Overview of the Puget Sound Transportation Panel Survey, 1989-1997

Neil Kilgren
August 6, 1998
OUTLINE

● Introduction
  – What is the PSTP?
  – Original Objectives - 1988

● Overview of PSTP
  – Unique Characteristics of PSTP
  – Sample Sizes
  – Attrition Rates

● Characteristics of Panel Members
  – Demographics
  – Trip-making
WHAT IS THE PSTP?

- First Urban, General Purpose Travel Panel Survey in the U.S.
- Begun in 1989
- Seven waves
- Sample size:
  - approx. 1,700 households
  - approx. 3,400 persons 15 years and older
ORIGINAL OBJECTIVES - 1988

- Current Region-Wide Population Survey
  - Employment
  - Work Characteristics
  - Household Composition
  - Vehicle Availability

- Better Understanding of:
  - Attitudes Toward Alternate Modes
  - Tripmaking Behavior
  - Travel Decision Making Processes
Monitor Changes in Travel Patterns
  - Mode Choice
  - Travel Behavior
  - Responses to Changes in Transportation System

Data for Improved Model Development
  - Better Prediction of:
    • Number of Trips - Peak & Off-Peak
    • Trip Characteristics - Purpose & Mode
    • Mode Shifts Over Time
UNIQUE CHARACTERISTICS OF PSTP

- Longitudinal -- Merges Cross-Section and Time Series Data
- Direct Measurement of Individual Changes
- Smaller Sample Size
- Requires Strategy for Attrition/Replacement of Sample Households
**PSTP SAMPLE SIZES**

<table>
<thead>
<tr>
<th></th>
<th>Wave 1</th>
<th>Wave 2</th>
<th>Wave 3</th>
<th>Wave 4</th>
<th>Wave 5</th>
<th>Wave 6</th>
<th>Wave 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Households</td>
<td>1,712</td>
<td>1,784</td>
<td>1,596</td>
<td>1,906</td>
<td>1,769</td>
<td>1,753</td>
<td>1,990</td>
</tr>
<tr>
<td>Persons</td>
<td>3,392</td>
<td>3,658</td>
<td>3,440</td>
<td>3,855</td>
<td>3,735</td>
<td>3,487</td>
<td>4,131</td>
</tr>
<tr>
<td>Trips</td>
<td>30,839</td>
<td>32,653</td>
<td>28,868</td>
<td>32,477</td>
<td>30,638</td>
<td>29,505</td>
<td>33,760</td>
</tr>
</tbody>
</table>

- 468 (27%) of the original Wave 1 households were in Wave 7
- Surveys conducted in the fall of each year, except Wave 6, conducted in Spring/Summer of 1996
## HOUSEHOLD CHARACTERISTICS

<table>
<thead>
<tr>
<th>PSTP</th>
<th>1990 Census</th>
</tr>
</thead>
<tbody>
<tr>
<td>HH size:</td>
<td>2.49</td>
</tr>
<tr>
<td>Vehicles:</td>
<td>2.12</td>
</tr>
<tr>
<td>Employed</td>
<td>1.24</td>
</tr>
</tbody>
</table>

| HH size:   | 2.49        |
| Vehicles:  | 1.81        |
| Employed   | 1.30        |

[Graph showing trends in Household size, Vehicles, and Employed from 1989 to 1997.]

- **Household size**
- **N. of Vehicles**
- **N. of Employed**
HOUSEHOLD INCOME

Median Income
- Census: $34,820 vs. PSRC 96 Est. $48,067

PSRC Est. | 1996 Panel
---|---
$75,000+ | 25% | 15%
$55-75,000 | 15% | 10%
$45-55,000 | 10% | 7%
$35-45,000 | 10% | 6%
$25-35,000 | 10% | 6%
$15-25,000 | 5% | 5%
$10-15,000 | 5% | 4%
< $10,000 | 5% | 3%
< $10,000 | 0% | 2%

