Has Growth in Automobile Use Ended?

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*Autos, People and Policies (APPs): Addressing the Issues of the New Millennium*

University of Maryland
January 16, 2015
Some Things are New…

VMT as a % of Pre-Recession Level

0 12 24 36 48 60

Months Since Start of Recession

0 100% 110% 120%

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...but This Has Been a Long Time Coming

![Annual Growth Rate in Auto Use Graph](image-url)
A Perfect Storm?

- Decline in vehicle use reflects the confluence of several major developments
  - Long-term demographic forces
  - Emerging economic challenges
  - Recent technological innovations

- Some at long-term demographic trends reached critical thresholds about the turn of the 21st century

- Many economic challenges are recession-related, but others emerged well before it

- New technologies have improved enough to substitute for some travel

- More fundamental changes in behavior may also be taking hold
Baby Boom, Bust, and Echo

The graph illustrates the population in age cohorts from 16-75 from 1960 to 2030, along with the annual driving per person per age cohort. The population peaks in different years for different age cohorts, with the 1970 cohort showing a peak in driving in 1980.

Key points:
- Population in Age Cohort (millions)
- Annual Driving per Person

Volpe

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# Jobs in Metropolitan Areas are “Catching Up” to Workers

<table>
<thead>
<tr>
<th>Year</th>
<th>% of Population</th>
<th>% of Workers</th>
<th>% of Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Central City</td>
<td>Suburbs</td>
<td>Central City</td>
</tr>
<tr>
<td>1950</td>
<td>58%</td>
<td>42%</td>
<td>--</td>
</tr>
<tr>
<td>1960</td>
<td>51%</td>
<td>49%</td>
<td>54%</td>
</tr>
<tr>
<td>1970</td>
<td>46%</td>
<td>54%</td>
<td>46%</td>
</tr>
<tr>
<td>1980</td>
<td>40%</td>
<td>60%</td>
<td>39%</td>
</tr>
<tr>
<td>1990</td>
<td>33%</td>
<td>67%</td>
<td>35%</td>
</tr>
<tr>
<td>2000</td>
<td>30%</td>
<td>70%</td>
<td>34%</td>
</tr>
<tr>
<td>2010</td>
<td>28%</td>
<td>72%</td>
<td>30%</td>
</tr>
</tbody>
</table>
The Unemployed Aren’t Driving to Work

![Graph showing the relationship between employment status and annual miles driven by age cohort across different time periods (1970, 1980-2000, 2010). The data indicates a decrease in the percentage of employed individuals driving and an increase in the percentage of unemployed individuals driving as age cohort increases.](image-url)
Recent Income Losses Have Hit Hard

Upper left:
- Low Quintile
- 2nd Quintile
- Middle Quintile
- 4th Quintile
- Highest Quintile

Lower right:
- Annual Miles Driven per Person vs. Household Income (2012 $)
- $0 to $100,000 range for Household Income
- $2,000 to $10,000 range for Annual Miles Driven per Person
Driving is Getting Expensive

![Graph showing the increase in consumer price index for different aspects of driving over time. The graph includes lines for New Cars, Used Cars, Maintenance, Insurance, and Fuel, with the index set at 1982-84=100. The data shows a significant increase in the cost of driving over the years.](image_url)
The “Highway Boom” Ended, Maybe
Teleworking Was Catching On, Until…
On-Line Shopping Still Small, but Exploding

E-Commerce Retail Sales (billion $)

- 2000
- 2002
- 2004
- 2006
- 2008
- 2010
- 2012

$0
$10
$20
$30
$40
$50
$60
$70
New Travel Choices?

- Even if all new transit trips since automobile use peaked were formerly made by auto drivers, increase in transit use accounts for less than 1% of decline in automobile travel.
- Data aren’t ideal, but increases in bicycle and walk trips could account for at most another few percent of decline in driving since its peak.
- Airline, Amtrak and intercity bus service are still too small to make a noticeable difference in auto use for intercity travel, except among younger travelers and within limited regions.
Wild Cards

- Car sharing
- Autonomous ("self-driving") vehicles
- Is the decline in labor force participation permanent?
- Immigration
  - How much will there be?
  - How fast will travel behavior of new immigrants adapt?