Fresno Council of Governments

EV Workshop:
A Guide to Installing Public Chargers

Welcome & Introduction

Tony Boren

Executive Director, Fresno COG

Moderator

Rob Terry, MPA AICP

Community Development Director,
City of Reedley

Panel #1:

Siting Consideration and Charging Equipment:

"What You Need to Know"

- **Steve White**, *AECOM*
- **Ann Camperson**, *Pacific Gas & Electric*
- **Moses Stites**, *Fresno County Rural Transit Agency*

AECOM Imagine it. Delivered.

Enabling EV Siting

FOR THE FUTURE

September 2019

Unmatched expertise and experience

Agenda

00 Introductions

01 AECOM Overview

02 Technology Options

03 Location Considerations

04 Community Goals

05 Implementation

06 Q&A

Global Reach, Local Market

AROUND THE **WORLD**

7
Continents

87,000
Employees

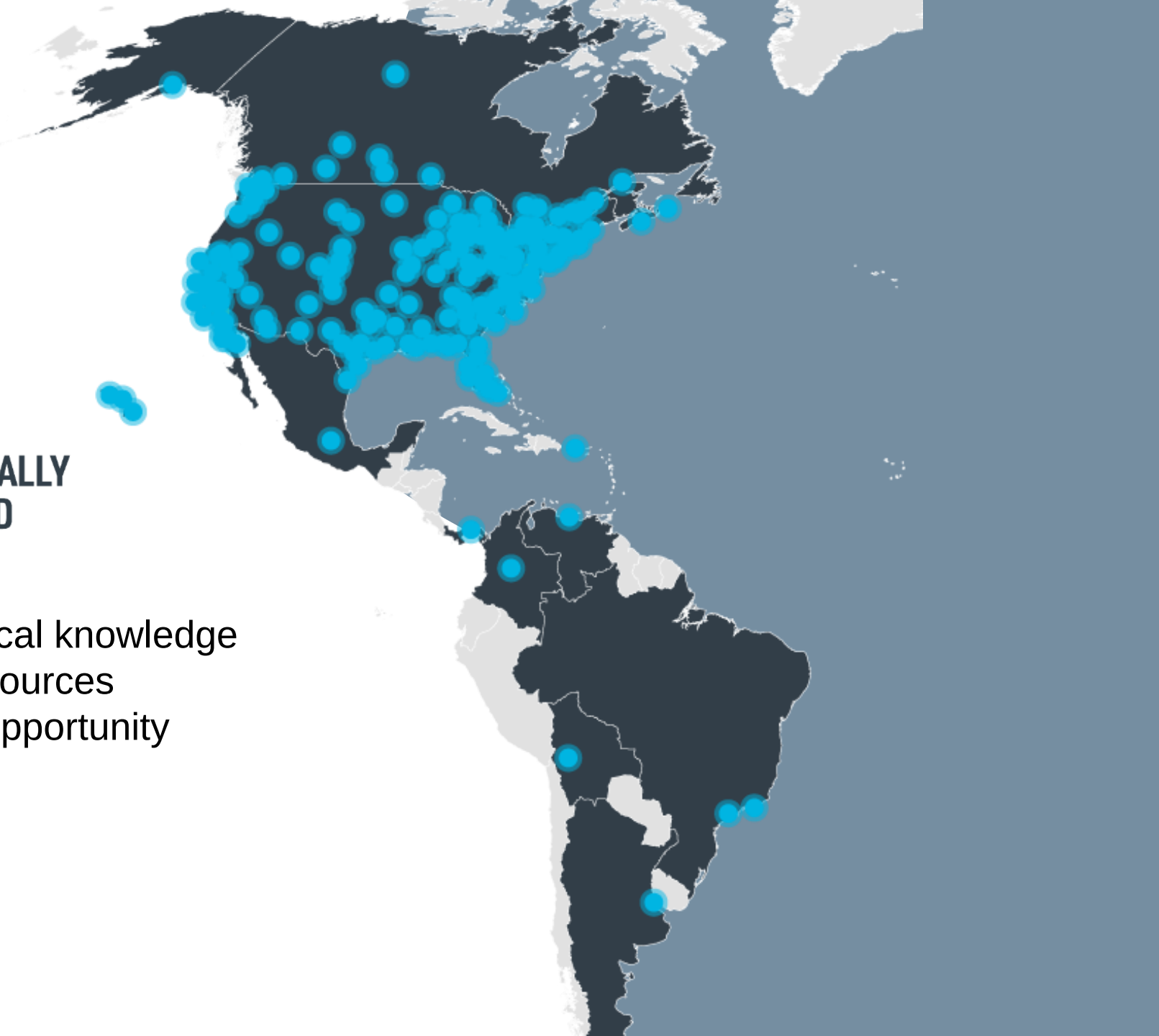
150+
Countries

US$20.2B
2018 Revenue

NYSE
ACM

#164
Fortune 500

2019
Fortune World's Most Admired Company



200
STRATEGICALLY POSITIONED OFFICES

/ Share local knowledge
/ Align resources
/ Unlock opportunity

Our Operating Groups

AECOM

Design and Consulting Services

Bringing together disciplines and resources to deliver innovative solutions

Offers planning, architectural and engineering design, and consulting services.

Construction Services

Building the world's most iconic, complex structures

Delivers a full suite of construction services to public and private sector clients globally.

AECOM Capital

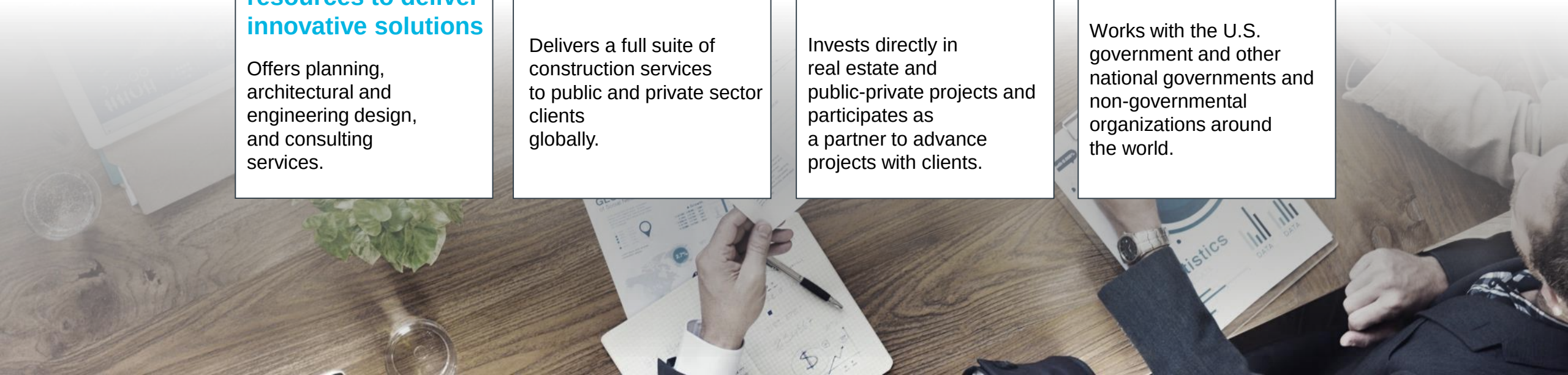
Discovering new opportunities together

Invests directly in real estate and public-private projects and participates as a partner to advance projects with clients.

Management Services

Delivering mission success

Works with the U.S. government and other national governments and non-governmental organizations around the world.



Our Markets

Buildings + Places	Energy	Environment	Program Management and Construction Management	National Governments	Transportation	Water



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Overview

AECOM Energy Services

Energy Planning

Energy and Sustainability Master Planning

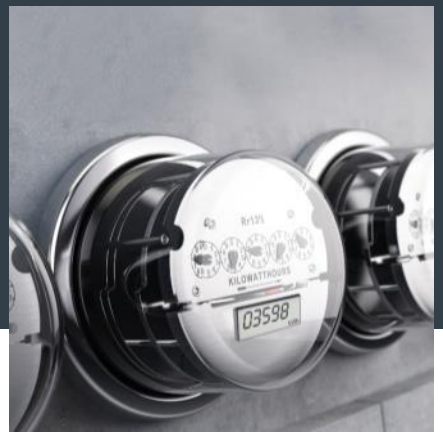
Energy Benchmarking

Energy Bill and Rate Analysis

Energy Engineering and Modelling (Technical and Financial)

Strategic & Enterprise Energy Management

Vehicle Electrification Readiness Planning



Energy Efficiency

Utility Program Implementation

Retro Commissioning/Continuous Commissioning/Data Analytics

Energy Savings Performance Contracting

Energy Audits

Utility Privatization

New Construction/
Enhanced Energy Efficiency Upgrades

Energy Generation

Renewables

Central Energy Plants

Combined Heat & Power

District Energy

Thermal Exchange

Energy Storage

Smart Energy

Microgrids

Electric Vehicle Infrastructure

Smart Lighting Networks

Sensor Deployment Strategies

Energy Storage

Energy Security & Resilience

Smart Buildings/
High Performance Buildings

Transmission and Distribution

T&D Network Planning

Power Systems Analysis

Substation and Transmission Design

Power System Protection

Communications & Controls

Asset Valuations and Management

High Voltage Underground Cables

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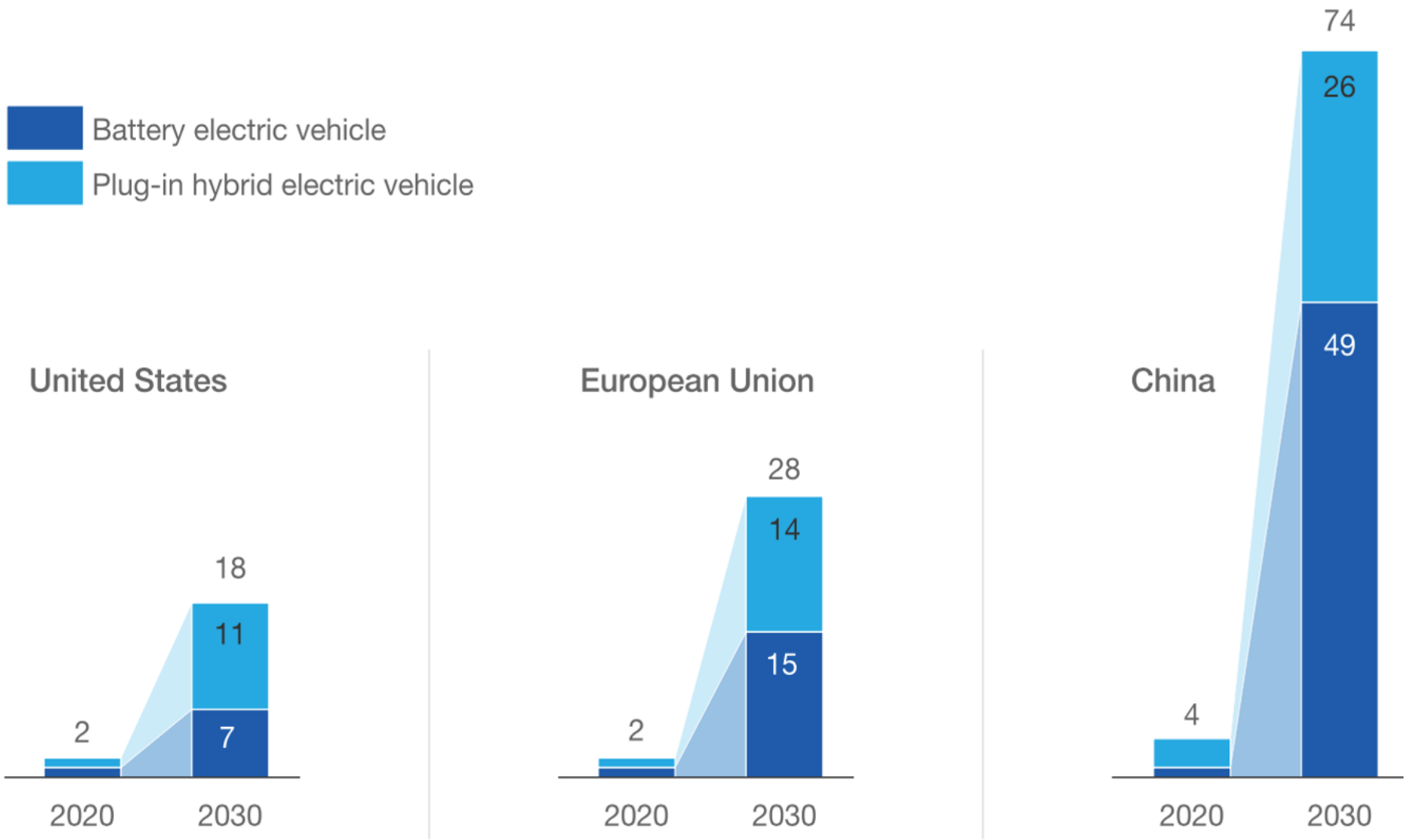


Electric-vehicle adoption base case, *million*

Industry experts predict **120 million electric vehicles on the road by 2030.**

Is this the right

EV charging model?

Effective Gasoline “Charge Rate”

Gasoline energy density: 33 kW-hr per gallon

Combustion engine efficiency: 30%

At a gasoline pumping rate of 10 gallons per minute:

10 kW-hr per gallon

Effective energy density

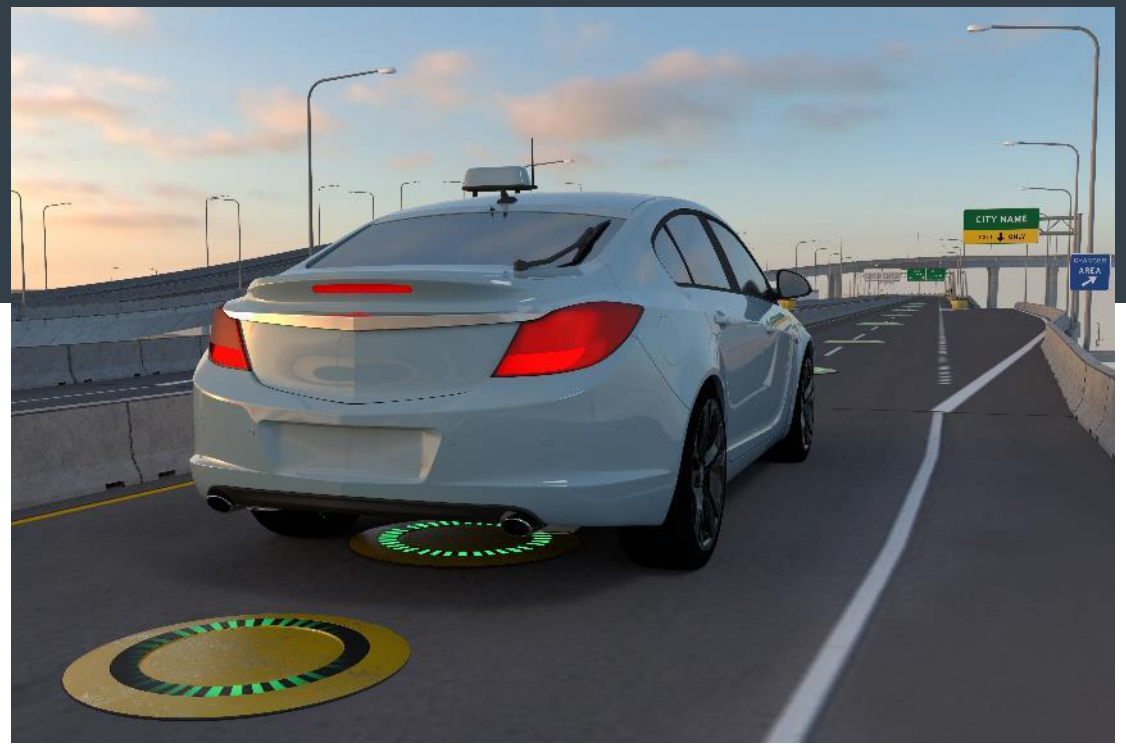
10 kW-hr/gal X 10 gal/min = 6 MW effective charging rate

Technology Options: Typical Chargers

Each EV's built-in charger and its capacity will influence actual charging speeds.

- Level 1 – Basic but limited
  - Residential: passenger and light-duty vehicles
- Level 2 – Economical and effective
  - Residential and commercial: passenger and light-duty vehicles
- DC Fast Charging (DCFC) – High power, high end
  - Residential and commercial: passenger and light-duty

Technology Options: Typical Chargers



Wireless chargers use inductive power to charge EV batteries. A pad transfers charge to a plate fastened on the vehicle.

- Static Wireless – Light Duty
  - Light-duty and passenger
- Static Wireless – Heavy Duty
  - Heavy-duty and transit
- Dynamic Wireless – Charging while in motion
  - Light-duty and passenger
  - Heavy-duty with multiple receiver coils

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Charger Type

Charger Type	Supply Voltage	Charging Rate	Typical Charge Time
Level 1	120V, 12A	1.4kW 2-6 miles/hour of charge	Eight hours ~ 40 mi of range
Level 2	208V - 240V	Typically up to 11kW 21-25 miles/hour of charge	Eight hours ~ 180 mi
DCFC	480V	Up to 50kW 40 miles/10 minutes of charge	30 min ~ 80% of battery
Static Wireless – Light Duty	Varies	3.6/7.7/11/22kW	Eight hours ~ 180 mi
Static Wireless – Heavy Duty	Varies	250kW-500kW	Varies
Dynamic Wireless	Varies – Developing direct MV connection	50-150kW	Varies

Choosing a Charging Option

Type	Costs	General Considerations
Level 1	Very affordable, little to install	• Suitable for low or mid-range EVs • Requires long charge times
Level 2	Economical, moderate hardware and installation costs	• Most common for current public chargers. • Affordability to install and maintain charging speed
DCFC	High upfront installation and hardware costs but strong revenue potential	• Fastest charging rate and useful for long-term mobility needs • Expensive installation and hardware costs • Plug-ins and hybrids typically cannot connect
Static Wireless – Light Duty	Moderate	• Limited vehicle availability currently. • Allows flexibility in siting
Static Wireless – Heavy Duty	High	• Transfers costs from battery to infrastructure
Dynamic Wireless	Still under development	• Enables charging on the go • Transfers costs from battery to infrastructure

Location Considerations

Where to install a station?

Curbside
Garages
Fleet vehicle storage
Public or private parking lots
Commuter corridors

What kind of parking behavior?

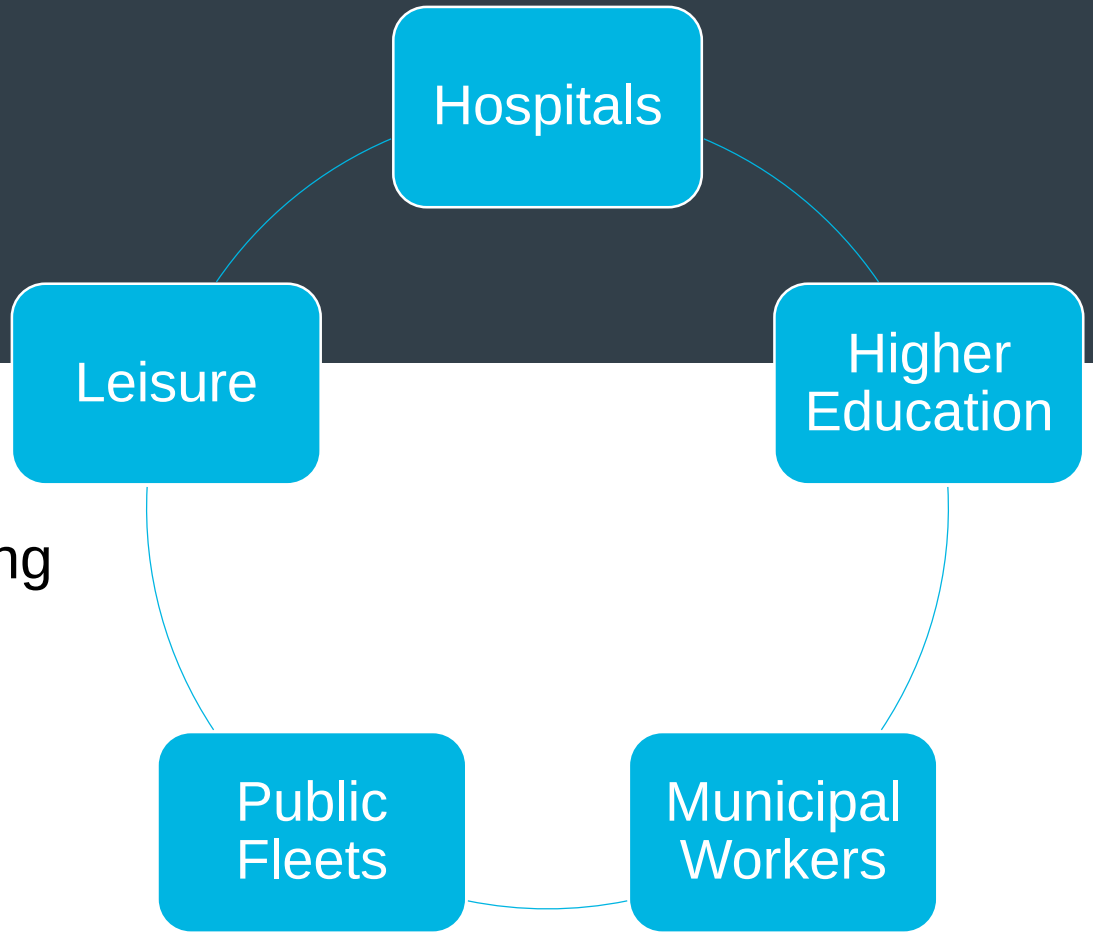
Dwell times and space turnover
Workplace charging or visiting user
High-usage area
Public access or restricted
Individual users or fleets

Target EV Drivers

Engaging regular EV charging users will advance technology adoption and broader and acceptance.

