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<td><strong>Docket Number:</strong></td>
<td>18-EVI-01</td>
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<tr>
<td><strong>Project Title:</strong></td>
<td>California Plug-in Electric Vehicle Infrastructure Projections</td>
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<tr>
<td><strong>Document Title:</strong></td>
<td>DC Fast Charger Siting - Merging Expert Perspectives</td>
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<tr>
<td><strong>Description:</strong></td>
<td>Powerpoint presentation</td>
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<td><strong>Filer:</strong></td>
<td>Tami Haas</td>
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DC Fast Charger Siting
Merging Expert Perspectives

Cal Silcox
Pacific Gas & Electric
PG&E & Electric Vehicles

Company Facts
• Regulated gas & electric utility serving Northern and Central California
• $17B in operating revenues in 2014
• 23,000 employees

Energy Supply
• Services to 16M people:
  • 5.2M Electric accounts
  • 4.3M Natural Gas accounts
• Peak electricity demand: Approx. 22,000 MW
• Approx. 55% of PG&E's electric supply comes from non-greenhouse gas emitting sources

Service Territory
• 70,000 sq. miles with diverse topography
• 160,000 circuit miles of electric transmission and distribution lines
• 49,000 miles of natural gas transmission and distribution pipelines

Cumulative EV Registrations by County
PG&E Service Area

85,000 EVs in PG&E service area today

Source: EPRI, R.L. Polk Data, Dec. 2015
The need for public DC Fast Charging

Gov. Brown’s ZEV goals:
- Infrastructure for 1M ZEVs by 2020
- 1.5M ZEVs by 2025

Source: EPRI, R.L. Polk Data, Dec. 2015
Perspectives for Developing DCFC in California

Drivers
- Easy access
- Safety
- Reliability/redundancy
- Proximity to travel route
- Utilization
- Green image
- Operating & maintenance costs
- Maximize revenue
- Impact on parking facilities
- Leasing, licensing & permitting

Site Hosts

Network Developers
Research Overview and Goals

1. Collect & publish **best practices** in DC fast charger (DCFC) siting

2. Using these best practices, find the **most needed DCFC sites** in PG&E’s service territory:
   A. Find the 300 most needed broad *locations* within PG&E’s territory for DC fast charger installations in 2025
   B. Estimate how many chargers are needed at each location to support projected EV adoption in 2025
   C. Identify individual potential *sites* with existing capacity for planners to target
   D. Provide a map & scoring tool to help on-the-ground planners prioritize these sites

*This study was funded by PG&E, through California’s Electric Program Investment Charge (EPIC), D. 13-11-025*
Method

Existing charging network (PlugShare)

UC Davis GIS EV Planning Toolbox
Uses current driving patterns to model areas of likely unmet charging demand in 2025

300 locations of highest projected unmet charging demand

EV adoption scenarios to 2025 (Ricardo)

PG&E & E3
Identify potential site-hosts within 1-mi radius with available secondary transformer capacity
Identification of 300 locations

UC Davis and PlugShare identified 300 locations where DCFCs are needed through a travel-demand model and modified to account for existing infrastructure.
Identification of Sites at a Potential Location

1. **Location** of unmet charger demand in 2025

2. 1-mile radius bubble around location

3. Find potential sites that match DCFC use case

4. Check whether sites are within a 300 ft radius of a transformer with sufficient capacity for ≥2 chargers
Online Interactive Siting Map will be Released in August

- 14,416 sites in 300 ranked bubbles
- Interactive map & siting tool for DCFC developers to identify sites based on priorities