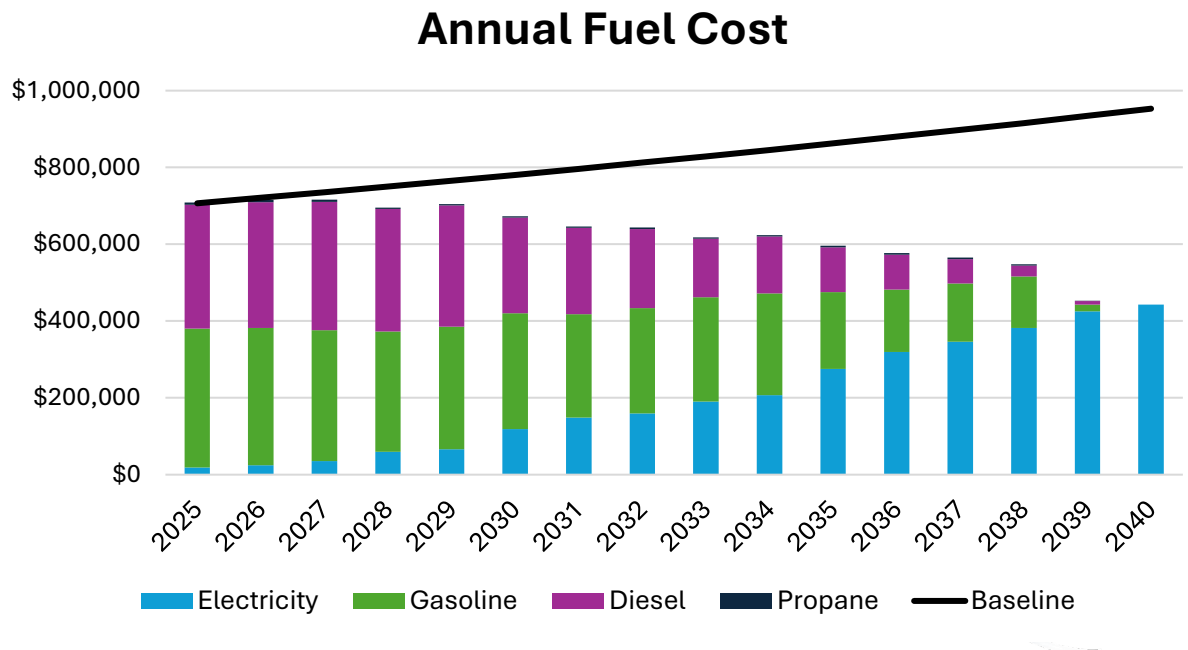
COLOR CODE	EV CHARGER	QTY	POWER PER PORT	POWER SUBTOTAL
	L1-FLEET	10	1KW	10KW
	L2-FLEET	36	16.6KW	598KW
	L3-FLEET	38	30KW	1140KW
	TOTAL	84		1748KW