- Carshare Parking
- Auto Dealership
- Emergency Vehicles
- Grocery Delivery Vehicles
- Municipal Fleets

Deployment Areas



Cluster-based approach

- Optimize charging station usage by installing near volume of visitors employees

Predictable behavior

- Identify and target areas of high demand
- Certain professions and areas of entertainment largely car-dependent

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Street-side Charging

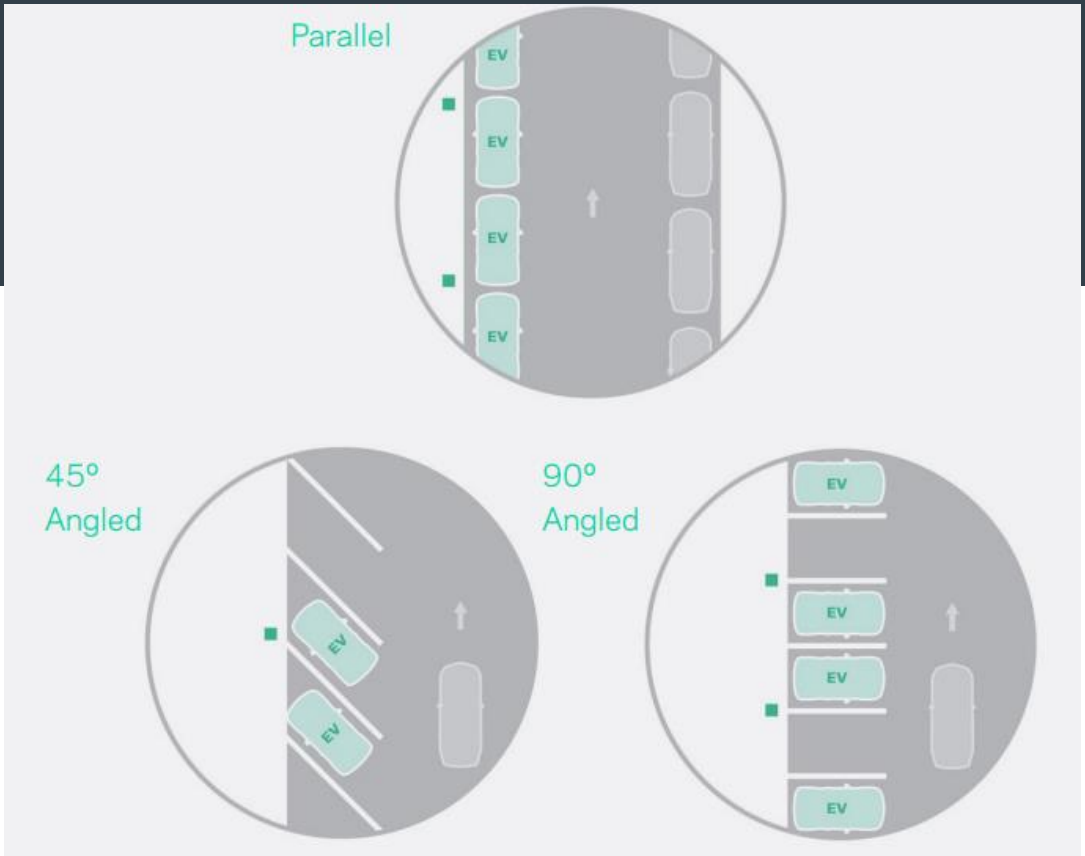

Image credit: 2018 Curb Enthusiasm
New York State Energy Research and Development Authority and Dept. of Transportation

- Street direction
  - Most EV ports situated on the driver's side, orient station accordingly
- Sidewalks and fixtures
- Bus lanes and bike lanes

Image Credit: RMI 2017 From Gas to Grid

Visibility of Charging Stations

Signage at the site

- Easily seen by drivers and clearly marked EVs-only
- Potential prime parking for EV users a plus

Online resources

- City website, park or location website

Partner support and promotion

- Part of broader campaign, celebrate pilot progress
- Social media engagement and press promo as appropriate

EV charging apps show availability

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Additional Siting Considerations

Local Transportation Electrification Goals

What is the goal of the project?

➔ These factors will help prioritize siting locations, target users, and select appropriate equipment

Reduce demand for fossil fuels and GHG emissions to support climate resilience

Encourage EV adoption to diversify transit options and enable smart technology

Improve air quality around environmental justice communities.

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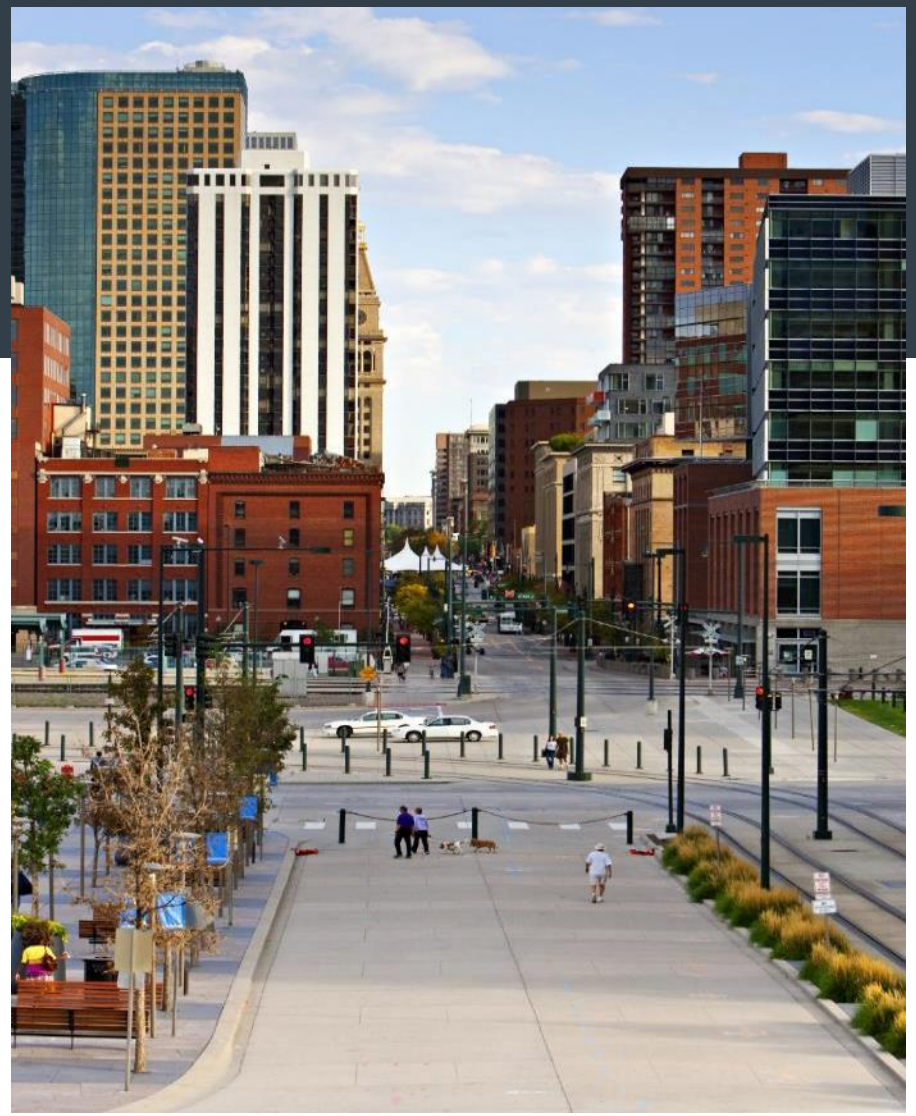
EVSE Installation Community Considerations



Equitable planning

- Ensure benefits inclusive across communities
- Expand efforts beyond early adopters, include support to environmental justice communities
- Effective planning will improve air quality, especially in urban environments where asthma rates are high

Minimize disruption

- Maintain sightlines to local parks, landmarks, art pieces, plazas, walkways
- Prioritize neighborhood safety and accommodate pedestrian walkways
- Consider potential vehicle congestion and broader mobility outcomes

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GIS-based Model

Objective: Develop a flexible tool to identify potential sites for a network of publicly available EV Chargers.

Purpose	Methods
Be able to analyze and prioritize different siting scenarios based on opportunity goals	Weight the importance of each individual data layer to then prioritize and rank locations. • For example, do you value proximity to a commercial corridor or are there environmental justice concerns? These factors can be addressed by a weighting metrics.
Prioritize Open Data Layers • Adaptable • Leverages existing data	What other factors should be considered? • Target sites near hospitals, for example
Customizable • Identify level of detail based on existing data – zip code, block group and parcel based	The Model can be run comparing different siting scenarios • Develop a scenario to balance existing EV network and Environmental Justice concerns
Use existing data to identify underserved markets and potential siting locations	We can add and subtract out data layers as the Program evolves.
Identify skills to be further evaluated for practicability	

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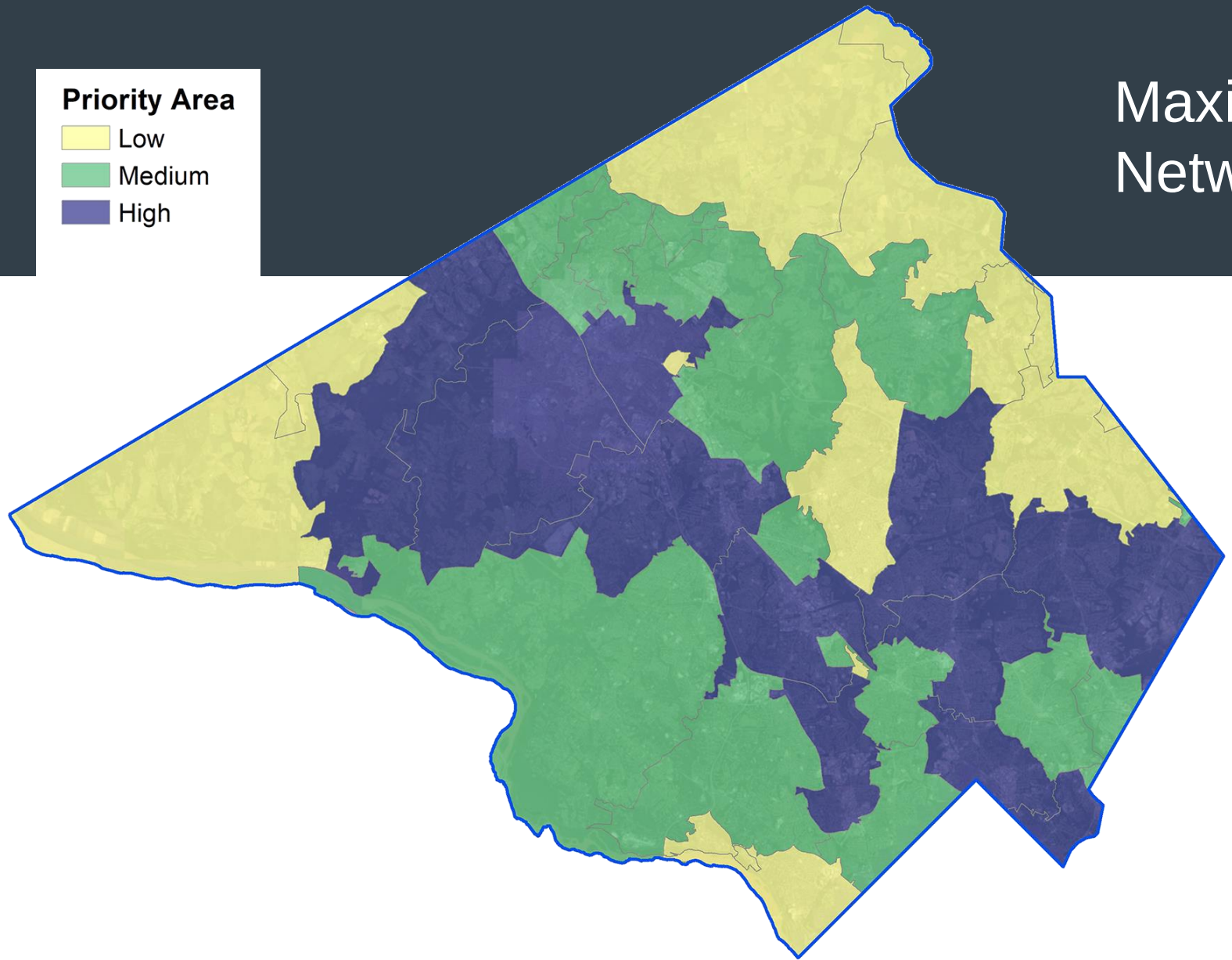
GIS-based Modeling



Maximizing Existing EV Network and Community

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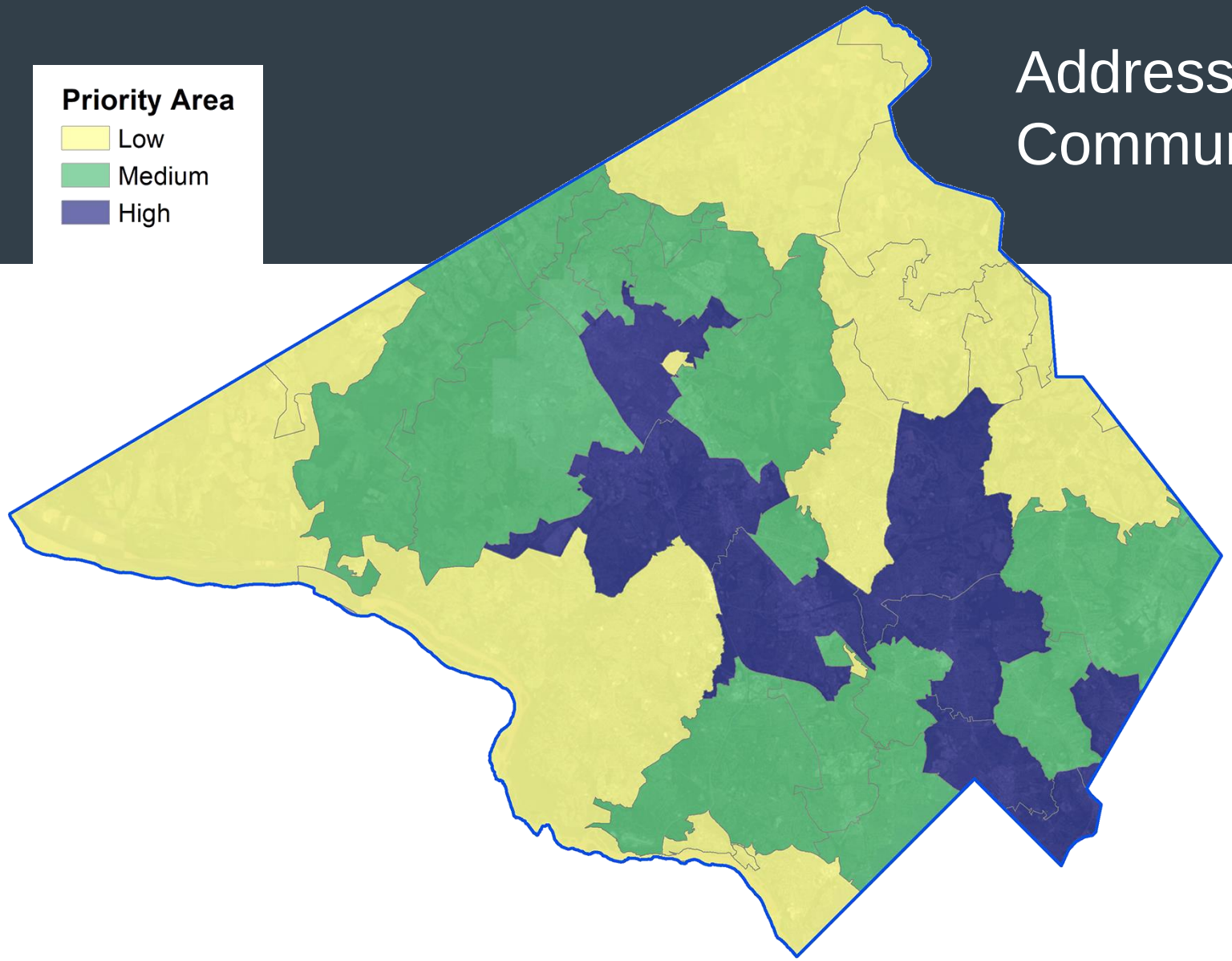
GIS-based Modeling

Addressing Inequitable Communities within the EV Network



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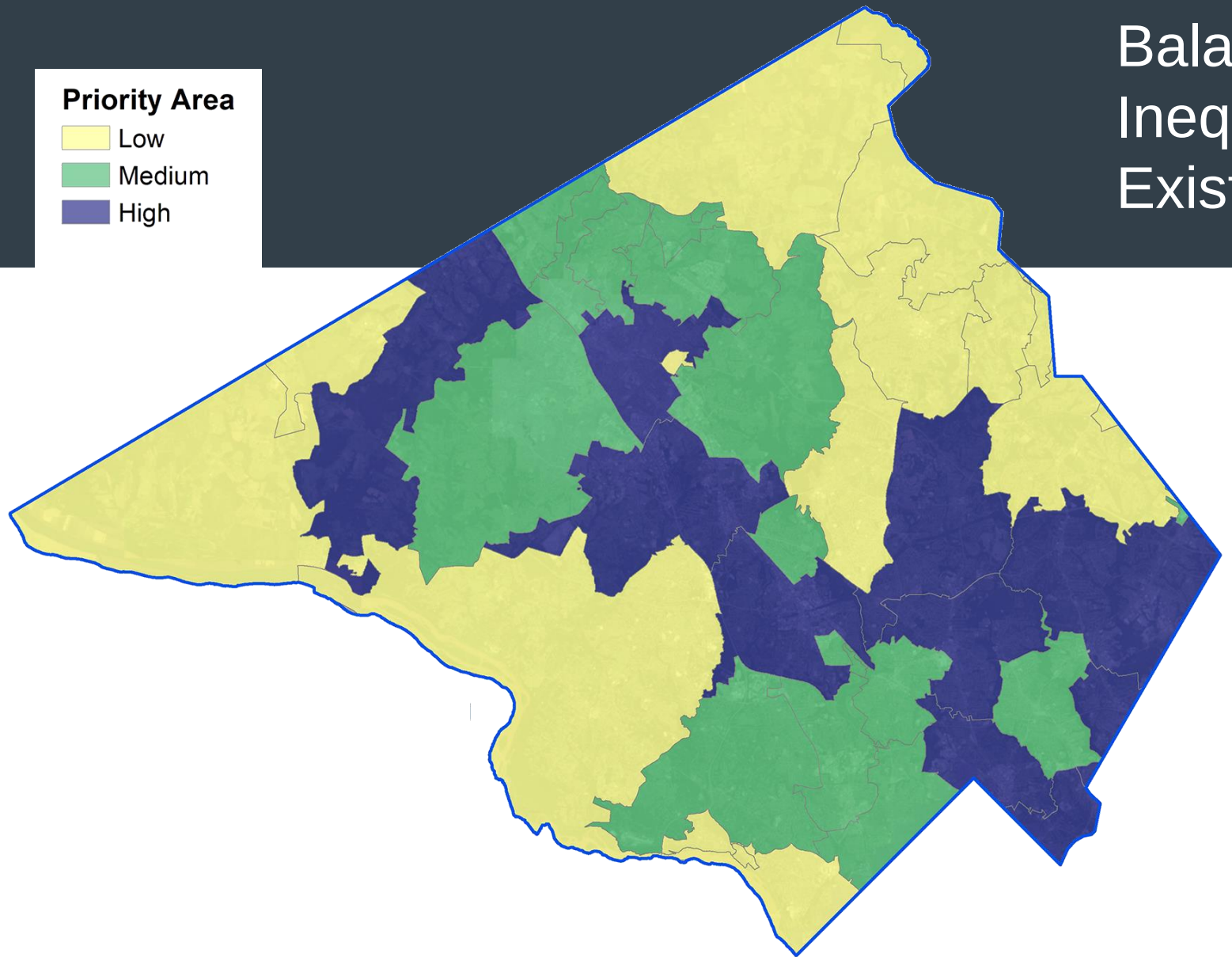
GIS-based Modeling



Balance between Addressing Inequities and Maximizing Existing Infrastructure

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Potential Data Layers

Population Characteristics	Employment Characteristics	Environmental Justice	Community Specific	EV Infrastructure Data Sets	EV Infrastructure Data Sets	Community Features
Population density (ACS)	Employment density (LEHD)	Pollution Burden (CalEnvironScreen)	Development funding	EV car registrations by zip code (DMV)	EV car registrations by zip code (DMV)	Parcel based land use and zoning
% Low Income (ACS)	Job type (LEHD)	Asthma Rates		Existing publicly available EV stations (Alternative Fuels Data Center)	Existing publicly available EV stations (Alternative Fuels Data Center)	Cell Tower Locations
% Minority Population (ACS)				Capacity Map (Utility)	Capacity Map (Utility)	Park Locations
						Business Locations (ESRI)

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Final Takeaways

Determine local EVs goals and charging needs, then identify areas of high demand and usage.

