Middle Tennessee Transportation and Health Study

Tennessee Model User’s Group
November 14, 2013
History – Household Travel Surveys

- Household travel surveys are conducted in most major U.S. cities once every 10-15 years

- Until 2001, most surveys were one-day self-report ‘diary only’

- Since then, some surveys have added a GPS subsample to estimate trip underreporting

- Nashville is just the second region to integrate a health component (Atlanta was the first in 2001)
  - Accelerometers, GPS, Health Questions, Health Survey
Research Objectives

• Behavioral Data for Travel Demand Modeling
  ➢ Traditional 4-Step Model Update
  ➢ Activity Based Modeling Transition

• Baseline Data for General Policy Analysis
  ➢ Exposure to modes of active transportation

• Baseline Data & Initial Exploration of Links between Built Environment, Travel, & Health
  ➢ Socio-economics, travel behaviors, area type, physical activity, eating behaviors, health outcomes
Active Transportation & Obesity Rates


Obesity Prevalence Based on Self-Report (%)
Walk + Bike + Transit Trips (% of Total)
Nashville / Mid TN Sampling Plan

Diary Survey – 6000 Households - stratified by county, w/ transit OS
  • Collect one day travel data (diary) – all persons age 5 and older
  • Collect basic health information (six questions)

Health / PA Component – 600 Household Subsample
  • Stratified by Urbanicity (rural, suburban, urban)
  • Collect one day travel data (diary) – all persons age 5 and older
  • Collect four days of travel data (GPS) – all adults (16-75)
  • Collect four days of PA data (accelerometer) – HPA member only
  • Complete Health Survey – HPA member only (18-75)
Research Design - Sampling

Transit Oversampling
(All Households)

Area Type Stratification
(HPA households only)
Data Collection Process

1. Sample Selected
   • Address-based sample, stratified
   • Physical activity subsample, pre-assigned
   • Randomly assigned travel date

2. Households Recruited
   • Invitation to participate by mail
   • Encouraged web recruitment (CASI)
   • Telephone recruitment (CATI) also utilized

3. Materials Mailed to Households

4. Retrieval of Travel & Health / PA Data

5. Incentives Offered for web reporting & HPA
Welcome! The Middle Tennessee Transportation and Health Study is sponsored by the Nashville Metropolitan Planning Organization, the Clarksville Urbanized Area Metropolitan Planning Organization, and the Tennessee Department of Transportation. If you have received a participation letter, please Start Here to begin the survey.

Every day, thousands of people move through the middle Tennessee region—in cars, on buses, by foot, on bikes. To plan for the projects of tomorrow, we need to understand how you travel today. Your participation in this important survey will help improve the future of transportation for all of us.
# Middle Tennessee Transportation and Health Study

**Study sponsored by:**
Nashville Area MPO  
Clarksville Urbanized Area MPO  
Tennessee Department of Transportation

**Questions?**
www.middleTNstudy.com  
Toll-free hotline: 1-888-648-1756

**Travel Log For:**
- **Name:**
- **Travel Date:**
- **PIN:**
- **Other than yourself, HOW MANY people traveled with you?**

## Places Visited

### Place 1
- **Place Name:**
- **Address:**
- **City:**
- **What TIME did you ARRIVE?**
  - [ ] am
  - [ ] pm
- **How did you GET there?**
  - [ ] Walk
  - [ ] Bicycle
  - [ ] Auto/Truck
  - [ ] Bus/Train
  - [ ] Vanpool
  - [ ] Other: 
- **IF AUTO/TRUCK: How much did you PAY to park?**
  - [ ] Did not pay
  - [ ] Did not park
  - [ ] Other: 
- **IF BUS/TRAIN: How did you PAY for the trip?**
  - [ ] Cash: $ ____________
  - [ ] Pass: $ ____________
  - [ ] Transfer: $ ____________
  - [ ] Other: 
- **What did you DO there?**
  - [ ] List ALL the activities you did at this PLACE:
  - [ ] Did not leave