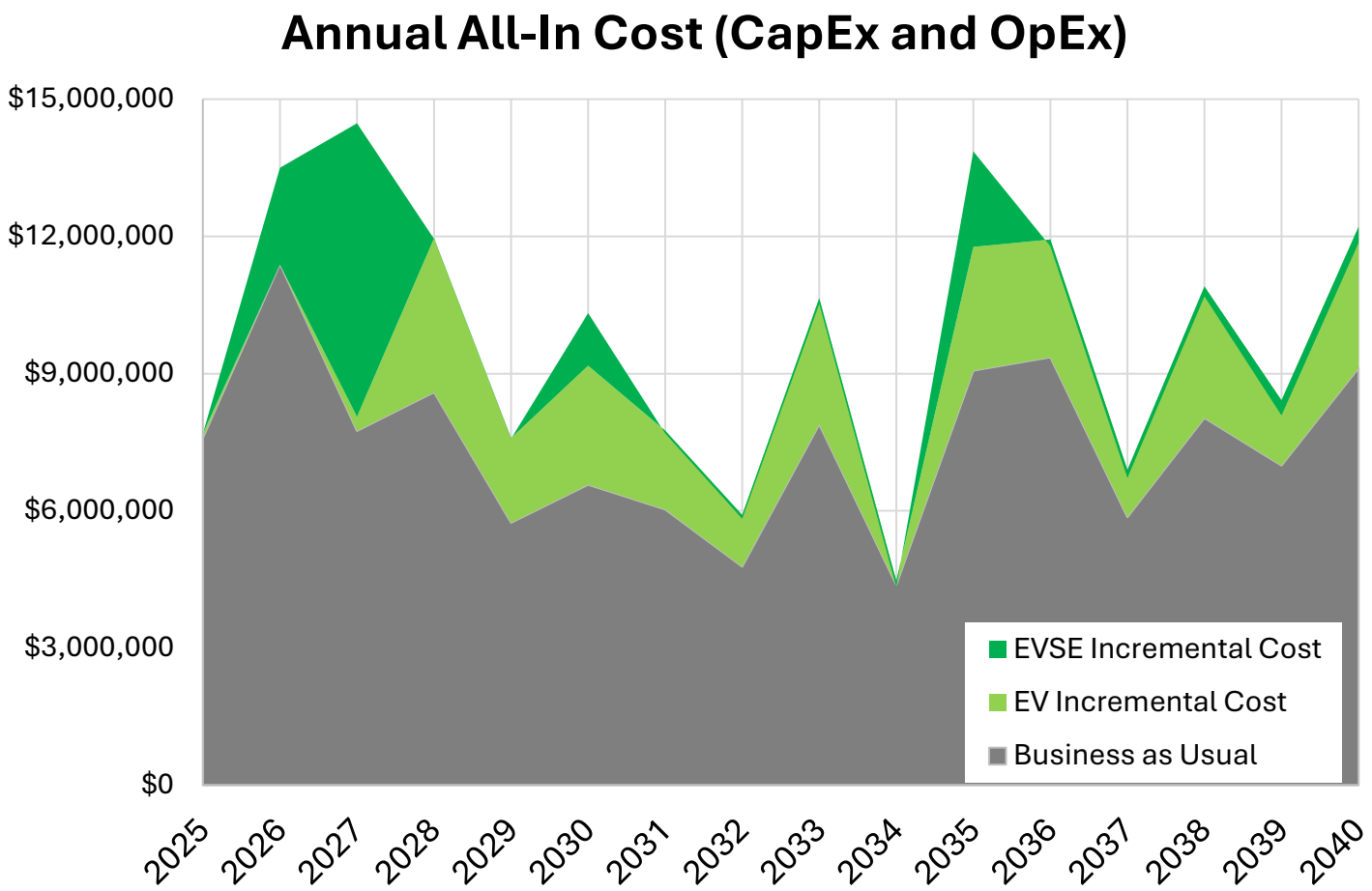
FUEL TRANSITION

- Energy consumption decreased by 63% by 2040
- Fossil fuel consumption eliminated by 2040





RESULTS – ALL-IN EV ADOPTION COST



Nominal Cost Increase of $38 million
EV: $28 million
EVSE: $10 million

Incentives	Included	Not Included
	PG&E EV Fleet ($0.5 million)	Inflation Reduction Act ($2.4 million)
		Communities in Charge ($0.4 million)
		Incentives from BAAQMD, Sonoma Clean Power, HVIP

SUBCOMMITTEE INPUT

- Funding Options and Opportunities
- ACF Compliance Options
  - Delay purchases
  - Pursue exemptions
  - Buy equivalents
- Capital Options for Charging

POTENTIAL FUNDING OPPORTUNITIES?

Source	Funding Name	Estimated Amount	Notes
PG&E	EV Fleet	$478,000	• Most achievable incentive program. • Applications stay open until June 2026.
California Energy Commission	Communities in Charge	$383,500	• Funding open in waves. • Currently closed.
Federal	Inflation Reduction Act (IRA) Tax Credits	$2,400,000	• These incentives are at risk due to current Federal administration. • Includes 1) Clean Commercial Vehicle and 2) Alternative Fuel Vehicle Refueling Property.
BAAQMD	Carl Moyer	NA	• Program Closed
Sonoma Clean Power	Community Charge	$9,000	• 15 L2 chargers offered per customer (Rough value $600 each)

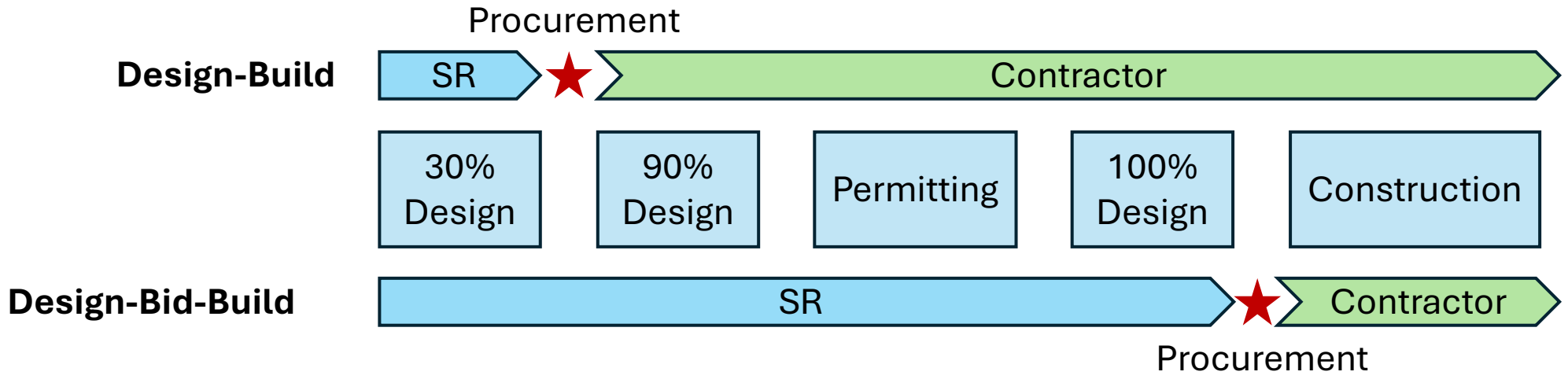
ACF COMPLIANCE OPTIONS?

	How?	Risks?
Delay EV purchase	Keep ICE asset for longer Medium and Heavy Duty EVs are expected to be available starting in 2028	Higher maintenance cost to operate vehicles beyond design life
Apply for exemptions[1]	Meet requirements for exemptions (e.g. long daily usage, utility not providing power needed)	CARB may not grant exemptions
Purchase available EV model	Substituted heavier pickups with available ½ ton EV pickups Upfit available EV chassis with body type of choice	May not meet operational needs

[1] October 2024 ACF Exemption Guidance

CHARGING AS A SERVICE?

- External company handles all installation, software, and maintenance
- Electricity and service rates are bundled into monthly costs
- Santa Rosa to determine fleet electrification funding mechanism
- EVSE Infrastructure – Design-Bid-Build or Design-Build



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