Puget Sound Regional Council Traffic Choices Study: Lookup Table

Transportation Secure Data Center

Revised: 2016-12-05

Summary Statistics

Travel Diary	Households	
	Persons	
Vehicle GPS	Households	10
	Vehicles	10
	Days of Travel	51
	GPS Frequency (Hz)	approx
Vehicle OBD	Households	
	Vehicles	
	Days of Travel	
	GPS Frequency (Hz)	
Wearable GPS	Households	
	Persons	
	Days of Travel	
	GPS Frequency (Hz)	

Blank fields indicate data is not present for this study.

Vehicle Tables

v_gpstours

GPS tours are sequences of trips taking place within a period of time, either ending or beginning at a home or work location. The v_gpstours table consists of aggregate values from the trip table. The data were aggregated by assigning a unique tour identifier using the trip_id from the first trips in the tour sequence.

Name	Data Type	Comment
sampno	character varying	Unique household identifier
vehno	smallint	Vehicle number
first_trip	character varying	Unique identification number for each tour. The first trips trip_id is assigned as the tour_id, unique to each tour.
tour_start	timestamp without time zone	Timestamp recorded at the beginning of each tour (YYYY-MM-DD HH:MM:SS).
tour_end	timestamp without time zone	Timestamp recorded at the end of each tour (YYYY-MM-DD HH:MM:SS).
miles	double precision	Total miles for each tour (sum of bktp_mt_total from v_gpstrips table).
miles_tolled	double precision	Total miles tolled for each tour (sum of bktp_mt_tolled from the v_gpstrips table).

miles_zero_tolled	double precision	Total miles traveled on tolling roads during non-tolling periods for tour (sum of bktp_mt_zero_tolled from the v_gpstrips table).
toll_amount	double precision	Total amount tolled for each tour (sum of toll_amount from v_gpstrips table).
tour_h_h	boolean	Tour originating from home and ending at home (True/False).
tour_h_w	boolean	Tour originating from home and ending at work (True/False).
tour_w_h	boolean	Tour originating from work and ending at home (True/False).
tour_w_w	boolean	Tour originating from work and ending at work (True/False).
tripcount	smallint	Count of trips in the tour
duration	integer	Duration of the tour (in minutes)
left_region	boolean	Vehicle-recorded points outside of the region (4–county region)
extend_off_grid	boolean	Tours where a GPS reading where recorded outside of the region (True/False).
vacation_tour	boolean	Tour contains trip that occurs during a defined vacation period.
off_grid_dwell	integer	Tours containing trips ending outside the region where the vehicle spent an extended time at that destination between consecutive trips, threshold unknown (True/False).
high_dwell	boolean	Tours containing trips where a vehicle spent an extended time at that destination between consecutive trips, threshold unknown (True/False).
destination_dwell	integer	Time spent between trips within a tour.
control	boolean	Tour occurred during the official study control period, as described in the study timeline.
experiment	boolean	Tour occurred during the official study experiment period, as described in the study timeline.
study_week	smallint	Indicates the week number in which the tour occurred.
vacation	boolean	Tours contains trips that happened while the participants household was on vacation (True/False based on the vacations table).
drive_time	double precision	Duration of all trips for of all tours (in minutes).
freeway_miles	double precision	Total miles for each tour travelled on a freeway (further inquiry required).
income_categories	text	Income category of the household the vehicle used for the tour.

v_gpstrips

When the onboard GPS units begin a trip, that trip is assigned a unique trip_id. As points are collected, a unique ID is assigned along with the time that the point was recorded. With this information, the distance travelled per tour, the origin and destination of trips, and a number of other useful attributes can be identified.

Name	**Data Type**	**Comment**
sampno	character varying	Unique household identifier
vehno	smallint	Vehicle number
trip_id	character varying	Unique identification number for each trip
bktp_trip_id	bigint	The non-unique identifier given to each trip. The bktp_trip_id was initially used as the unique trip ID, but because of errors within the GPS, trip IDs were duplicated. The problem was resolved by adding the OBU serial number to the end of the bktp_trip_id, and calling it trip_id.

