Cost-Effective GHG Reductions through Smart Growth & Improved Transportation Choices

Chuck Kooshian

BEHAVIOR, ENERGY & CLIMATE CHANGE CONFERENCE

Washington, DC
November 17, 2009
Environmental Impact
if VMT up 15% per capita
(=1.4%/yr, w/ 55 mpg CAFE & -15% GHG)

S. Winkelman, CCAP. 2030: 55 mpg CAFE & -15% Fuel GHG.
Environmental Impact

*if VMT down 10% per capita*

(= 0.4%/yr, w/ 55 mpg CAFE & -15% GHG)

S. Winkelman, CCAP. 2030: 55 mpg CAFE & -15% Fuel GHG.
Equity and Economy Impact of Higher Cost with less density and choice

Region: Phoenix–Mesa, AZ

Household Income: $44,752  Household Size: 2.87  Workers per Household: 1.23

Monthly Transportation Expenses - 2000 gas

- Data not available
- 0 to 730 $/Month
- 730 to 800 $/Month
- 800 to 860 $/Month
- 860 to 930 $/Month
- 930+ $/Month

Household Monthly Transportation Costs are calculated as the sum of Auto Ownership Costs, Auto Use Costs, and Public Transit Costs. All values utilized for this calculation are based on 2000 data, including an average gas price of $1.63.

Monthly Transportation Expenses - 2008 gas

- Data not available
- 0 to 730 $/Month
- 730 to 800 $/Month
- 800 to 860 $/Month
- 860 to 930 $/Month
- 930+ $/Month

Household Monthly Transportation Costs are calculated as the sum of Auto Ownership Costs, Auto Use Costs, and Public Transit Costs. All values utilized for this calculation are based on 2008 data, with the exception of the gas price, for which a 2000 average price of $4.46 was used. Therefore, comparing this figure to Household Monthly Transportation Costs 2000 illustrates the significant increase in monthly transportation expenses.
Equity and Economy Impact of Higher Cost
with more density and choice

map courtesy of Center for Neighborhood Technology

Region: Chicago--Gary--Kenosha, IL--IN--WI

Household Income: $51,046  Household Size: 2.72  Workers per Household: 1.28

Monthly Transportation Expenses - 2000 gas

<table>
<thead>
<tr>
<th>Monthly Transportation Expenses - 2000 gas</th>
<th>CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data not available</td>
<td></td>
</tr>
<tr>
<td>0 to 730 $/Month</td>
<td></td>
</tr>
<tr>
<td>730 to 800 $/Month</td>
<td></td>
</tr>
<tr>
<td>800 to 860 $/Month</td>
<td></td>
</tr>
<tr>
<td>860 to 930 $/Month</td>
<td></td>
</tr>
<tr>
<td>930+ $/Month</td>
<td></td>
</tr>
</tbody>
</table>

Household Monthly Transportation Costs are calculated as the sum of Auto Ownership Costs, Auto Use Costs and Public Transit Costs. All values utilized for this calculation are based on 2000 data, including an average gas price of $1.67.

Monthly Transportation Expenses - 2008 gas

<table>
<thead>
<tr>
<th>Monthly Transportation Expenses - 2008 gas</th>
<th>CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data not available</td>
<td></td>
</tr>
<tr>
<td>0 to 730 $/Month</td>
<td></td>
</tr>
<tr>
<td>730 to 800 $/Month</td>
<td></td>
</tr>
<tr>
<td>800 to 860 $/Month</td>
<td></td>
</tr>
<tr>
<td>860 to 930 $/Month</td>
<td></td>
</tr>
<tr>
<td>930+ $/Month</td>
<td></td>
</tr>
</tbody>
</table>

Household Monthly Transportation Costs are calculated as the sum of Auto Ownership Costs, Auto Use Costs and Public Transit Costs. All values utilized for this calculation are based on 2008 data, with the exception of the gas price, for which a 2000 average price of $4.30 was used. Therefore, comparing this figure to Household Monthly Transportation Costs 2000 illustrates the significant impact over time.
Changing behavior through pricing or regulation will only succeed if we change the way we build our cities and transportation systems.
“Growing Wealthier”\(^1\) is possible

Smart Growth and travel choices can reduce CO\(_2\) at net costs savings\(^2\)

– Arlington households spend 60% less on gasoline

– Portland: bikes to save $1,000/ton CO\(_2\)

– Atlanta: Tax revenues $300 million > upfront costs

– Tampa: $60m streetcar attracted $1b private investment in area

– Sacramento Plan: save $9 billion, savings of $200/ton

– Georgia Plan: -7% VMT, $400 billion savings

\(^1\) Growing Wealthier, CCAP, forthcoming Spring 2010, CCAP

\(^2\) Cost-Effective GHG Reductions through Smart Growth & Improved Transportation Choices, CCAP 2009
Forthcoming papers from CCAP will address:

• Institutional inertia and the importance of leadership
• Relationship of VMT to the economy
• Future VMT projections
• Evaluating transportation investment with a new currency