Why Care about Walking?

A Celebration of the NHTS

by

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A Caution

- This PowerPoint presentation was developed by the author based on preliminary data being reviewed for acceptance by the FHWA and the BTS. The information has not been peer-reviewed nor published and should be considered a work in progress. It is a *draft*, and *not for circulation*. 
Growth in “Overweight”

Growth trend for percent of Americans ‘overweight’

(40% overall growth)
Growth in VMT
Growth in “Overweight”

Growth trend for annual household vehicle miles of travel
(50% overall growth)

Growth trend for percent of Americans ‘overweight’
(40% overall growth)
The Role of Walking
Why Should We Care?

• As transportation patterns change, we can see major shifts in VMT
• As patterns change, VMT and vehicle dependence increases, and the role of walking decreases
• There are massive public health implications of this
A Short Agenda

• Part One: Looking for Couch Potatoes and for Active Walkers

• Part Two: Looking for variables that DO explain change in walking patterns
  – Establishing the theory
  – Looking for exceptions
  – Suggesting implications
Variables that Influence Taking a Walk

• Most variable did not influence the propensity
  – To be an “Active Walker”
  – Or to be a “Couch Potato”

• Variables examined included
  – Gender
    • Female strong in utilitarian walking
    • Male strong in exercise walking
  – Income
  – Race
We are *all* supposed to walk once a day.
Some variables were explanatory: Housing Type and ‘Active Walkers’
Transit Ridership and Percent ‘Active Walkers’

Frequency of Transit Use

Percent Active Walkers

Twice/week | Once/week | Some | Once | Never

Bar chart showing the relationship between frequency of transit use and percent of active walkers.
Transit Ridership and Percent ‘Couch Potatoes’

Frequency of Transit Use

- Twice/week
- Once/week
- Some
- Once
- Never

Percent Never Walk
Car Ownership and Percent ‘Active Walkers’

Auto in Household

No Car | 1 Car | 2 Cars

Percent Active Walkers

0 2 4 6 8 10 12 14 16 18 20
Car Ownership and Percent ‘Couch Potatoes’

Percent Never Walk

No Car | 1 Car | 2 Cars
---|---|---
Autos In Household

Percent Never Walk

1. Car Ownership and Percent ‘Couch Potatoes’

2. The graph shows the percent ‘Couch Potatoes’ for households with different numbers of autos.

3. The highest percent ‘Couch Potatoes’ is for households with 1 car.

4. The percent ‘Couch Potatoes’ decreases as the number of cars in the household increases.

5. This suggests that households with more cars are less likely to be ‘Couch Potatoes.’
Education Level and Percent ‘Couch Potatoes’
Part Two: Variables Which Affect Utilitarian Walking

• The previous section was based on a question which encouraged answering concerning
  – “Just taking a walk”
  – Walking for exercise
  – And allowed for other walk trips to be reported

• Now, we look at walk trips taken for a purpose, and recorded as a ‘mode share’ of total trip making
The Basic Relationships

Percent Mode Share

Private: 88.6%
Public: 2.9%
Walk/Bike: 8.5%
Utilitarian Walking By MSA

Percent to Walk/Bike

Urban: 12%
Suburban: 8%
Exurban: 6%
Effect of Income Level on Walking

Income Level of Household

Percent of Households to Walk/Bike

Lowest - Highest

Data points show a trend where the percentage of households walking or biking decreases as income level increases.
Effect of Auto Ownership on Walking

Percent to Walk/Bike

Lowest Income

- No Car
- 1 Car
- 2 Cars
- 3 Cars
Effect of Auto Ownership on Walking, by Income Level

<table>
<thead>
<tr>
<th>Car Ownership</th>
<th>Percent to Walk/Bike</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Car</td>
<td>Highest Income</td>
</tr>
<tr>
<td>1 Car</td>
<td>Lowest Income</td>
</tr>
<tr>
<td>2 Cars</td>
<td></td>
</tr>
<tr>
<td>3 Cars</td>
<td></td>
</tr>
</tbody>
</table>

Graph showing the percentage of people who walk or bike based on car ownership and income level.
Effect of Car Ownership on Walking
Holding Household Size Constant at Two Adults

Percent to Walk/Bike:

- No Car: 40%
- 1 Car: 10%
- 2 Cars: 5%
- 3 Cars: 0%
Mode Share to Walk by Trip Purpose

Legend: Mode share to walk/bike by households with auto
Effect of Auto Ownership on Mode Share to Walk

Legend: Mode share to walk/bike by households with and without auto
Auto Ownership, VMT and Walking

- No Car
- 1 Car
- 2 Cars
- 3 Cars

VMT Per Driver

Upper Income
Increase in Walking is Associated with Decrease in VMT

VMT production is inversely related to mode share to walk/bike
References/Sources

• All data from the 2001 National Household Travel Survey, except as follows:
• Slide 3. The concept of a curve showing percent of Americans overweight with a sharp jump in the very 1980s was presented by Crister, in *Fat Land*, 2003. It was adapted from the American Journal of Clinical Nutrition. The data points between 1993 and 2001 were taken from the CDC website. The scale should be described as the percent of Americans with a body-mass index of over 25.
• Slide 4. The curve showing the percent increase in household VMT was calculated by the author based on a trend of data between 1969 and 1990 as reported by Hu and Young, in *Summary of Travel Trends, 1995 National Personal Transportation Survey*, page 13. VMT per household reported in 1995 and 2001 were adjusted down by the author to be consistent with the reporting system utilized between 1969 and 1990, which is the primary time focus of the chart. The reader is cautioned not to use the scale of the chart literally for the VMT levels of 1995 and 2001. The chart as it would look based on the present reporting system is presented on the following slide.
• Slide 25. The VMT calculations were drawn from the 1995 NTPS Survey, examining an urbanized population. They are being reviewed and updated with 2001 data at this time.
This table shows the trend in Vehicle Miles of Travel per household, expressed in a scale based on the reporting system used in years 1995 and 2001.

In 2001, the survey revealed that VMT risen to 2189 per household.
Special Thanks to

- The NHTS Team…
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