---

### Place 2
- **Place Name:**
- **Address:**
- **City:**
- **What TIME did you ARRIVE?**
  - [ ] am
  - [ ] pm
- **How did you GET there?**
  - [ ] Walk
  - [ ] Bicycle
  - [ ] Auto/Truck
  - [ ] Bus/Train
  - [ ] Vanpool
  - [ ] Other: 
- **IF AUTO/TRUCK: How much did you PAY to park?**
  - [ ] Did not pay
  - [ ] Did not park
  - [ ] Other: 
- **IF BUS/TRAIN: How did you PAY for the trip?**
  - [ ] Cash: $ ____________
  - [ ] Pass: $ ____________
  - [ ] Transfer: $ ____________
  - [ ] Other: 
- **What did you DO there?**
  - [ ] List ALL the activities you did at this PLACE:
  - [ ] Did not leave

---

### Place 3
- **Place Name:**
- **Address:**
- **City:**
- **What TIME did you ARRIVE?**
  - [ ] am
  - [ ] pm
- **How did you GET there?**
  - [ ] Walk
  - [ ] Bicycle
  - [ ] Auto/Truck
  - [ ] Bus/Train
  - [ ] Vanpool
  - [ ] Other: 
- **IF AUTO/TRUCK: How much did you PAY to park?**
  - [ ] Did not pay
  - [ ] Did not park
  - [ ] Other: 
- **IF BUS/TRAIN: How did you PAY for the trip?**
  - [ ] Cash: $ ____________
  - [ ] Pass: $ ____________
  - [ ] Transfer: $ ____________
  - [ ] Other: 
- **What did you DO there?**
  - [ ] List ALL the activities you did at this PLACE:
  - [ ] Did not leave

---

### Place 4
- **Place Name:**
- **Address:**
- **City:**
- **What TIME did you ARRIVE?**
  - [ ] am
  - [ ] pm
- **How did you GET there?**
  - [ ] Walk
  - [ ] Bicycle
  - [ ] Auto/Truck
  - [ ] Bus/Train
  - [ ] Vanpool
  - [ ] Other: 
- **IF AUTO/TRUCK: How much did you PAY to park?**
  - [ ] Did not pay
  - [ ] Did not park
  - [ ] Other: 
- **IF BUS/TRAIN: How did you PAY for the trip?**
  - [ ] Cash: $ ____________
  - [ ] Pass: $ ____________
  - [ ] Transfer: $ ____________
  - [ ] Other: 
- **What did you DO there?**
  - [ ] List ALL the activities you did at this PLACE:
  - [ ] Did not leave

---

### Place 5
- **Place Name:**
- **Address:**
- **City:**
- **What TIME did you ARRIVE?**
  - [ ] am
  - [ ] pm
- **How did you GET there?**
  - [ ] Walk
  - [ ] Bicycle
  - [ ] Auto/Truck
  - [ ] Bus/Train
  - [ ] Vanpool
  - [ ] Other: 
- **IF AUTO/TRUCK: How much did you PAY to park?**
  - [ ] Did not pay
  - [ ] Did not park
  - [ ] Other: 
- **IF BUS/TRAIN: How did you PAY for the trip?**
  - [ ] Cash: $ ____________
  - [ ] Pass: $ ____________
  - [ ] Transfer: $ ____________
  - [ ] Other: 
- **What did you DO there?**
  - [ ] List ALL the activities you did at this PLACE:
  - [ ] Did not leave

---

### Place 6
- **Place Name:**
- **Address:**
- **City:**
- **What TIME did you ARRIVE?**
  - [ ] am
  - [ ] pm
- **How did you GET there?**
  - [ ] Walk
  - [ ] Bicycle
  - [ ] Auto/Truck
  - [ ] Bus/Train
  - [ ] Vanpool
  - [ ] Other: 
- **IF AUTO/TRUCK: How much did you PAY to park?**
  - [ ] Did not pay
  - [ ] Did not park
  - [ ] Other: 
- **IF BUS/TRAIN: How did you PAY for the trip?**
  - [ ] Cash: $ ____________
  - [ ] Pass: $ ____________
  - [ ] Transfer: $ ____________
  - [ ] Other: 
- **What did you DO there?**
  - [ ] List ALL the activities you did at this PLACE:
  - [ ] Did not leave

---

**Tell us WHAT you DID at PLACE 1 and what TIME you LEFT:**

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**Continue with PLACES 7 – 13 on back**
Health Questions – All Persons / All Households

Q1 During the last 7 days, how much time did you usually spend sitting on a weekday? (Please report in hours; for example: 8.5 hours)

Q2 Which of the following statements best describes how physically active you are in a typical week.
   1. I rarely or never do any physical activity.
   2. I do some light or moderate physical activities.
   3. I do some vigorous physical activities.

