

# Electric Vehicle (EV) Charging Stations and the City of San Pablo

Sarah Kolarik, Environmental Program Analyst

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# Overview

1. Existing City Hall EV Charging Stations
  - City fleet EVs
  - City staff EVs
2. New City Hall EV Charging Stations
  - Funding
3. Contra Costa County Electric Vehicle (EV) Readiness Plan
4. San Pablo Electric Vehicle (EV) Readiness Strategy

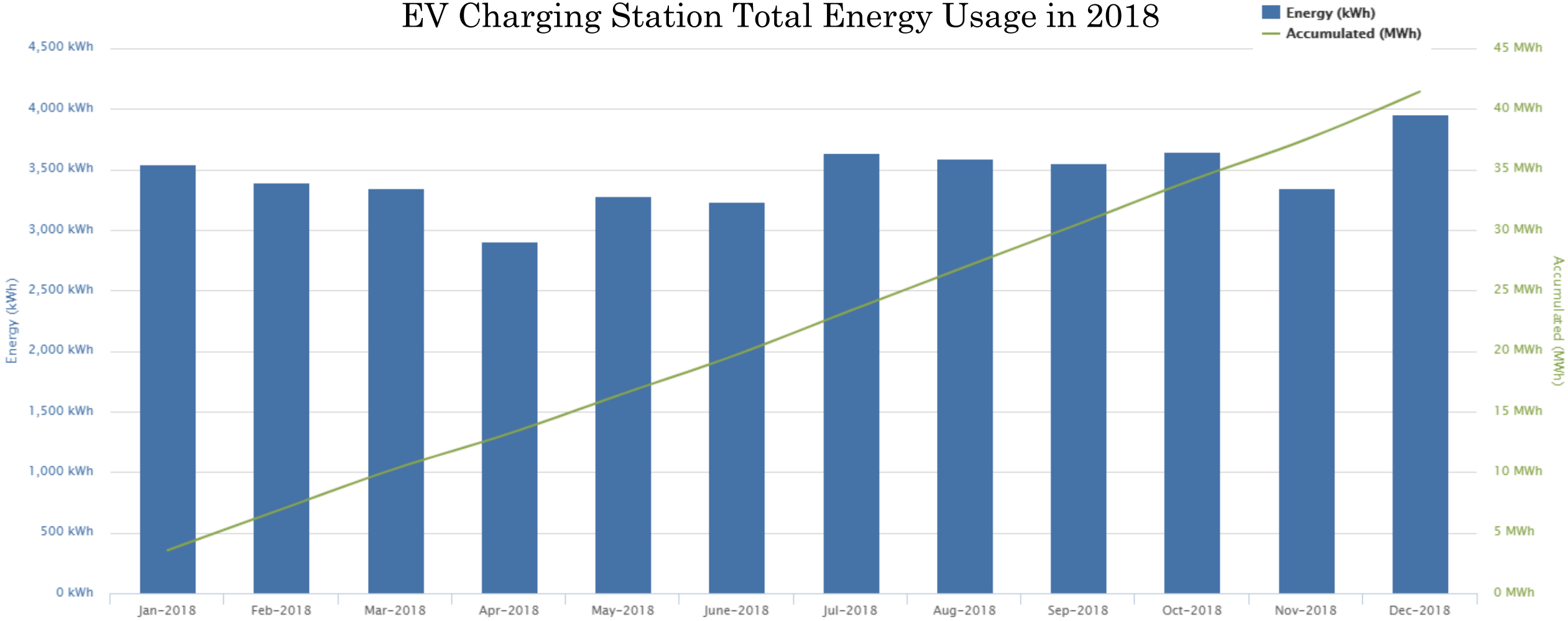
# City Hall EV Charging Stations

- 2 charging stations with 1 charging port each => total 2 charging ports
- Each station can reach 2-3 parking spots => total 5 parking spots served
  - 1 parking spot is City vehicle only
  - 1 parking spot is City staff only
  - 2 parking spots are electric vehicles only (2 hour time limit)
  - 1 parking spot is 2 hour time limit
- Chargepoint infrastructure
- Level 2
- Free charging

