| **DOCKETED** |
|-------------------|-------------------|
| **Docket Number:** | 20-TRAN-02 |
| **Project Title:** | SB 1000 Electric Vehicle Charging Infrastructure Deployment Assessment |
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| **Submitter Role:** | Commission Staff |
| **Submission Date:** | 6/4/2020 10:11:01 AM |
| **Docketed Date:** | 6/4/2020 |
Senate Bill 1000
Electric Vehicle Charging Infrastructure Deployment Assessment
Public Workshop

Tiffany Hoang, Air Pollution Specialist
Fuels and Transportation Division
June 4, 2020
Workshop Agenda

• Introductions and Housekeeping

• Overview
  • Senate Bill 1000
  • Clean Transportation Program

• Proposed Methodology

• Preliminary Analysis

• Questions, Public Comment, and Discussion
Housekeeping

• The Q&A box is available for questions and comments throughout the presentation

• Participants on the phone can use the “raise hand” feature to ask questions and provide comments at the end of the presentation

• Diversity Survey
Commitment to Diversity

The California Energy Commission (CEC) adopted a resolution on April 8, 2015 to firmly commit to:

• Increase participation of women, minority, disabled veterans and LGBT business enterprises in program funding opportunities.

• Increase outreach and participation by disadvantaged communities.

• Increase diversity in participation at CEC proceedings.

• Increase diversity in employment and promotional opportunities.
Senate Bill (SB) 1000 Overview

Lara, Chapter 368, Statutes of 2018
Statute Intent & Policy

• "That local entities not adopt ordinances that create unreasonable barriers to the use of electric vehicle infrastructure”

• "To promote and encourage the use of electric vehicle infrastructure and to limit obstacles to its use”

• "To increase access to electric vehicle infrastructure in all California communities"

Statute: https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180SB1000
The California Energy Commission’s Role

**TASK**
Assess whether charging station infrastructure is disproportionately deployed

**PARAMETERS**
- Population Income (low, middle, high)
- Population Density
- Geographical Area

**GOAL**
Inform proportionate deployment of charging station infrastructure
SB 1000 will inform the Clean Transportation Program Investment Plans which are prepared each year to guide the allocation of program funding for transportation solicitations.
Clean Transportation Program Overview
Clean Transportation Program
Funding as of December 1, 2019 (in millions)

- Biomethane: $73.08
- Ethanol: $117.50
- Propane: $5.98
- Natural Gas: $110.98
- Biodiesel/Renewable Diesel: $112.97
- Hydrogen: $138.70
- Electric: $302.70
- Multiple/Other*: $117.50

Ethanol: $3.61

*Includes other fuel types not specified in the chart.
Clean Transportation Program
Funding Toward Disadvantaged and/or Low-Income Communities

- Disadvantaged Communities and/or Low Income Communities: $308.0 (36%)
- Neither Low Income nor Disadvantaged Communities: $333.0 (38%)
- Statewide or Not Applicable: $224.6 (26%)

Funding in Millions
Note: As of December 1, 2019
California's Zero Emission Vehicle Targets

PROGRESS TO 2025 GOAL

- Installed: 46k
- Planned: 124k
- Current Need: 80k
- Gap: 700k

1,500,000 ZEVs
250,000 Chargers
200 Hydrogen Refueling Stations

PROGRESS TO 2030 GOAL: 5,000,000 ZEVs

5,000,000 ZEVs
Clean Transportation Program
Light-Duty Charging Infrastructure Projects
Proposed Methodology & Preliminary Analysis
1. Define low-, middle-, and high-income levels; population density; geographical area
2. Collect and assess available charging station infrastructure data
3. Assess infrastructure distribution and access across population income levels, population density, and geographical area
4. Assess whether infrastructure is disproportionately deployed by population income level, density, or geographical area
5. Conduct an infrastructure gap analysis using EVI-Pro estimations
6. Inform station deployment and investment decisions
7. Reassess deployment yearly

Overview of Proposed Methodology
Proposed Definitions for Income Communities

**Low-Income**
- HCD’s low-income threshold
- State Median Income
- 80% of State Median Income
- 120% of State Median Income