Q3 In general, how healthy is your overall diet?
   1. excellent
   2. very good
   3. good
   4. fair
   5. poor

Q4 Would you say that, in general, your health is:
   1. excellent
   2. very good
   3. good
   4. fair
   5. poor

Q5 About how much do you weigh without shoes?

Q6 About how tall are you without shoes?
Health & Physical Activity Component

• 10% of all households participate in health study
  ➢ One adult (18-75) to receive a GPS and accelerometer
  ➢ All other adults (16-75) receive GPS
  ➢ Wear for 4 days

• Devices shipped with diaries and instructions
• First day to coincide with ‘assigned’ travel date
• 60+ question health survey available once retrieval complete and equipment returned
  ➢ survey based on BRFSS, IPAQ, & SF-12

• Incentive offered for completion of all elements
GPS and Physical Activity Data Example
Health Survey Components / Domains – HPA Person

Characteristics of the HHs neighborhood
• Neighborhood Food Environment, Infrastructure for walking & Traffic hazards

Individual-level behaviors and health status (food, physical activity, health quality, and chronic conditions)
• Meals and Snacks Ate (see Health Survey Reminder Card, next slide)
• Food Away from Home Frequency

International physical activity questionnaire - Short last 7 days self-administered format
• Moderate and Vigorous Activity Questions – Time Spent

International physical activity questionnaire - Long last 7 days self-administered format
• Part 2 - Transportation and Physical Activity, Recreation
• Part 4 - Sport and Leisure-Time Activity
• Part 5 - Time Spent Sitting

Health – Related Quality of Life
Chronic Health Conditions
Health Survey / Reminder Card – HPA Person

Middle Tennessee Transportation and Health Study

After you return your GPS and pedometer like devices we will contact you again to complete a brief health survey. As part of the survey we will ask you about the meals and snacks that you ate just on the days that you were wearing the equipment that we sent you. To make recalling that information easier we are including this card and ask that at the end of each day, you complete this general food diary card.

Keep this card handy for when it’s time to complete the health survey.

<table>
<thead>
<tr>
<th></th>
<th>DAY 1</th>
<th>DAY 2</th>
<th>DAY 3</th>
<th>DAY 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of meals you ate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of meals you ate that were prepared at home</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of meals you ate that were prepared at a fast food restaurant</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total number of snacks you ate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of meals or snacks that contained fruits or vegetables</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Getting Households to Complete

Web participation was very high
  – Recruitment = 52% (web incentive, advance notification schedule)
  – Retrieval = 50% (web incentive, reminder schedule)
  – Health Survey = 61%

Complexity of health component created some challenges
  – Additional material preparation, matching devices and surveys to individuals, specifying what to return and what to keep
  – Higher than typical refusal rates (23% compared to 12-14%)
  – Many ‘soft refusals’
  – 90% of HPA households that reported travel and returned equipment also completed the health survey
Lessons Learned

• Offer multiple modes to participate (web, phone, perhaps mail back)

• Advanced mailings with opportunity to self recruit prior to CATI calling works

• Address-based sampling is effective in reaching targeted populations (geography, SES, likely transit users)

• Urban household completed at a lower rate than suburban and rural households (in the HPA sample)

• HPA households in which the household member who agreed to do the study was the same person randomly assigned as the HPA person completed at a higher rate

• We overestimated completion rate (at 60%) for HPA households for ALL components (i.e., GPS, accelerometer, and health survey for one adult and GPS for other adults) - more complicated and burdensome than anticipated

• The health survey proved to be less burdensome than expected
Package for three-person household
Data Deliverable Includes:

• Main Survey Data (HH, Persons, Vehicle, Places, 6HQs)
• Health/PA Subsample Data
  – Health Questionnaire
  – GPS Trips and Trip Summary
  – GPS Trip Modes and Trip Mode Summary
  – GPS Points
  – Minutes of Activity
  – Bout Summary (includes MV, Vigorous, and Not Worn Bouts)
  – Activity Monitor Hours Worn by Day
  – Total Minutes by Activity Bin
  – Minutes by Activity Bin by Day and Activity Bin by Day by Mode
  – Bout Summary by Person Total and by Day
Final Data Collection Results – Main Survey

• Participation by County

<table>
<thead>
<tr>
<th>County</th>
<th>Actual</th>
<th>Target</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Davidson</td>
<td>2,231</td>
<td>2,148</td>
<td>105%</td>
</tr>
<tr>
<td>Maury</td>
<td>316</td>
<td>262</td>
<td>122%</td>
</tr>
<tr>
<td>Robertson</td>
<td>240</td>
<td>200</td>
<td>122%</td>
</tr>
<tr>
<td>Rutherford</td>
<td>883</td>
<td>796</td>
<td>112%</td>
</tr>
<tr>
<td>Sumner</td>
<td>522</td>
<td>504</td>
<td>105%</td>
</tr>
<tr>
<td>Williamson</td>
<td>596</td>
<td>538</td>
<td>112%</td>
</tr>
<tr>
<td>Wilson</td>
<td>376</td>
<td>352</td>
<td>109%</td>
</tr>
<tr>
<td>Nashville Area MPO Total</td>
<td>5,164</td>
<td>4,800</td>
<td>108%</td>
</tr>
<tr>
<td>Cheatham</td>
<td>124</td>
<td>100</td>
<td>124%</td>
</tr>
<tr>
<td>Dickson</td>
<td>106</td>
<td>100</td>
<td>106%</td>
</tr>
<tr>
<td>Montgomery</td>
<td>862</td>
<td>900</td>
<td>96%</td>
</tr>
<tr>
<td>Outer Counties Total</td>
<td>1,092</td>
<td>1,100</td>
<td>99%</td>
</tr>
<tr>
<td>Grand Total</td>
<td>6,256</td>
<td>5,900</td>
<td>106%</td>
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</tbody>
</table>
Final Data Collection Results – Main Survey

• Participation by County
Final Data Collection Results – Main Survey

• Mode of Data Collection

<table>
<thead>
<tr>
<th>County</th>
<th>Retrieval</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Phone</td>
<td>Web</td>
<td></td>
</tr>
<tr>
<td>Davidson</td>
<td>47%</td>
<td>53%</td>
<td></td>
</tr>
<tr>
<td>Maury</td>
<td>52%</td>
<td>48%</td>
<td></td>
</tr>
<tr>
<td>Robertson</td>
<td>58%</td>
<td>42%</td>
<td></td>
</tr>
<tr>
<td>Rutherford</td>
<td>51%</td>
<td>49%</td>
<td></td>
</tr>
<tr>
<td>Sumner</td>
<td>54%</td>
<td>46%</td>
<td></td>
</tr>
<tr>
<td>Williamson</td>
<td>45%</td>
<td>55%</td>
<td></td>
</tr>
<tr>
<td>Wilson</td>
<td>45%</td>
<td>55%</td>
<td></td>
</tr>
<tr>
<td><strong>Nashville Area MPO Total</strong></td>
<td><strong>49%</strong></td>
<td><strong>51%</strong></td>
<td></td>
</tr>
<tr>
<td>Cheatham</td>
<td>42%</td>
<td>58%</td>
<td></td>
</tr>
<tr>
<td>Dickson</td>
<td>49%</td>
<td>51%</td>
<td></td>
</tr>
<tr>
<td>Montgomery</td>
<td>44%</td>
<td>56%</td>
<td></td>
</tr>
<tr>
<td><strong>Outer Counties Total</strong></td>
<td><strong>44%</strong></td>
<td><strong>56%</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>47%</strong></td>
<td><strong>53%</strong></td>
<td></td>
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</tbody>
</table>
Final Data Collection Results – Main Survey