When big data unavailable, collaborate with local stakeholders on pilot projects that will both capture user information and serve a community need.

Balance project costs and regulatory considerations in planning process.

Pair anticipated type of usage with the appropriate charging station type.

Thank you

Steve Hall, PE, LEED AP
Electrical Engineer
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E Steven.Hall@aecom.com

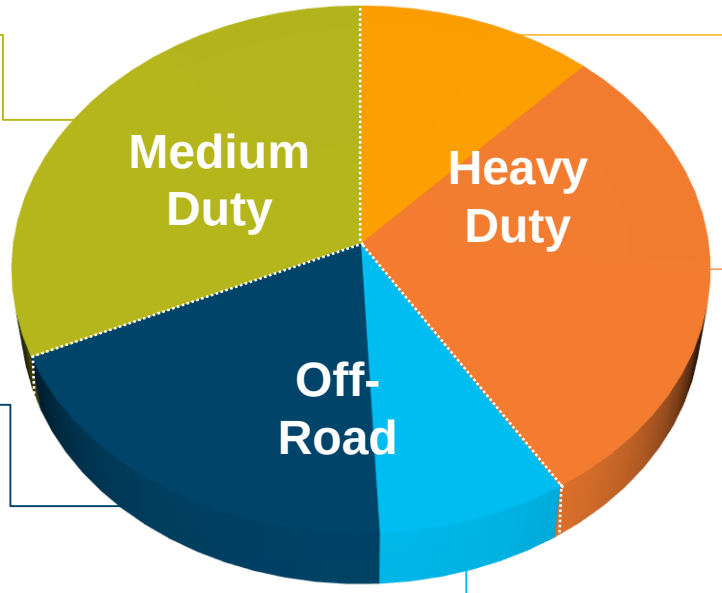
PG&E
EV Fleet Program

Together, Building
a Better California

EV Fleet Program Overview

Over 700 sites will support 6,500 new EVs

Vehicle Type Estimates



Medium Duty

- Delivery (class 2-6)

Heavy Duty

- Transit* (class 7-8)

*15% minimum of total required

Off-Road

- Truck Stop Electrification
- Transport Refrigeration Units
- Port Cargo Trucks
- Airport Ground Support Equipment

Heavy Duty

- School bus (class 6-7)
- Other (class 7-8)

Off-Road

- Forklifts*

*10% maximum of total allowed

Transit Segment

Finding resources to pay for this new vehicle type

Motivators

CARB 2040 deadline

Grant Funding for vehicles

Image as Sustainability Leader

Reduce Operating Costs

Chance for a new facility or upgrading old

VGI

Approach

Pilot to plan for the future

Reduce risk. Collaborate with other agencies and/or use consultants

Start with shortest routes with most visibility

Make easy

Transit Segment

The larger the fleet the more difficult getting consensus

Challenges

Coordinating stakeholders

Which OEM

Funding… Funding….

Bucket list: Solar, Batteries, Generators, Paving, Striping, Lighting, ect…

Fears

Is there enough PG&E power

Vehicles arrive but no way to charge them

Vehicles don't perform

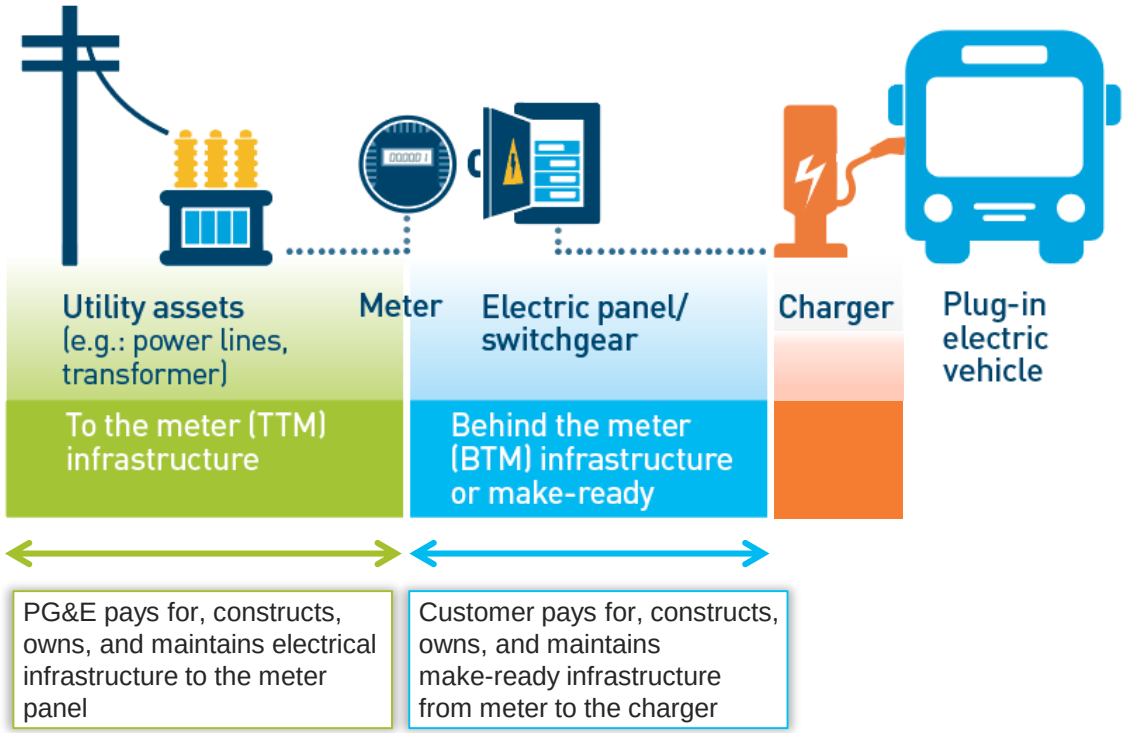
Unexpected costs not accounted for…

Solve my problems

EV Fleet Ownership—Customer-owned

PG&E pays for infrastructure cost up to the customer meter

Customer-owned[1]

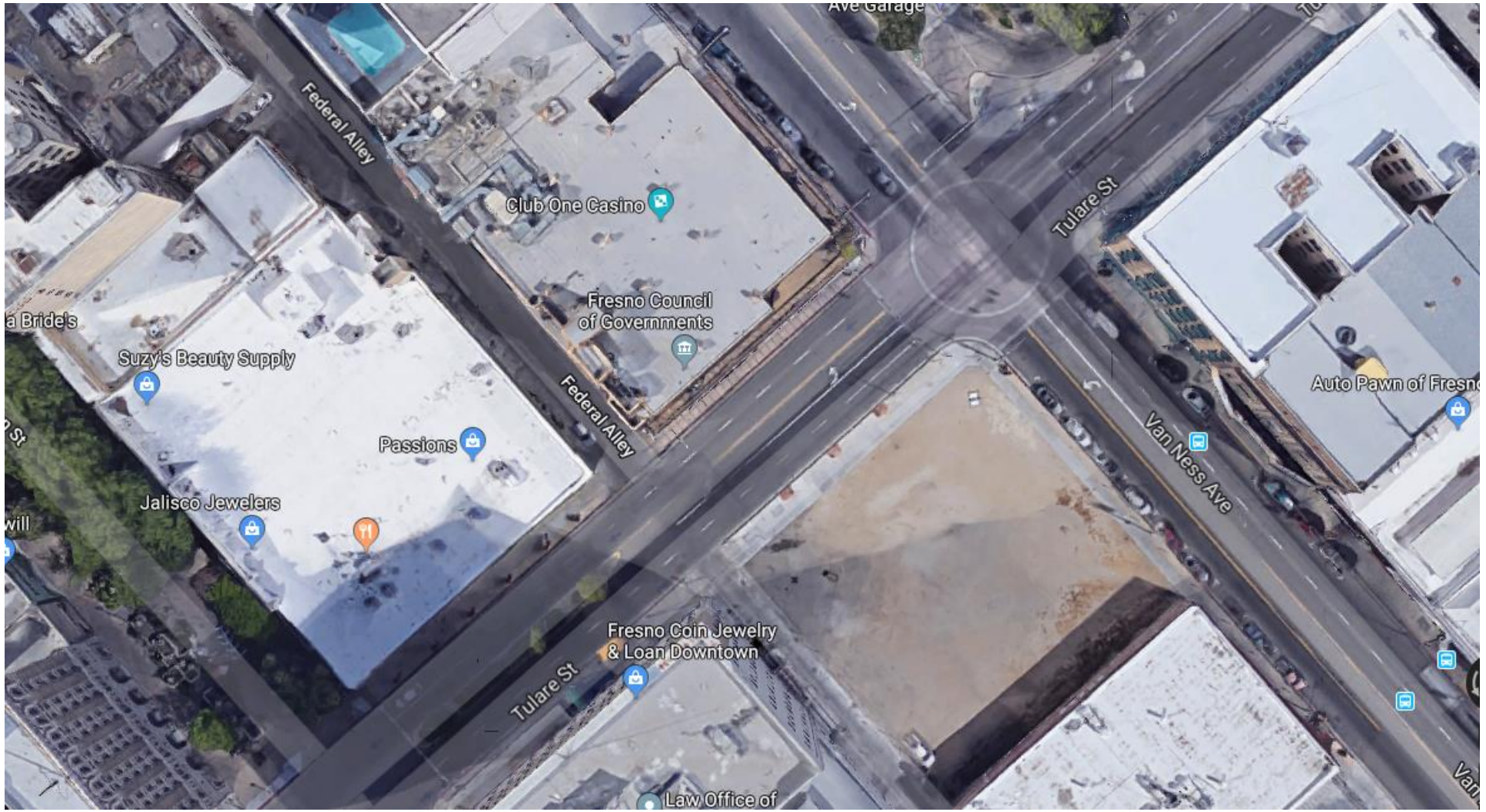


[1] At PG&E discretion. PG&E will determine eligibility based on project scope and associated costs. Some exceptions may apply to customers who hold Primary Service with PG&E.

Information Needed w/application

- Site Plan w/identified charger location
- OEM and Charge Vender information
- 5 year Deployment Schedule
- Anticipated load needed
- >500 kW

EV Fleet - Site Location



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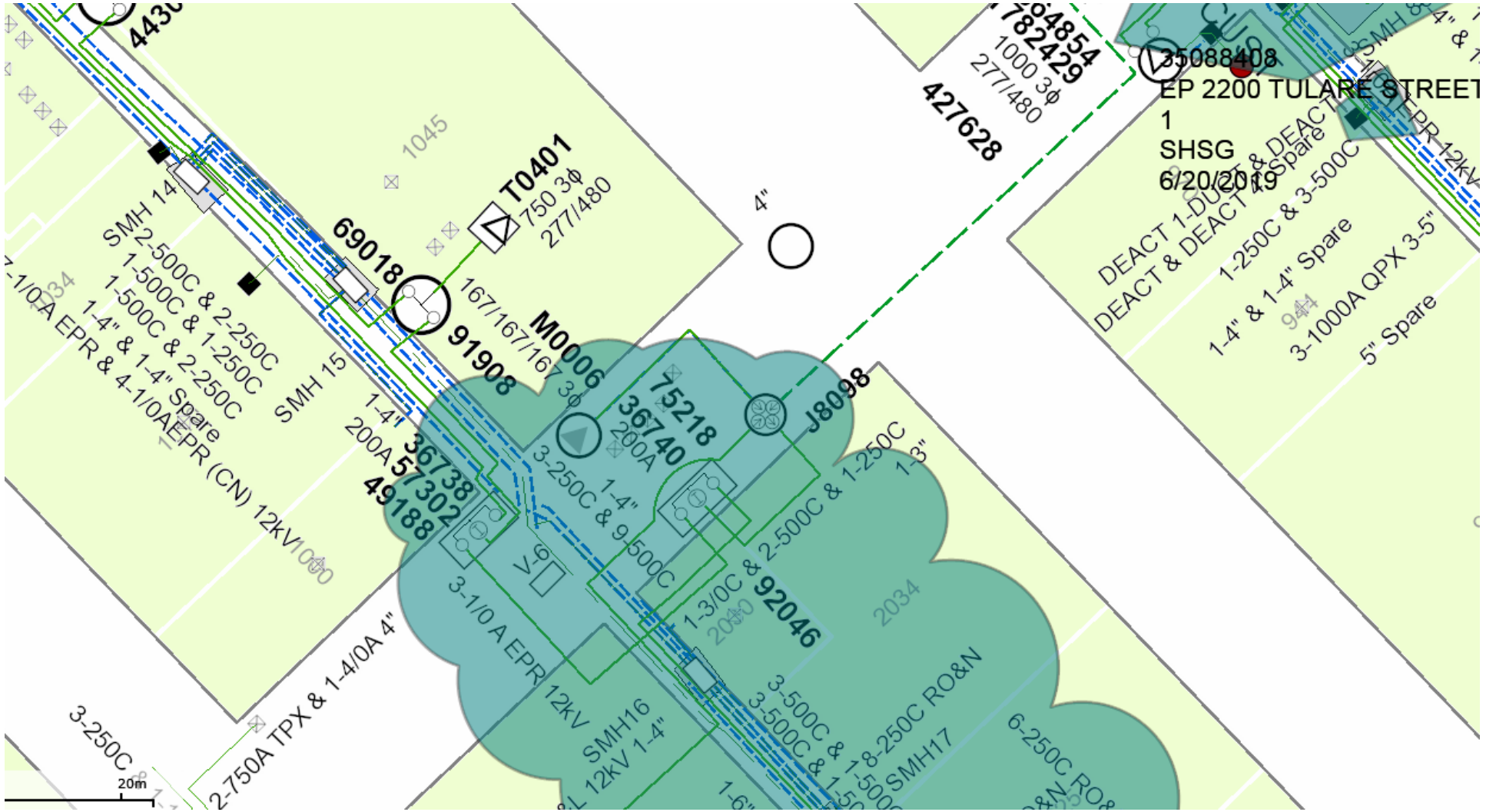
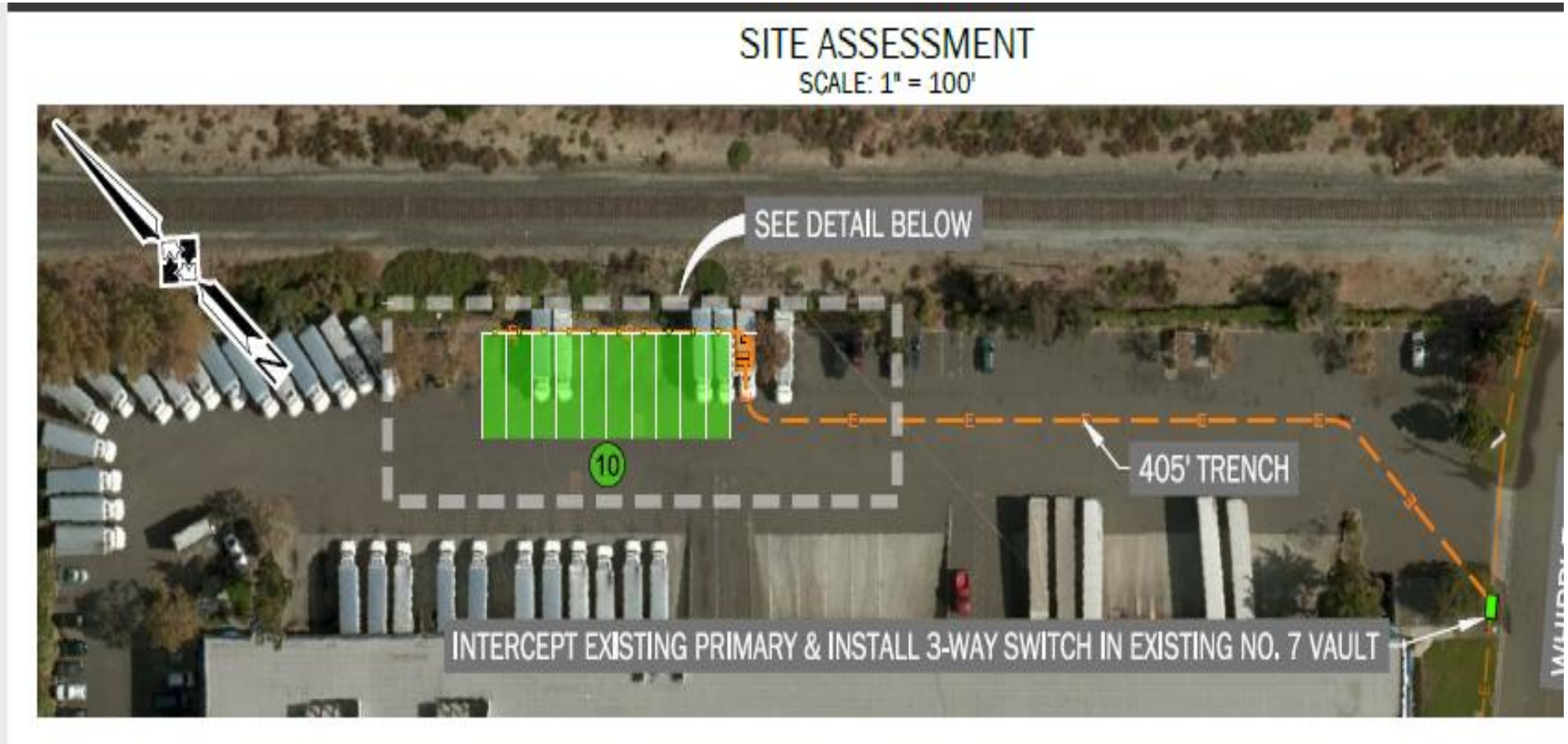
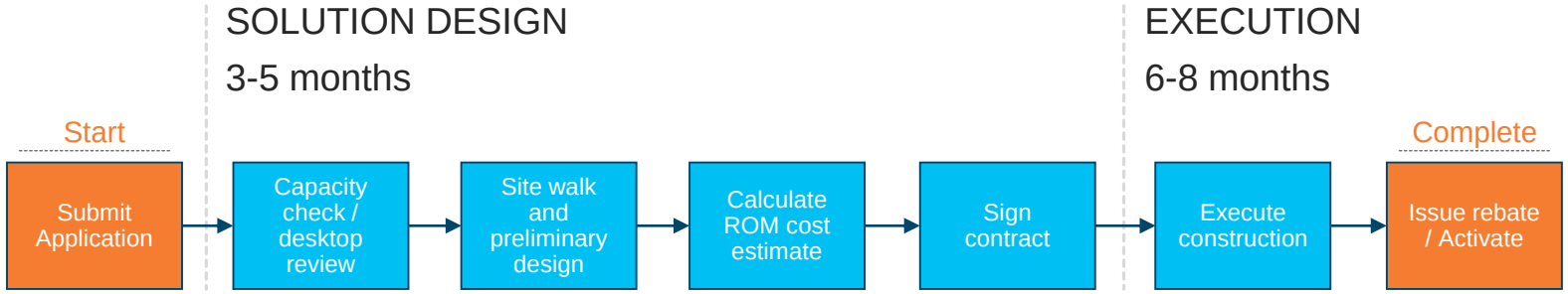


EV Fleet - Site Location



EV Fleet Customer Process

A high level view of steps to participate in the program



Thank you.

