

*PSRC 2006*  
Household Activity Survey

Project Overview

Puget Sound Regional Council  
PSRC



## Background

- **Travel surveys: monitor travel behavior and support models**
- **Survey geography**
  - 4-county Puget Sound Region
- **Previous surveys**
  - 1985-88 Origin-Destination surveys
  - 1989-2002 Puget Sound Transportation Panel
  - 1999 Household Activity Survey
  - 2006 Household Survey

PSRC 2

## Study Goals

- **Develop a more complete assessment of current travel behavior**
- **Identify key drivers of transit use among current and potential transit users**
- **Establish the foundation for building better “choice” models**
- **Begin to define Transit Markets**

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## Budget

- **Partnership with Washington State DOT**
- **Total Budget: \$1,000,000**
  - PSRC: \$600,000
  - WSDOT: \$400,000
- **Overbudget on data collection**

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## Timeline

- **Nov-Dec 2005**     **Planning, RFP**
- **Jan-Feb 2006**    **Contract signed, survey design**
- **Early March**      **Pilot**
- **Mar-Jun**            **Fieldwork**
- **Jul-Aug**            **Preliminary report, data files**
- **Sep**                **Stated Preference**
- **Oct-Dec**          **Preliminary Analysis**
- **Jan-Apr 2007**    **Review, final report**

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## Study Components

### **Two-Day Activity and Travel diaries**

- Weekday only
- Households (4,700+)
- Persons (10,500)
- Trips (78,000+)

### **Follow-up Stated Preference Survey (900 persons)**

- Transit mode choices/potential toll alternatives
- Attitudinal questions

### **GPS Tracking of auto trips (220 households)**

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## Two-Day Diary

**Place #** 2    **WHAT is Place #2?**     Day 1     Day 2

My Home  
 My Primary Workplace  
 My Regular School Location  
 Another Place (Complete the information below):

**WHAT kind of place is this?** (bank, grocery, park, etc.)    Health Club

**Name of Place**  
Health Happy Fitness Club

**Street Address**  
314 Pleasant Rd.

**City**    **State**    **Zip**  
Anytown    WA    98000

**Neighb. Cross Streets**  
Lovely Lane    Sea Way

**At WHAT TIME did you ARRIVE at Place #2?**    7 : 45 am/pm

**WHAT did you do at Place #2?**

**Main Activity** (Check only one)    **Other Activities** (Check all that apply)

<input type="checkbox"/> Home - Paid Work	<input type="checkbox"/>
<input type="checkbox"/> Home - Other	<input type="checkbox"/>
<input type="checkbox"/> Work	<input type="checkbox"/>
<input type="checkbox"/> Attend Childcare	<input type="checkbox"/>
<input type="checkbox"/> Attend School	<input type="checkbox"/>
<input type="checkbox"/> Attend College	<input type="checkbox"/>
<input type="checkbox"/> Eat Out	<input type="checkbox"/>
<input type="checkbox"/> Personal Business	<input type="checkbox"/>
<input type="checkbox"/> Everyday Shopping	<input type="checkbox"/>
<input type="checkbox"/> Major Shopping	<input type="checkbox"/>
<input type="checkbox"/> Religious/Community	<input type="checkbox"/>
<input type="checkbox"/> Social	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Recreation - Participate	<input type="checkbox"/>
<input type="checkbox"/> Recreation - Watch	<input type="checkbox"/>
<input type="checkbox"/> Accompany Another Person	<input type="checkbox"/>
<input type="checkbox"/> Pick-Up/Drop-Off Passenger	<input type="checkbox"/>
<input type="checkbox"/> Turn Around	<input type="checkbox"/>

**HOW did you get here from Place #1?** Show all the methods of travel you used to make this trip and related travel details

Travel method (See "List of Travel Methods" below)	1st →	2nd →	3rd →	4th →	5th →
<b>Vehicle used</b>	1	6	4	10	4
<b>Driver or passenger</b>	Honda Civic				
<b>Total # of persons in vehicle</b>	2				
<b>Parking cost paid</b>	\$ 0	\$	\$	\$	\$
<b>How long did you wait for transit method (each coach or ticket) thru (1)</b>	10 min		15 min		
<b>How much did you pay?</b>	\$	\$	\$	\$	\$
<b>If walking or bicycle - Time (minutes)</b>			5 min		7 min