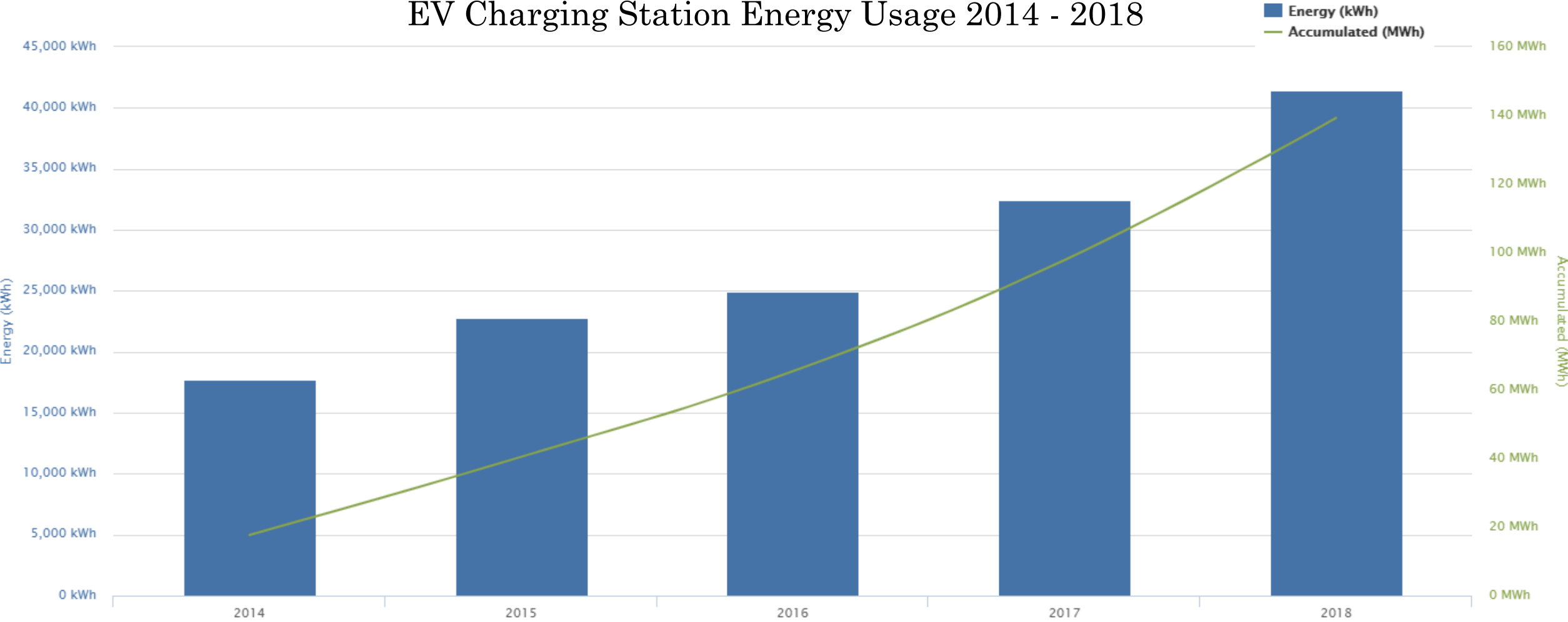
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- 
- Average of 12.5 charging sessions per day
  - Average of 2.4 hrs per charging session

# EV Charging Station Total Energy Usage in 2018



# EV Charging Station Energy Usage 2014 - 2018



# EV Charging Station Data 2014 - 2018

Year	Daily Average Per Port				Total Annual Energy Usage
	Session Duration	Charging Time	Idle Time	Energy Usage	
2014	7 hrs 7 min	5 hrs 11 min	1 hr 56 min	24.23 kWh	17.69 MWh
2015	12 hrs 2 min	7 hrs 38 min	4 hrs 23 min	31.19 kWh	22.77 MWh
2016	10 hrs 13 min	7 hrs 57 min	2 hrs 16 min	34.12 kWh	24.97 MWh
2017	13 hrs 1 min	10 hrs 00 min	3 hrs 00 min	44.40 kWh	32.41 MWh
2018	15 hrs 8 min	11 hrs 47 min	3 hrs 20 min	56.75 kWh	41.43 MWh

*Session Duration = Charging Time + Idle Time*

# City Hall Charging Station Demand

- City fleet EVs
  - C&ED: 1 plug-in hybrid
  - PW: 1 EV, 2 plug-in hybrids
  - 4 total City fleet EVs
  
- City staff EVs



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- City staff EVs
  - Currently ~7 City staff who drive an EV to work 1+ times per week
  - Survey of City staff in Jan 2018:
    - 53 surveys completed
    - Out of 25 staff considering purchasing an EV in next 5 years, 17 would charge their vehicle at work some or all of the time

# City Hall EV Charging Stations

- 2 charging stations with 1 charging port each => total 2 charging ports
- Each station can reach 2-3 parking spots => total 5 parking spots served
- 1 new dual-port Level 2 charging station to be installed at the existing City Hall
- New station will be positioned to reach up to 8 parking spots
- \$5,000 in grant funding from MCE approved by Council Reso. #19-032
- Total station equipment + installation cost estimated ~\$15,000

