CITY OF EL SEGUNDO

ELECTRIC VEHICLE (EV) CHARGING STATIONS

AUGUST 15, 2017
Purpose

• Introduce ordinance to streamline permitting process for EV charging stations

• Assembly Bill 1236
  ✓ Promote & encourage the use of EV
  ✓ Limit obstacles
RISE OF THE EV’S

Cost of 200 mile range EV

Average US Car Price 2015 - $33,500

Lowest US New Car Price 2015 - $14,020

Electric Vehicle Cost

Assumes 16% EV Learning Rate, 30% CAGR

Ramez Naam - rameznaam.com
CALIFORNIA LEADING THE WAY

- EVs –
  - air quality,
  - greenhouse gas
  - energy security goals
  - Net Zero

- Executive Order - 1.5 million ZEV’s by 2025.
CALIFORNIA LEADING THE WAY

Total = 523,000 vehicles
## COMPARISONS

<table>
<thead>
<tr>
<th></th>
<th>Level 1 (120V)</th>
<th>Level 2 (208/240V)</th>
<th>DC Fast Charging</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Typical Duration of Charge Event</strong></td>
<td>6-10 hours</td>
<td>1-3 hours</td>
<td>30 minutes</td>
</tr>
<tr>
<td><strong>Range per hour of charging</strong></td>
<td>5 miles</td>
<td>10-20 miles</td>
<td>75+ miles</td>
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<tr>
<td><strong>Typical Users/Uses</strong></td>
<td>Home use, Employee parking during the work day, Long term (8+ hours) parking at a commuter lot, charging while on a carpool, walking or transit trip</td>
<td>Home use for EV owners wanting a faster charge, Charging in a commercial area while shopping or doing business, Parking at a commuter lot and charging while on a carpool, walking or transit trip</td>
<td>Fast charging while on a long trip in order to reach a destination or extend the length of a trip</td>
</tr>
<tr>
<td><strong>Desirable Characteristics</strong></td>
<td>Workplaces, Lit, safe area, Pedestrian and transit connections</td>
<td>Shopping, dining, restrooms etc. within walking distance, Transit service, Pedestrian facilities, Lit, safe area</td>
<td>Amenities at the charging site (food, coffee, Wi-Fi), Lit, safe area</td>
</tr>
<tr>
<td><strong>Priority Locations</strong></td>
<td>Employee parking areas, Long term customer/visitor parking, Park and ride lots</td>
<td>Municipal or private parking lots in downtowns, village centers, growth centers or shopping centers.</td>
<td>Near high volume roadway access points</td>
</tr>
<tr>
<td><strong>Equipment Price</strong></td>
<td>$30-900&lt;sup&gt;11&lt;/sup&gt;: Prices vary with system capability to monitor and charge for use.</td>
<td>$600 - 9,000</td>
<td>$15,000 – 60,000&lt;sup&gt;12&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Installation</strong></td>
<td>$200-450</td>
<td>$2,000-12,000</td>
<td>$10,000 - 25,000</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>$230-1,350</td>
<td>$2,600-21,000</td>
<td>$25,000 – 85,000</td>
</tr>
</tbody>
</table>
Implementation Plan

• Create Submittal Guidelines
• Over-the-counter or within a week for review for more complex
  - Health and Safety compliance
  - Accessibility compliance
  - Electrical Code compliance
• Accept e-submittal via email w/ PDF
Implementation Plan

- Informational Pamphlets
- Submittal Guidelines
- California Electrical Code requirements
- Electrical Load worksheet
- Site Plan Sample
Implementation Plan

- Available Online
  - Applications
  - Checklists with commentary and advisory
  - Links
    - EV charging stations Youtube videos
      (EV Basics, Best EV charger, How to’s)
      - www.youtube.com/watch?v=IwODfn-4Eng
    - SCE information on utility – Rebates, TOU, Submeters
    - EV charging station network – Route your trip
      - www.Socalev.org
Next Steps

- Waive first reading and introduce ordinance adopting the EV Charging Station Streamlined Permitting Process

- Set the second reading and adoption of the ordinance on September 5, 2017