



2006 Household Activity Survey: General User's Guide

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Overview

The purpose of the 2006 PSRC Household Activity Survey project was to provide data for the Puget Sound region travel demand models, for the assessment of current activity and travel patterns, and for the estimation of future activity and travel within the region under various policy scenarios. One important goal of this project is to improve planners' ability to evaluate impacts of future policies and actions on travel patterns and transportation facility use through the development of a database. This database both captures the current status of activity and travel in the region and includes attitudes, preferences, and choices about activities and travel. Such data can support analyses that help understand why persons and households make certain travel choices, and can be used in activity choice models to predict the effects of changes in land uses, policies, demographic, or economic standing on travel behavior in the region.

The objectives of the 2006 PSRC Household Activity Survey project were to:

- Develop an assessment of current travel times and costs, both actual and perceived, facing users in the region, through the collection of Global Positioning System (GPS) and pertinent revealed-preference data, and choice experiments.
- Establish the foundation for building better "choice" models that predict what effects residential location choice, policies, demographic or economic standing, etc. will have on travel behavior. This included incorporating both attitudinal and choice experiment exercises into the survey data collection and analysis process to identify motivators of travel mode choice.
- Distinguish between "captive/choice" or "routine/periodic" transit users and enumerate their unique characteristics. This included identifying the current and potential key drivers (predictors) for transit use among current and potential (perhaps neighborhood-based) transit users.
- Identify the demographic, neighborhood, and trip-making characteristics to define a "Transit Market." This included identifying the next steps in supporting the development of a regional "Transit Market Study."

The next three sections will briefly describe the basic design and methodology of the 2006 survey, and describe some of the data processing and geocoding work done to the collected data by both the contractor and PSRC. This will be followed by the Database Structure, which will describe the various files contained in the survey database and discuss the important elements of the files.

Survey Design

There were three major component data collection activities in 2006 PSRC Household Activity Survey to support the analysis objectives cited above:

1. **Activity and Travel Survey.** The first component was an activity and travel survey of a representative sample of households in the Puget Sound region. This survey collected basic demographics, activities, and tour and travel characteristics from all members of respondent households on all out-of-home and certain in-home activities using a 48-hour diary. The final dataset contained information on 4,746 households. These data were expanded to describe the travel in the region, and can provide input for travel demand models. These data were also used to examine aspects of travel behavior such as trip chaining, and to identify the characteristics of transit users.

All data files except the Stated Preference results come out of this part of the project.

2. **GPS Tracking Data.** The second component was a GPS tracking of a representative subset of households participating in the diary portion of the study. The final GPS tracking data contained detailed information on the travel paths of 220 households with two vehicles in the same 48-hour period recorded in the diaries. Up to three vehicles per household were equipped with GPS units. Analysis of the GPS tracking data was used to better understand the underreporting of trips, and provides insight into potential biases in the data. Comparison of the GPS data and reported diary data with GPS trips can provide more accurate calibration targets for both trip- and activity-based models.

The GPS data and results are not currently part of the final database.

3. **Stated-Preference Survey.** The third component was a stated-preference (SP) survey of a subset of adult (age 16+) respondents participating in the diary portion of the survey, whose revealed trips fit criteria of interest for possible public transit and highway toll alternatives. A total of 916 SP surveys were completed. The SP instrument included a short series of attitudinal statements, with stated-preference exercises consisting of mode and service choices, as well as toll choices, individually customized to the travel patterns of interest revealed by the respondent as a part of the initial household activity survey. Data from the SP survey will provide input to activity choice models, and were used to better understand the market for transit services.

Survey Methodology¹

Basic demographics, activities, and tour and travel characteristics were collected for every member (including children) of 4,746 households during a consecutive 48-hour travel period. Vehicle GPS data were collected from a subsample of 220 of these households, with completed activity/travel diaries also collected for each household member. (Up to three-vehicles per household were equipped with GPS units.)

