Travel Behavior of Generation Y: Preliminary Results from the California Millennials Survey

Dr. Giovanni Circella
Institute of Transportation Studies, University of California, Davis
and
School of Civil and Environmental Engineering, Georgia Tech
gcircella@ucdavis.edu

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Mobility of Millennials in California

Interest in better understanding:

- The relationships among *millennials’ personal attitudes, lifestyles and actual behaviors*

  …*do they behave differently from previous generations?*

- Impact of *classical* (economic and non-economic) variables vs. *specific factors affecting millennials’ choices* (e.g. adoption of technology, etc.)

- Their *aspirations for/opinions about life and future mobility* (e.g. major life changes, purchase and use of cars vs. use of other modes)

(1) Seven tips for attracting Millennials, 2012, merchandisingmatters.com
(2) Martinmark, Golden gate bridge, 2014, stockfreeimages.com
# Potential Factors Affecting the Mobility of Millennials

<table>
<thead>
<tr>
<th>Economic</th>
<th>Auto Costs</th>
<th>Technology</th>
<th>Demographic Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recession</td>
<td>Gasoline</td>
<td>Communication technology</td>
<td>Delayed marriage</td>
</tr>
<tr>
<td>Unemployment</td>
<td>Auto insurance</td>
<td>Transportation technology (Über)</td>
<td>Fewer children</td>
</tr>
<tr>
<td></td>
<td>Driver’s education</td>
<td></td>
<td>Boomerang</td>
</tr>
<tr>
<td></td>
<td>Auto repairs</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Other fees</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Residential Location</strong></td>
<td><strong>Cultural</strong></td>
<td><strong>Regulatory Changes</strong></td>
<td><strong>Alternative Modes</strong></td>
</tr>
<tr>
<td></td>
<td>Environmentalists</td>
<td>Graduated Driver’s Licensing</td>
<td>Better transit</td>
</tr>
<tr>
<td></td>
<td>Less materialistic</td>
<td>Texting while driving laws</td>
<td>Improved infrastructure for walking/biking</td>
</tr>
<tr>
<td>More likely to move to and live in cities</td>
<td>How can I help the environment?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Common Limitations of Previous Studies

Lack of information on key variables:
• e.g. *personal attitudes and preferences* for studies based on the analysis of National Household Travel Survey data

Use of non-random samples:
• e.g. *convenience samples* for studies on university students
California Millennial Study

• Statewide study in California

• Design of a detailed online survey to collect information from millennials

• Survey distributed through an opinion panel to a sample of Millennials and Generation X

• Quota sampling by geographic region and neighborhood type

• Focus on personal attitudes, lifestyles, living arrangements, and adoption of technology, among other factors controlled in the study
Survey Content

Focus on:
A. **Individual Attitudes and Preferences** (general, environmental, technology, lifestyles, etc.)
B. **Online Social Media and Adoption of Technology**
C. **Residential Location and Living Arrangements**
D. **Employment and Work/Study Activities**
E. **Transportation Mode Perceptions**
F. **Current Travel Behavior**
G. **Emerging Transp. Services** (e.g. car-sharing, Uber, Lyft, etc.)
H. **Driver’s License and Vehicle Ownership**
I. **Previous Travel Behavior and Residential Location**
J. **Aspirations for/Opinions about Future Mobility**
K. **Sociodemographic Traits**
Section A: Your Opinions on Various Topics

To begin, we’d like to learn more about your opinions on various issues related to transportation, residential location and lifestyles. This will give us a more complete context for understanding your answers to later questions. We want your honest opinion on each statement contained in the next three tables (or your best guess, for topics you are not very familiar with) – there are no “right” or “wrong” answers in this survey!

Please choose the response that most closely fits your reaction to each of the following statements.