**Middle-Income**
- HCD’s low-income threshold
- State Median Income
- 80% of State Median Income
- HCD’s moderate-income threshold

**High-Income**
- HCD’s low-income threshold
- State Median Income
- 80% of State Median Income
- HCD’s moderate-income threshold
- 120% of State Median Income
Identification of Low-, Middle-, and High-Income Communities

Income Groups
- Low
- Middle
- High

Total Population
- Low: 21%
- Middle: 23%
- High: 56%

Census Tract Communities
- Low: 21%
- Middle: 22%
- High: 57%

Sources:
- U.S. Census Bureau
- American Community (2014 – 2018)
DC Fast Charging Port Distribution by Census Tract Median Household Income

Sources: Alternative Fuels Data Center, American Community Survey 2014 - 2018 5-year estimates
Distribution of Census Tract DC Fast Charging Port Counts across Income Communities

Mean = 5.6

Mean = 6.2

Mean = 4.7

State Mean = 5.6

Sources: Alternative Fuels Data Center, American Community Survey 2014 - 2018 5-year estimates
DC Fast Charging Port Access and Distribution across Income Communities

<table>
<thead>
<tr>
<th>Income</th>
<th>DC Fast Charging Ports per 100,000</th>
<th>Percent of Public DC Fast Charging Ports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low-Income</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>Middle-Income</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>High-Income</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

Sources: Alternative Fuels Data Center, American Community Survey 2014 - 2018 5-year estimates
Level 2 Charging Port Access and Distribution across Income Communities

4% of public level 2 ports are in census tracts with no reported median household income.

Sources: Alternative Fuels Data Center, American Community Survey 2014 - 2018 5-year estimates
Charging Access and Distribution across Income Communities

### Level 2 Connector Access

<table>
<thead>
<tr>
<th>Income Level</th>
<th>Tesla Connectors</th>
<th>J1772 Connectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low-Income</td>
<td>7%</td>
<td>93%</td>
</tr>
<tr>
<td>Middle-Income</td>
<td>11%</td>
<td>89%</td>
</tr>
<tr>
<td>High-Income</td>
<td>9%</td>
<td>91%</td>
</tr>
</tbody>
</table>

### DC Fast Connector Access

<table>
<thead>
<tr>
<th>Income Level</th>
<th>Combo Connectors</th>
<th>CHAdeMO Connectors</th>
<th>Tesla Connectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low-Income</td>
<td>30%</td>
<td>28%</td>
<td>43%</td>
</tr>
<tr>
<td>Middle-Income</td>
<td>28%</td>
<td>26%</td>
<td>35%</td>
</tr>
<tr>
<td>High-Income</td>
<td>31%</td>
<td>29%</td>
<td>40%</td>
</tr>
</tbody>
</table>

Sources: Alternative Fuels Data Center, American Community Survey 2014 - 2018 5-year estimates
DC Fast Charging Port Distribution by County Battery Electric Vehicle Density

Sources: Alternative Fuels Data Center, California Department of Motor Vehicles
Questions
1. Do you recommend other definitions, data sets, or identification methods for population income level, population density, or geographical area?
Infrastructure Deployment

1. Are distribution and access the same?
2. Do you have recommendations for measuring charging infrastructure distribution and access?
3. Are there other indicators for deployment that we should evaluate?
4. Do you have recommendations for how to look for disproportionate deployment?
Open Discussion
Q&A / Public Comments

1. Phone lines
2. Raise hand feature
3. Q&A questions

Email or call the Public Advisor’s Office:
PublicAdvisor@energy.ca.gov
(916) 654-4489
(800) 822-6228 (toll free)
Request for Information & Feedback

Docket #: 20-TRAN-02

• **Docket log 20-TRAN-02:**

• Submit comments via the **CEC E-Commenting System:**

• Email Docket Unit: **DOCKET@energy.ca.gov**

Reference “SB 1000 Electric Vehicle Charging Infrastructure Deployment Assessment” in the subject line. If providing comments to questions included in this presentation, please reference the slide number and/or question.

**All comments due by 5:00 p.m. on Thursday, June 18, 2020**
Thank You!

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