Finally, a follow-up attitude perception and stated preference (SP) survey was conducted following completion of the fieldwork and data collection of the diary survey, beginning in September 2006. The survey contractor selected a subsample of 916 respondents whose revealed trips fit criteria of interest for possible public transit and highway toll alternatives. A customized preference/choice survey instrument was generated using actual origin-destination data taken from trips reported in the household activity survey.

The minimum sample size for the base household activity survey was set at 4,600 households. This was divided between a main sample and transit rider and transit access oversamples. Ideally, a household travel/activity survey would be conducted using a single, geographically stratified RDD (random-digit-dial) sampling frame. One problem with this approach is the number of transit riders sampled is usually too small for analysis. Using a regionwide RDD frame to oversample transit riders, particularly if they represent less than 10% of the total area households, is not very efficient.

To increase the number of transit riders in the sample, the sampling design provided for oversampling of households within defined 2-plus zip codes where transit options (access) are currently available. Areas were selected based on their geographic proximity to these specific transit-supported corridors, and households were randomly sampled from this frame.

Within this transit access oversample, small oversamples of households whose member(s) use ferry service or park-and-ride lots were included. Such users represent a unique subgroup from a sampling perspective, but their incidence is too low to expect enough for analysis purposes from the RDD or transit access frames. Therefore, intercepts were done at selected park-and-ride lots and ferry terminals to supplement this frame. Interviewers solicited names and phone numbers from commuters. Those who agreed to participate were contacted by phone during the standard recruitment interview process.

The sample size for the main RDD household activity survey was set at 3,600 households; for transit access households, the sample target was 1,000. For the main RDD survey, the region was

¹ See Appendix A: Methodology in "PSRC 2006 Household Activity Survey Analysis"

divided into five geographic sampling areas. Each sampling area was defined by counties, or within King County, by the City of Seattle and those areas within King but outside Seattle. For the most part, the types of travel patterns and behaviors generated by households within each of these areas are similar.

Database Structure

The survey database has four main sections detailing the characteristics of: (1) household, (2) persons in general and persons who are workers (employed), (3) travel activity, and (4) tours. Results from the Stated Preference survey are included as a separate Person-level file. The following is a list of all the files (SPSS or ASCII) included in the database (names of the equivalent tables in the Access file in parentheses). The file names will include a version number in the format *_vn.n*; in Access, the version number is included in the table description.

Certain confidential data, including x-y coordinates, have been separated out into their own files at the household, person, and trip level. Special permission is required for these files.

1. Household

- **HH_data (Household data)** – Household characteristics, including previous location and household vehicle inventory.
 - **HH_data_xy** – This file has the x-y coordinates for the current and previous household location and the specific make and model for the household vehicles (supplied by respondent). The coordinate system is NAD 1983 HARN State Plane Washington North 4601.

2. Person

- **Person_data (Person data)** – Characteristics of the household members, except for information about employment, place of work, and journey to work.
- **Person_Work_data (Person Work data)** – Characteristics of a household members' employment, place of work, and journey to work.
 - **Work_School_xy** – This file has the x-y coordinates for current and previous jobs, and the name and x-y coordinates for any schools attended at the time of the survey.
- **Person_Activity (Person Activity data)** – Information about the household member's daily activities, derived from travel tours (see below).

- **Stated_Preference (Person Stated Preference)** – Results from the stated preference survey administered to a sample of the adults who completed the travel activity diary portion of the survey.

3. Travel

- **Trip_data_1 (Trip1)** – Primary travel characteristics
 - **Trip data_xy** – This file has the x-y coordinates and location name for each location visited during the two-day travel diary period, and vehicle make and model for any household vehicle used on a trip.
- **Trip_data_2 (Trip2)** – Secondary travel characteristics.
- **Trip_data_3 (Trip3)** – Bus and ferry information.

