Electric Vehicle Infrastructure Master Plan Update

Climate Action Subcommittee

September 4, 2024

Peter Martin

Deputy Director – Water Resources, Santa Rosa Water

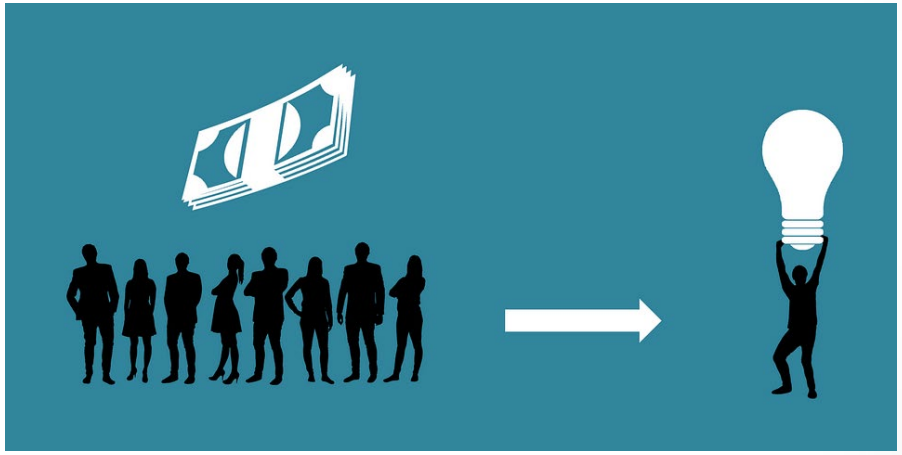
EV INFRASTRUCTURE MASTER PLAN

GOALS

- A roadmap to compliance with Advanced Clean Fleet and Innovative Clean Transit regulations
- Strategy for continuity of fleet operations, city services
- Establish priority of integration with city-owned facilities

GRANT FUNDING - EECBG

- Department of Energy's Energy Efficiency and Conservation Block Grant Program (EECBG) will become available this year
- Santa Rosa's block appropriation is $210,000 for eligible activity of our choice
- Funding will be used to develop Santa Rosa's Electrical Vehicle Master Plan Update
- Council approved undesignated general funds for remainder of project



CURRENT EFFORTS - FLEET & FACILITY EVALUATION

- Fleet Electrification Market and Charging Analysis
  - Study existing fleet usage and availability of replacement Zero Emission Vehicle (ZEV) Light-, Medium-, and Heavy-duty vehicles
  - Assess types of charging stations needed to match vehicle usage

- Facility Energy and Resiliency Evaluation
  - Assess renewable energy application at facilities, including current load considerations and financial impacts
  - Analyze site suitability for renewables, energy storage, and backup generation capacity

Fleet Analysis

- City of Santa Rosa has a diverse fleet, totaling 400+ vehicles
- Majority are gasoline or diesel
- City fleet has high suitability for transition, most vehicles can be replaced with commercially available EV's with proper charging infrastructure
- Exemptions are currently in place for utility vehicles with specialized equipment & retrofits

Class	Vehicle Type	Commercially Available?	2025	2026	2027	2028	2029	2030	2031
Heavy-Duty	Chassis	Yes	5	5	5	5	5	5	5
Medium-Duty	Chassis	Yes	5	5	5	5	5	5	5
Light-Duty	Sedan/Wagon	Yes	5	5	5	5	5	5	5
Light-Duty	SUV	Yes	5	5	5	5	5	5	5
Light-Duty	Van	Yes	5	5	5	5	5	5	5
Light-Duty	1/2 ton Pickup	Yes	5	5	5	5	5	5	5
Light-Duty	Compact Pickup	No	3	3	3	4	4	5	5
Light-Duty	3/4, 1 ton Pickup	No	3	3	3	4	4	5	5
Non-Road	Forklift	Yes	5	5	5	5	5	5	5
Non-Road	Mower	Yes	5	5	5	5	5	5	5
Non-Road	Tractor	Yes	5	5	5	5	5	5	5
Non-Road	Utility Vehicle	Yes	5	5	5	5	5	5	5
Construction	Loader, Skid-steer	Yes	5	5	5	5	5	5	5
Construction	Loader, Track Steer	Yes	4	4	5	5	5	5	5
Construction	Excavator	Yes	5	5	5	5	5	5	5
Construction	Backhoe	Yes	5	5	5	5	5	5	5

Charging Infrastructure Options Evaluation

EV Charging Software & Hardware:

