Mobility ‘Y’: The Emerging Travel Patterns of Generation ‘Y’ [the ‘Millennial’ Generation]

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Reporting on various studies undertaken in collaboration with: Qinyi Chen, Charilaos Latinopoulos, Peter Jones, Tobias Kuhnlimhof, John Polak, Tom Worsley

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‘Peak Car’?

- **Public sector**: Future roads/rail policies & investments
- **Private sector**: How are markets for mobility (and those linked to it) changing?

Tobias Kuhnimhof: “Are young men responsible for Peak Car?”
Young people, esp. men, are the ones to watch

Average changes in car driving mileage according to ownership of the vehicle, by age group and among men and women, 1995/7–2005/7

Headline trends (Int’l., #1)

The share of licensed drivers among young adults decreased after the 1990s in most study countries, especially for men.

Tobias Kuhnimhof: “Are young men responsible for Peak Car?”

Quellen: FHWA, DfT, NPRA
Headline trends (GB)

- Young male licence-holding has fallen (but appears to now have stabilised), as has mileage per driver.
- Each accounts for roughly half of their pre-recession 30% drop in car mileage.

From 6,500 mi./year in 1995/7 to 4,500 in 2005/7 (across GB)
Hypotheses for inc. in non-driving

1. The rise of phased licence-acquisition regimes (GDL)
2. Increased rates of participation in higher education
3. Decreased levels of economic activity (linked with #2)
4. Concentration of young adults in dense cities (where car-free lifestyles are most viable)
5. Modern information and communication technologies (online activity, texting, etc.)
6. Heightened environmental awareness among today’s young adults
7. Historically-high levels of international migration
8. Deferred family formation
Hypotheses for inc. in non-driving

Let us categorise the hypotheses into two categories:

1. *Speculative* hypotheses (new and/or different relationships)
   - Growing sensitivity to sustainability issues
   - Impacts of new technology (Smartphones, Internet, etc.)

2. *Classical* hypotheses (relationships that we understand and have traditionally taken into account)
   - Economic activity (GDP, employment, etc.)
   - Prices (e.g. petrol/gasoline, public transport fares)
Trends in env’t. sensitivity (US)

With which one of these statements about the environment and the economy do you most agree -- protection of the environment should be given priority, even at the risk of curbing economic growth (or) economic growth should be given priority, even if the environment suffers to some extent?

- % Protection of the environment should be given priority
- % Economic growth should be given priority

GALLUP
As previous – but only ages 18-34

NB: X-axis not proportional

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### Trends in env’t. sensitivity (GB)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>2000 (n=972)</th>
<th>2010 (n=928)</th>
<th>Change in percentage points</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 to 34 years old</td>
<td>51%</td>
<td>34%</td>
<td>-18%</td>
</tr>
<tr>
<td>35 to 54 years old</td>
<td>54%</td>
<td>27%</td>
<td>-27%</td>
</tr>
<tr>
<td>55 to 64 years old</td>
<td>58%</td>
<td>29%</td>
<td>-29%</td>
</tr>
<tr>
<td>65+ years old</td>
<td>56%</td>
<td>21%</td>
<td>-35%</td>
</tr>
</tbody>
</table>

Table 1: Percentage of British adults indicating that air pollution from cars is “very” or “extremely” damaging to the environment, from British Social Attitudes Survey. (Reproduced from [7]: 103)

<table>
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<th>Age Group</th>
<th>2000 (n=972)</th>
<th>2010 (n=928)</th>
<th>Change in percentage points</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 to 34 years old</td>
<td>52%</td>
<td>48%</td>
<td>-3%</td>
</tr>
<tr>
<td>35 to 54 years old</td>
<td>49%</td>
<td>48%</td>
<td>-1%</td>
</tr>
<tr>
<td>55 to 64 years old</td>
<td>56%</td>
<td>43%</td>
<td>-13%</td>
</tr>
<tr>
<td>65+ years old</td>
<td>47%</td>
<td>28%</td>
<td>-19%</td>
</tr>
</tbody>
</table>

Table 2: Percentage of British adults indicating that the rise in the world’s temperature caused by climate change is “very” or “extremely” damaging to the environment, from the British Social Attitudes Survey. Reproduced from [7]: 103
Electronic connectivity? (1)

Strong correlation between internet usage and reduced driver license rates among young people

Highest preference (62%) among young Americans (18 to 29) towards living in smart growth communities with access to amenities, walking facilities, and public transport

Highest preference (55%) among young Americans (18 to 34) to drive less to protect the environment

Research shows that teens in no hurry to be behind the wheel

By Yamiche Alcindor, USA TODAY
Updated 3/15/2012 1:15 PM

The frantic rush to get a license at 16 — once a staple in American adolescence — is disappearing as Internet access and stiffening driving rules have led teens to wait longer to beg for the keys.

I emailed Sivak asking how to understand the rise in driver’s licenses in the seven countries, when the others showed declines. “Our main finding was that the countries that tended to have higher proportion of Internet users tended to have lower licensure rate of young persons (after controlling for a range of other variables, such as income, unemployment, etc.),” Sivak replied.
Using data from Scotland (2005/6), we were unable to replicate cross-national results from Sivak & Schoettle (2012).

We found a strong and statistically significant **positive** cross-sectional *ceteris paribus* relationship between internet usage and licence-holding/car-driving-kms.