4. Tours

- **Tours_Trip_data (TOURS Trip Data)** – Defined tours at the trip level.
- **Tours_Trip_Modes (TOURS Trip Modes)** – All modes used in a tour, and where in the tour, and for how much of the tour, a particular mode is used.
- **Tours_Person (TOURS Person Tours)** – Summary file of the tours made by each person over the two-day travel period.

CODEBOOK

The Excel worksheet **Codebook06** contains a complete data dictionary and code list for all files in the database. Each of the files listed above list is a separate tab in the worksheet, and the information presented for the files include variable name and description, code list or variable values (if applicable), and the source of the variable. If the source is the recruit or retrieval scripts used to collect the original data, the page number of the document and script field name are listed.

In addition, there is a master list of all the variables in the database (“Variable list”) and individual tabs for selected code lists where there are a large number of values. In this group of tabs, there is also one (“Purposes”) that shows correspondence between the activity list from the diary (ACT1) and the general purpose categories (PURPCAT) assigned to individual trips for modeling and to identify tour activities.

Although complete contents of all files and details about the data items are available in the Codebook, the following sections lay out key features of the main data files.

HOUSEHOLD

This file contains basic characteristics about the household, the housing structure, household vehicles, current and previous household location, and the reason for choosing the current location. Household locations have been assigned an x-y coordinate as well as a Traffic Analysis Zone and Census Tract (both Census 2000). Not all of the previous household locations could be geocoded; what locational information that could be verified is included in the file (such as a city or zip code).

There are two household income fields. TOTALINC is the information received from the respondents themselves, through the recruit interview. For the other, HINCCAT1, households that did not provide income information, or only in one of three broad income ranges, have had their income range imputed based on other characteristics (lifecycle and location).

Certain characteristics were not collected during the survey, but assigned or computed later, based on other household and person characteristics.

- **SAMPTYP** Sample Type. This refers to the recruitment method. The main survey sample is composed of households recruited through Random Digit Dialing (RDD) and those that make up the transit-area oversample. There were also a small number of households recruited through intercepts at some park-and-ride lots and ferry terminals.
- **LIFECYC** Lifecycle Stage. Derived from the presence and ages of children, and the number and ages of adults in the household. Households are initially classified by the presence of children, first by the presence of any young children (under 6 years old) and then by the presence of only school children (ages 6-17). If there are no children in the household, it is then classified by the household size (either 1-person or 2-or-more-person household) and the age of the oldest person in the household (under 35, 35-64, and 65 years and over).
- **REGION** The Puget Sound four-county region is divided into six analysis regions: Seattle/Shoreline (also referred to as Central King), East King (generally, the area east of Lake Washington), South King, and Kitsap, Pierce and Snohomish counties.
- **VEH_AV** This is the ratio of vehicles to licensed drivers in the household. The values are either "0" (less than one vehicle per driver) or "1" (one or more per driver).

- LDRVNUM Number of Licensed Drivers. This is the number of persons in the person file who answered “yes” to the “valid driver’s license” question.
- HHVTYPE_n Vehicle type. The survey collected the make and model of household vehicles. These were assigned to one of seven vehicle types, matching those used in earlier surveys (car, van, SUV, truck, RV, motorcycle, other or unknown). Each household can have up to 10 (n=10) vehicles.
- DIARY This is tagged for households where all the members have returned travel diaries.
- GPS This field identifies those households selected to be part of the GPS subsample. Along with the standard travel diaries filled out by each household member, these households also received GPS units for up to three household vehicles during the same 48-hour travel period. The final GPS tracking data was used to improve the understanding of underreporting of trips and provide insight into potential biases in the data.
- EXPFAC2 Household weighting factors that were generated through a process of iterative proportional fitting to simultaneously approximate regional control totals in five demographic dimensions: household size, number of vehicles per household, number of workers, lifecycle, and income range. See the section on “Weighting.”

