Electrifying State Light-Duty Fleets & Transit

• Moderator:
  • Melissa Savage, Director, Center for Environmental Excellence, AASHTO

• Speakers:
  • Hanna Waterstrat, Assistant Director, State Efficiency and Environmental Performance, Washington Department of Commerce
  • Ryan Daley, CEO, Sawatch Labs
  • Rob Gannon, General Manager, King County Metro
Hanna Waterstrat, Assistant Director, State Efficiency and Environmental Performance, Washington Department of Commerce

Electrifying State Light-Duty Fleets & Transit

#WeTheStates
Electrifying State Light-Duty Fleets & Transit

Ryan Daley, CEO, Sawatch Labs
Data Driven Fleet
Electrification & Optimization

NGA West Regional Transportation Electrification Workshop
April 5, 2019
Sawatch Labs Approach

Telematics  Analytics

Compliance  Management
Estimated Operational Metrics in a 2018 Nissan Leaf

These metrics estimate what the usage numbers would be if the miles driven by your 2008 FORD Fusion had been driven in an EV

<table>
<thead>
<tr>
<th>VMT</th>
<th>GHG Reduction</th>
<th>CPM Reduction in an EV¹</th>
<th>Operational Savings²</th>
<th>TCO Change²</th>
</tr>
</thead>
<tbody>
<tr>
<td>5,350</td>
<td>80%</td>
<td>15%</td>
<td>$12,000-$15,000</td>
<td>$6,000-$9,000</td>
</tr>
</tbody>
</table>
Are they actually...
- Approaching an ROI?
- Plugging in?
- Fully charged?

Missed Opportunities
- e-vmt > g-vmt
Employee Mobility

- Fleet Share
- Right miles on the right tech
- Right-sizing
- Multimodal
- Cost, time, sustainability

Maximum utilization across a fleet of vehicles
Electric Vehicle Suitability Assessment

- 1,300 State Fleet Vehicles
- EVSE needs statewide
- Initiated 3/20/19

Colorado Fleet Details Path to 200 EVs by 2020

February 27, 2019 • by Thi Dao

Thank You!

Ryan Daley
CEO & Founder
303-999-8866
daley@sawatchlabs.com
Electrifying State Light-Duty Fleets & Transit

Rob Gannon, General Manager, King County Metro

#WeTheStates
Transitioning to a Zero-Emission Fleet

NGA West Regional Transportation Electrification Workshop

April 5, 2019
Transitioning to a Zero-Emission Fleet

NGA West Regional Transportation Electrification Workshop
April 5, 2019
Goal: Zero-emission fleet before 2040
Where are we now

Fleet

185 Zero-Emissions Buses
(12% of our fleet)
• 174 Electric Trolley Buses
• 11 Fast Charge 40’ Battery Electric Buses
• 10 Extended Range Battery Electric Buses (Test-2019)

Infrastructure

3 Fast Chargers; 2 more on the way
Where are we now

Fleet

185 Zero-Emissions Buses
(12% of our fleet)
• 174 Electric Trolley Buses
• 11 Fast Charge 40’ Battery Electric Buses
• 10 Extended Range Battery Electric Buses (Test-2019)

Infrastructure

3 Fast Chargers; 2 more on the way
Unstable operational capacity
Building for more stable operations

Five projects will increase base capacity by 650:

1. Central Optimization Reduce Congestion +60
2. Interim Base +125
3. Central Expansion +90
4. South Annex Base +250*
5. South King County Base +250

*Net add is 125 when Interim Bus Capacity of 125 is taken into account. Dips in chart represent State of Good Repair Activities, which reduce capacity.
Advancing Equity

Prioritizing deployment in communities most vulnerable to air pollution

- Vulnerability based on air pollution levels, health conditions, and social risk factors
- South Base highest priority for transitioning to zero-emission fleet based on vulnerability of communities served

Most vulnerable communities are more shaded

Priority bus routes to be served by zero-emission buses