# New City Hall EV Charging Stations

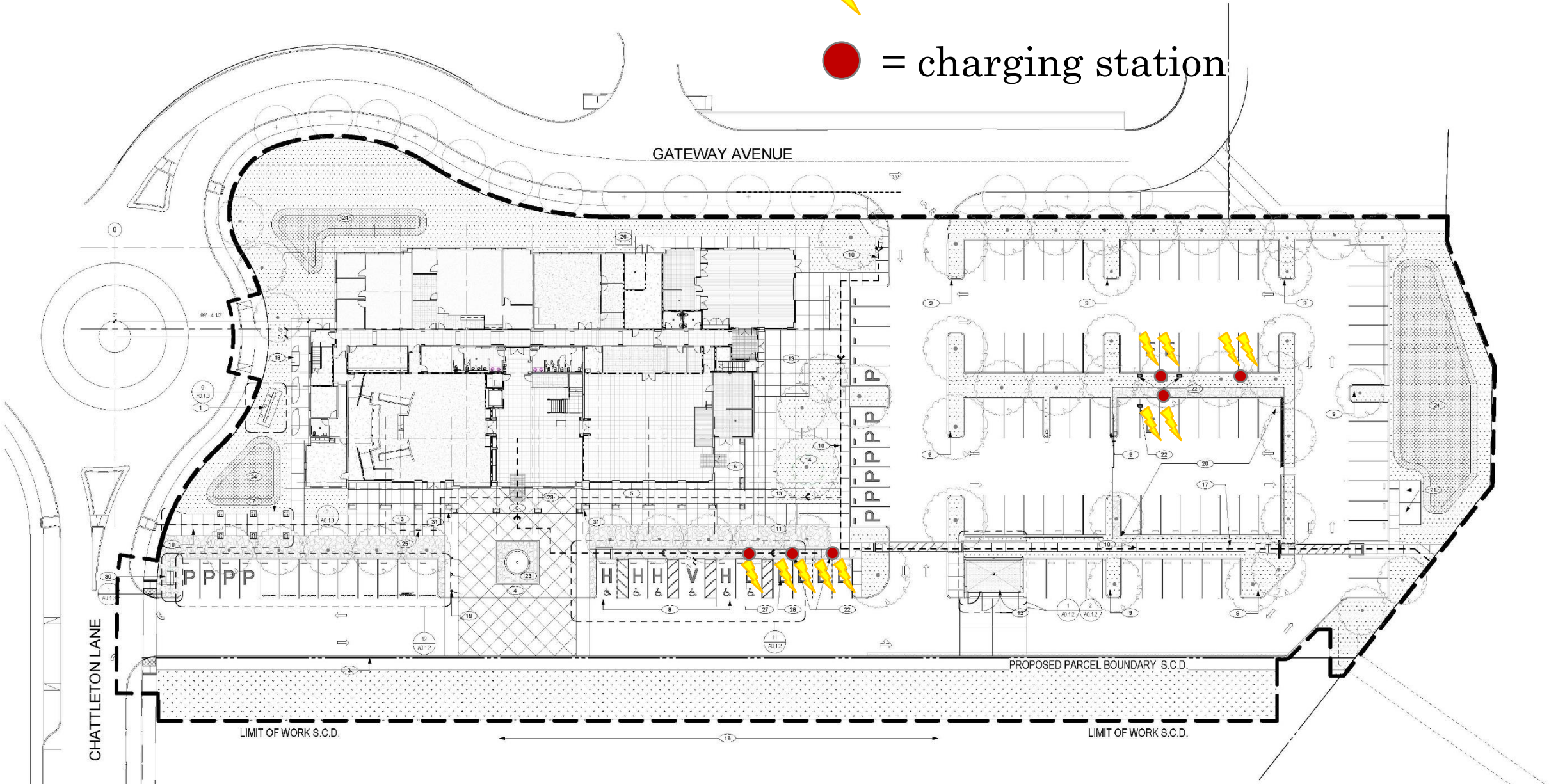
- 11 “clean air” parking spaces required by code
  - Of these 7 “EV-ready” parking spaces required by code
- 2 dual-port stations as part of original New City Hall design
- Now installing 11 charging ports
  - 5 dual-port stations
  - 1 single-port station
- Level two (high)
- EVBox infrastructure



= charging port



= charging station



# New City Hall Charging Stations: Funding

- West Contra Costa Transportation Advisory Committee (WCCTAC)
  - Transportation Fund for Clean Air
  - \$6,000 for 2 charging stations
  - Contract signed
  - Ratified by Council Reso. #19-032
- Marin Clean Energy (MCE)
  - MCEv
  - Up to \$27,500 for 11 charging ports
  - On waitlist for Year 2 of funding
  - Will return to Council to approve MCEv and appropriate both funding sources

# Contra Costa County EV Readiness Plan

California Energy Commission: Electric Vehicle (EV) Ready  
Community Challenge

- Phase I: Developing planning blueprints to identify actions and milestones needed to proceed toward EV ready implementation
- Phase II: Future funding to implement blueprints completed under Phase I