And I welcome your questions.

Ann Camperson
EV Fleet Specialist
Ann.Camperson@pge.com
925-459-2122

Helpful Resources / Links

- EV Fleet Website
- EV Fleet Fact Sheet
- EV Fleet Interest Form
- EV Fleet Application
- EV Fleet Rebate Calculator (for charger)
- EV Fleet Incentive Calculator (for infrastructure)
- EV Fleet Rate Calculator
- EV Fleet List of Approved Charging Vendors
- EV Fleet Terms and Conditions
- EV Fleet Customer Information Sharing Agreement
- EV Fleet Non-Disclosure Agreement
- EV Fleet Additional Funding Filtering Tool
- PG&E Service Territory Map

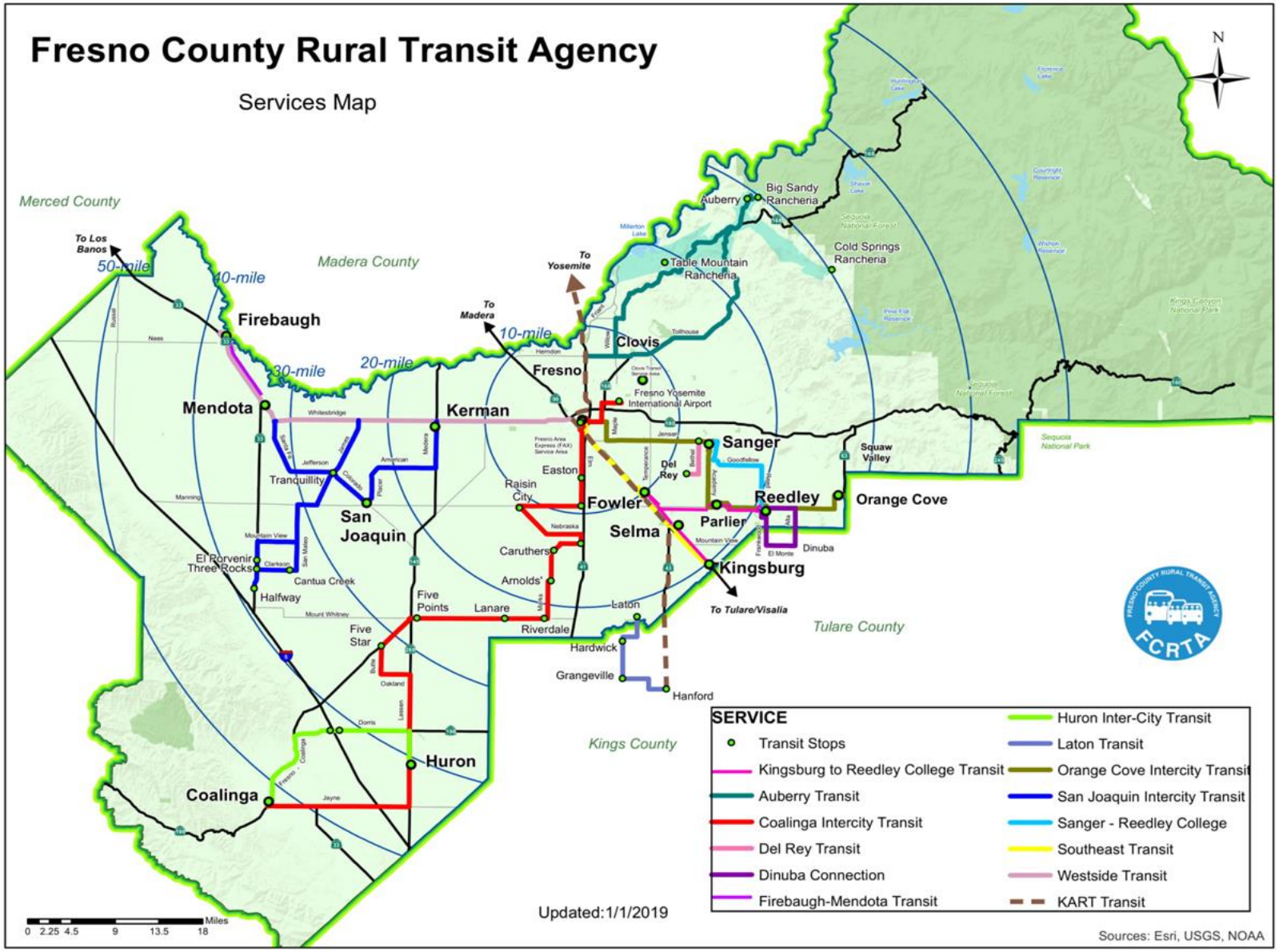
FCRTA Fresno County Rural Transit Agency

EV Workshop:
A Guide to Installing Public Chargers

Case Study: FCRTA Chargers & Grid Analysis Plan

Fresno County Rural Transit Agency

FCRTA Service Area



FCRTA Services

- FCRTA drives great distances to service Fresno County's rural communities (Fresno to Coalinga is approximately 62 miles one way)
- Serving 13 incorporated and 29 unincorporated communities in Fresno County
- Fixed route (inter-city) service & demand response (intra-city) service
- Rural Transit and Shuttle Transit (24 hr advance reservation providing lifeline services) for residents outside the SOI of each incorporated City
- Also (2) inter-county routes with City of Dinuba and KART
- FCRTA services have remained very personal- addressing the transit needs of the disadvantaged

FCRTA's Current Fleet

- Vehicle fleet of one hundred and ten (110) vehicles
- Forty-four (44) are powered by CNG
- Twenty-three (23) are powered by electric batteries
- FCRTA does not operate any diesel powered vehicles
- Goal of 2025 to have 100% EV fleet

BYD

Chevy Bolt

Zenith

Proterra

FCRTA's Current Charging Infrastructure

- 13 Envision Solar Arc's (Level 2)
- 4 BYD Chargers (Level 2)
- 8 Proterra Chargers (Level 3)
- 5 JuiceBox Chargers (Level 2)

JuiceBox Charger for Bolt/Zenith

Proterra Charger

BYD Charger

Solar Arc

Chargers & Vehicles

FCRTA Solar EV Arc Charging Stations

Charging Infrastructure & Installation

- FCRTA placed EV Envision ARCs at all 13 rural incorporated cities throughout Fresno County
- Two (2) EV Solar Trees will be installed in the Cities of Orange Cove and Coalinga (2 express routes will be starting at each City with service to Fresno)
- Level 2 & 3 chargers were installed at temporary maintenance site to charge EV fleet
- Installation for chargers was costly and time consuming
- Infrastructure analysis will establish existing grid conditions for future EV deployment

EV Solar Tree Charging Unit

Different Chargers = Different Installations

- Major differences:
  - JuiceBox does not require a permit
  - Proterra has lower capacity but concrete pad and underground lines required for installation adding additional costs and time
  - BYD has higher amps requires more power and transformer is needed but is easier to install compared to Proterra
  - BYD charger has (2) plugins to help the load

- Approximate timeline for charger installation:
  - JuiceBox – 16 hours
  - BYD – 34 hours
  - Proterra – 40 hours

Lessons Learned

- Continued, ongoing assistance is needed by vendor. Support from vendor is needed following the commissioning of the charger
- Coordination with utility company is necessary for installation based on single, dual and three phase connections and infrastructure
- Infrastructure needed such as transformers and varies depending on the kW of charger and which vendor/manufacturer
- Heat effects the charging units, select site carefully and construct covers to protect charging units from heat
- Planning is necessary for success but expect the unexpected!!!

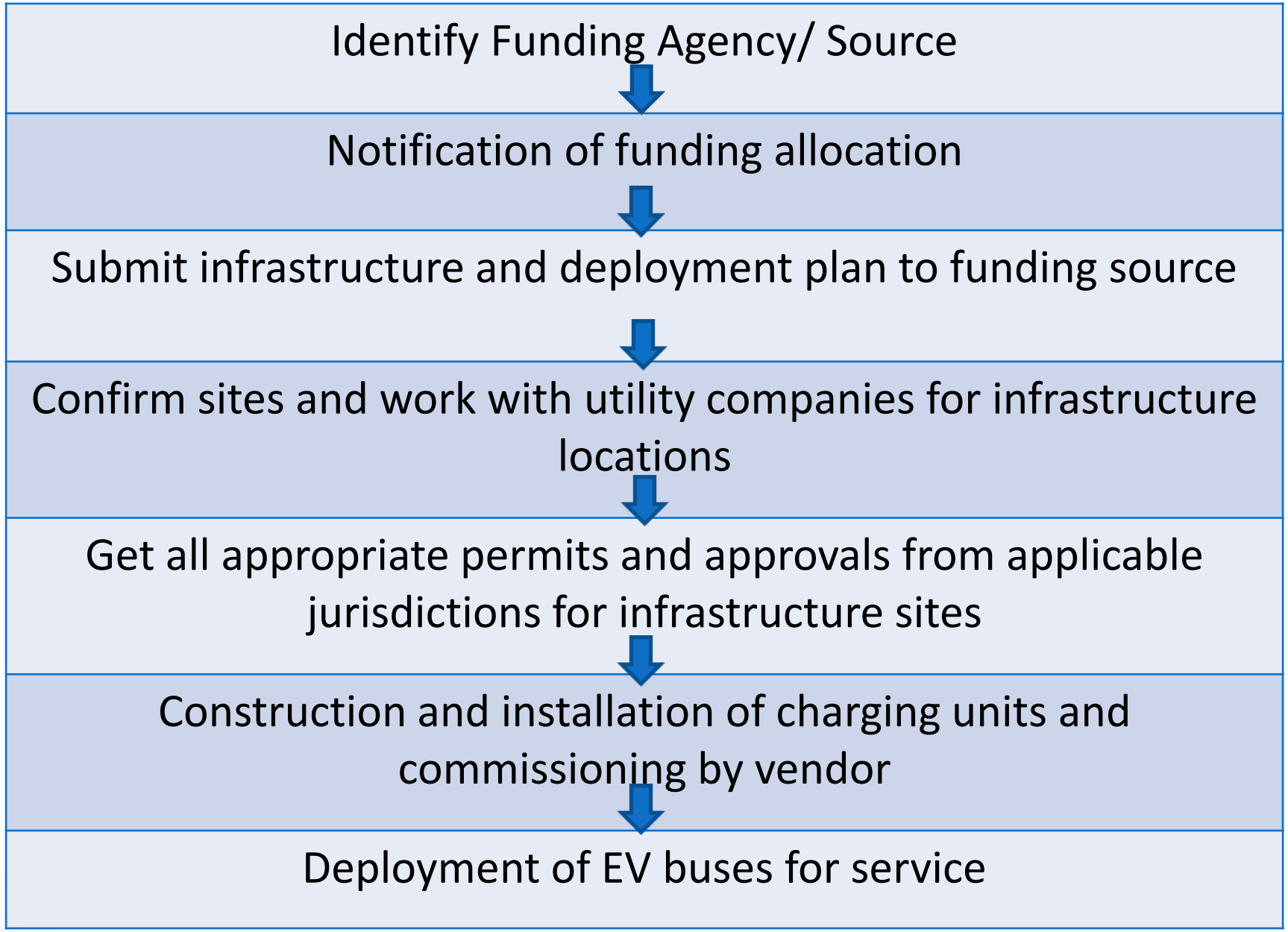
Challenges

- **Charging Technology**
  - Lack of standardization with vehicle chargers, different vehicles require different chargers
  - Different chargers come with different challenges, some chargers were easier to install and less costly than others
  - Vendor cooperation and support varies after the sale
- **Infrastructure**
  - Power needed for EV infrastructure is massive, costly and time sensitive
  - Grid upgrades are needed to support new loads
- **Electricity**
  - Demand charges are costly, EV rate structure is needed for an all electric fleet
  - Back-up power and on-site battery storage is needed if the power goes out

Grid Analysis Planning Project

- FCRTA was awarded $515,800 from the Caltrans Sustainable Communities Planning Grant for a project that will analyze the current grid system in rural Fresno County
- This study will tell us the current capacity of the grid system, upgrades that are needed to support electric vehicle infrastructure and identify possible funding options available
- This grid analysis study will prepare us for what will be needed based on current deficiencies in the grid systems in each county
- **Cost of electricity for a 100% EV fleet is unknown and working with utilities will be needed to offer waivers and/or exemption to peak rates for public transit operators**

Ideal Chain of Events



Thank you

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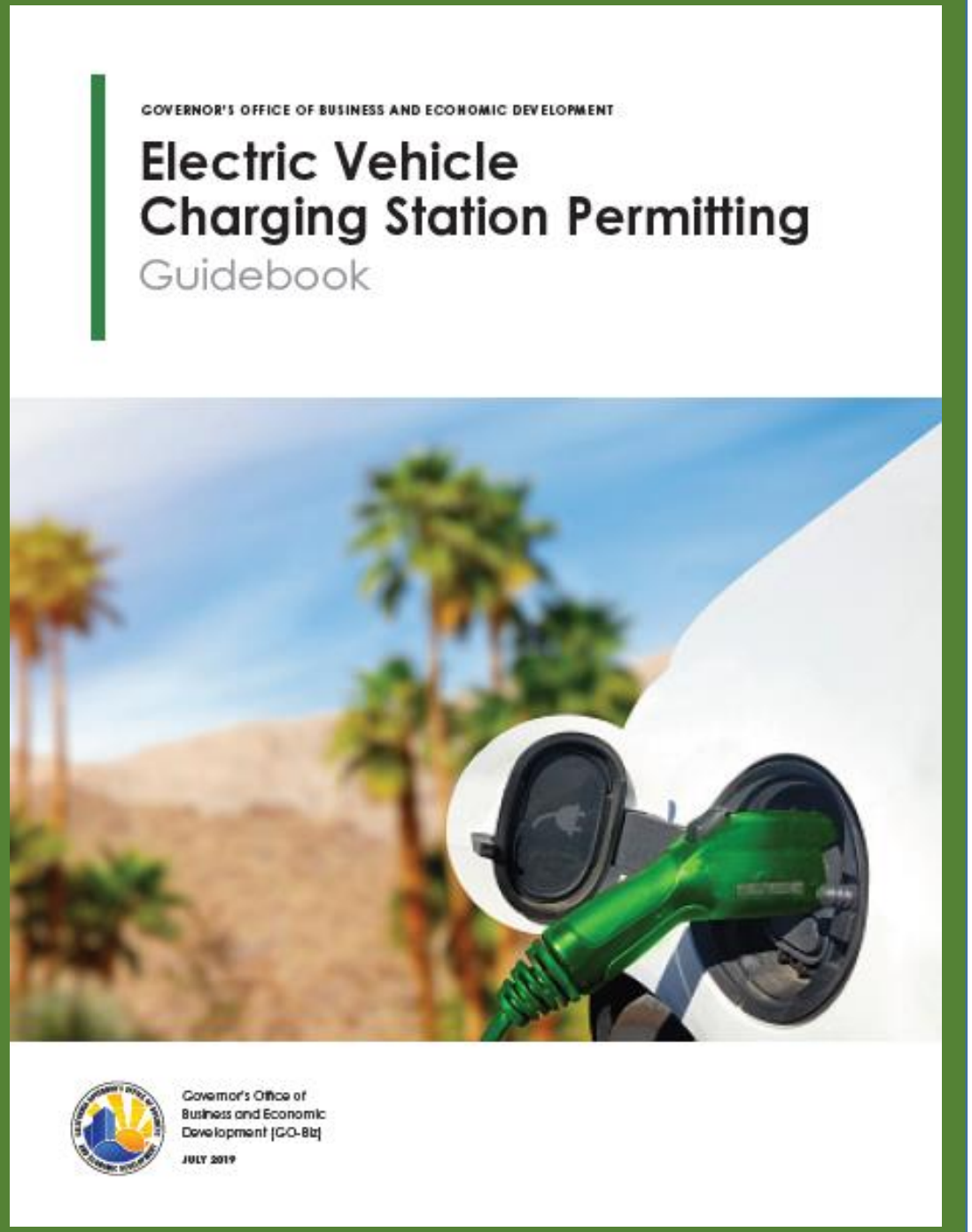
FCRTA Fresno County Rural Transit Agency

Panel #2:
Overcoming Hurdles of Permitting:
"Strategies for Success"

- **Kielan Rathjen**, *Governor's Office of Business and Economic Development (GO-Biz)*
- **Bonique Emerson**, *City of Fresno*
- **Ryan Momenee**, *Turn Key Construction & Solar*



Electric Vehicle Charging Station Permitting Guidebook

EV Workshop: A Guide to Installing Public Chargers

Fresno

- September 25, 2019 -

Key Sections

- 1. Planning and Site Selection
- 2. Permitting
  - AB 1236 Streamlining Map
- 3. Accessibility
- 4. Connecting to the Grid
- 5. Construction, Commissioning, and Operation

