LAX – Ground Service Equipment Emissions Reduction Policy

Southern California Green Airports
May 21, 2015
LAWA & Sustainability

- Sustainability Program
  - LAWA began its Sustainability Program in 2007

- LAWA in midst of revamping its Sustainability Program

- Updating goals and initiatives to better align with the City’s goals

- Continuing annual reporting and developing metrics-based approach
Current Air Quality Initiatives

**Improve Air Quality/Reduce Emissions**

- **Alternative Fuel Programs**
  - Vehicle Fleet
  - Ground Service Equipment
  - EV Chargers
  - CNG stations

![LAX Alternative Fuel Vehicle Fleet](chart.png)

![CNG and Hybrid Buses](images.png)
Current Air Quality Initiatives

• Trip Reduction Programs
  – Rideshare/Vanpool
  – FlyAway

• Clean Construction Equipment

• Ground Power to offset use of Auxiliary Power Units (APUs)
  – Electrification of Remain Overnight (RON) gates, Cargo Parking Positions, Maintenance & Hangars
  – Provide Pre-conditioned air

LAX Rideshare Breakout

- Vanpool: 54%
- Transit: 22%
- Carpool: 24%
LAX GSE Emissions Reduction Policy Goals

• Reduce GSE emissions factor at LAX to 2.65 g/bhp-hr of HC + NOx by Dec. 31, 2021
  – Target originated with South Coast GSE MOU, 2002
  – Included in LAX Community Benefits Agreement, 2005

• LAWA will require Operators at LAX to meet statewide CARB target of 2.65 g/bhp-hr at LAX
  – No later than Dec. 31, 2021
  – Must maintain target
  – Must submit annual report on fleet mix and emissions
2013 GSE Inventory and Feasibility Study

• 2013: LAWA Completed Comprehensive evaluation of existing GSE fleet at LAX
  • No other airport in the nation has such an exhaustive GSE inventory
  • Inventory provides update to 2006 LAX GSE inventory

<table>
<thead>
<tr>
<th>GSE Type</th>
<th>Conventional</th>
<th>LNG/CNG</th>
<th>Electric</th>
<th>Total</th>
<th>% LNG/CNG</th>
<th>% Elec.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013 GSE Inventory</td>
<td>1,281</td>
<td>444</td>
<td>999</td>
<td>2,724</td>
<td>16%</td>
<td>37%</td>
</tr>
<tr>
<td>2006 GSE Inventory</td>
<td>1,815</td>
<td>510</td>
<td>722</td>
<td>3,047</td>
<td>17%</td>
<td>24%</td>
</tr>
</tbody>
</table>

• Key Study Findings:
  • 37% of GSE fleet is zero-emission technology (ZEV)
  • 16% is low-emission technology (CNG or LNG)
  • Aggregate HC + NOx emission rate is 5.17 g/bhp-hr
  • Ability to achieve 2.65 g/bhp-hr is feasible
LAX GSE Emissions Reduction Policy

- Requires GSE Operators to maintain a maximum of 2.65 g/bhp-hr of HC + NOx by December 31, 2021
- Interim assessment on March 31, 2019
  - If operator exceeds composite emission factor of 3.0 g/bhp-hr, operator must provide action plan for achieving 2.65 target by 2021
- Requires GSE Operators to submit data on an annual basis
- Requires GSE Operators not to exceed 2.65 target after 2021
- Provides remedies to LAWA if GSE Operator fails to meet target, including potential loss of operating license at LAX
- Provides incentives for further emissions reduction
  - Particularly as related to eGSE and charging infrastructure but will not mandate eGSE
- Recognizes LAWA’s responsibility to provide necessary infrastructure to support conversion to electric GSE
- Board of Airport Commissioners adopted Policy on April 16, 2015
GSE Next Steps

• Now – July 2015: LAWA staff working to craft implementation plan for GSE Policy, including:
  • Amendments to LAX Rules & Regulations
  • Emissions Calculator
  • Data collection & Reporting procedures
  • Ramp policies for common use terminals /gates

• July 1, 2015 – Policy effective date

• July 1, 2015 – LAWA to hire consultant to assist with monitoring, analysis, and implementation of GSE program
Industry and Regulatory Opportunities for Future Success

• Develop low-emission equivalents for high-horsepower equipment

• Provide monetary incentives to replace newer but dirtier equipment

• Target incentives to assist smaller operators so they can compete for airport business

• Cultivate public and private relationships to develop similar programs