Puget Sound Travel Studies


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

6-year program, 3 waves
• 2017 data made available in March
• 2019 scoping now, work begin by Fall
• 2021 planned

Motivations
• Frequent snapshots
• “Smother” budgets
• Predictable labor roles
• Predictable opportunities for add-ons
The surveys answer the 5 W’s & H:

WHO?
Household (HH) & person (Per) socio-demographics

WHAT?
HH vehicles, homes, parking; Per employment/school status

WHERE?
HH home & Per work/school locations; Trip origins/destinations

WHEN?
HH relocations; Trip/activity times

WHY?
HH location factors; Trip purpose; Attitudes

HOW?
Usual ways to commute; Trip modes; Deliveries
What are some uses of the data?

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

**Model development**
- SoundCast
  - Activity-based (travel) model
  - Estimate models of activity/travel choices
- UrbanSim
  - Parcel-based land use model
  - Estimate residential location choice model
2017 Survey Sample

Representative sample
- 3,285 HHs (0.22% sampling rate)
- Includes Redmond & Seattle add-ons
- 9 weeks in April-June 2017

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
2017 Survey Design

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

Two groups
1. Smartphone, up to 7 days:
   705 HHs (21%) 
   35,024 trips (67%) 
2. Online or phone, 1 day only:
   2580 HHs (79%) 
   17,469 trips (33%)
2017 Survey Result Highlights
How important were each of these factors when choosing to move to where you live now?

- Affordability
- Walkable neighborhood
- <30-min work commute
- Have space/separation from others
- Near public transit
- Near highways
- Near family/friends
- School quality (K-12)
- Change in family size/partner status

% Responded “Very Important” or “Somewhat Important”
How important were each of these factors when choosing to move to where you live now?
Household Distribution by Number of Adults & Vehicles
Household Distribution by Regional Growth Centers & Vehicles

- All Households
- 1-Person Households
- 2-Person Households
Average Weekday (Monday-Thursday) Mode Split

Drive
Walk
Transit
Bike
Other
TNC
Ferry

% of All Trips

0% 10% 20% 30% 40% 50% 60% 70% 80%
Average Weekday (Monday-Thursday) Mode Distribution by Departure Time
Average Weekday (Monday-Thursday)
TNC Distribution by Age & Gender
Average Weekday (Monday-Thursday) TNC Distribution by Household Income
Level of Interest in Uses of Autonomous Vehicles (AV)

- Take short ride (e.g., airport terminal to parking lot)
- Take taxi ride with backup driver
- Be an owner
- Take taxi ride with no driver
- Be in carshare
- Commute alone
- Commute with others

% of Responded "Very Interested" or "Somewhat Interested"
Concerns about Potential Issues for Autonomous Vehicles (AV)

- Capability to react to other road users
- Poor weather/unexpected conditions
- Legal liability
- Equipment & system safety
- System/vehicle security

**Survey Year**
- 2017
- 2015

% of Responded “Very Concerned” or “Somewhat Concerned”
Average Day Home Deliveries or Services
Average Day Home Deliveries or Services by County
Average Day Time Spent Online Shopping (minutes)
2019 and Beyond…

• Use same survey instrument (with minor edits)
• Expect similar sample size, may increase smartphone sample
• Develop combined 2017-2019 weights
• Estimate models with 2017-2019 data
• Consider plans for 2021 survey & beyond
Thank you.

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