**Which activities did you do for more than 15 minutes?** (See "List of Activities" below)

	1, 2		1, 3	
--	------	--	------	--

**While Travelling** Name(s) of household member(s) with you for each segment of the trip

	Mary	Mary		
--	------	------	--	--

**List of Travel Methods**

1 Car, van, truck	6 School Bus	9 Train (Operator)
2 Motorcycle/ Moped	7 Taxi/Shuttle	10 Public Bus (Operators)
3 Bicycle	8 Ferry	11 Other (Specify)
4 Walk		

**List of Activities**

1 Work (reading, laptop computer, cell phone, etc.)
2 Maintenance (eating, sleeping, personal grooming, etc.)
3 Recreation (games, visiting, cell phone, DVD, etc.)
4 None

**At what time did you leave Place #2 to go to Place #3**    8 : 45 am/pm

**Next Place #3**

## Transit Information

**Place #** 2    **WHAT is Place #2?**     Day 1     Day 2

My Home  
 My Primary Workplace  
 My Regular School Location  
 Another Place (Complete the information below):

**WHAT kind of place is this?** (bank, grocery, park, etc.)    Health Club

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**Neighb. Cross Streets**  
Lovely Lane    Sea Way

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**Main Act** (Check one)    **Other Act** (Check all that apply)

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<b>Vehicle used</b>	1	6	4	10	4
<b>Driver or passenger</b>	Honda Civic				
<b>Total # of persons in vehicle</b>	2				
<b>Parking cost paid</b>	\$ 0	\$	\$	\$	\$
<b>How long did you wait for transit method (each coach or ticket) thru (1)</b>	10 min		15 min		
<b>How much did you pay?</b>	\$	\$	\$	\$	\$
<b>If walking or bicycle - Time (minutes)</b>			5 min		7 min

**Which activities did you do for more than 15 minutes?** (See "List of Activities" below)

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**List of Travel Methods**

1 Car, van, truck	5 School Bus	9 Train (Operator)
2 Motorcycle/ Moped	6 Taxi/Shuttle	10 Public Bus (Operators)
3 Bicycle	7 Dial-A-Ride/ ACCESS	11 Other (Specify)
4 Walk	8 Ferry	

**List of Activities**

1 Work (reading, laptop computer, cell phone, etc.)
2 Maintenance (eating, sleeping, personal grooming, etc.)
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4 None

**At what time did you leave Place #2 to go to Place #3**    8 : 45 am/pm

**Next Place #3**

## Stated Preference Survey

- **Stated-preference Survey as a follow-up to the main Activity Survey**
  - 25 attitudinal statements
  - 4 Stated-preference choice tasks between car and transit options
  - 4 Stated-preference choice tasks between car tolled and non-tolled options
- **Attitudinal data used to segment the market along subjective dimensions.**

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## Transit Choice Experiment Definitions

### Travel Method Features

<b>Method of travel:</b>	<ul style="list-style-type: none"> <li>• Provides the form of transportation for your door-to-door trip, including an option of traveling by auto and by various forms of public transportation.</li> <li>• Includes how you get to transit and how you get from transit to your destination.</li> </ul>
<b>Service frequency:</b>	<ul style="list-style-type: none"> <li>• This is how often buses or trains arrive at your stop at the day and time-of-day that you traveled. Assume buses and trains will arrive twice as frequently during peak travel times as during the rest of the day.</li> </ul>
<b>Time to get to transit:</b>	<ul style="list-style-type: none"> <li>• This is the time you spend by walking or driving to your primary form of transit (a bus, shuttle or train).</li> </ul>
<b>Time in vehicle(s):</b>	<ul style="list-style-type: none"> <li>• This is the time you are driving your car to your destination or riding in a bus, shuttle or train.</li> </ul>
<b>Time spent transferring between buses or trains:</b>	<ul style="list-style-type: none"> <li>• This is the total time you spend walking to the next bus or train and waiting for it. This may include up to three transfers.</li> </ul>
<b>Time to walk from your car or transit stop to your workplace:</b>	<ul style="list-style-type: none"> <li>• This is the time spent walking from where you park your car or from your last transit stop to your destination.</li> </ul>
<b>Gas cost:</b>	<ul style="list-style-type: none"> <li>• This is the daily cost of gas if you drive to the destination or to a transit stop close to where you live.</li> </ul>
<b>Fare cost:</b>	<ul style="list-style-type: none"> <li>• This is the cost of your transit fare, including all transfers.</li> </ul>
<b>Parking cost:</b>	<ul style="list-style-type: none"> <li>• This is how much it will cost to park for a day either at your destination or at a Park-n-Ride location if you drive to transit.</li> </ul>
<b>Seat availability:</b>	<ul style="list-style-type: none"> <li>• Sometimes transit services can be crowded, so that some passengers may need to stand. This is how often you would need to stand on the trip.</li> </ul>
<b>Reliability:</b>	<ul style="list-style-type: none"> <li>• Autos, buses, and trains can all be prone to unexpected delays. This is how often your trip will take more than 15 minutes longer than the usual total travel time.</li> </ul>