PERSON

This file contains basic characteristics about all the persons in the household, including children. Characteristics include: age, sex, relationships, employment and workplace, education and school attended, and transit use.

There are also questions asking about activities engaged in during the travel period that might have substituted for travel, and some attitude questions about regional travel and the transportation system. These were asked only of the contact person. In addition, some people were asked to complete a stated preference survey, which included questions on time and cost tradeoffs for toll and transit alternatives, and a series of attitudinal questions about modal options. See the Stated Preference section for more details.

- HOME ACTIVITIES

In order to get some sense of how people are making choices on whether or not to make a trip, the household contact person was asked if he or she did certain activities at home during the assigned travel days. These are activities that have traditionally been done

outside the home but are increasingly becoming more feasible and convenient to do at home, including shopping or banking on the Internet or phone, and watching a movie on DVD (instead of going out to a movie).

- **ATTITUDE QUESTIONS**

A set of 12 questions or statements were given to the contact person at the end of the retrieval interview, dealing with the transportation system, regional growth, tolling, mode choice decisions, and congestion. Some questions are similar to those asked in previous surveys, while others were added to address specific issues related to the work program.

- **PROXY**

All household members or a proxy were expected to provide information about themselves and complete a two-day travel diary. Often, the contact person for the household acted as proxy for the rest of the household, providing both person characteristics and the contents of each person's travel diary. The result of this high rate of proxy retrieval was a lot of missing data, especially employment characteristics (mode-to-work and commute times) for the other workers in the household.

- **Stated Preference (SPSRECV, SPSCOMPL)**

After the completion of the travel survey element, 916 respondents were selected to complete a follow-up attitude perception and stated preference (SP) survey.

WORKER

Characteristics about respondents' employment and journey-to-work have been made in a separate file in the database to make the data easier to work with in journey-to-work analysis. Only those survey respondents who answered "yes" to the "Currently Employed" question are included in this table. The table includes all work and employment-related variables, which have been removed from the PERSON table, with the following special exceptions:

- **WKRSTAT** Current employment status. This field is in the PERSON table only.
- **WRKR** Type of worker. This field is in both PERSON and WORKER tables.
- **NOWRK** Looking for work. Only those who answered "no" to the "Currently Employed" question or who refused to answer that question will have a value in this field. This field is in the PERSON table only.

There are three sets of workplace data: characteristics about the primary job, characteristics about a secondary job (if any), and characteristics about a previous job (if the respondent has been at the current job for less than 10 years).

The data collected for the primary and secondary jobs are identical and include business and industry type, years on the job, job hours and flexibility, mode-to-work, and times going to and leaving work. The previous job characteristics are limited to location and the reason for changing job or work address.

The business type (i.e., the type of business the respondent's employer is engaged in) was an open-ended question. The responses were later coded into one of 85 categories, including "All other miscellaneous" responses).

PERSON - ACTIVITY

Activity is what a person does at home or at various locations throughout the day. When dealing with travel, activity can be thought of as the purpose or purposes for making a trip. The survey diary provided a list of 17 activities, asking the respondent "What did you do at location #n" and allowing up to four selections. These selections are found in the Trip1 file (primary travel characteristics) as the fields ACT1-ACT4.

For the purposes of activity analysis and for defining tours, these 17 activities were later reclassified into nine general categories, based on the value in ACT1:

1. Work – includes any type of work, whether at regular workplace or work-related, as well as attending college.
2. School – the person is attending school (childcare/pre-school through high school) and not merely dropping off/picking up someone else at school).
3. Escort – picking up or dropping off a passenger. It also includes cases where the respondent is "along for the ride"; i.e., accompanying someone else who is the person with a particular purpose for making the trip. Typically, this applies to children riding along with a parent and without any other reason for being on the trip.
4. Personal business – this is in some senses a catch-all category for trips that don't fit into any of the others, but explicitly includes medical and other appointments and going to the bank.
5. Shopping – both major and everyday shopping.

