Overview on Climate Change

John Horsley, Executive Director
AASHTO
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Climate Change and Transportation

- State DOTs committed to do their part to reduce GHG emissions 80% by 2050
- Enactment of comprehensive legislation unlikely
- Enactment of planning mandate on State DOTs and MPOs to identify strategies for GHG reduction and set targets, likely
Recent Climate Change Research

- Number of vehicles worldwide to double by 2030 from one to two billion.
- International transportation energy demand will increase 50% by 2030, 100% by 2050
- “Achieving 80% GHG reduction goal by 2050 will almost certainly require a transition from petroleum to either electricity or hydrogen for light duty vehicles.”
Overall GHG Reduction Strategies

- Fuel efficiency and alternative fuels will account for 68% of emission reduction.
- Pricing 18%
- Reductions in vehicle travel (VMT) 13%
  - (Highway traffic flow 1%)
  - (Ridesharing 1%)
  - (Transit and 6%)
- Compact Development
### Promise of Electric Vehicles

<table>
<thead>
<tr>
<th>Car</th>
<th>Price</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chevy Volt</td>
<td>$33,500</td>
<td>340 miles</td>
</tr>
<tr>
<td>Nissan Leaf</td>
<td>$22,000</td>
<td>100 miles</td>
</tr>
<tr>
<td>SmartCar Electric</td>
<td>$600mo.</td>
<td>82 miles</td>
</tr>
<tr>
<td>BMW MiniElectric</td>
<td>$600mo.</td>
<td>100+miles</td>
</tr>
<tr>
<td>Tesla Sports Car</td>
<td>$57,400</td>
<td>160 miles</td>
</tr>
</tbody>
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**US DOE to fund: 10,000 charging stations by 2011**
VMT Reduction Strategies Below

Growth of 1% per year

- Difficult to achieve
- Will hurt the economy
- U.S. DOT’s 2010 Strategic Plan proposes to “advance (only) transportation investments that reduce carbon emissions.”
- Translation: Build no additional highway capacity.
Reduce Highway Travel Demand

- Increase trips – walking and biking
- Increase telecommuting
- Compact land use
- Double transit ridership by 2030, and again by 2050
- Congestion Pricing
Reduce Highway Travel Demand

- Increase market share of freight moved by rail
- Increase intercity passenger rail