AVOIDING THE PUMP: Gas and Diesel Consumption Reduction in Eugene, Oregon
OVERVIEW OF PRESENTATION

- Project Background
- Vehicle Miles Traveled
- Methodology
- Findings
- Lessons Learned
- Recommended Next Steps
- Conclusions and Q&A
Eugene’s gas and diesel consumption has declined by 15% over the past eight years (2003-2011).

- Statewide → 1% decline
- Springfield → 5% decline
- Region’s estimated VMT has remained fairly flat

How and why is this happening?

How we broke it down:

1. Passenger vehicle age
2. VMT estimates
3. Opportunities for collaboration
THE DECLINE

Gasoline and diesel fuel purchased in Eugene

- Annual gasoline and diesel purchased in Eugene
- Trajectory: 50% reduction by 2030
- Average US fuel price
VMT provides an estimate of the number of miles vehicles travel within a given boundary over a given period of time.

- Helps assess traffic and emissions impacts.
- Influences transportation & infrastructure funding.
VMT Estimate Collection Methods

- Highway Performance Monitoring System
  - Traffic counts act as data snapshots.
  - State Departments of Transportation apply statistical models to estimate statewide traffic volume and submit to Federal Highway Administration.

- Regional Travel Demand Model
  - Based on local survey data.
  - Designed to forecast traffic volumes, mode share and other attributes.
METHODS

- Consolidate, consolidate, consolidate.

Goal: turn 250,000 lines of data into about 15.
**Table 1: Eugene Vehicle Fleet Age Mix, Registration Year 2003-2011**

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>21+ yrs.</td>
<td>6906</td>
<td>6425</td>
<td>5998</td>
<td>5866</td>
<td>6077</td>
<td>6692</td>
<td>7121</td>
<td>6834</td>
<td>6325</td>
</tr>
<tr>
<td>11-20 yrs.</td>
<td>69266</td>
<td>61792</td>
<td>62800</td>
<td>63045</td>
<td>64243</td>
<td>68078</td>
<td>70505</td>
<td>73509</td>
<td>76319</td>
</tr>
<tr>
<td>10 yrs. &amp; newer</td>
<td>72052</td>
<td>80290</td>
<td>81335</td>
<td>82260</td>
<td>81764</td>
<td>84311</td>
<td>80285</td>
<td>75904</td>
<td>72913</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>148224</td>
<td>148507</td>
<td>150133</td>
<td>151171</td>
<td>152084</td>
<td>159081</td>
<td>157911</td>
<td>156247</td>
<td>155557</td>
</tr>
</tbody>
</table>

**Figure 1: Eugene Vehicle Fleet Age Mix, Registration Year 2003-2011**
Table 2: Springfield Vehicle Fleet Age Mix, Registration Year 2003-2011

<table>
<thead>
<tr>
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<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>21+ yrs.</td>
<td>2972</td>
<td>2740</td>
<td>2867</td>
<td>2949</td>
<td>3220</td>
<td>3230</td>
<td>3124</td>
<td>2950</td>
<td>2842</td>
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<tr>
<td>11-20 yrs.</td>
<td>29236</td>
<td>29295</td>
<td>29390</td>
<td>29829</td>
<td>30394</td>
<td>30903</td>
<td>32105</td>
<td>32981</td>
<td>34000</td>
</tr>
<tr>
<td>10 yrs. and newer</td>
<td>24325</td>
<td>24556</td>
<td>25138</td>
<td>25300</td>
<td>25146</td>
<td>24307</td>
<td>22643</td>
<td>21055</td>
<td>19800</td>
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<tr>
<td><strong>Total</strong></td>
<td>56533</td>
<td>56591</td>
<td>57395</td>
<td>58078</td>
<td>58760</td>
<td>58440</td>
<td>57872</td>
<td>56986</td>
<td>56642</td>
</tr>
</tbody>
</table>

Figure 2: Springfield Vehicle Fleet Age Mix, Registration Year 2003-2011
### Table 3: Tigard Vehicle Fleet Age Mix, Registration Year 2003-2011

<table>
<thead>
<tr>
<th>Year</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
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<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>21+ yrs.</td>
<td>1388</td>
<td>1338</td>
<td>1296</td>
<td>1291</td>
<td>1310</td>
<td>1288</td>
<td>1264</td>
<td>1238</td>
<td>1364</td>
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<tr>
<td>11-20 yrs.</td>
<td>15757</td>
<td>16410</td>
<td>16584</td>
<td>17443</td>
<td>18097</td>
<td>18868</td>
<td>20272</td>
<td>21525</td>
<td>22712</td>
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<tr>
<td>10 yrs. and newer</td>
<td>30220</td>
<td>30544</td>
<td>30901</td>
<td>31732</td>
<td>31957</td>
<td>30688</td>
<td>28922</td>
<td>27357</td>
<td>25920</td>
</tr>
<tr>
<td>Total</td>
<td>47365</td>
<td>48292</td>
<td>48781</td>
<td>50466</td>
<td>51364</td>
<td>50844</td>
<td>50458</td>
<td>50120</td>
<td>49996</td>
</tr>
</tbody>
</table>

### Figure 3: Tigard Vehicle Fleet Age Mix, Registration Year 2003-2011

The figure shows the age distribution of the Tigard vehicle fleet from 2003 to 2011, categorized by age groups: 21+ years, 11-20 years, and 10 years and newer.
SPRINGFIELD, EUGENE & TIGARD: 2003 & 2011

Table 4: Cities’ Fleet Age Mix in 2003 & 2011, As Percent of Total Fleet

<table>
<thead>
<tr>
<th>Cities’ Fleet Age Mix in 2003 &amp; 2011, As Percent of Total Fleet</th>
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<tbody>
<tr>
<td>Cities’ Fleet Age Mix in 2003 &amp; 2011, As Percent of Total Fleet</td>
</tr>
<tr>
<td>------------------</td>
</tr>
<tr>
<td>21+ years</td>
</tr>
<tr>
<td>11-20 years</td>
</tr>
<tr>
<td>10 yrs/newer</td>
</tr>
</tbody>
</table>

Figure 4: Cities’ Fleet Age Mix in 2003 & 2011, As Percent of Total Fleet
THEORIES OF TRENDS AND PROGRAMS CONTRIBUTING TO FUEL CONSUMPTION DECLINE

- Cash for Clunkers Program (2009)

- Diesel Reduction Programs
  - West Coast Collaborative
  - Cascade Sierra Solutions
  - Lane Regional Air Protection Agency/Clean School Bus USA Grant

- Increase in Hybrid and Electric Vehicles
LESSONS LEARNED

- **Data Consistency**
  - Inform DMV of data inconsistencies with vehicle make and model coding.
  - Update database: ‘drop-down list’ model → streamline future research.

- **Opportunities for Collaboration**
  - Enhance Oregon DMV vehicle registration data by incorporating Environmental Protection Agency fuel economy data.
RECOMMENDED NEXT STEPS

- **Test Theory List**
  - Collect quantitative data for each trend and program.
  - Consider other potential theories.

- **Further Data Comparisons**
  - Compare data to a wider range of similar towns and regions.
  - Contrast data to cities with a range of traffic congestion trends.

- **Larger-Scale Data Analysis**
  - Examine historical trends of gas and diesel consumption in Eugene.
  - Review whether it is appropriate to examine Eugene and Springfield separately.