Puget Sound Regional Council
PSRC
LIFECYCLE

PSTP
• Age: 45.1
• Females: 52.7%
• Males: 47.3%

Census
• Age: 41.4
• Females: 50.4%
• Males: 49.6%
MODE OF TRAVEL - 1997

ALL TRIPS

WORK TRIPS
DISTANCE TO WORK - 1997

- Various locations
- Work at/out of home
- < 1 mile
- 1-5 miles
- 5-10 miles
- 10-15 miles
- 15-20 miles
- 20-25 miles
- 25-30 miles
- 30+ miles
- Out of state
JOURNEY TO WORK -- 1997

- More than 1/4 of Panel members work in Seattle -- 9% in downtown Seattle.
- 16% work in south King County.
- 12% work in Tacoma -- nearly 3/4 of all those who work in Pierce County.
CHANGE in MODE to WORK, 1990-1996
Transportation Panel Survey (Wave 7)

Personal Daily Travel Choices Survey (ITS Supplemental)

Monica Welle
August 6, 1998
ITS Supplemental

- Sponsored by Regional Council, WSDOT, & USDOT
- Wave 7 Analysis by Regional Council & Volpe Center
- Additional Analysis with Wave 9 (1999)
Survey Results

- Examples of Questions & Results
- Unweighted Results
- Individual Responses
Survey Questions

- Travel Behavior
- Use of Technology
- Attitudes Related to Transportation
Travel to Work/School

- Q: Think about the means of travel you most often use when you go to your workplace. Check all the types of transportation you use as part of your way of getting there.

<table>
<thead>
<tr>
<th>Vehicle</th>
<th>88.6%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus</td>
<td>15.6%</td>
</tr>
<tr>
<td>Walk</td>
<td>9.1%</td>
</tr>
<tr>
<td>Bike</td>
<td>3.4%</td>
</tr>
<tr>
<td>Ferry</td>
<td>2.9%</td>
</tr>
<tr>
<td>Vanpool</td>
<td>2.1%</td>
</tr>
</tbody>
</table>
Work/School Schedule

Q: Which of the following statements best describes your working hours or the times you have to be at school or college? (Check only one)

- No flexibility 46.8%
- Not more than 30 minutes 28.0%
- Free to adjust schedule 25.2%
Travel Responses (% by vehicle users)

<table>
<thead>
<tr>
<th>Response</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Route Changes</td>
<td>50%</td>
</tr>
<tr>
<td>Different Route</td>
<td>45%</td>
</tr>
<tr>
<td>Changed Time</td>
<td>40%</td>
</tr>
<tr>
<td>Other Stops</td>
<td>35%</td>
</tr>
<tr>
<td>Didn't Make Trip</td>
<td>30%</td>
</tr>
<tr>
<td>Different Means</td>
<td>25%</td>
</tr>
<tr>
<td>None</td>
<td>20%</td>
</tr>
</tbody>
</table>

Q: Have you done any of the following for your trip to work/school as a result of learning about traffic problems before you left for your trip?
Q: Have you done any of the following for your trip to work/school as a result of learning about bus/ferry problems before you left for your trip?
Q: Which of the following do you personally use at least once a week on average? (Check all that apply)
Q: Which of the following do you carry with you at least ten times a month? (Check all that apply)

- Cell Phone: 27.9%
- Pager: 11.8%
- Computer w/Modem: 5.2%
Q: Before you go to or leave from work or school, which of the following do you do most days? (Check all that apply)
• I don’t know where to call to get **telephone** traffic reports.
• I don’t know where to find Puget Sound area transit info on the **WWW**.
Using the WWW to check on Puget Sound area traffic problems is **helpful** in making travel decisions.

Puget Sound area traffic reports on the WWW are **easy** to obtain.
Summary

- Sample Questions & Results
- More Analysis in Next Couple Months
- Preliminary Findings:
  - Access to Work/School Computer +
  - Use of Transportation Information -
    - Radio, TV, etc.,
    - Internet and Telephone