Welcome to the DVRPC 2012-13 Household Travel Survey public database!

This document is designed to get you started and point out a few notable fields. *2012-2013 Household Travel Survey for the Delaware Valley Region* (DVRPC report 14033), contains detailed documentation of survey methodology and results. The report can be found here: *http://www.dvrpc.org/Products/14033/*

Privacy

The DVRPC Household Travel Survey (HTS) collected detailed travel information from over 9,000 households in the Delaware Valley Region. To ensure privacy, all personal and location information has been removed from the public database. The lowest level of geographic detail included is the Transit Analysis Zone (TAZ).

Public Data Dictionary

The Data Dictionary is a spreadsheet containing detailed descriptions of every field in the public database. If you have questions about the data in a particular field or what a particular field name represents, the data dictionary is the first place you should look. Fields are split into 4 tabs representing the 4 data tables in the database. Fields are listed in the order they appear in the database tables. Some fields have a long list of possible values. In order to view all values, you will need to click into the Values box for that field. For example, Mode in the Trip table has a list of 30 possible codes, but only 20 are visible at first glance.

Data Structure

Each item in the Household Travel Survey database has been assigned an ID. The most basic ID is the 7-digit Household ID. The Household ID is found in each of the four tables enabling every record in the person, vehicle, and trip tables to be tied back to a household using the Household ID.

Each person in each household was assigned a 2-digit Person Number. The Person Number is combined with the Household ID to create a 9-digit unique Person ID. The sequence is Household ID + Person Number. Similarly, every vehicle recorded by a household was assigned a 2-digit Vehicle Number. The Vehicle Number is combined with the corresponding Household ID to create a unique 9-digit Vehicle ID. The sequence is Household ID + Vehicle Number.

The trip table contains records for each trip as an origin/destination pair as well as records for people who did not travel (No Go). Since trip attributes were recorded based on the Origin, an additional record was added to for each traveling person to capture the attributes of their last trip of the day. The trip table also contains these records.

Each trip recorded by a person was assigned a series of 2-digit numbers. The Trip Number essentially counts the number of trips a person made on their travel day. If a person made no trips, their record in the Trip table has a Trip Number = 0. The Trip Number for a person's last trip of the day is 97. To count trips, these records should be excluded.

Trip records were assigned a 2-digit Tour Number, which grouped trips into Tours. Tour Numbers were not assigned to records with a Trip Number of 0 or 97. Similarly, trips that occurred as part of a work tour, where the person left work and returned, were assigned a 2-digit sub-tour from work number. Work sub-tour numbers were not assigned to records with a Trip Number of 0 or 97.

All of these 2-digit trip based numbers were combined with the persons Household ID and Person Number to create a 15-digit Trip ID. Trip IDs do not exist for records with a Trip Number of 0 or 97. In order to create a unique identifier for every record in the trip table, Household IDs and Person Numbers were combined with Trip Numbers, including those with Trip Numbers of 0 and 97 to create a Record ID. A Record ID exists for every record in the trip table.

Notable fields:

Weights

Household and Persons in the survey sample were weighted to expand survey results and enable estimations about the DVRPC Region as a whole. The weighting procedures, explained in more detail in the report, aimed to align household and person characteristics of the sample households and persons to estimated county benchmarks.

When summarizing household based statistics, such as household size, the household weight should be used. When summarizing person based characteristics, such as employment status, the person weight should be used. Since trips are made by individuals, and not entire households, person weights are typically included in trip based calculations. Since weights were calibrated at the county level, the weighted data best analyzed at the county level.

GPS Factors

Under-reporting of trips is a known issue in household travel surveys. Respondents may forget to record trips or not realize that quick stops to grab coffee count as a trip. Under-reporting affects household and person trip rate calculations by making trip rates appear lower than what the region actually experiences. In an effort to correct for this, a sub-sample of survey respondents were asked to carry GPS transponders which tracked their trips over a three day period. The GPS data was compared to their survey diary data to determine how many trips were missing.

Trip rates were calculated individually for the GPS data and the Diary data. The GPS trip rate was divided by the Diary trip rate to develop the GPS Factor. The GPS Factor is used as a multiplier to correct for trip under-reporting and expand the reported number of Household and Person trips. Since trip under-reporting varied with household income, GPS Factors were assigned based on household income categories.

You will see the household GPS Factors in the household table along with corrected household trip totals (F_HH_TOT_TRIPS, F_HH_MO_TRIPS, F_HH_NM_TRIPS). Similarly, you will see person GPS Factors in the person table, along with corrected person trip totals (F_P_TOT_TRIPS, F_P_MO_TRIPS, F_ P_NM_TRIPS). In the trip table, you will find TripFactors. The TripFactor is based on the person's GPS factor and represents the total value of that trip for trip counting purposes.

Travel Times

Also in the Trip table, you will find travel times and distance. Survey Travel Time was determined by calculating the difference between the departure and arrival times reported in the diary. Model Travel Distance was determined using the network travel distance between the reported origin and destination locations in the TIM 2.2 travel demand model. Model Travel Time for Auto and Transit trips was determined using the same method. For walking and biking trips, the Model Travel Distance was divided by average walking (3.0 mph) and biking (9.8 mph) speeds to determine the Model Travel Time. The Model Travel Time field is recommended for trip length analysis.

Database Updates:

Last Update: 2/25/2016

#	Correction	Location	Rationale	Date Corrected
1	Updated School location information	Person Table (S_Region - S_TAZ) & Trip Table for trips with Origin or Destination Type = 3 (school)	Incorrect school geographies were assigned to the wrong person and trip records.	2/25/2016
2	Invalid Survey Travel Times removed	Trip Table, Survey_TravTime field	Negative survey travel times were found in some trip records. This occurred when arrival times were recorded as being earlier than departure times. These invalid times were removed and left blank. Although these have been corrected, the model travel time field is still recommended.	2/25/2016