6. Eating out – includes eating at a restaurant or fast food place, and getting coffee at an espresso stand. It may include picking up take-out food for eating elsewhere, but should not include having dinner at a friend’s house.
7. Social – this includes social activities with family or friends (one of the 17 diary categories) as well as religious and community activities.
8. Recreation – this includes both engaging in and watching recreational activities. The diary category “Turn Around” is also included in Recreation because this is often used by respondents engaged in exercise – walking or jogging around the neighborhood; typically, the person will put down as the destination the furthest point reached during the walk/jog and record the activity at that location as “Turn Around.”
9. Home – simply, the person is at his/her primary residence, regardless of any other activity engaged in at home.

The following table shows how the 17 diary activity categories were converted to the nine general purpose categories.

Diary Categories	Activity Purpose								
	Work	School	Escort	Personal business	Shopping	Eating out	Social	Recreation	Home
Home - Paid Work									X
Home - Other									X
Work	X								
Attend Childcare		X							
Attend School		X							
Attend College	X								
Eat Out						X			
Personal Business				X					
Everyday Shopping					X				
Major Shopping					X				
Religious/Community							X		
Social							X		
Recreation - Participate								X	
Recreation - Watch								X	
Accompany Another Person			X						
Pick-Up/Drop-Off Passenger			X						
Turn Around								X	

The Person-Activity file summarizes the amount of time the respondent spent in various activities during the two-day travel period as well as daily averages. These are calculated as the sum of the activity times (ATIME_n) for each of nine trip purposes (including time spent at home). Daily travel

time is the sum of all trip travel times (MINUTES). It also shows the total tours, average tours per day, and the average number of stops per tour.

TRIPS (General Travel)

The travel data includes all the detail about each place visited during the two-day travel period and how the respondent traveled to that location, as recorded in the place-based Travel Diary given to each person in the household.

This information is divided into three data files.

1. Trip1-Primary: this file contains the basic travel and destination information for each trip, including travel time and distance, location and location type, purpose, mode, and occupancy.
2. Trip2-Secondary: this file contains other details about each trip, including what other household members accompanied the respondent; what, if any, household vehicle was used, fares used for any taxi, train, or dial-a-ride taken, parking information, and activities engaged in during the trip.
3. Trip3 Bus-Ferry: this file has route and fare details for any buses or ferries used on a trip, including the transit agency or bus provider.

Each record in the three files refers to the same trip and is identified by the unique record identifier RECID.

The following discussion of certain travel characteristics and assigned variables applies to the Trip1-Primary only.

Linked Trips

Each trip can have up to five links involving mode changes needed to get from Point A to Point B. For instance, a person driving to a park-and-ride, riding the bus to downtown, and then walking several blocks to work would record three links in the trip from home to work. These links are reflected in most of the trip characteristics of all three files: mode, occupancy, bus-ferry used, household vehicle used, parking, and activity engaged in while traveling.

The travel diary was designed to capture these linkages directly by the respondent as the diary was filled out. Sometimes, however, a respondent recorded as separate trips one or more of the stops in a linked trip. Where we were able to identify such cases, we linked them up into a single record; such cases are tagged with the value "1" in the field LINK in the "Trip2" file.

Mode

For each trip, the travel diary listed 10 modes the respondent could pick from, along with a space for listing other modes. As a result of these “other” modes, the initial database listed 33 responses for mode, including “don’t know” and “refused.” Not all of these ended up in the final database, so we dropped the unused ones from the coding list for TRSTYP_a-TRSTYP_e. To simplify the analysis of mode for linked trips, we also created a new field called MODE1 to identify the primary mode for that trip and added two new values: “Auto-bus combination” and “Ferry walk-access” (the original, generic “Ferry” code was changed to “Ferry auto-access”.)

