Innovative Clean Transit Implementation and Comprehensive Review on 2023 Program Readiness

September 22, 2022
Public Transit is Important and Synergetic

- Key for local, regional and state efforts to combat climate change
- Must meet community needs and increase ridership through:
  - Land use
  - Accessibility
  - Ease of use
  - Fare price
  - Operation and capital investments
Benefits of Zero-Emission Buses

• Provides direct health benefits to riders and local communities
• Ensures affordable zero-emission vehicles available to all, especially low-income riders
• Creates high quality job opportunities and supports employment in disadvantaged communities
• Utilizes the most fuel-efficient technologies for public transportation
• Helps California meet climate and air quality goals
Beachhead for Heavy-Duty Applications

- Electric drivetrain design
- Supply chain support
- Curriculum for workforce training
- Planning & cost management
- Range demand & management
- Infrastructure & scaling up
Innovative Clean Transit (ICT) Regulation

- Adopted: December 14, 2018
- Goal: Full zero-emission transition by 2040
- Major elements:
  - Early action and purchase requirements
  - Rollout plans
  - Flexibility and safeguard provisions
- Monitoring implementation:
  - Annual updates
  - One-time comprehensive review
Zero-Emission Bus (ZEB) Purchase Schedule

- Phased-in based on fleet size
- Later for cutaway, over-the-road, double decker, and articulated buses
  - Starts on or after January 1, 2026
- Passes testing
- Aligns with small transits’ schedule
- Early purchases count towards future compliance

<table>
<thead>
<tr>
<th>Year</th>
<th>ZEB Percentage of New Purchases (Large)</th>
<th>ZEB Percentage of New Purchases (Small)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>25%</td>
<td>-</td>
</tr>
<tr>
<td>2024</td>
<td>25%</td>
<td>-</td>
</tr>
<tr>
<td>2025</td>
<td>25%</td>
<td>-</td>
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<tr>
<td>2026</td>
<td>50%</td>
<td>25%</td>
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<tr>
<td>2027</td>
<td>50%</td>
<td>25%</td>
</tr>
<tr>
<td>2028</td>
<td>50%</td>
<td>25%</td>
</tr>
<tr>
<td>2029 &amp; after</td>
<td>100%</td>
<td>100%</td>
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Implementation Update

- Successful annual reporting
  - Bonus Credits: 183 (113 to large transits)
- All large transits have submitted rollout plans
- Small transit agencies working on rollout plans due June 2023
- Early action targets not met due to pandemic
- Large transit agencies ready for 2023 implementation
California Transit Bus Composition

- About 200 transit agencies
  - 21 large transit agencies accounting for 70% of total buses
- Approximately 13,000 buses
  - 70% are standard buses
  - 510 ZEBs (56 FCEBs) deployed
  - 424 ZEBs (62 FCEBs) on order
## Major Funding Programs for ZEB Transition

<table>
<thead>
<tr>
<th>Program</th>
<th>Description</th>
<th>FY 21-25</th>
</tr>
</thead>
<tbody>
<tr>
<td>TIRCP</td>
<td>Capital Improvement</td>
<td>Next 3 years: $7.65B</td>
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<tr>
<td>LCTOP</td>
<td>Operations</td>
<td>FY 21: $192M</td>
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<tr>
<td>EnergIIZE</td>
<td>Infrastructure</td>
<td>FY 21-25: $230M</td>
</tr>
<tr>
<td>HVIP</td>
<td>ZEBs</td>
<td>FY 21-25: $520M</td>
</tr>
<tr>
<td>VW</td>
<td>ZEBs</td>
<td>Up to $65M</td>
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</tbody>
</table>
Comprehensive Review of Program Readiness

- Availability & barriers
- Costs, incentives & performance
- Deployment status
- Infrastructure
- Job creation & training programs
Leading the Way for the ZEV Heavy-duty Market

- Increased number of ZEB models and manufacturers
- Utilizing incentives for early action
- More electric charging and hydrogen fueling standardization
- Increased clean energy jobs
California Large Transit Ready for 2023 ZEB Purchase Requirement

- Over a decade of demonstrations and deployments
- Product development and refinement led by the transit industry
- Collaboration among transit agencies, manufacturers, infrastructure/fuel providers
- Significant investment from the State
- Supportive environment
Vision for Public Transit

- Clean, efficient, safe and affordable transportation for all Californians
- State agencies support the clean transition
- Market is ready for 2023 ICT implementation
- Transit agencies continue to be at the forefront with the cleanest technology, leading the way for the heavy-duty sector