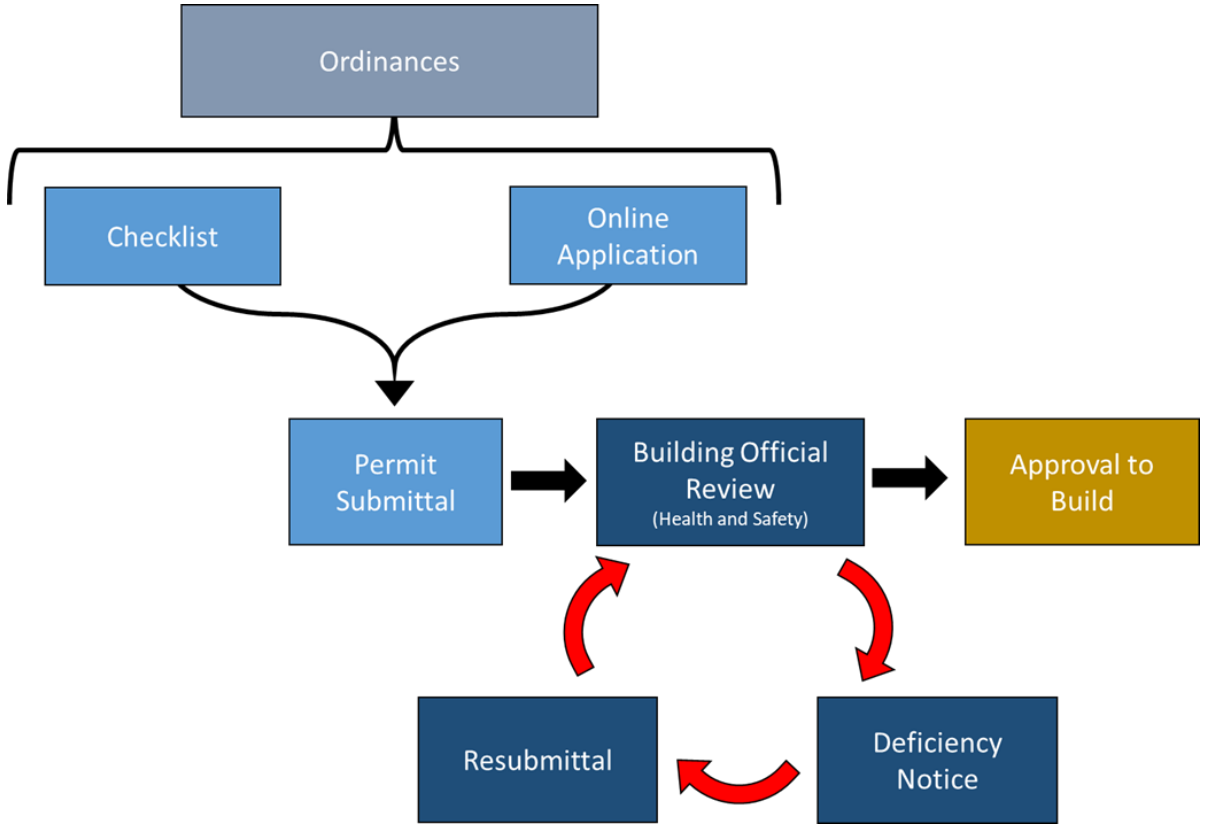
Planning and Site Selection

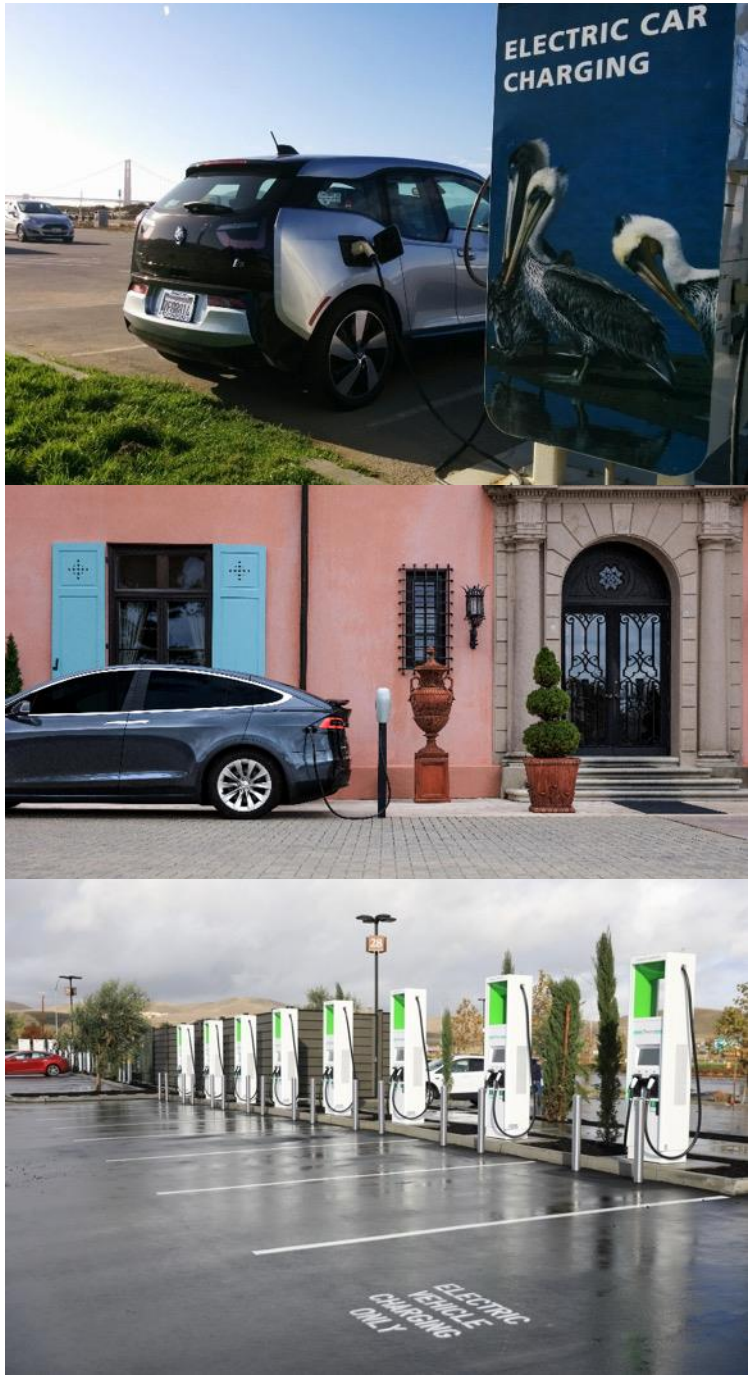
- Voluntary Building Codes
- Parking/Charging Clarification
- Climate Action Plans

Authority Having Jurisdiction (AHJ)	Policy
Sacramento County	EVCS spaces count as two spaces
Los Angeles County	EVCS spaces count as one space
City of Pleasanton	EVCS spaces count as one space
City of Santa Barbara	EVCS spaces count as one space
City of West Hollywood	EVCS spaces count as one space
City of Stockton	EVCS spaces count as two spaces, for up to 10% reduction of parking requirements

Permitting

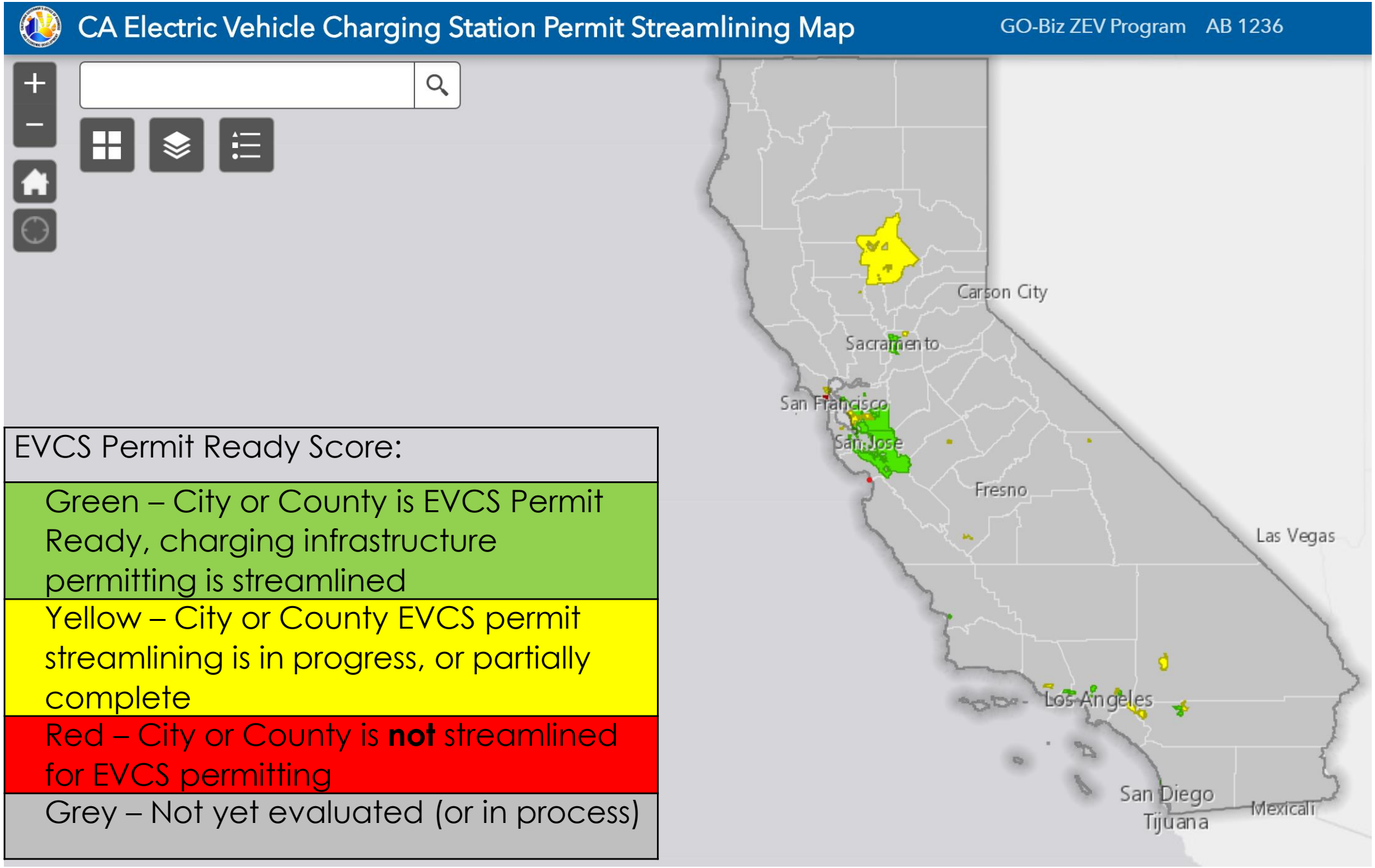
- Assembly Bill 1236 Permit Streamlining Law



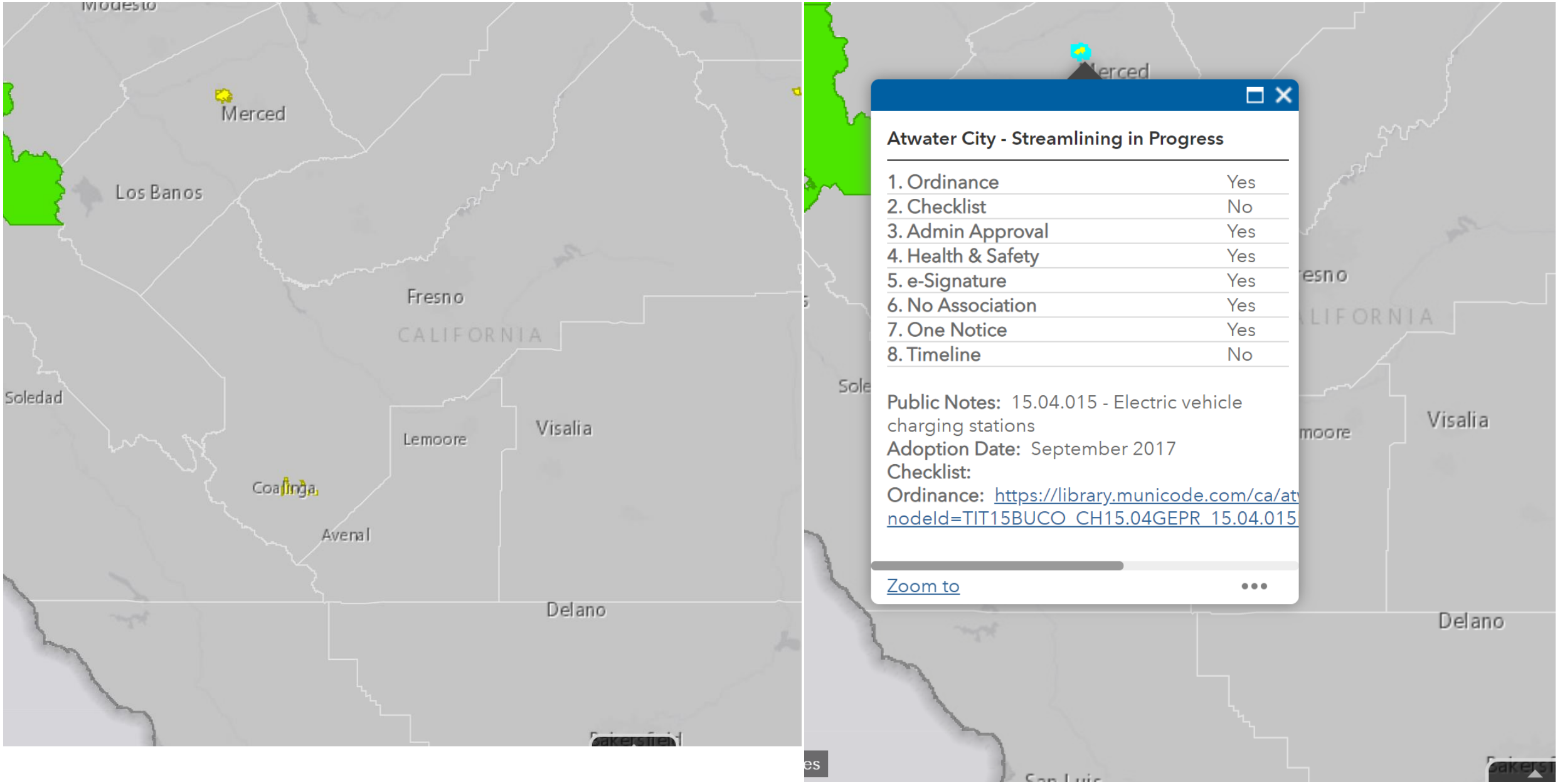


CA Electric Vehicle Charging Station Permit Streamlining Map

GO-Biz ZEV Program AB 1236



EVCS Permit Ready Score:
Green – City or County is EVCS Permit Ready, charging infrastructure permitting is streamlined
Yellow – City or County EVCS permit streamlining is in progress, or partially complete
Red – City or County is **not** streamlined for EVCS permitting
Grey – Not yet evaluated (or in process)



*See http://www.business.ca.gov/ZEVReadiness for updated map

	Scoring Criteria:	Complete if:
☐	**1. Streamlining Ordinance** Ordinance creating an expedited, streamlined permitting process for electric vehicle charging stations (EVCS) including level 2 and direct current fast chargers (DCFC) has been adopted.	– Streamlining ordinance has been adopted
☐	**2. Permitting checklists covering Level 2 and DCFC** Checklist of all requirements needed for expedited review posted on city or county website.	– Permitting checklist is available and easily found on city or county website
☐	**3. Administrative approval of EVCS** EVCS projects that meet expedited checklist are administratively approved through building or similar non-discretionary permit.	– The streamlining ordinance states that permit applications that meet checklist requirements will be approved through non-discretionary permit (or similar)
☐	**4. Approval limited to health and safety review** EVCS project review limited to health and safety requirements found under local, state, and federal law.	– The streamlining ordinance states that no discretionary use permit is required and permit approval will be limited to health and safety review

☐	**5. Electric signatures accepted** AHJ accepts electronic signatures on permit applications.*	– Electronic signatures accepted on City or County website (usually specified in the ordinance)
☐	**6. EVCS not subject to association approval** EVCS permit approval not subject to approval of an association (as defined in Section 4080 of the Civil Code).	– The streamlining ordinance states that EVCS permits do not require association approval
☐	**7. One complete deficiency notice** AHJ commits to issuing one complete written correction notice detailing all deficiencies in an incomplete application and any additional information needed to be eligible for expedited permit issuance.	– The streamlining ordinance dictates that a written correction notices must detail all deficiencies
☐	***8. Bonus: Expedited timeline for approval*** Consistent with the intent of AB 1236, AHJ establishes expedited timelines for EVSE permit approval compared to standard project approval procedures.	– The streamlining ordinance (or other policy mechanism) outlines expedited approval timelines for EVSE permits

Best Practice Permitting Timelines

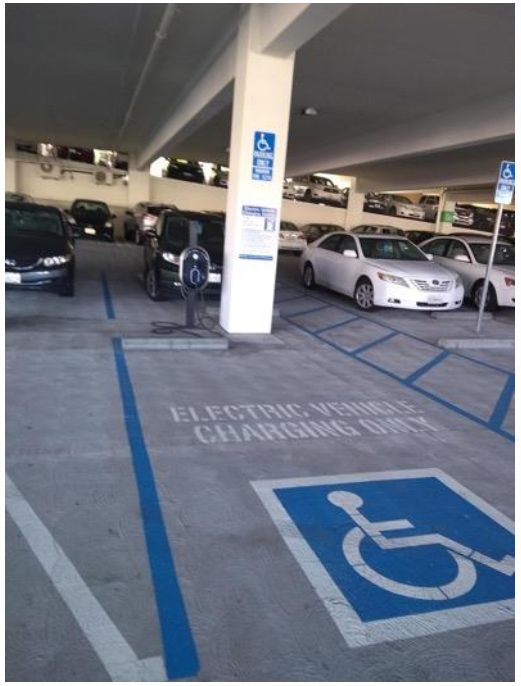
Application Submittal » Complete Response		
Type of Charger	**Within Best Practice**	**Optimal**
L2 – Single Family	1 day	Same Day
Multi L2 – Shared (Multi Family/Workplace/Public)	5 days	
DCFC	5 days	

Complete package » Approval to Build		
Type of Charger	**Within Best Practice**	**Optimal**
L2 – Single Family	1 day	Same Day
Multi L2 – Shared (Multi Family/Workplace/Public)	15 days*	
DCFC	15 days*	

Construction Complete Notice » Inspection		
Type of Charger	**Within Best Practice**	**Optimal**
L2 – Single Family	5 days	Same Day
Multi L2 – Shared (Multi Family/Workplace/Public)	5 days	
DCFC	5 days	

Accessibility

- California is first in the nation to provide ADA compliance specificity



Total Number of EVCS at a Facility[1]	Minimum Number (by type of EVCS Required to Comply with Section 11B-812:[1] Van Accessible	Minimum Number (by type of EVCS Required to Comply with Section 11B-812:[1] Standard Accessible	Minimum Number (by type of EVCS Required to Comply with Section 11B-812:[1] Ambulatory
1 to 4	1	0	0
5 to 25	1	1	0
26 to 50	1	1	1
51 to 75	1	2	2
76 to 100	1	3	3
101 and over	1, plus 1 for each 200, or fraction thereof, over 100	3, plus 1 for each 60, or fraction thereof, over 100	3, plus 1 for each 50, or fraction thereof, over 100

Connecting to the Grid

- Working with Utilities

SDGE
A Sempra Energy utility®

SOUTHERN CALIFORNIA EDISON®
Energy for What's Ahead®

LA DWP

PG&E

SMUD®
Sacramento Municipal Utility District

Construction, Commissioning, and Operation

- Weight and Measures Certification
- Signage

cdfa
CALIFORNIA DEPARTMENT OF
FOOD & AGRICULTURE

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City of Fresno
EV Charging Stations

Streamlined Planning Process

Bonique Emerson, City of Fresno

Feedback from the Industry

- We received feedback that the Planning process was overly cumbersome
- About a year ago we created a handout to help simplify the process
- It wasn't enough

Electric Vehicle Charging Stations

City of FRESNO Development and Resource Management Department

WHERE DO I START?

Start with the Planning Division by submitting a Major Revised Exhibit – Development Permit through the online Citizen Portal Fresno FAASTER. This review is typically 3-4 weeks. Please note that once the project is approved by Planning, submit to the Building Division to obtain a building permit.

WHAT IS REQUIRED?

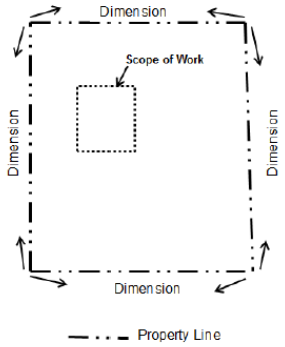
- ☐ **Operational Statement:**
  - ☐ Project address & APN
  - ☐ Project description (scope of work)
  - ☐ Number of parking spaces proposed to be removed (if any)
  - ☐ Landscaping/Trees proposed to be removed
- ☐ **Overall Site Plan (does not need to be to scale but shall be legible):**
  - ☐ Outline the entire parcel with an area indicating the scope of work
  - ☐ Property line dimensions & easements
  - ☐ Vicinity map with north arrow
  - ☐ Project address & APN
- ☐ **Detailed Site Plan (minimum scale of 1"=30'):**
  - ☐ Include fully dimensioned parking stalls that depict the equipment is not in the 9 ft. x 18 ft. stall.
  - ☐ Provide the aisle width behind the stall and the opposite stall size if there is parking behind the proposed EV stall.
  - ☐ Include the following notes:
    - Any survey monuments within the area of construction shall be preserved or reset by a person licensed to practice land surveying in the state of California.
    - Repair all damaged and/or off-grade concrete street improvements as determined by the construction management engineer prior to occupancy.
    - Two working days before commencing excavation operations within the street right-of-way and/or utility easements, all existing underground facilities shall have been located by Underground Services Alert (USA). Call 1-800-642-2444
  - ☐ Accessible EV charging stalls shall comply with Sections 11B-228.3 and 11B-812 of the California Building Code.
- ☐ **Elevation:** Include the height of all stations, transformers, etc.
- ☐ **Owner Authorization**

Planning Review Fees

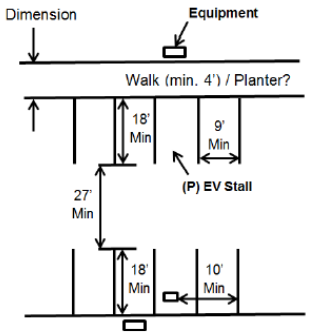
1 to 4 stations - $439*
5 to 25 stations - $1,002*
25+ stations - $1,865*
* If review by other Agencies/Divisions is required, additional fees may apply.