To assist in various types of analyses, we also created two simplified mode categories (MODE2 and MODE3) and a standardized, 21-category MODE4 field that has specific detail for the various transit modes and for vehicle occupancy. A new code “Vanpool” was added, defined as any vehicle trip, either alone or within a linked trip, with occupancy of five or more.

“Express” and “local” bus modes for MODE4 were determined by the bus route used, as recorded in the travel diary. Information from the transit agency identified routes as either express or local. If an express route was recorded during any segment of a trip, the trip was classified as an “express bus” trip. Surrounding modes were examined to determine if the bus trip was “auto-access” or “walk-access.” The latter includes all non-vehicle (including motorcycle) modes.

VEHTRIP

This vehicle-trip tag variable was created to track vehicle usage during a trip. If a vehicle was used at any point during a trip, this variable identified whether it was for the entire trip or a portion of a trip and whether the overall trip is classified as “auto” (including drive-on ferry) or “non-auto” (there was some kind of transit involved).

D_R

This variable tracks whether the respondent was the driver or passenger in a vehicle on any part of a trip. The person can be a driver or passenger in a vehicle for an entire trip, whether or not there was a mode change. If there was a driver/passenger switch during a linked trip, this variable identifies in which order the switch occurred. In the rare case where more than one switch occurred, only the first switch is considered. “Not applicable” is used for any non-vehicle trip.

VEH_HH

This Household Vehicle tag variable identifies whether a household vehicle was used during a trip and, if for only a portion of a trip, whether the trip started out in a household vehicle or ended up in one.

Distance

Travel distance is based on the TAZ to TAZ modeled distance for AM peak travel. Distances are derived for six modes: SOV, HOV-two persons, HOV-three or more persons, transit/walk access, bicycle, and walk.

TOURS

The creation of tours from the travel data produced four files in the survey database.

A tour, or more specifically, a home-based travel tour, is defined as a chain of trips that both begins and ends at home. Home locations are identified in the travel data by the field “WHERE” (=1), and tours are thus defined for all the trips between WHERE=1 at an origin and WHERE=1 at a destination.

Tours are identified as having a “main activity” – the primary reason for making the tour – and a “principal destination” – the location that is likely to be most important in determining the overall location, mode, and time of day of the tour.

Each tour was assigned a primary destination and activity, using certain rules to select the destination that is likely to be most important in determining the overall location, mode, and time of day of the tour. The method used for the database is similar to the current thinking for activity-based models and follows a relatively simple hierarchy. The basic decision steps are:

1. Work
2. School
3. Escort
4. Personal Activity (when it is an appointment)
5. The longest duration and/or most distant of the remaining activities

Complications arise when there are multiple destinations of different purposes that seem to be equally important. To resolve such conflicts, a more detailed heuristic was used:

1. If a student visits one or more school locations or a non-student visits one or more work locations, then the longest duration activity of that type is the primary destination/purpose. Generally, work activities take precedence over all other activities,

and the regular workplace is considered the primary destination over other, work-related, trips. Similarly, school activities take precedence, after work activities, over all other activities.

There are a few exceptions to these general rules:

- a) If the regular (i.e., “stated”) workplace is only a brief stop on the way to or from the work location where the majority of one’s workday is spent, then the latter location is the primary destination for that tour.
 - b) If a school-aged person goes to work either before or after attending school, the tour is labeled a “school” activity with the school as the primary destination.
 - c) If there is a work trip but the duration at that stop is brief in comparison with the other activities in the tour, the tour is labeled as something other than a work tour.
 - d) Non-regular school activities are a special situation, and how a tour is classified depends on what the school-related activities are and what percentage of the tour is spent on those activities. An example is when a student goes on a school-sponsored recreation trip and the school is only the assembly point.
2. Otherwise, if student visits one or more work locations or a non-student visits one or more school locations, then the longest duration activity of that type is the primary destination.
 3. Otherwise, if the person visits one or more escort activities, then the longest duration escort activity is the primary destination.
 4. Otherwise, all activities are of the five remaining types – personal business, shopping, eating out, social and recreation – and the longest duration one is the primary destination.
 5. The exception to (4) is where a personal activity involves going to an appointment or other scheduled activity such as a lesson or beauty appointment. In these cases, the tour is classified as a personal business tour even if that activity is not the longest duration. These particular activities were identified in the data by looking at key words in the LOCATION field, including “appointment,” “doctor,” “Dr.,” “dentist,” or by looking for pertinent location types.