(1 of 3) Your opinions and preferences about personal lifestyles and residential location

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I prefer to live close to transit, even if it means I’ll have a smaller home and live in a more crowded area.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Getting regular exercise is very important to me.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I like sticking to a routine.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I prefer to live in a spacious home, even if it is farther from public transportation and most destinations.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Individuals should generally put the needs of the group ahead of their own.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Doing two or more activities at the same time is the most efficient way to use my time.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I like the idea of having different types of businesses (such as stores, offices, post office, bank, library) mixed in with the homes in my neighborhood.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>The importance of exercise is overstated.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Car Ownership vs. Shared Mobility
California Millennial Dataset

Control for demographic targets:
- Age
- Gender
- Income
- Race and Ethnicity
- Presence of Children (Y/N)

Data collection in Fall 2015

Target of:
1400 Millennials
1000 “Gen Xers”

N = 2400 Total sample size
Sample Characteristics (N=2160)

**Millennials**
- 70% White/Caucasian
- 15% Asian/Pacific Islander
- 9% Black/African American
- 4% other/multi-racial
- 1% Decline to Answer

**Generation X**
- 72% White/Caucasian
- 14% Asian/Pacific Islander
- 7% Black/African American
- 5% other/multi-racial
- 1% Decline to Answer

**Millennials**
- 55% Household without Children
- 45% Household with Children

**Generation X**
- 58% Household without Children
- 42% Household with Children
Vehicle Miles Traveled

Average Weekly VMT by Neighborhood Type

- Suburban: Gen X (118), Millennials (90)
- Urban: Gen X (101), Millennials (99)

N=2110, unweighted sample
"I'm still trying to figure out my career (e.g. what I want to do, where I'll end up)"

"I prefer to live close to transit even if it means I'll have a smaller home and live in a more crowded area"

"I'm already well-established in my field of work"

"We should raise the price of gasoline to reduce the negative impacts on the environment"
Tech-Savvy, Smartphone-Oriented

"I avoid doing things that I know my friends would not approve"

"Having Wi-Fi and/or 3G/4G connectivity everywhere I go is essential to me"

"Use smartphones to “decide which means of transportation, or combinations of multiple means, to use for a trip”"

"Use smartphones to “identify possible destinations (e.g. restaurant, café, etc.)”"
Most Recent Commute - Mode Choice

**Millennials**
- Drive alone: 68.9%
- Carpool: 9.2%
- Motorcycle or motor-scooter: 1.0%
- Work/school-provided shuttle: 3.9%
- Public Transit: 6.1%
- Uber/Lyft (on-demand ride services): 1.2%
- Bike or e-bike: 3.5%
- Walk or Skateboard: 4.2%
- Other: 2.0%

**Generation X**
- Drive alone: 73.6%
- Carpool: 7.6%
- Motorcycle or motor-scooter: 0.4%
- Work/school-provided shuttle: 0.7%
- Public Transit: 8.1%
- Uber/Lyft (on-demand ride services): 0.4%
- Bike or e-bike: 1.7%
- Walk or Skateboard: 4.1%
- Other: 3.3%

N=2160, unweighted sample
Multitasking while Traveling

**Millennials**

<table>
<thead>
<tr>
<th>Region</th>
<th>Multi-tasked while commuting</th>
<th>Didn't do anything while commuting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Valley</td>
<td>44.7%</td>
<td>55.3%</td>
</tr>
<tr>
<td>MTC</td>
<td>29.6%</td>
<td>70.4%</td>
</tr>
<tr>
<td>NorCal and Others</td>
<td>32.1%</td>
<td>67.9%</td>
</tr>
<tr>
<td>SACOG</td>
<td>33.3%</td>
<td>66.7%</td>
</tr>
<tr>
<td>SANDAG</td>
<td>37.0%</td>
<td>63.0%</td>
</tr>
<tr>
<td>SCAG</td>
<td>37.9%</td>
<td>62.1%</td>
</tr>
</tbody>
</table>

