Sustainability Successes and Challenges:

A View from Portland

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Railvolution
October 28, 2008
San Francisco, CA
TriMet’s Journey to Sustainability

1. Sustainable Transportation
2. Sustainable Operations
3. Sustainable Construction Practices
Sustainable Transportation

TriMet is an attractive alternative to driving alone

- 71% of riders are choice riders
- 43% of adults ride at least twice a month
- TriMet eliminates:
  - over 200,000 car trips a day
  - 300 million vehicle miles/yr
Regional Trends (1996-2006)

- TriMet Ridership: 46% growth
- TriMet Service: 16% growth
- Population: 27% growth
- Daily Vehicle Miles of Travel (DVMT): -8% decrease

Growth Rates

0% 5% 10% 15% 20% 25% 30% 35% 40% 45% 50%

% Change 1996-2006
Sustainable Transportation

Transit Oriented Development (TOD)

$6 billion invested within walking distance of MAX platforms since 1980
“The Trip Not Taken”

- Attracting households to areas with mixed land use and good transit service reduces vehicle miles traveled (VMT).
Portland’s 2040 Growth Concept

- Urban growth boundary
- Focused on centers
- High capacity transit connections between centers
- Multi-modal and coordinated
PORTLAND STREETCAR

Density of Development

- Percent of Maximum SF/FAR Realized
- Pre 1997 development
- Post 1997 development

Distance from Streetcar:
- 1 block
- 2 blocks
- 3 blocks
- 3+ blocks

CONNECTING PORTLAND’S NEIGHBORHOODS
### Transportation Mode Share by Transit and Land Use Characteristics

<table>
<thead>
<tr>
<th>Land Use Type</th>
<th>Percent Auto</th>
<th>Percent Walk</th>
<th>Percent Transit</th>
<th>Percent Bike</th>
<th>Percent Other</th>
<th>Vehicle Miles per Capita</th>
<th>Auto Ownership per Household</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good Transit/Mixed Use</td>
<td>58.1%</td>
<td>27.0%</td>
<td>11.5%</td>
<td>1.9%</td>
<td>1.5%</td>
<td>9.80</td>
<td>0.93</td>
</tr>
<tr>
<td>Good Transit Only</td>
<td>74.4%</td>
<td>15.2%</td>
<td>7.9%</td>
<td>1.4%</td>
<td>1.1%</td>
<td>12.38</td>
<td>1.50</td>
</tr>
<tr>
<td>Remainder of Multnomah County</td>
<td>81.5%</td>
<td>9.7%</td>
<td>3.5%</td>
<td>1.6%</td>
<td>3.7%</td>
<td>17.34</td>
<td>1.74</td>
</tr>
<tr>
<td>Remainder of Region</td>
<td>87.3%</td>
<td>6.1%</td>
<td>1.2%</td>
<td>0.8%</td>
<td>4.6%</td>
<td>21.79</td>
<td>1.93</td>
</tr>
</tbody>
</table>

*Source:* Metro Travel Survey
Sustainable Operations
Improving Efficiency

• **Light Rail:**
  • Hydro Power and Regenerative Braking

• **Bus:**
  • Reducing idling
  • Recalibrating transmissions
  • Altering front-end alignments
  • Adjusting tire pressure

Annual savings:
500,000 gallons
$1.125 million
Sustainable Operations

Electric Cooling System

- Delivers optimum heating/cooling to engine, transmission and heating systems
- Developed using military/NASCAR technology
  - Boosts fuel economy by 5%
  - Reduces maintenance costs
Other Sustainable Operations

- Energy Efficient Lighting
- Green Cleaning Products
- “Nature-scaping” and Stormwater Management
Sustainable Construction

- Using existing materials – reduced costs $2.4 million
- Recycling pavement and track
- Eliminating wooden and steel forms
- Plastic railroad ties and plastic bollards
But Challenges Remain

- Congestion, Sprawl, GHGs
- 2040 Growth Concept and UGB doesn’t cover the 45-minute travelshed:
  - Only 64% of population within Metro’s boundary
  - Only 51% of urbanized land
  - Only 5% of farmland
  - Population density inside UGB is 7x greater