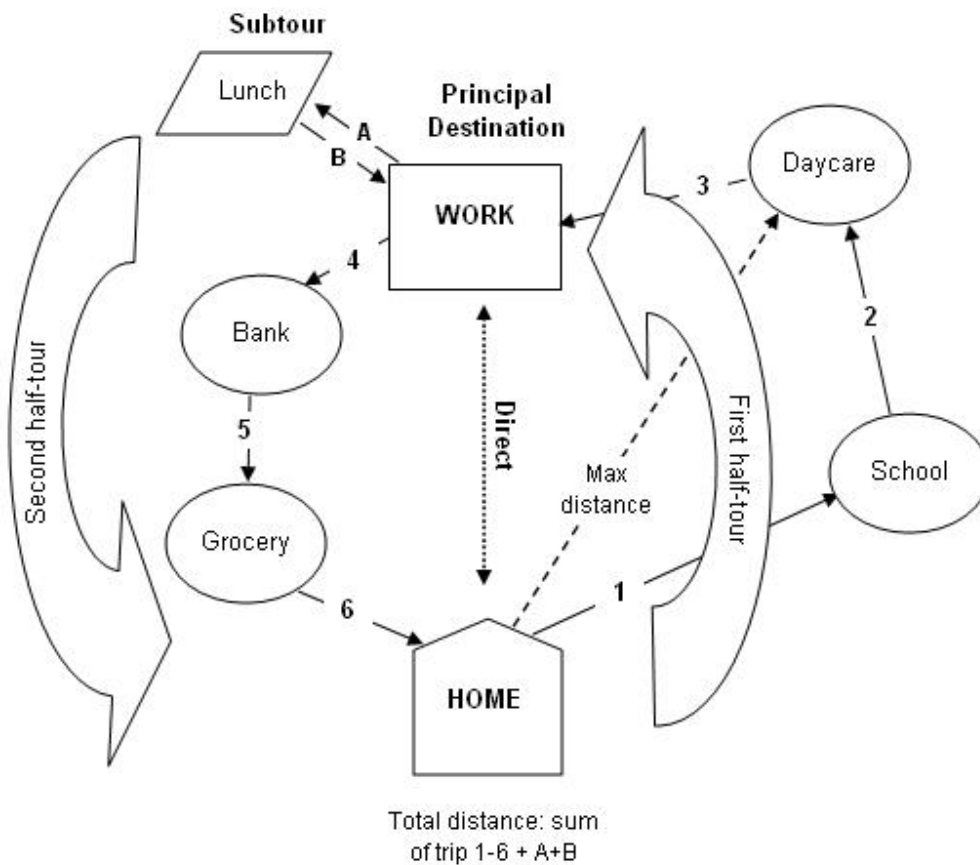
TOUR ACTIVITY

The work defining travel tours resulted in the creation of four data files (file names in parentheses), each at varying levels of detail:

- Travel Tours (Tours_Trip_Data) – information about tours is attached to the original trip-based travel data. Thus, each trip is identified by the tour it is a part of.
- Tour Modes (Tours_Trip_Modes) – this trip-based file lists the various modes used during each tour and how much of the tour is by each mode.
- Person Tours – summarizes for each person travel activity by tours for the two-day travel period.
- Person Activity – summarizes the amount of time spent by each person in nine basic activity categories over the travel period as well as daily tour-making averages (see PERSON-ACTIVITY, above).