• Response Rates by County & Stage

<table>
<thead>
<tr>
<th>County</th>
<th>Recruitment Rate</th>
<th>Retrieval Rate</th>
<th>Final Response Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Davidson</td>
<td>5.86%</td>
<td>63.14%</td>
<td>3.70%</td>
</tr>
<tr>
<td>Maury</td>
<td>4.46%</td>
<td>57.37%</td>
<td>2.56%</td>
</tr>
<tr>
<td>Robertson</td>
<td>5.44%</td>
<td>59.12%</td>
<td>3.22%</td>
</tr>
<tr>
<td>Rutherford</td>
<td>5.59%</td>
<td>62.62%</td>
<td>3.50%</td>
</tr>
<tr>
<td>Sumner</td>
<td>5.22%</td>
<td>66.04%</td>
<td>3.45%</td>
</tr>
<tr>
<td>Williamson</td>
<td>7.29%</td>
<td>67.23%</td>
<td>4.90%</td>
</tr>
<tr>
<td>Wilson</td>
<td>7.29%</td>
<td>66.43%</td>
<td>4.85%</td>
</tr>
<tr>
<td>Cheatham</td>
<td>8.32%</td>
<td>69.66%</td>
<td>5.79%</td>
</tr>
<tr>
<td>Dickson</td>
<td>5.50%</td>
<td>63.32%</td>
<td>3.48%</td>
</tr>
<tr>
<td>Montgomery</td>
<td>5.43%</td>
<td>64.26%</td>
<td>3.49%</td>
</tr>
<tr>
<td>Overall</td>
<td>5.91%</td>
<td>63.53%</td>
<td>3.75%</td>
</tr>
</tbody>
</table>
## Final Data Collection Results – Main Survey

### Variable Item Non-Response Rates

<table>
<thead>
<tr>
<th>Non-response Items</th>
<th>Unweighted</th>
<th></th>
<th>Weighted</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percentage</td>
<td>Frequency</td>
<td>Percentage</td>
</tr>
<tr>
<td>Household Income</td>
<td>718</td>
<td>13.9%</td>
<td>79,092</td>
<td>13.6%</td>
</tr>
<tr>
<td>Home Ownership</td>
<td>21</td>
<td>0.4%</td>
<td>2,200</td>
<td>0.4%</td>
</tr>
</tbody>
</table>

### Person File

<table>
<thead>
<tr>
<th>Person File</th>
<th>Unweighted</th>
<th></th>
<th>Weighted</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percentage</td>
<td>Frequency</td>
<td>Percentage</td>
</tr>
<tr>
<td>Age</td>
<td>335</td>
<td>3.0%</td>
<td>42,545</td>
<td>2.8%</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td>236</td>
<td>2.1%</td>
<td>39,758</td>
<td>2.7%</td>
</tr>
<tr>
<td>Disability</td>
<td>49</td>
<td>0.4%</td>
<td>3,530</td>
<td>0.2%</td>
</tr>
<tr>
<td>Employment</td>
<td>129</td>
<td>1.4%</td>
<td>14,837</td>
<td>1.3%</td>
</tr>
<tr>
<td>Volunteer</td>
<td>156</td>
<td>1.7%</td>
<td>22,190</td>
<td>1.9%</td>
</tr>
<tr>
<td>Status of unemployment</td>
<td>12</td>
<td>0.4%</td>
<td>685</td>
<td>0.2%</td>
</tr>
<tr>
<td>Days Worked per week</td>
<td>196</td>
<td>3.4%</td>
<td>21,211</td>
<td>2.8%</td>
</tr>
<tr>
<td>Mode of travel to work</td>
<td>55</td>
<td>1.0%</td>
<td>5,499</td>
<td>0.8%</td>
</tr>
<tr>
<td>Flexible work schedule</td>
<td>203</td>
<td>3.5%</td>
<td>26,665</td>
<td>3.5%</td>
</tr>
<tr>
<td>Employer provided parking</td>
<td>203</td>
<td>3.5%</td>
<td>23,089</td>
<td>3.0%</td>
</tr>
<tr>
<td>Employer subsidized transit pass</td>
<td>675</td>
<td>11.6%</td>
<td>98,353</td>
<td>12.8%</td>
</tr>
<tr>
<td>Level of Education</td>
<td>192</td>
<td>1.7%</td>
<td>28,177</td>
<td>1.9%</td>
</tr>
<tr>
<td>Student Status</td>
<td>69</td>
<td>0.6%</td>
<td>9,401</td>
<td>0.6%</td>
</tr>
</tbody>
</table>
Final Data Collection Results – Health Subsample