EXAMPLES OF INFORMATION REQUIRED

Overall Site Plan



Detailed Site Plan



Development and Resource Management Department • 2600 Fresno St., 3rd Floor – Room 3043 • Fresno, CA 93721-3604 • (559) 621-8277

Created a Checklist

* In April, we followed up with a more complete checklist to help streamline
* It still wasn't enough

City of FRESNO

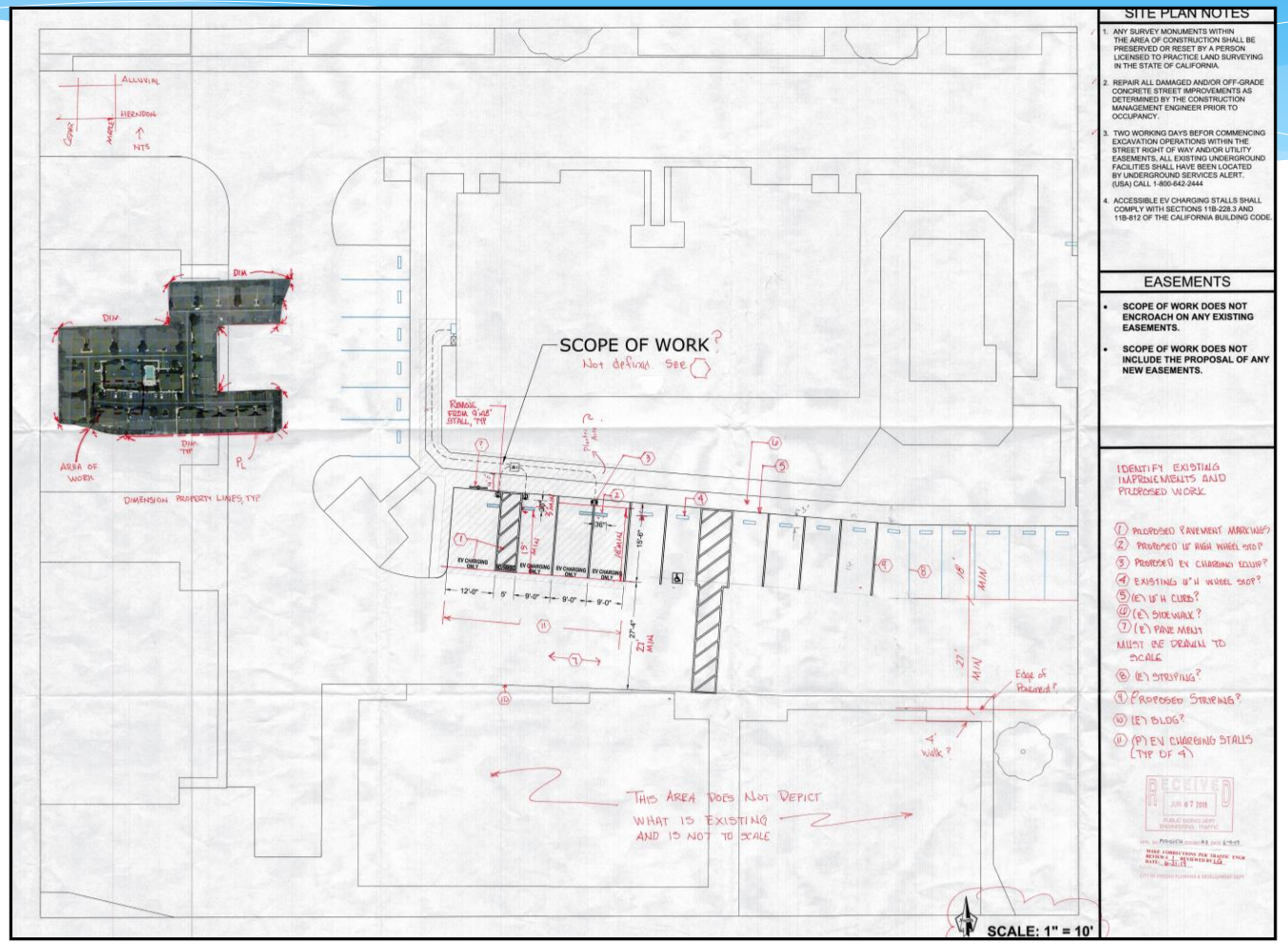
Development & Resource Management Department
Development Services Division
2600 Fresno Street, Third Floor, Room 3043
Fresno, CA 93721-3604

Submittal Requirements for Electric Vehicle Charging Station Applications

Required	
	Please use this as a checklist to assemble the materials required for your development application when submitting the application in FAASTER. The following items must be submitted in order to process your application. **If the plans are not legible, or do not contain the information listed below, your application will be deemed incomplete and cancelled.**
☐	**Instructions:** 1. All plans and documents must be uploaded in PDF format. 2. A separate PDF document is required for each plan type (i.e. separate PDF required for site plans, separate PDF for landscape plans, etc.). 3. Each plan type should only have one PDF uploaded (i.e. if there is more than one site plan exhibit, upload a multi-page PDF). 4. If FAASTER system requires a document type not included on this checklist, upload blank PDF document called "Dummy Document". Make sure you select the required document "Type" from the dropdown list. 5. Please review the EV Charging Station Handout for examples of information required on the site plan and fees. Once you obtain approval from the Planning Division and comply with the conditions, submit plans to the Building Division for building permits.
☐	**Complete Application in FAASTER (www.fresno.gov/faaster)** A Major Revised Exhibit – Development Permit is required.
☐	**All Required Fees Paid** Fees will be invoiced after application is submitted. All fees must be paid before application is deemed complete. Fees must be paid within 3 days of fees being invoiced (e-mail will be sent).
☐	Letter of Owner Authorization (If Owner is not the Applicant)
☐	Operational Statement: ☐ Project address & APN ☐ Project description (scope of work) ☐ Number of parking spaces proposed to be removed (if any) ☐ Landscaping/Trees proposed to be removed
☐	**Overall Site Plan (electronic, uploaded into the system – does not need to be to scale but shall be legible)** ☐ Outline the entire parcel with an area indicating the scope of work ☐ Property line dimensions & easements ☐ Vicinity map with north arrow ☐ Project address & APN

Site Plan and Parking Lot Design Issues

* Even with the handout and the checklists, the majority of submittals still had issues
* Resulted in Resubmittals and Delays to project approval



Decision to Take Planning and Traffic Review out of the equation

* It took some collaboration with several departments and divisions to work through a streamlined process

* Decided on a self-certification process that would allow projects to move straight to building permits without planning review

About to Launch a New Streamlined Process

City of FRESNO

Planning and Development Department
Development Services Division
2600 Fresno Street, Third Floor, Room 3043
Fresno, CA 93721-3604

Electric Vehicle Charging Stations (EVCS) Streamlined Planning Process

In order to streamline the review and approval of Electric Vehicle Charging Stations (EVCS) (as defined by Section 65850.7 of the California Government Code) and related equipment, the Planning entitlement process may be bypassed in certain situations if an applicant agrees and attests that the EVCS is proposed in accordance with the following standards.

Instructions:

A. Complete form
B. Sign and attest to compliance
C. Attach this document to your Building Permit submittal (building permit is required)

1. **Site Information:**

Address: _____ APN: _____

Building Permit Application No: _____

2. **Existing Parking Spaces:**

a) Total Number of Parking Spaces to be Removed: _____

b) Total Number of Spaces within the existing parking lot: _____

c) Is the number of stalls to be removed less than 10% of the total number of existing stalls? _____ **If the answer is no, this streamlined process is not allowed.**
a)

3. **EV Spaces Proposed:**

Total Number of Electric Vehicle Spaces Proposed: _____

Of these stalls:

b) Total Number of Standard Parking spaces proposed: _____

c) Total Number of Accessible spaces proposed: _____

City of FRESNO

Planning and Development Department
Development Services Division
2600 Fresno Street, Third Floor, Room 3043
Fresno, CA 93721-3604

4. **Parking Lot Requirements:**

In order to utilize this streamlined process, the following items are required. **Please initial in the lines, attesting to compliance with these requirements.**

____ Applicant has verified that there is an existing (previously approved) stamped and signed site plan approved by the Planning Division through the entitlement process (Application Number: _____) depicting the approved parking lot layout.

____ Applicant has verified that the existing parking lot layout is constructed and striped in accordance with the approved site plan noted above. If the parking lot is currently not built in accordance with this site plan, **this streamlined process is not allowed.**

____ Applicant has verified that they have conducted a site visit and that all existing raised pads, curbs, ramps, planters, trees, landscaping, utility vaults, transformers, backflow prevention devices, gas meters, free standing mailboxes, lights/light poles, hydrants, fences or other structures in the vicinity of the proposed equipment is shown on the plan and will not interfere with the placement of the proposed equipment or any required path of travel.

5. **Stall Requirements:**

In order to utilize this streamlined process, the following items are required. **Please initial in the lines, attesting to compliance with these requirements.**

____ Minimum 27-foot clear width for vehicular back-up between ends of parking spaces (27-foot vehicular aisle width must be maintained)

____ If sidewalk is present in front of stall where EV station is being placed; must ensure there is 4-foot of clear width in addition to space allocated for EV equipment for pedestrians either by:

- Utilizing wheel-stop for 3-foot offset from sidewalk
- Having 7-foot wide sidewalk in front of stalls, clear of any structures

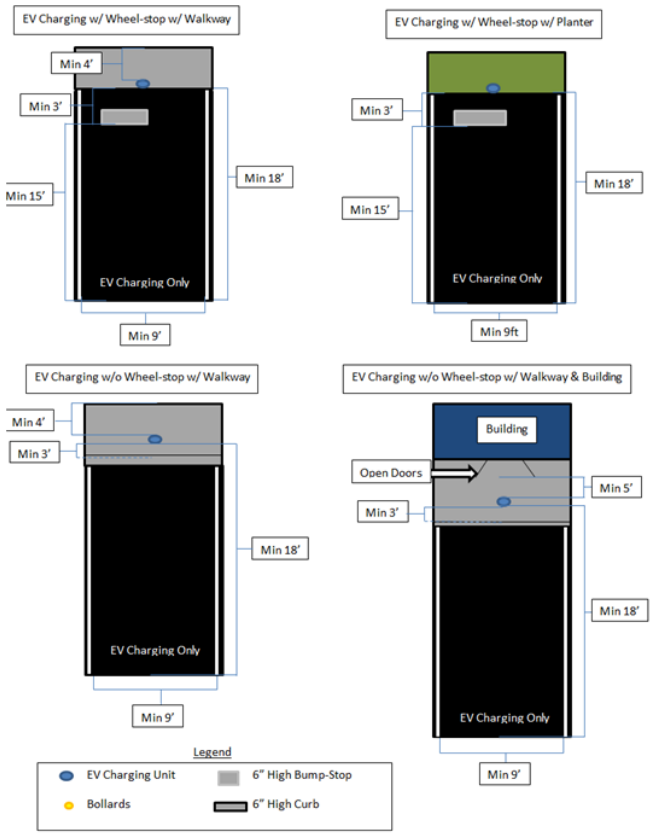
About to Launch a New Streamlined Process

City of FRESNO

Planning and Development Department
Development Services Division
2600 Fresno Street, Third Floor, Room 3043
Fresno, CA 93721-3604

9. **Stall Types:**

All stalls must be constructed to one of the standards below. If the stall cannot meet one of the standards below, this streamlined process is not permitted. **Please initial next to the stall types to be provided, verifying compliance with these standards.**



City of FRESNO

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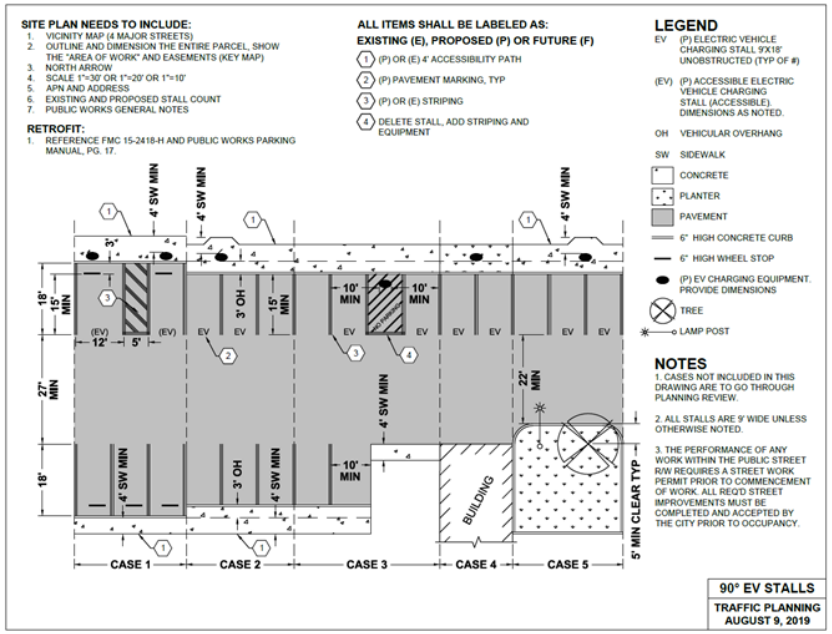
Development Services Division
2600 Fresno Street, Third Floor, Room 3043
Fresno, CA 93721-3604

10. **Example Site plan:**

The site plan submitted with the building permit application must include all of the information detailed below as applicable. The applicant must verify that the information contained below is included on the site plan. _____ (initial)



I _____ attest that the building permit that I am submitting for the installation of Electric Vehicle Charging Stations (EVCS) complies with all requirements outlined in this document. I understand that failure to comply with any of these requirements will result in non-compliance and the equipment may be required to be removed and relocated.

Signature _____ Date _____

Ryan Momenee

Turn Key Construction and Solar

Panel #3:

Costs and Operations:

"Who Owns It, Maintains It, and Pays For It?"

- **Brian Fauble**, *California Energy Commission*
- **Ann Camperson**, *Pacific Gas & Electric*
- **Omar Faris**, *Southern California Edison*
- **Ashely Burrow and Matt Bischoff**, *San Joaquin Valley Air Pollution Control District*
- **Doug Sampson**, *ChargePoint*

California Electric Vehicle Infrastructure Project (CALeVIP)

Clean Transportation Program

BUILDING EV INFRASTRUCTURE

Brian Fauble
Energy Commission Specialist II

CALeVIP Background

- Goals:
  - Implement targeted incentive projects throughout California that address a specific region's EV charging needs.
  - Provide a mechanism that speeds up the installation, reporting, and funding processes.

CAL eVIP
BUILDING EV INFRASTRUCTURE

CALeVIP Background

- CALeVIP vs Incentive Projects within CALeVIP
  - CALeVIP is the platform for all Incentive Projects
  - Incentive Projects within CALeVIP are geographically targeted projects
- Total Active Projects: $51 million
  - Up to $200 million in future funding

CAL eVIP
BUILDING EV INFRASTRUCTURE

CALeVIP Background - Projects

Incentive Project	Launch Date	Counties	Funding	Technologies
Fresno County	December 2017	Fresno	$4 million	Level 2
Southern California	August 2018	Los Angeles Orange Riverside San Bernardino	$29 million	DC Fast Chargers
Sacramento County	April 2019	Sacramento	$15.5 million*	Level 2 & DC fast chargers
Northern California	May 2019	Shasta Humboldt Tehama	$4 million	Level 2 & DC fast chargers
Central Coast	Launching October 2019	Monterey Santa Cruz San Benito	$7 million**	Level 2 & DC fast chargers
San Joaquin Valley	Launching December 2019	San Joaquin Kern Fresno	$14 million	Level 2 & DC fast chargers
			Total: $73.5 million	

*Includes SMUD's $1.5 million investment that is in the process of being added.
** Includes MBCP's $1 million investment. MBCP is investing $1M/year for 3 years.

CAL eVIP
BUILDING EV INFRASTRUCTURE
SOUTHERN CALIFORNIA

San Joaquin Valley Incentive Project April 2019

- Available Funding= $14M
- Regions
  - San Joaquin County = $6.05M
    - $2.675M = Level 2 $3.375M = DCFC
  - Kern County = $5.25M
    - $2.625M = Level 2 $2.625M = DCFC
  - Fresno County = $2.7M + FCIP
    - $0 = Level 2* $2.7M = DCFC
  - Minimum 25% to DAC

*Remaining funds from Project 1 will be merged into project the San Joaquin Valley Incentive Project, specifically into Fresno County Level 2 funding.

CAL eVIP
BUILDING EV INFRASTRUCTURE

Rebate Amounts

Charger Type	Non-DAC	DAC	MUD
Level 2	Up to $3,500/connector*	Additional $500/connector	Additional $1,000/connector
DCFC	Up to $70,000/DCFC or 75% of the total project cost, whichever is less	Up to $80,000/DCFC or 80% of the total project cost, whichever is less	Not applicable

Link to CalEnviroScreen 3.0 Tool

* SJVAPCD has the ChargeUp! Program offering rebates for level 2 and DC fast chargers ($5,000 for single port level 2 chargers and $6,000 for dual port level 2 chargers)

CAL eVIP
BUILDING EV INFRASTRUCTURE

Station Minimums and Limits

- DCFC = 1-4 chargers
- Level 2 = 1-10 connectors

- *Additional stations may be installed, but will not be eligible for funding from CALeVIP*

Rebate Cap Limits

- County level dollar cap on Applicants' active applications
  - A cap on the dollar amount of active applications for an applicant
  - Based on the county of the project site
  - Once an application is completed and paid, then the applicant is eligible to apply for more funds

CAL eVIP
BUILDING EV INFRASTRUCTURE

Rebate Cap Limits

San Joaquin Valley Incentive Project

County	Funding Available	Active Cap Limit
San Joaquin	$6.05M	**$320K**
Kern	$5.25M	**$320K**
Fresno	$2.7M + FCIP	**$320K**

CAL eVIP
BUILDING EV INFRASTRUCTURE

Eligibility - Applicants

- Private companies
  - Business owner, EVCS manufacturer, EVSP, contractors, not-for-profits, community/faith-based organizations, etc.
  - Not required to be the site owner or host
- Public agencies
- Tribal communities
- Must have a valid California Business License

CAL eVIP
BUILDING EV INFRASTRUCTURE

Eligibility – Level 2 Site locations

- Commercial
  - Public
- Workplace
  - Public or private
  - Must be shared use
- MUD
  - Public or private
  - Must be shared use
- Fleet
  - Public or private
  - Must be shared use

<u>Single family residence and assigned parking installations are excluded</u>

Both DCFC and Level 2 sites must be well-lit, secure and in compliance with all federal, state and municipal laws, ordinances, rules, codes, standards and regulations

CAL eVIP
BUILDING EV INFRASTRUCTURE

Eligibility – DCFC Site locations

- Urban/suburban retail core and/or Retail shopping centers
- Grocery Stores
- Restaurants
- Gas stations
- Hospitals
- Sheriff/police station
- Airports
- Colleges/universities
- Hotels
- Casinos
- Public Transit Hub
- City or county owned parking garages and surface lots
  (not workplace parking)

Charger(s) **must** be available to the public 24 hours a day, 365 days a year

CAL eVIP
BUILDING EV INFRASTRUCTURE

STATE OF CALIFORNIA ENERGY COMMISSION

Eligible Equipment

DISCLAIMER

The Center for Sustainable Energy and the California Energy Commission are not endorsing the EV charger companies or chargers in this document. The EV chargers listed below meet the minimum eligibility requirements for CALeVIP and have been submitted by their manufacturer for eligibility listing. Charger stock availability is based on each respective company and is not guaranteed by CALeVIP.

The EV charger(s) must meet these requirements.

LEVEL 2 CHARGERS

- Be new equipment installing for the first time, installing on a wall or pedestal mounting at the corresponding site address. Resale units, rebuilt, rented, received from warranty insurance claims, won as a prize or new parts installed in existing units do not qualify.
- Utilize the SAE J1772 charging connector.
- Be networked, which is defined as a charger connected to a back-end network operations center.
- Be capable of delivering electricity to a plug-in electric vehicle at a minimum rate of 6.2 kilowatts (kW).
- Have 1-10 connectors per site. A maximum of 10 connectors per site location can be rebated.
- Use an open standard protocol as a basic framework for purposes of network interoperability.
- Be ENERGY STAR® certified.
- Be approved by a Nationally Recognized Testing Laboratory (NRTL) program for EVSE testing and certification.

DC FAST CHARGERS

- New EV charging equipment.
- Include DCFC dual standard chargers with both CHAdeMO and SAE CCS connector options.
- Networked: Equipment and network must have remote diagnostics and be capable of "remote start." Must also be capable of usage data collection. Minimum five-year networking agreement (eligible towards total project cost).
- Capable of 50 kW or greater.
- If payment is required, must accept some form of credit cards and multiple forms of payment.
- Be approved by a NRTL program for EVSE testing and certification.