A typical tour has the following structure (see chart on next page):

- Each tour identified in the two-day diary is numbered sequentially beginning at 1. Included as tours in the data are “open-ended” tours, where the person is away from home either at the start of the travel period or at the end. Such tours are identified in the field EXT.
- Each trip in the tour is numbered sequentially beginning with STOPNUM 1 as the first place traveled to after leaving home. For open-ended tours at the beginning of the diary, STOPNUM 1 is the first location recorded. The last tour stop is at home, unless this is an open-ended tour at the end of the diary.
- Each trip, or stop, is assigned one of nine primary purpose codes, based on ACT1, and these are then used to determine the overall (primary) purpose of the tour (see above).
- The “Principal Destination” is the first location in the tour with the activity that matches the overall purpose of the tour. There are exceptions, usually when a person makes a work/work-related stop on the way to one’s regular workplace. Even though both stops are coded as “work,” the second is the more logical choice for principal destination.
- A subtour, or “tour within a tour,” is a chain of trips that both begins and ends at the principal destination. In this dataset, subtours are only part of a home-based work tour and therefore begin and end at work.
- MID_TOUR describes the flow of the tour: going to/from the principal destination and whether the tour ends at home.
- HALFTOUR is a summary version of MID_TOUR and identifies a trip as being in the first half or second half of the tour (as defined by the principal destination) and whether the trip is part of a subtour (i.e., a secondary tour made from, and returning to, the principal destination.)



There are several fields that provide additional information about a tour. ESCORT identifies the person as merely a passenger on a tour made by another household member and thus is not a “valid” tour maker. This will apply to the entire tour and not just to individual stops.

MID_SUM and WKPL_NUM are accounting fields. The first has the number of stops where the primary activity is the same as the overall purpose of the tour. For example, on a shopping tour, if the tour-maker stops at three different stores to shop, MID_SUM=3. WKPL_NUM is more restrictive in that it lists the number of stops at the primary workplace during the tour rather than the total “work” stops; i.e., counting each time a person makes a stop at the primary workplace during a tour, including the initial commute to work and returning to the workplace from lunch or some other activity.

Tour Distance

Distance traveled during a tour is measured in three ways. TOTDIST is the sum of the network travel distances of each trip in the tour. MAXDIST is the maximum distance from home that was reached during the tour (as measured by the difference in x-y). DIRECT is the network distance

between the regular workplace and home. This last field is useful when analyzing how much extra distance is traveled when bundling trips during a work tour compared to traveling directly to and from work.

In the travel tour file, MAXDIST is the direct distance between home and each stop; TOTDIST is the cumulative travel (network) distance as the tour moves from stop to stop. The largest value of each is selected for the summary file of "Person Tours" (see following).

TOUR-MODE

The modes used during a tour are tracked in this file. It lists each mode used in each half-tour ("leg"), the number of stops and total travel time and distance for each mode on each leg. It also tallies the number of modes used in each leg.

TOUR-PERSON

This file summarizes the activities and travel for each tour during the two-day travel period. It lists the total time of the tour (TOTACT) and how much time was spent at each of eight activities (ATIME1-8) plus total travel time (sum of MINUTES for each trip). Time spent at home is not included in this calculation. It also shows the percentage of the tour taken up by each activity (including travel), the total number of stops in the tour, and the number of stops in each half-tour.

STATED PREFERENCE

After the completion of the travel survey element, a follow-up attitude perception and stated preference (SP) survey was conducted with a subsample of 916 respondents whose revealed trips fit criteria of interest for possible public transit and highway toll alternatives. A customized preference/choice survey instrument was generated using actual origin-destination data taken from trips reported in the household activity survey.

The SP survey had three main components:

- A series of 25 attitudinal statements, rated on a 10 point disagree/agree scale
- A series of four stated-preference choice tasks between car and transit options
- A series of four stated-preference choice tasks between car-tolled and non-tolled options.