• Participation by Area Type

<table>
<thead>
<tr>
<th>Household Type</th>
<th>Retrieved &amp; Health</th>
<th>Retrieved w/ GPS</th>
<th>Retrieved w/ GPS &amp; Accelerometer</th>
<th>Retrieved w/ GPS &amp; Health</th>
<th>Retrieved w/ GPS, Accelerometer &amp; Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>107</td>
<td>98</td>
<td>94</td>
<td>96</td>
<td>92</td>
</tr>
<tr>
<td>Suburban</td>
<td>216</td>
<td>214</td>
<td>206</td>
<td>204</td>
<td>196</td>
</tr>
<tr>
<td>Urban</td>
<td>302</td>
<td>283</td>
<td>270</td>
<td>268</td>
<td>260</td>
</tr>
<tr>
<td>Total</td>
<td>625</td>
<td>595</td>
<td>570</td>
<td>568</td>
<td>548</td>
</tr>
</tbody>
</table>
Final Data Collection Results – Health Subsample

- Participation by Area Type
Nashville Area Drivers & Vehicles

- **97%** of households have a **licensed driver**
- **6%** of households are **carless**
- **19%** of **vehicles** are less than **5 years** old, **46%** are **10 years** or older
- **96%** are powered by **gasoline**, **2%** diesel, **2%** alternative
Nashville Area Travel Behaviors

- **Households** make on average 9.22 trips per day
- **Individuals** make on average 4.25 trips per day
- 70% of **diary trips** were made by a **driver**, 18% by a **passenger**, 7% on **foot**
- 6% of **urban** residents use **transit** at least once per week, compared with 2% in **rural** areas
- 12% of **urban** residents **bicycle**, and 77% **walk** at least once per week for transportation purposes
Nashville Area Commuting

• **87%** of workers **drive** to work
• **7%** of workers **walk** to work
• **Employers provide parking** for **86%** of workers
• **Employers provide transit pass** for **14%** of workers
• **98%** park at jobsite
• **3%** of workers **pay to park**
Nashville Area Self-Reported Health

• 10% of residents report rarely being physically active, 30% report having vigorous activity each week

• 2% of adults with poor health report being vigorously active, compared with 55% of those in excellent health

• 39% of adults in poor health obese, compared with 5% of adults in excellent health

• 37% of inactive adults are obese, compared with 15% of vigorously active adults

• 41% of adults with a poor diet are obese, compared with 8% of adults
Implications for Policy-makers

- More people walk and bike than you think:
Implications for Policy-makers

- Work commuting is not the predominant reason for travel:

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Expanded Trips</th>
<th>Percent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBO</td>
<td>1,131,176</td>
<td>20%</td>
</tr>
<tr>
<td>HBPD</td>
<td>387,529</td>
<td>7%</td>
</tr>
<tr>
<td>HBSch</td>
<td>510,161</td>
<td>9%</td>
</tr>
<tr>
<td>HBShp</td>
<td>652,318</td>
<td>12%</td>
</tr>
<tr>
<td>HBW</td>
<td>1,057,738</td>
<td>19%</td>
</tr>
<tr>
<td>NHBO</td>
<td>1,121,506</td>
<td>20%</td>
</tr>
<tr>
<td>NHBW</td>
<td>761,280</td>
<td>14%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5,621,708</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>
Implications for Policy-makers

- Health is influenced by BMI
- BMI is influenced by diet and physical activity
- Levels of activity are influenced by personal travel behavior
- Personal travel behavior is influenced by location and household characteristics
  - Still analyzing data to know just how much