**Generation X**

<table>
<thead>
<tr>
<th>Region</th>
<th>Multi-tasked while commuting</th>
<th>Didn't do anything while commuting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Valley</td>
<td>51.3%</td>
<td>48.7%</td>
</tr>
<tr>
<td>MTC</td>
<td>40.8%</td>
<td>59.2%</td>
</tr>
<tr>
<td>NorCal and Others</td>
<td>50.0%</td>
<td>50.0%</td>
</tr>
<tr>
<td>SACOG</td>
<td>47.0%</td>
<td>53.0%</td>
</tr>
<tr>
<td>SANDAG</td>
<td>43.8%</td>
<td>56.3%</td>
</tr>
<tr>
<td>SCAG</td>
<td>47.5%</td>
<td>52.5%</td>
</tr>
</tbody>
</table>

N=2160, unweighted sample
A Uber-Friendly Generation?

Familiarity with and usage of On-demand ride services (e.g. Uber, Lyft)

- I have never heard of it
- I have heard of it but I’ve never used it
- I use it when traveling away from home
- I use it in my hometown/city
- I use it in my hometown & away from home

N=2160, unweighted sample
Impact of Last Uber/Lyft Trip on the Use of Other Means of Travel

### Millennials
- It reduced the amount of driving I did
- It reduced the amount of walking/biking I did
- It reduced my use of public transportation
- It increased the amount of walking/biking I did
- It increased my use of public transportation by providing a better way to access public transportation
- It increased my use of public transportation by providing a ride outside public transportation...
- It reduced the amount of walking/biking I did

### Generation X
- It reduced the amount of driving I did
- It reduced my use of public transportation
- It increased the amount of walking/biking I did
- It increased my use of public transportation by providing a better way to access public transportation
- It increased my use of public transportation by providing a ride outside public transportation...
- It reduced the amount of walking/biking I did

**Preliminary results, unweighted sample**
Preliminary Findings, and Next Steps

• Consistent with expectations, millennials are found to:
  – Drive less
  – Use ICT devices more often
  – Multitask during their commute
  – Have different personal attitudes (e.g. about the environment, technology...)
  – Adopt share mobility services more often

• How do their behaviors relate to...
  – Stage in life
  – Personal attitudes, lifestyles and living arrangements
  – Adoption of technology and mobility choices

• The study will provide insights into potential response of millennials to policies, and effect on future travel demand
Research Question 1

What are the relationships among travel behavior, personal preferences, adoption of technology and residential location of millennials?

Estimation of frequency models for the use of various means of travel, segmented respectively for millennials and Gen Xers:

- What factors affect the adoption of modes alternative to cars?
- What is the impact of the adoption of on-demand ride services (Uber/Lyft)?
- What is the impact of living arrangements vs. personal preferences?
- How do level of education, income and geographic location relate to millennials’ choices?
Research Question 2

Are the dominant trends of millennials’ travel permanent or temporary?

Estimation of a VMT model, which controls for sociodemographics, personal attitudes, lifestyles, and geographic location:
- What is the impact of stage of life (e.g. being married, presence of children) on millennials’ travel?
- What is the impact of major life events (new job, moving out of parents’ place, moving in with partner, etc.)?
- What is the impact of personal attitudes and preferences?
- How does the place where somebody grew up affect travel behavior?

Not possible to fully analyze these issues using NHTS, or other currently available travel survey data.
Research Question 3

How many millennials match the stereotype of *urbanite/socialite* common in the media?

Cluster analysis to analyze different profiles of people

**Stereotype common in the media:**
- Live in urban areas
- Have dynamic lifestyles
- Heavy users of social media
- Own zero (or few) cars
- Use public transportation
- Adopt new technologies

How many millennials vs. members of older generation fit in this profile?
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Thank you for your attention!

For more information, please contact:

Dr. Giovanni CIRCELLA
Institute of Transportation Studies, University of California, Davis

gcircella@ucdavis.edu