Others are now reporting similar empirical results suggesting *complementarity* between ICT use and physical mobility: Kroesen and Handy (2015), Taylor et al. (2014), Aguilera et al. (2012)
Economics (GB) – Trend in GDP
Figure 5.2: Changing distribution of real personal income over time, by age and gender groups

Analysis of Survey of Personal Incomes
Young men have experienced the most substantial setbacks. As their access to blue-collar occupations has declined over the past 30 years, they have been left either unable to find work or are increasingly likely to work in food, personal service, sales and office support occupations that often pay low wages. In 1980, young men earned 85 percent of the average wage in the labor market; today, they earn only 58 percent of the average wage.

The enormous declines for young men are due in part to their failure to keep up with the growing skill premium in the labor market relative to young women. Young women began enrolling in college and earning college degrees at higher rates than men in the 1990s, and the gender gap has widened in the years since.
Drop in economic activity begins early in teenage years (GB again)

Analysis of National Travel Survey diary data
‘Main’ reasons for not driving, by age

<table>
<thead>
<tr>
<th></th>
<th>Age 17–29</th>
<th>Age 30–59</th>
<th>Age 60+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Currently learning to drive (question not asked)</td>
<td>90%</td>
<td>80%</td>
<td>50%</td>
</tr>
<tr>
<td>Put off by theory/practical test</td>
<td>10%</td>
<td>10%</td>
<td>5%</td>
</tr>
<tr>
<td>Cost of learning to drive</td>
<td>0%</td>
<td>5%</td>
<td>10%</td>
</tr>
<tr>
<td>Cost of insurance</td>
<td>0%</td>
<td>5%</td>
<td>10%</td>
</tr>
<tr>
<td>Cost of buying a car</td>
<td>0%</td>
<td>5%</td>
<td>10%</td>
</tr>
<tr>
<td>Other general motoring costs</td>
<td>0%</td>
<td>5%</td>
<td>10%</td>
</tr>
<tr>
<td>Family/friends drive me when necessary</td>
<td>0%</td>
<td>5%</td>
<td>10%</td>
</tr>
<tr>
<td>Other forms of transport available</td>
<td>0%</td>
<td>5%</td>
<td>10%</td>
</tr>
<tr>
<td>Too busy to learn</td>
<td>0%</td>
<td>5%</td>
<td>10%</td>
</tr>
<tr>
<td>Not interested in driving</td>
<td>0%</td>
<td>5%</td>
<td>10%</td>
</tr>
<tr>
<td>Environmental reasons</td>
<td>0%</td>
<td>5%</td>
<td>10%</td>
</tr>
<tr>
<td>Safety concerns/nervous about driving</td>
<td>0%</td>
<td>5%</td>
<td>10%</td>
</tr>
<tr>
<td>Physical difficulties/disabilities/health problems</td>
<td>0%</td>
<td>5%</td>
<td>10%</td>
</tr>
<tr>
<td>Too old</td>
<td>0%</td>
<td>5%</td>
<td>10%</td>
</tr>
<tr>
<td>Busy/congested roads</td>
<td>0%</td>
<td>5%</td>
<td>10%</td>
</tr>
<tr>
<td>Driving without licence</td>
<td>0%</td>
<td>5%</td>
<td>10%</td>
</tr>
<tr>
<td>Other</td>
<td>0%</td>
<td>5%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Pass rates for practical driving test fell

Chart 5 Practical driving test passes and pass rates by gender 1992-2004/05

• Average British young adult spends 1.7 years (20+ months) in ‘learning to drive’ status between ages 17 and 29
• Average test-passer has spent c.£1,000 on driving lessons
• Today’s (2013/4) pass rates: 52% (theory test), 47% (practical test)

Barbara Noble: Why are some young people choosing not to drive? (2005)
Conclusions & looking forward (1)

- **Speculative** hypotheses: Available evidence suggests attitudes-to-sustainability & online-activity are not associated with young adults’ decreased ‘auto-mobility’ (but we must be cautious and open-minded)

- We need to better understand **New** manifestations of the **Classical** hypotheses:
  - The puzzle is that young adults ‘auto-mobility’ fell during the 2000s despite rising GDP/capita. But their GDP/capita was not increasing – they’ve been in recession since 2001.
  - The run-up in fuel prices in the 2000s affected all ages. But the increasing cost/difficulty of acquiring a driving licence disproportionately affected young people (older adults were ‘grandfathered’).
  - We *speculate* that a similar ‘grandfathering’ phenomenon from the run-up in British home prices may be associated with young people’s concentration in urban flat-renting arrangements.
Conclusions & looking forward (2)

• Nearly all analyses are cross-sectional, so provide limited insights into the time-trend and tell us nothing about the direction of causality (A→B, or B→A, or A↔B)

• Big, important research questions remain:
  • Are the ‘new’ manifestations of ‘classical’ hypotheses the whole story (in a statistical sense) – or is there still, after taking them into account, an ‘X’ factor that requires further explanation?
  • How trustworthy are the data? (e.g. has intentional mis-representation of status/behaviour increased?)
  • Are they happy? What happens when they ‘grow up’?
  • Have wider outcomes (labour force participation, housing, etc.) been impacted – if so, how and how are effects distributed across the population of young adults?