Rebates for Level 2 EV chargers and DC fast chargers vary by project. For details on rebate amounts, visit **CALeVIP.org/find-project** and select a specific incentive project.

CALeVIP
BUILDING EV INFRASTRUCTURE

Eligible Costs

- Equipment: EVSE, transformers, panels, advanced energy storage
- Planning/design
- Installation costs (labor & materials)
- Utility service orders
- Demand management equipment
- Networking agreements
- Extended warranties
- Stub-outs
- Signage

CAL eVIP
BUILDING EV INFRASTRUCTURE

STATE OF CALIFORNIA
ENERGY COMMISSION

Ineligible Costs

- Permits or anything required by law
- Solar panels
- Costs paid by other rebate or incentive programs/projects

CAL eVIP
BUILDING EV INFRASTRUCTURE

Application Completion Deadline

- DCFC or Combo installations = 15 months
- Level 2 installations = 9 months
- Each application must be completed before the deadline which starts when the application funds are reserved.
  - Stations must be 100% operational by the application deadline
  - *Applicants cannot apply until they have an **executed** site host agreement and completed Site Verification Form*
  - *Planning costs incurred prior to funding be reserved are eligible costs (Once landing page is live)*
  - Communicate with the necessary utility provider from the beginning
  - All application documents must be submitted and approved by the application deadline
  - Reach out to CSE staff if delays arise

CAL eVIP
BUILDING EV INFRASTRUCTURE

Tentative Schedule

Incentive Project	Launch Date	Counties	Funding	Technologies
Central Coast	Launching October 2019	Monterey Santa Cruz San Benito	$7 million*	Level 2 & DC fast chargers
San Joaquin Valley	Launching December 2019	San Joaquin Kern Fresno	$14 million	Level 2 & DC fast chargers

* Includes MBCP's $1 million investment. MBCP is investing $1M/year for 3 years.

CAL eVIP
BUILDING EV INFRASTRUCTURE

Future CALeVIP Information

- CALeVIP Website (www.calevip.org)
- Energy Commission Block Grant/CALeVIP docket webpage http://www.energy.ca.gov/altfuels/zev/2017-EVI-01/
- Center for Sustainable Energy email calevip@energycenter.org

CAL eVIP
BUILDING EV INFRASTRUCTURE

Thank You

Brian Fauble
(916) 654-3974
brian.fauble@energy.ca.gov

CAL eVIP
BUILDING EV INFRASTRUCTURE

PG&E
EV Fleet Program

Together, Building
a Better California

EV Fleet Program Overview

PG&E will help you install EV infrastructure for medium- and heavy-duty fleets

$236 million

budget over 5 years from 2019-2023

700+ sites

supporting 6,500 new EVs

Support conversion of commercial and public fleets to electric

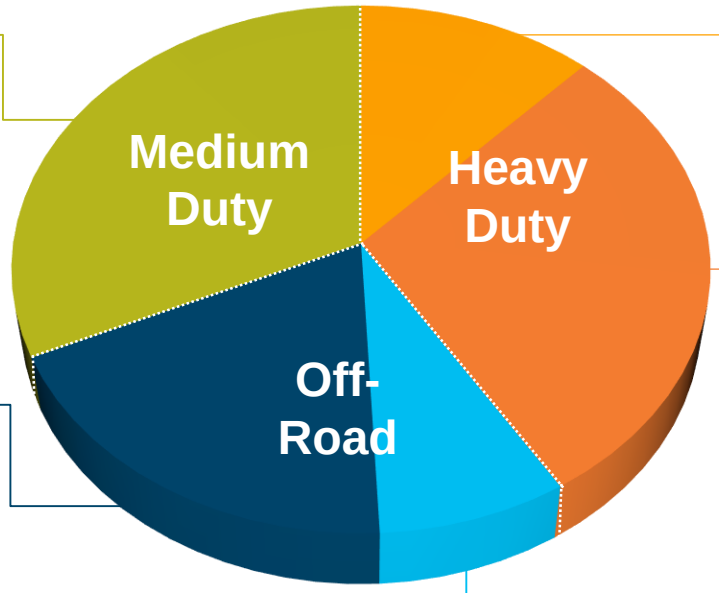
Examples:

Delivery vehicles, school buses, transit buses, and more…

EV Fleet Program Overview

Over 700 sites will support 6,500 new EVs

Vehicle Type Estimates



Medium Duty

- Delivery (class 2-6)

Heavy Duty

- Transit* (class 7-8)

*15% minimum of total required

Off-Road

- Truck Stop Electrification
- Transport Refrigeration Units
- Port Cargo Trucks
- Airport Ground Support Equipment

Heavy Duty

- School bus (class 6-7)
- Other (class 7-8)

Off-Road

- Forklifts*

*10% maximum of total allowed

EV Fleet Program Overview

Two ownership options offering significant cost benefits

Customer-Owned

Participant constructs, owns and pays for behind-the-meter make-ready infrastructure and receives cost offset[1]

OR

PG&E-Owned

In select few cases, PG&E constructs, owns and pays for all make-ready infrastructure from power pole to charger[1]

AND

EVSE Rebate

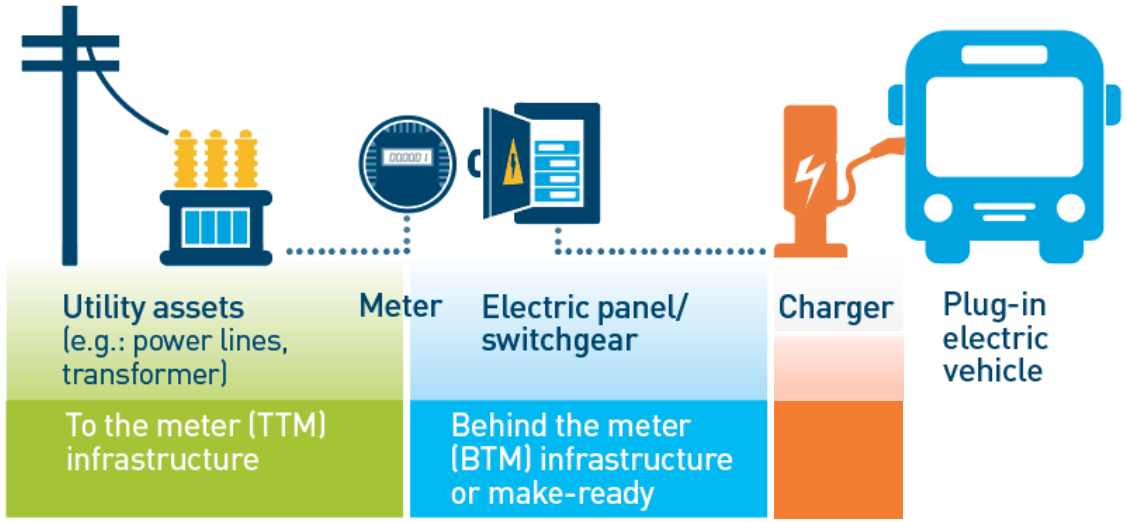
Additional Electric Vehicle Service Equipment (EVSE=charger) rebate available for schools, transit agencies and Disadvantaged Communities[2]

[1] At PG&E discretion. PG&E will determine eligibility based on project scope and associated costs. Some exceptions may apply to customers who hold Primary Service with PG&E.
[2] EVSE must meet minimum and standard requirements to be eligible for rebate.

EV Fleet Ownership—Customer-owned

PG&E pays for infrastructure cost up to the customer meter

Customer-owned[1]

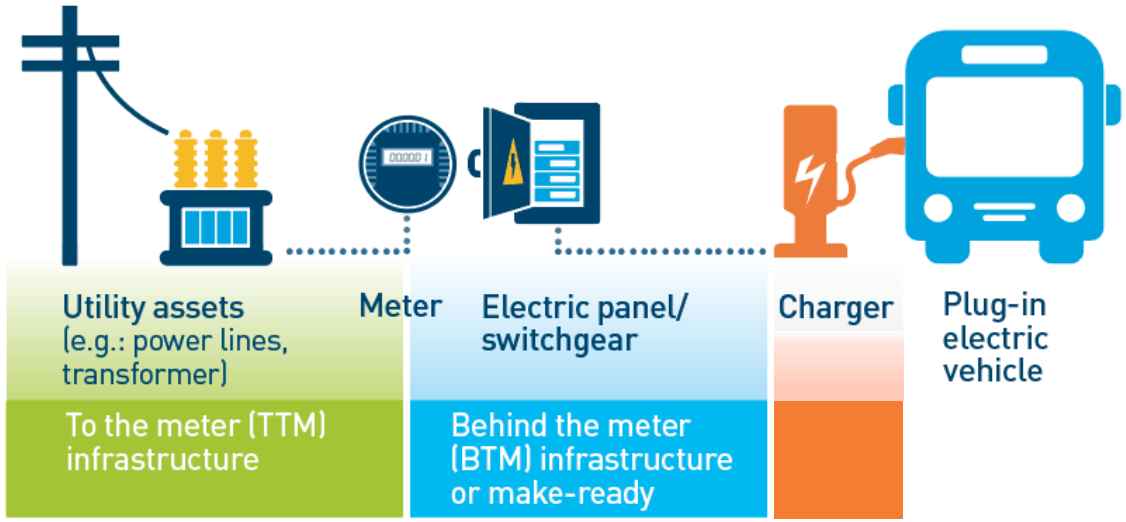


[1] At PG&E discretion. PG&E will determine eligibility based on project scope and associated costs. Some exceptions may apply to customers who hold Primary Service with PG&E.

EV Fleet Ownership—Customer-owned

PG&E pays for infrastructure cost up to the customer meter

Customer-owned[1]



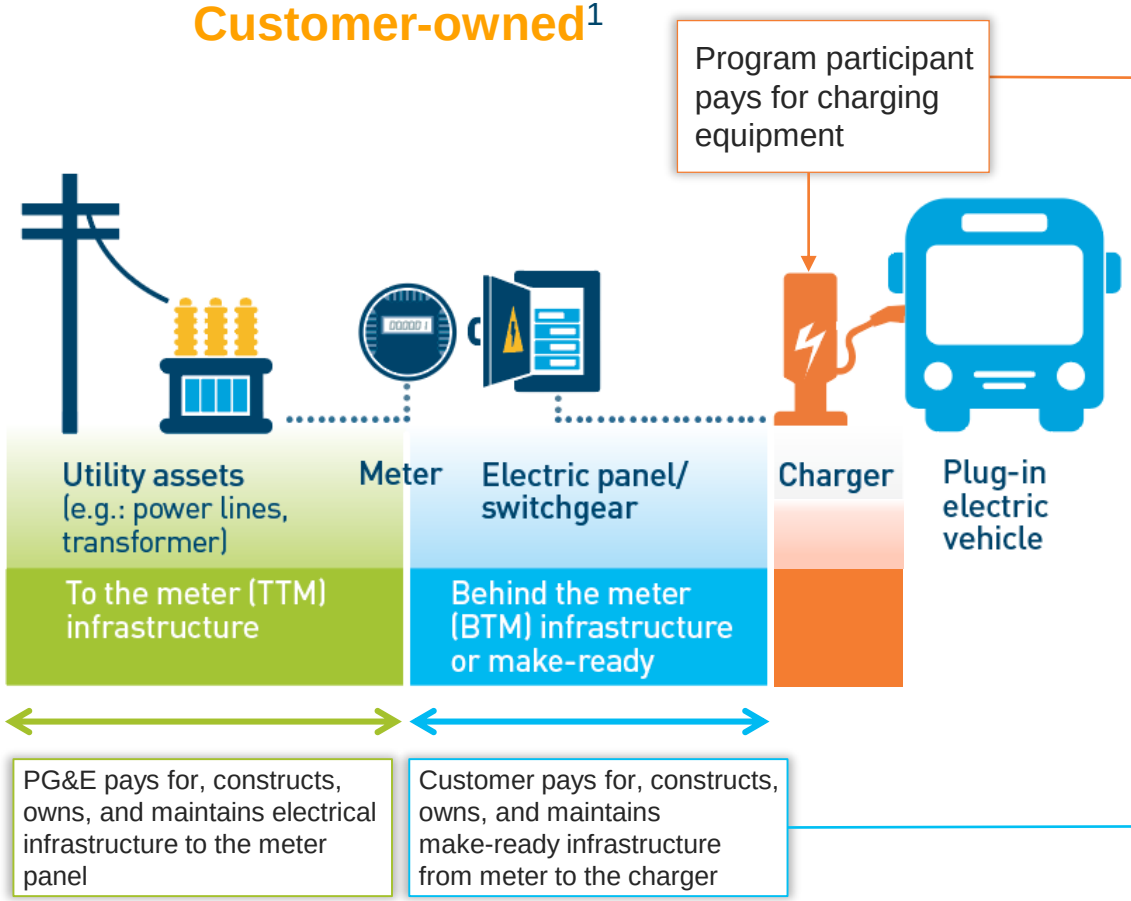
Customer-owned infrastructure	
Eligible for incentive up to capped amount based on vehicle sector	
Vehicle type	**Per vehicle incentive cap[2]**
Transit buses & Class 8 trucks	$9,000 per vehicle
Transportation refrigeration units, truck stop electrification, ground support equipment & forklifts	$3,000 per vehicle
School buses, local delivery trucks, and other vehicles	$4,000 per vehicle

[1] At PG&E discretion. PG&E will determine eligibility based on project scope and associated costs. Some exceptions may apply to customers who hold Primary Service with PG&E.
[2] Limited to 25 vehicles per site; sites with more vehicles to be considered on an individual basis.

EV Fleet Ownership—Customer-owned

PG&E pays for infrastructure cost up to the customer meter

Customer-owned[1]



Charging equipment rebates for Schools, Transit Agencies and Disadvantaged communities

EVSE power	Max. rebate amount[3]
Up to 50kW	$15,000 per charger
50-150kW	$25,000 per charger
150kW+	$42,000 per charger

Customer-owned infrastructure

Eligible for incentive up to capped amount based on vehicle sector

Vehicle type	Per vehicle incentive cap[2]
Transit buses & Class 8 trucks	$9,000 per vehicle
Transportation refrigeration units, truck stop electrification, ground support equipment & forklifts	$3,000 per vehicle
School buses, local delivery trucks, and other vehicles	$4,000 per vehicle

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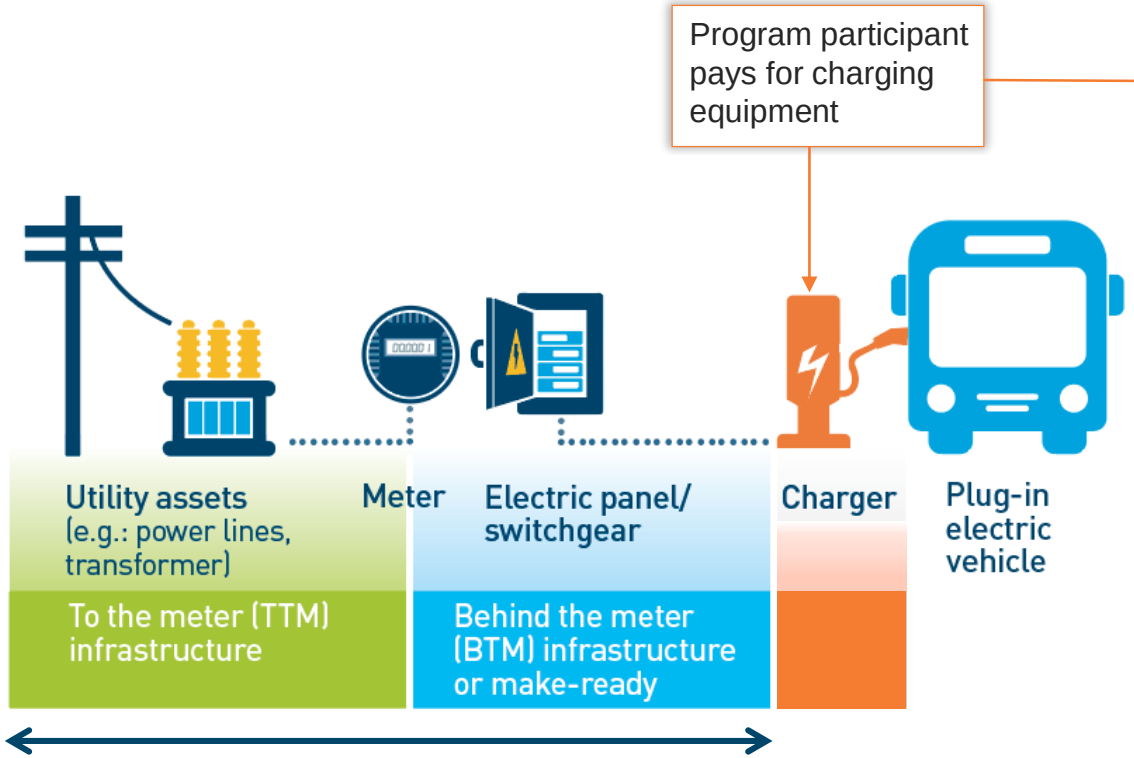
[2] Limited to 25 vehicles per site; sites with more vehicles to be considered on an individual basis.
[3] EVSE rebate amounts subject to change based upon EVSE RFQ. Rebate not to exceed 50% of charger equipment and installation costs. EVSE must meet minimum and standard requirements to be eligible for rebate.

EV Fleet Ownership—PG&E-owned

PG&E pays for a significant portion of the total costs

PG&E-owned[1]



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How to Prepare

What we need from you…

Demonstrate commitment to procurement of a minimum of 2 electric fleet vehicles

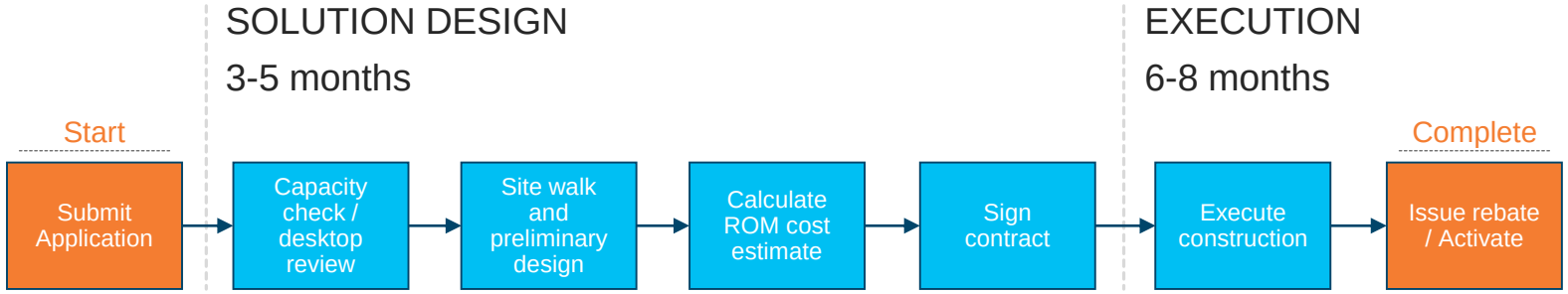
Demonstrate long-term electrification growth plan and schedule of load increase

Provide data related to charger usage for a minimum of 5 years

Own or lease the property where chargers are installed, and operate and maintain vehicles and chargers for minimum of 10 years

EV Fleet Customer Process

A high level view of steps to participate in the program



Proposed Commercial EV (CEV) Rate Structure[1]

1. Customers choose subscription level, based on charging needs

Subscription Charge **$184** / 50 kW connected charging

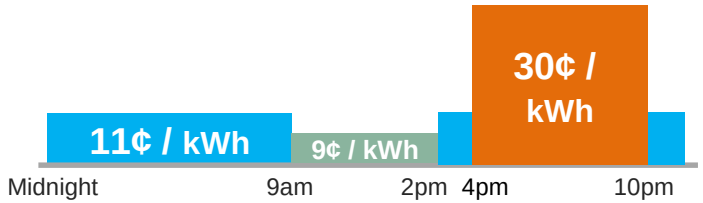
Customers that want to **manage charging loads** can opt for a lower subscription level

2. Subscription remains consistent month-to-month

If site charging power exceeds subscription, customer pays an **overage** for that month

