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21st Century Mobility Solutions
Climate Change, Travel Efficiency and Technology

March 11, 2016
LGC Livable Communities-Yosemite
California Political Landscape

- **AB 32: Global Warming Solutions Act**
  - Mandates GHG reductions (1990 by 2020 and beyond).
  - Active discussions about 2030 and 2050 targets

- **SB 375: Sustainable Communities**
  - Mandates regional GHG targets adopted by CARB and regional development of sustainable community strategies to achieve targets

- **SB 391: California Transportation Plan**
  - Mandates Caltrans develop CTP and update every 5 years. Primary goal of reducing GHG to 80% below 1990 levels by 2050

- **SB 743: Environmental Quality, Transit Oriented Infill**
  - Mandates evaluation of alternatives to “level of service” for evaluating transportation impacts of development projects. Alternatives include VMT and VMT/capita

- **SB 1077: Vehicle Road Charge Pilot Program**
  - Mandates evaluation of alternatives to motor vehicle fuel tax and development of road charge pilot program
  - Active discussions about new funds for transportation maintenance/infrastructure
State Requirements

- **Caltrans 2015-2020 Strategic Management Plan**
  - 15% emissions reduction from 2010 levels to achieve 1990 levels by 2020

- **Executive Order B-30-15**
  - GHG reduction target of 40 percent below 1990 levels by 2030
  - ultimate goal of reducing emissions 80 percent under 1990 levels by 2050
  - LCA that considers climate change for infrastructure investments

- **Executive Order B-32-15**
  - develop an integrated action plan by July 2016 that establishes clear targets to improve freight efficiency, transition to zero-emission technologies, and increase competitiveness of California's freight system

- **2015 State of the State -5 pillars :** next 15 years, California will
  - increase one-third to 50 percent electricity derived from renewable sources;
  - reduce today's petroleum use in cars and trucks by up to 50 percent;
  - double efficiency savings from existing buildings & make heating fuels cleaner;
  - reduce release of methane, black carbon & other pollutants across industries;
  - manage farm & rangelands, forests & wetlands so they can store carbon.
The Transportation Sector

An Interwoven Transportation “System”
Caltrans Strategic Management Plan

Mission:
Provide a safe, sustainable, integrated, and efficient transportation system to enhance California’s economy and livability.

- GOAL 1: Safety and Health
- GOAL 2: Stewardship and Efficiency
- GOAL 3: Sustainability, Livability & Economy
- GOAL 4: System Performance
- GOAL 5: Organizational Excellence
Sustainability, Livability, and Economy Goal

Make long-lasting, smart mobility decisions that improve the environment, support a vibrant economy, and build communities, not sprawl.

Maximum Benefit for quality of life.

- 1. People (Social Equity)
- 2. Prosperity (Economic)
- 3. Planet (Environmental)
- 4. Partnership
- 5. Strategic Innovation
## Performance Measures

<table>
<thead>
<tr>
<th>People</th>
<th>Planet</th>
<th>Prosperity</th>
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<tbody>
<tr>
<td>Bike, Pedestrian &amp; Transit</td>
<td>Per Capita VMT Reduction</td>
<td>Prosperity</td>
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<tr>
<td>Increase</td>
<td>System emissions reduction</td>
<td>Freight Efficiency</td>
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<td>Accessibility</td>
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<td>Livability</td>
<td>Improve Green Infrastructure</td>
<td>Resources Consumption reduction</td>
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<td>Sustainable Corridors</td>
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California Gasoline Sales/Use

- FY 2006/07: 15,800,000,000
- FY 2007/08: 14,600,000,000
- FY 2008/09: 14,400,000,000
- FY 2009/10: 14,200,000,000
- FY 2010/11: 14,800,000,000
- FY 2011/12: 15,000,000,000
- FY 2012/13: 15,200,000,000
- FY 2013/14: 15,400,000,000
- FY 2014/15: 16,000,000,000
200 People can commute in:
177 Cars, or better...
Three Buses, or...
One Light Rain Train, or...
Their Bikes
Vision for 2030 and 2050

Image Credits- Urban Advantage, Roma Design Group, City of Dana Point
Vision for 2030 and 2050
Vision for 2030 and 2050
History of Automated Vehicles
Automated Buses and Trucks too!

2003 Bus Automation Demonstration in San Diego

2009 Truck Automation Testing in Nevada
Safe and Efficient Transit Operations

Lane County Transit District Bus in Eugene, Oregon

Alameda County Transit Bus at the San Mateo Bridge Toll Plaza
Moving Goods Quicker and Cheaper!

Speed and Commands

Gap, Speed difference

Leading Vehicle Speed & Commands