- Team Evaluated Software options – Charging Management Systems (CMS)
- Team evaluated Hardware Options and their Compatibility with CMS

- Key Needs:
  - Compatibility with vehicle telematics
  - Synergy with PG&E/SCP programs, requirements and rate structures
  - Individual site load management tools

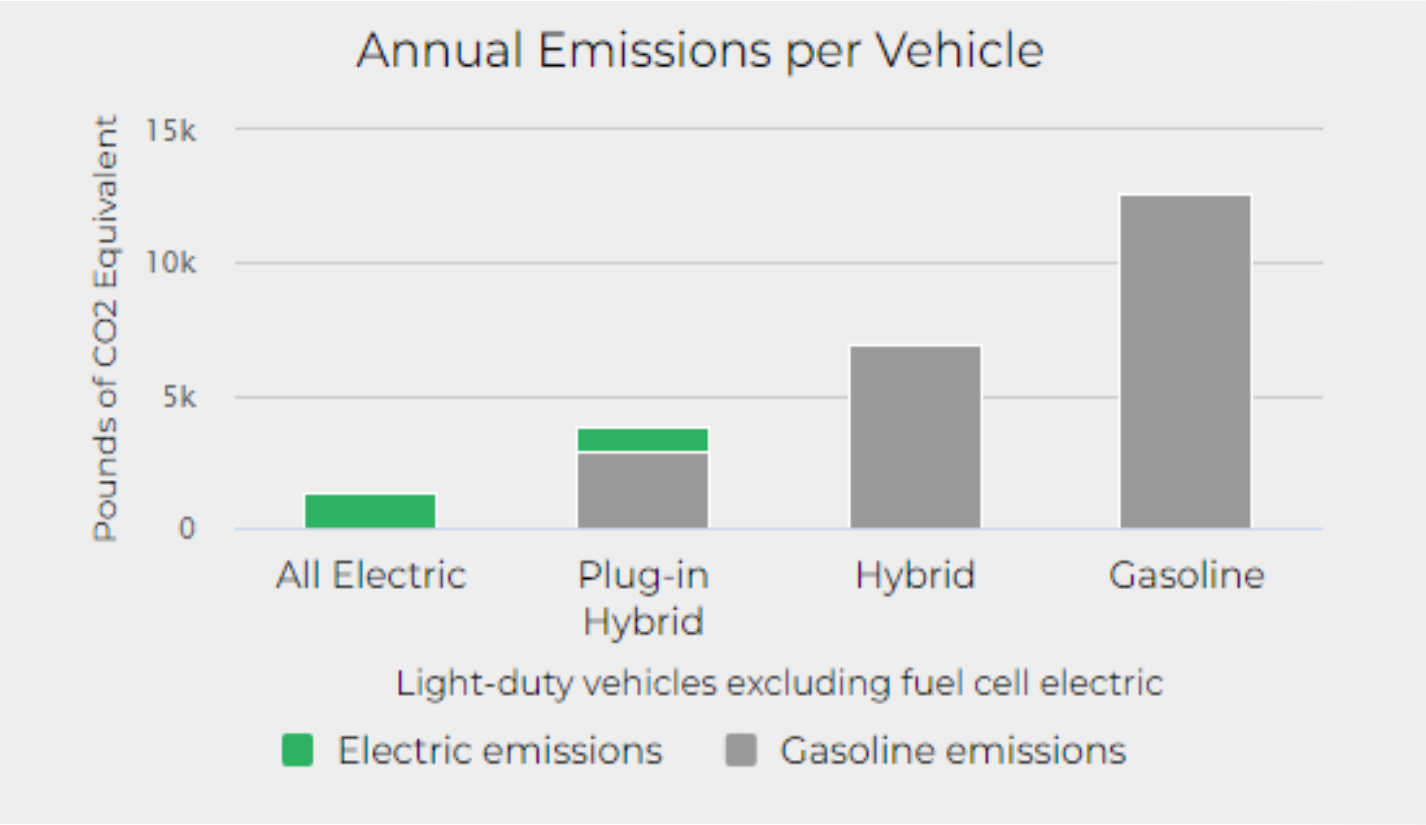
Charging Evaluation Site Selection

- Sites were selected by number of vehicles stationed at each location and operational needs

- 8 sites were identified: MSC North, UFO, LTP, MSC South, Finley Community Center, City Hall, Brown Farm, and Station 4

Next Tasks

- GHG Analysis
- Capital Cost Estimates
- External Funding Sources
- Off Grid Charging
- Private EV Charging Policy Recommendations



QUESTIONS?