3. Energy usage is billed based on time-of-day pricing

Energy Charge



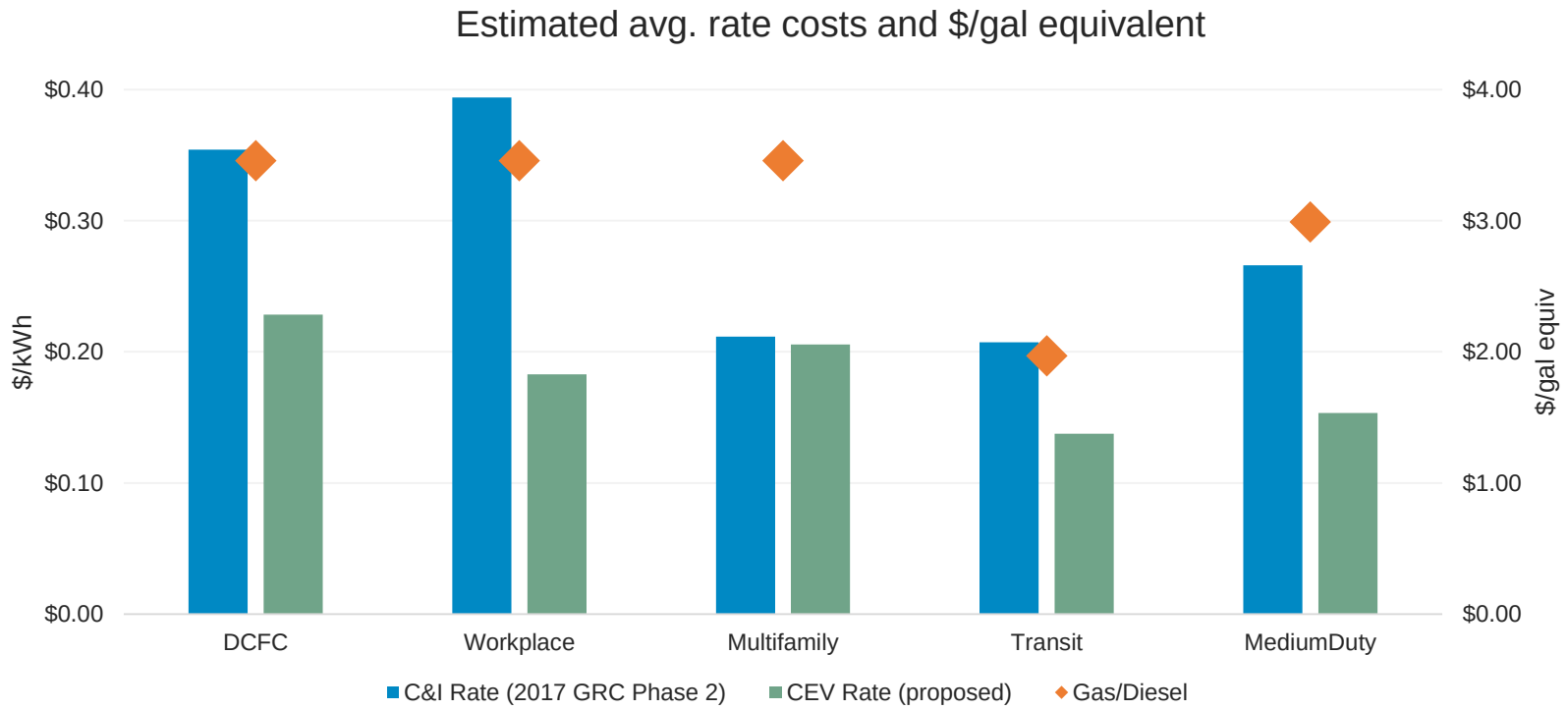
Charging is cheapest mid-day, when PG&E has higher levels of renewable energy generation

Customers should avoid charging during peak hours from 4-10 p.m., when possible

[1] CEV rates are not yet approved. Values above represent CEV-Large secondary proposed rates. CEV-Small proposed rate has a lower subscription charge ($25 per 10 kW connected charging)

Estimated Bill Savings Model[1]

For modeled customer sites, new CEV rates can enable significant savings compared to existing commercial rate plans



Note: actual bill impacts will vary for each customer depending on charging usage patterns

[1] Rate and billing estimates are preliminary and only reflect the sample site modeled.
Actual costs will vary based on approved rate values, as well as individual site energy usage.

Thank you.

And I welcome your questions.

Ann Camperson
EV Fleet Specialist
Ann.Camperson@pge.com
925-459-2122

Helpful Resources / Links

- EV Fleet Website
- EV Fleet Fact Sheet
- EV Fleet Interest Form
- EV Fleet Application
- EV Fleet Rebate Calculator (for charger)
- EV Fleet Incentive Calculator (for infrastructure)
- EV Fleet Rate Calculator
- EV Fleet List of Approved Charging Vendors
- EV Fleet Terms and Conditions
- EV Fleet Customer Information Sharing Agreement
- EV Fleet Non-Disclosure Agreement
- EV Fleet Additional Funding Filtering Tool
- PG&E Service Territory Map

SOUTHERN CALIFORNIA EDISON®
Energy for What's Ahead®

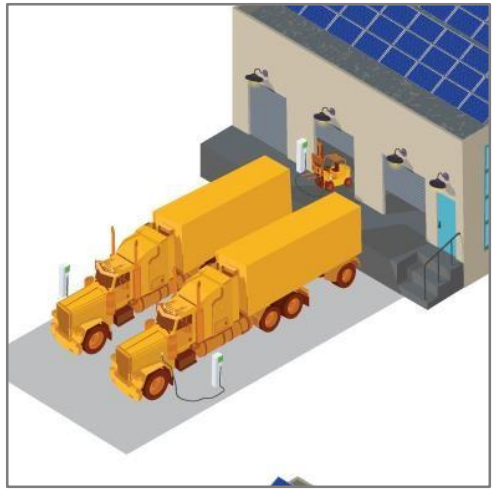
Energy for What's Ahead

Our Transportation Electrification Pathway

Omar Faris
Account Manager, SCE
September 25th, 2019

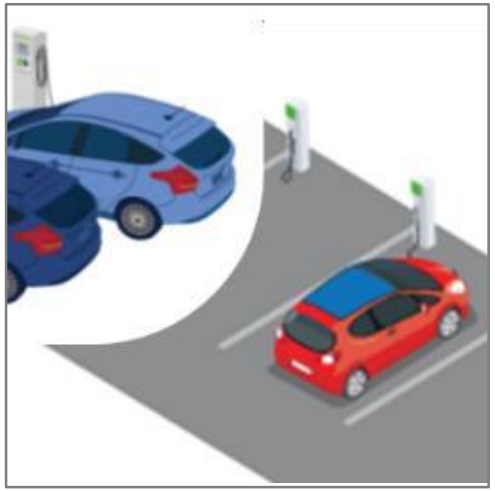
SCE is accelerating vehicle electrification across multiple sectors

Medium- & Heavy-Duty

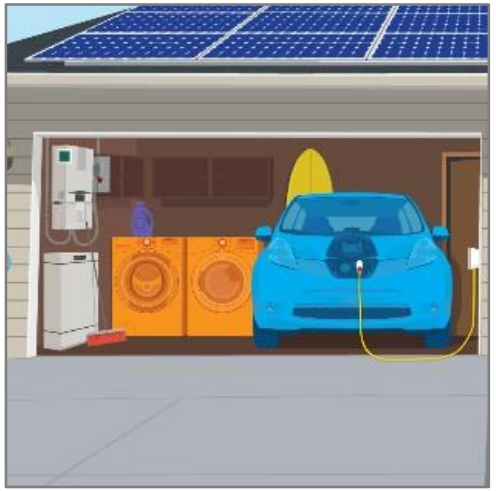


Transit/School Buses

Workplace & Public

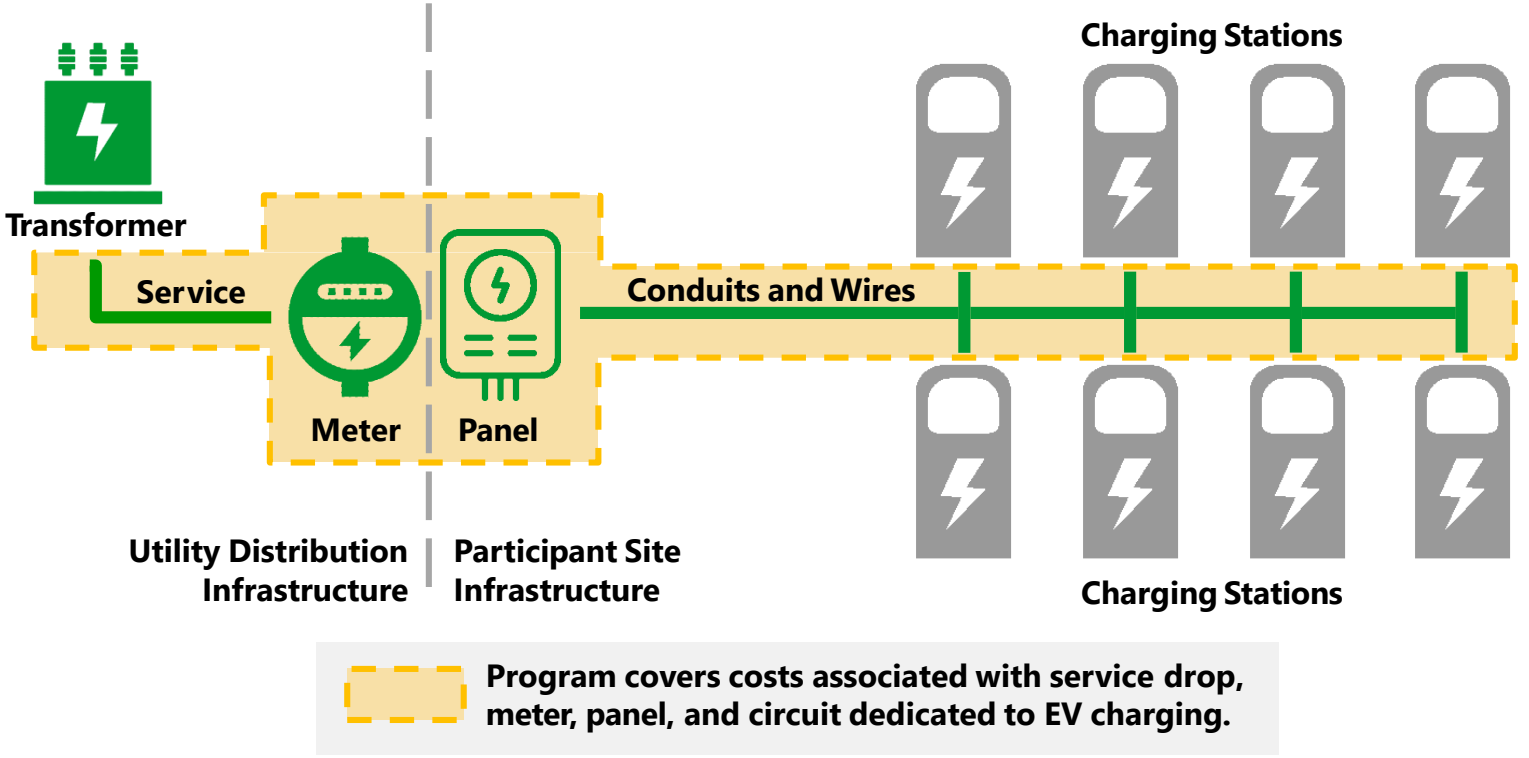


At Home Charging



SCE Business TE Programs Cover the Cost to Build EV Charging Infrastructure

- SCE will cover cost of make-ready infrastructure and may offer a rebate to offset cost of procuring and installing charging stations
- Participant is responsible for procuring charging stations



Charge Ready Transport provides infrastructure for fleet electrification

- ❑ Approved total program budget of **$356.4M**
- ❑ Achieve minimum **870 sites** with **8,490 electric vehicles** procured or converted
- ❑ **Covers cost of all infrastructure** needed up to charging station
- ❑ **Charging station rebates** available for **transit/school buses** and **sites in disadvantaged communities**

SCE will advise customers throughout the process

Transportation Electrification Advisory Services

- ❑ Fleet Analysis Services
- ❑ Fueling calculation and Rate Analyses

Transportation Electrification Project Management

- ❑ Single Point of Contact for multi-site projects
- ❑ Dedicated project management group for EV charging projects

Plan for Charge Ready 2: Speed, Scope, and Scale

Proposal to deploy 32,000 level 2 ports at 3,200 workplaces, apartments, destination centers and fleets; Install an additional 200 DC Fast Chargers.

Up to $3,500 rebate per port to exceed CalGREEN building code and install a minimum of 16,000 ports at new construction multi-unit dwellings.

Offer apartments and government customers a turnkey solution: SCE can install, own, and maintain up to 4,230 new charging ports.

Multi-prong marketing strategy:

- Mass media advertising of EVs and benefits;
- Targeted marketing on EV experience;
- Support businesses to convert fleets to electric;
- Program-specific marketing.

SCE will continue to develop new programs to spur EV adoption

AB1082 Schools

- ❑ **No-cost** or **utility owned infrastructure** to serve level 1 or level 2 EV charging
- ❑ Available to **K-12 Schools**
- ❑ **One-time rebate** (with the no-cost option) to offset the costs of charging stations

AB1083 Parks

- ❑ **Utility owned** infrastructure (for existing or new construction) to serve level 2 or DCFC EV charging
- ❑ Available to **California State parks and beaches**

Claim your Clean Fuel Reward - $1,000 Rebate on Your EV

- ❑ Available to **SCE residential customers** who drive electric vehicles (EV)
- ❑ Offers a **one-time $1,000 rebate** (increased from $450)
- ❑ **Lease or purchase** qualifies
- ❑ **New or used** vehicles - up to three different owners of the same EV can qualify
- ❑ For more information or **to apply for the Clean Fuel Rewards Program visit** **www.scecleanfuel.com**

Over 6 million internal combustion engine cars are sold in the US each year. Successfully decarbonizing the transportation sector will require all of us working together.

Join us on this ride.

Omar Faris
Account Manager
Southern California Edison

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

Charge Up! Incentive Program

Fresno COG Workshop: A Guide to
Installing Public Charging Stations

Wednesday, September 25, 2019

HEALTHY AIR LIVING™
Live a Healthy Air Life!

Valley Needs More Clean Vehicles

- San Joaquin Valley faces multiple challenges due to emissions from mobile sources
  - Over 85% NOx emissions
  - Valley home to 23 out of top 30 disadvantaged communities in California (CalEnviro 2.0)
- Valley lags behind the rest of the state in market penetration (electric, plug-in hybrid, natural gas, etc.)
  - 3% of participants in state electric vehicle programs
  - Minimal infrastructure to support electric vehicles
- May 2014: Governing Board approved comprehensive action plan for promoting use of clean vehicle technology

Charge Up! Program

- Charge Up! Program launched: June 2015
- Goals include:
  - Strengthen Valley's electric vehicle charging network,
  - Reduce "range anxiety"
  - Increase awareness of EV technology to Valley residents
- Provides incentives for public agencies, Valley businesses, and MUDs to install publically-accessible electric vehicle chargers throughout the Valley

Funding

- Funding Levels:

Charger Type	Funding Amount
Level 2 Single Port	Up to $5,000 per unit
Level 2 Dual Port	Up to $6,000 per unit
Level 3 DC Fast Chargers	Up to $25,000 per unit
Funding Cap	$50,000 annually per applicant/site

- Incentive designed to cover 50 -75% of cost to purchase and install infrastructure

Program Criteria

- Minimum applicant requirements:
  - Enter into an agreement with the District to receive funds
  - Be approved by the District for funding prior to the purchase and installation of EV charger(s)
  - Own, operate, and maintain EV charger(s) for the duration of agreement
  - Own site where EV chargers will be installed, or receive written permission from property owner
- Minimum site requirements:
  - Be located within SJVAPCD boundaries
  - Have designated parking stalls and appropriate signage
  - Home charging is not eligible

Program Criteria (cont.)

- Minimum EV charger requirements:
  - Be a hard-wired or a stand-alone, solar-powered unit
  - Meet the SAE J1772 standard
  - Be UL listed (certified by Underwriters Laboratories, Inc.)
  - If applicable, have an open source protocol for payment
  - Have smart charging capabilities to track usage

Application and Claim Process

- **Step 1**: Applicant submits a complete application to the District:
  - Applicants are not allowed to purchase, install the EV charger(s) prior to the voucher being issued
  - Quotes for all project costs
  - IRS Tax Form W-9
  - Site Map of Proposed Charger Location
- **Step 2**: Application is reviewed and if approved, District will offer a Voucher to applicant

Application and Claim Process (cont.)

- **Step 3**: Applicant purchases and installs EV charger(s)
  - Applicant is provided a one year period to purchase and install EV charger(s), striping and signage as applicable.

Application and Claim Process (cont.)

- **Step 4**: Applicant submits a complete claim to the District for reimbursement
  - Invoices for EV charger(s) and installation costs
  - Site photos of installed EV charger(s) required
  - Publicly accessible charger sites must be reported to the Department of Energy's Alternative Fueling Station Locator website: https://www.afdc.energy.gov/locator/stations/
- **Step 5**: District reimburses applicant

Annual Reports

- 1 annual report per year for 3 years from project completion date:
  - Utilization of the EV charger(s)
  - Frequency and Duration
- Project complete once all annual reports are received

Additional Funding Opportunities

- Program allows utilization of multiple grants
- CalEVIP Fresno County Incentive Project: $4,000 per Single Port. $7,000 per Dual Port.
- PG&E EV Charge Network: Large scale installation projects (10+ chargers)
- SCE Charge Ready: Currently only accepting applications for MUDs.

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HEALTHY AIR LIVING™
Live a Healthy Air Life!

Public Benefit Grants Program

New Alternative Fuel Vehicle Purchase

HEALTHY AIR LIVING™
Live a Healthy Air Life!

Public Benefit Grants Program

- Innovative program to assist local agencies in the Valley with funding for clean-air projects that provide broad benefits to Valley residents
- Projects encourage use of state-of-the-art clean-air technology on local level and achieve sustainable, long-term air quality benefits
- More than $25,000,000 has been funded for more than 1,600 new, advanced technology light and medium duty vehicles (plug-in hybrid, battery-electric, CNG, LNG, etc.)

Eligible Applicants

- Public Agencies and Community Action Agencies
  - Cities, counties, special districts, public educational institutions, or any other public agency defined by Government Code section 6252, including those provided in Article IV and Article VI of California Constitution
- Must be located in the SJVAPCD boundaries

Eligible Vehicles

- Must be a new OEM vehicle
- Must be electric, plug-in hybrid, or alternative fueled (CNG, LNG, LPG)
  - Hybrid pursuit rated vehicles recently added for law enforcement purposes
- Must have a GVWR of 14,000 lbs or less
- Must be domiciled in and have at least 75% VMT in the SJVAPCD boundaries

Funding

- First-come, first-served basis
  - Regional allocations based upon population
    - North: San Joaquin, Stanislaus, and Merced
    - Central: Madera, Fresno, and Kings
    - South: Tulare and Kern
- Agencies are restricted to the following:
  - Up to $20,000 per vehicle
  - Maximum funding of $100,000 per calendar year

Application Process

- Must apply and receive executed grant agreement prior to purchase
  - Currently there is a waiting list for each region
- Purchase vehicle(s) after executed grant agreement
- Make claim for payment after purchase of vehicle(s) for reimbursement

Questions

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HEALTHY AIR LIVING™

Live a Healthy Air Life!

Charging Stations – Post Installation

Doug Sampson, ChargePoint Account Executive

9/25/2019

Agenda

1. What happens after a charger is installed?
2. Who owns and maintains them?
3. What is the ongoing cost?
4. User fee-based and free programs?

After Installation – Function and Ongoing Costs

- Hopefully, they charge vehicles
  - Non-networked stations function as an extension cord
  - Networked stations provide intelligent feedback on usage, functionality, and make the station visible to drivers

- Ongoing Costs
  - Maintenance/Warranty
    - Typically optional
  - Network Agreements
    - Typically mandatory

After Installation – Ownership Models

- Who owns and maintains stations?
  - Typically, ownership is the site host where the station is located
    - There are very few options for third party or vendor ownership of equipment
  - Networked stations will typically have warranty options from the manufacturer
    - These options will allow you to fix your costs for ownership and may even provide an “uptime” guarantee

- **Fee Based** and **Free Programs** for stations
  - There are a few limited options in todays market

Wrap Up

Kristine Cai

Deputy Director, Fresno COG

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Coming Up – October 23, 2019

Featuring a panel on electrification and much more!

Register now for this all-day event at fresnocog.org