# Contra Costa County EV Readiness Plan

- Summary:
  - Electricity Demand Analysis
  - Online Interactive Maps
  - Scenario Planning of EV Charging Station Locations
- Best Practices Toolbox:
  - Siting considerations (visibility, accessibility, electric service)
  - Codes and permitting
  - Management (payment, enforcement, signage)
  - Emerging technologies



Enter location



Electric



Level 1



Level 2



DC Fast Charging



CHAdemo



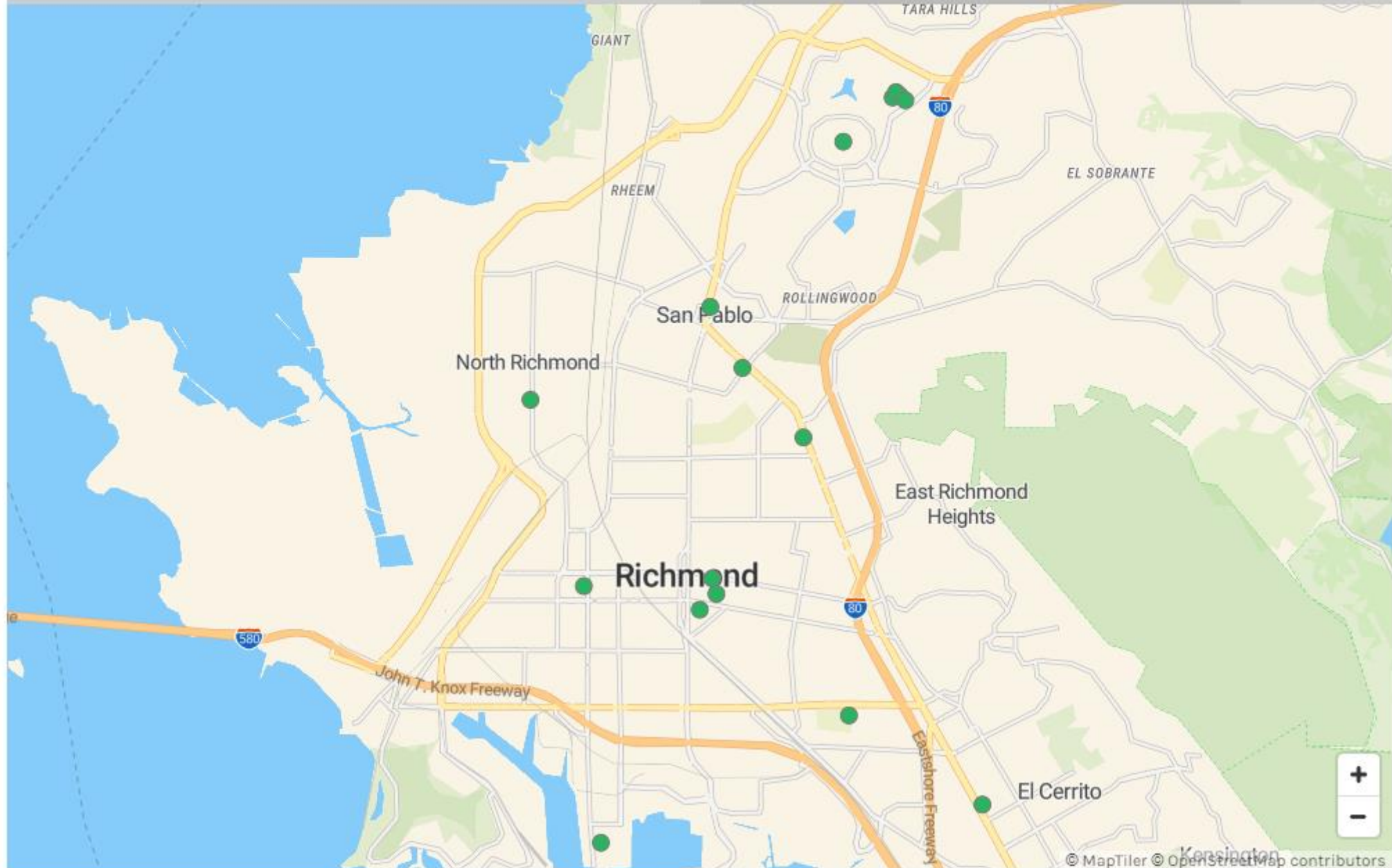
CCS



Tesla



Map a Route



# San Pablo EV Policies and Strategies

- Adapting Best Practices Toolbox to San Pablo
  - Siting considerations (visibility, accessibility, electric service)
  - Codes and permitting
  - Management (payment, enforcement, signage)
- Outreach
  - Businesses re: charging station installation
  - Residents re: electric vehicles
- Streamlining EV charging station permitting process (AB1236, 2015)