Puget Sound Travel Surveys


Webpage: https://www.psrc.org/household-travel-survey-program
**2017-2021 Puget Sound Regional Household Travel Survey Program**

**Goal:** The surveys seek to capture quality, regionally representative data for residents’ travel behavior on a typical weekday.

**6-year program, 3 waves**
- 2017 and 2019 completed
- 2021 planned

**Motivations**
- Frequent snapshots, ability to combine years
- “Smother” budgets and labor roles
- Opportunities for add-ons
The travel survey data

Who is traveling?
Where they are going?
When they travel?
Why they are going?
How they get there?

Planning/policy questions:
• How many car trips does the average resident make?
• How does transit use vary by income and race?
• What are the peak travel hours by trip purpose?
• How often do workers typically telecommute?
What are some uses of the data?

Analysis
- Most recent travel patterns
- Trends: comparisons with previous surveys

Model development
- SoundCast
  - Activity-based (travel) model system
  - Estimate activity/travel choice models
- UrbanSim
  - Parcel-based land use model system
  - Estimate residential location choice model
2017 and 2019 survey samples

Representative samples

2017 sample
• 3,275 households (0.22%)
• Redmond & Seattle add-ons
• 9 weeks in April-June 2017

2019 sample
• 3,044 households (0.19%)
• Seattle add-on
• 7 weeks in April-June 2019

Sampling & Stratifications
• Random address sample from USPS
• Targeted areas for oversampling
  • Low-income, no vehicles, renters, young, Regional Growth Centers
  • Lower expected response rates including rural areas
## Survey design

### Two-part survey
1. HH info
2. Travel diary

### Two groups

<table>
<thead>
<tr>
<th>Group</th>
<th>2017</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group 1:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smartphone</td>
<td>695 HHs* (21%)</td>
<td>1047 HHs* (34%)</td>
</tr>
<tr>
<td>up to 7 days</td>
<td>34,193 trips (66%)</td>
<td>59,853 trips (82%)</td>
</tr>
<tr>
<td><strong>Group 2:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Online/phone</td>
<td>2580 HHs* (79%)</td>
<td>1997 HHs* (66%)</td>
</tr>
<tr>
<td>1 day only</td>
<td>17,468 trips (34%)</td>
<td>13,002 trips (18%)</td>
</tr>
</tbody>
</table>

* HHs = households
2019 Survey result highlights
Households in the region that received home delivery/service on an average weekday

<table>
<thead>
<tr>
<th>Category</th>
<th>2017</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Package</td>
<td>20%</td>
<td>30%</td>
</tr>
<tr>
<td>Grocery</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>Food/meal</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>Home service</td>
<td>4%</td>
<td>5%</td>
</tr>
</tbody>
</table>

People in the region that shopped online on an average weekday (regardless if a purchase was made)

- Up to 30min: 14% (2017) vs 15% (2019)
- 30 to 60min: 5% (2017) vs 7% (2019)
- More than 60min: 3% (2017) vs 2% (2019)
Zero-vehicle households within or outside of a Regional Growth Center (RGC)
New question in 2019:
Factors in decision to move from prior home
(if prior home was in WA and within past 5yrs)

**Displacement factors**

**Housing cost:** could no longer afford previous residence b/c of an increase in rent or housing costs

**Income change:** could no longer afford previous residence b/c of a change in income or finances

**Community:** friends, family, or cultural community were leaving the area

**Forced:** forced to move out (e.g., bldg demolished/renovated, evicted by landlord, foreclosure)

**Household change:** changes in household size, establish own household

**More space:** needed more space

**Less space:** needed less space

**Employment:** employment or commuting considerations (e.g., take new job or shorten commute)

**Schools:** access to a different K-12 school

**Crime:** concerns about safety or crime

**Upgrade:** to upgrade to a better quality home or to stop renting and buy a home

**Other:** Other reason
Displacement factors by county of prior home

Displacement factors reported:

Housing cost
- Top for region and counties
- ~60% of displaced HHs, or
- ~16% of all movers
- Similarly high across counties

Forced, income change, community
- Similarly important for region
- ~16-21% of displaced HHs, or
- ~4-6% of all movers

Households that reported one or more displacement factors (% of recent movers)
Displacement factors by household size, housing tenure

- Households that reported one or more displacement factors (% of recent movers):
  - 1 person: 33%
  - 2 people: 22%
  - 3+ people: 24%
  - Own: 15%
  - Rent: 35%
Factors in decision to move by race and ethnicity

Positive factors (% of recent movers)

- Upgrade: 30% People of Color, 42% Non-Hispanic White
- More space: 29% People of Color, 46% Non-Hispanic White
- Better schools: 2% People of Color, 16% Non-Hispanic White
- Less crime: 11% People of Color, 17% Non-Hispanic White

Displacement factors (% of recent movers)

- Housing cost: 19% People of Color, 11% Non-Hispanic White
- Forced: 9% People of Color, 3% Non-Hispanic White
- Income change: 6% People of Color, 5% Non-Hispanic White
- Community: 3% People of Color, 2% Non-Hispanic White
Displacement factors by areas of displacement risk

Households that reported one or more displacement factors (% of recent movers)

- Higher: 35%
- Moderate: 26%
- Lower: 17%

Areas of Displacement Risk

https://www.psrc.org/displacement-risk-mapping
Demo of Household Travel Survey Data Explorer App

http://dataexplorer.psrc.org/household-travel-survey
2021 and other surveys

• Prepare for 2021 survey & beyond
  • Use same survey instrument (with minor edits)
  • Expect similar sample size, increase smartphone sample

• Revise 2017 weights, update 2019 weights
• Estimate models with 2017-2019 data

• U of Washington collaborations
  • COVID-19 Mobility Survey
  • Employer-based data collection
Thank you.

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