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### Transit Choice Experiment Exercise 1 example

**CHOICE EXERCISE 1**  
Suppose these were your transportation options for your trip from:  
a private home at 1001 QUEEN ANNE AVE N UNIT 501 in SEATTLE to a workplace at 9706 4TH NE in SEATTLE

Your choices are...	OPTION 1	OPTION 2	OPTION 3
<i>Method of travel</i>	You drive by yourself from your trip origin to a parking place at or near your destination.  You walk from the parking place to your destination.	You walk to the RAIL system and ride to a stop at or near your destination.  You transfer between transit vehicles 1 time.  You walk from the final transit stop to your destination.	You walk to a BUS A stop and ride to a stop at or near your destination.  You transfer between transit vehicles 1 time.  You walk from the final transit stop to your destination.
<i>Service frequency</i>	---	Every 20 minutes	Every 20 minutes
<i>Time to get to transit</i>	---	16 minutes	12 minutes
<i>Time in vehicle(s)</i>	17 minutes	20 minutes	23 minutes
<i>Time spent transferring between buses or trains</i>	---	15 minutes	12 minutes
<i>Time to walk from your car or transit stop to your workplace</i>	4 minutes	6 minutes	4 minutes
<i>Gas cost</i>	\$4.30	\$0.00	\$0.00
<i>Fare cost</i>	---	\$2.00	\$2.00
<i>Parking cost</i>	\$4.00	\$0.00	\$0.00
<i>Seat Availability: You will need to stand on the bus or train...</i>	---	Two times a month	One time a week
<i>Reliability: You will be more than 15 minutes late...</i>	One time per month	Two times per month	One time per month

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### GPS Subsample

- **Conducted over 12-week period, concurrent with main survey.**
- **150 GPS devices to 285 households with 518 different vehicles.**
- **Mail-out/mail-back GPS logger, easily installed by respondent.**

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## Summary of Lessons Learned

- **Sufficient planning, pre-testing**
- **Compatibility with earlier surveys**
- **Recruiting hard-to-reach populations-  
incentives**
- **Project management, cost overruns**
- **Geocoding issues**
- **Internal staff time**



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## Questions?

**Final Analysis Report:**

<http://www.psrc.org/data/surveys/hhsurvey/index.htm>

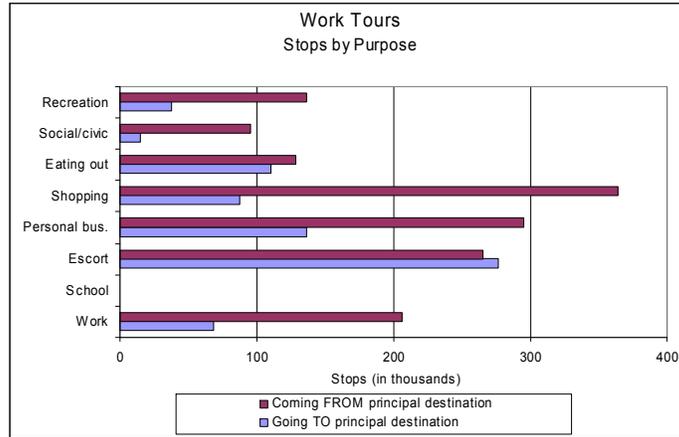
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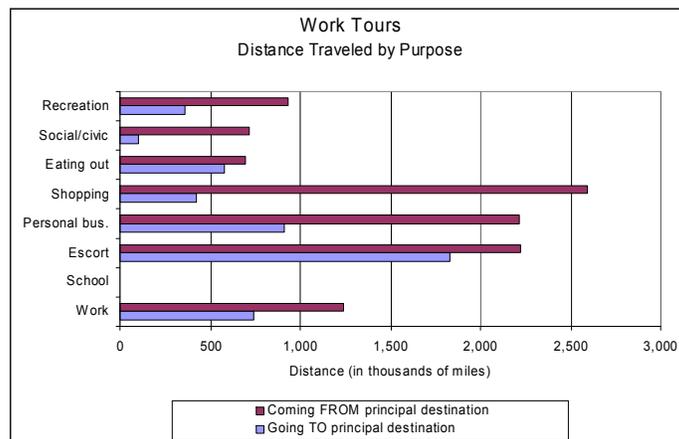
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## Anatomy of a Work Tour



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## Anatomy of a Work Tour



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