bktp_start_date	timestamp without time zone	The date/time of the start of the trip identified by the contractor who performed the analysis (MM:DD:YY HH:MM:SS).
bktp_end_date	timestamp without time zone	The date/time of the end of the trip identified by the contractor who performed the analysis (MM:DD:YY HH:MM:SS).
bktp_mt_total	double precision	The total miles travelled for each trip.
bktp_mt_tolled	double precision	The total miles travelled on the toll roads (in miles). Distance is calculated when a vehicle is on a tolled road using a map matching procedure. Using tolled road network layer buffer regions at the entry point of each line segment and a control point that bisects the road segment when a map match is performed. When GPS points for a trip are recorded in both the entry and control buffer regions, the distance of the trip is added as a standard value for that segment of the trip. When the vehicle leaves the tolled network, the trip distance reverts to a distance calculation identical the one described in trip processing.
bktp_mt_zero_tolled	double precision	The total miles travelled per trip on tolled roads during non-tolling period (in miles).
bktp_mt_non_tolled	double precision	The total miles travelled on non-tolled roads. When the vehicle leaves the tolled network, trip distance is calculated as linear distance between consecutive points with a horizontal dilution of precision less than 50. This method is identical to the one described in trip processing.
obu_serial_number	character varying	Unique identification number of the OBU.
toll_amount	double precision	The total amount tolls charged for the trip identified by the contractor who performed the analysis (in cents).
distance_miles	double precision	A post-processed linear distance calculation determined by measuring the distance between consecutive point readings along the path of travel (in miles). No filtering was applied to the points before the calculation; therefore, extreme distance values are present because errant GPS readings were included in the calculation.
calculated_duration	double precision	A post-processed duration calculation determined by subtracting the bktp_start and end dates (in minutes). No filtering was applied to the points before the calculation; this has little impact on the accuracy of the calculation.
calculated_max_speed	double precision	The maximum speed reached during each trip. No filtering was applied to the points when the speed at each point was calculated (this value will be extremely high because errant GPS readings were included in the calculation).
calculated_avg_speed	double precision	The average speed calculated using calculated distance and duration. No filtering was applied to the points before the distance calculation; therefore, the average speed values can be extreme because errant GPS readings were included in the calculation.
date_from_start	integer	The day number of the start of the trip (Jan 1, 2004 = day 1 through Nov 7, 2004 = Day 312).
day_of_week	integer	Day of the week identified by a single digit (1 = Sunday and 7 = Saturday)
hour_of_day	smallint	Hour of the day the trip occurred. The values range from 1 - 24. (1 = 12:00:01 a.m. to 1:00:00 a.m.).
good_trip	boolean	The latitude and longitude for both the start and stop of the trip were identified (True/False).
start_latitude*	double precision	The latitude of the trip origin
start_longitude*	double precision	The longitude of the trip origin
stop_longitude*	double precision	The longitude of the location of the trip destination
start_x_coord*	double precision	The relative X coordinate of the trip origin
start_y_coord*	double precision	The relative Y coordinate of the trip origin

stop_x_coord*	double precision	The relative X coordinate of the trip destination
stop_y_coord*	double precision	The relative Y coordinate of the trip destination
start_grid_cell*	bigint	The start_grid_id identifies the grid cells unique ID where the trip originated. Grid ID is a unique identifier used to link grid-based information for the region.
stop_grid_cell*	bigint	The stop_grid_id identifies the grid cells unique ID where the trip ended. The grid ID is a unique identifier used to link grid-based information to perform analysis.
stop_latitude*	double precision	The latitude of the location of the trip destination.
origin_dwell	integer	Time parked at the origin since the end of the previous trip (in minutes).
destination_dwell	integer	Time parked at the destination until the start of the next trip (in minutes).
fake_ends	boolean	Trip end reading has a horizontal dilution of precision of 50 (True/False).
fake_distance	boolean	Trip distance is inaccurate because of GPS error (True/False).
to_home	boolean	Trip ending at home (True/False)
from_home	boolean	Trip originating at home (True/False)
from_work	boolean	Trip originating from work (True/False)
to_work	boolean	Trip ending at work (True/False)
tour_h_h	boolean	Trip is part of a tour originating from home and ending at home (True/False).
tour_h_w	boolean	Trip is part of a tour originating from home and ending at work (True/False).
tour_w_h	boolean	Trip is part of a tour originating from work and ending at home (True/False).
tour_w_w	boolean	Trip is part of a tour originating from work and ending at work (True/False).
trip_start_off_grid	boolean	Trip originated outside the region (True/False)
trip_stop_off_grid	boolean	Trip ended outside the region (True/False)
vacation_trip	boolean	Trip occurred during a vacation (True/False)
control	boolean	Trip occurred during the study control period, as described in the study timeline (True/False).
experiment	boolean	Trip occurred during the study experiment period, as described in the study timeline (True/False).
study_week	smallint	Indicates the week number in which the trip occurred, based on the first week of 2004 = week 1 (study weeks range from 45 to 119).
geom*	geometry	Geometric linestring

v_households

The v_households table contains detailed information about economic and demographic characteristics for study households. The table contains information taken directly from the web survey in addition to data sampled from a grid-based spatial layer.

Name	**Data Type**	**Comment**
sampno	character varying	Unique household identifier

final_participation	boolean	Indicates if the household completed the study (True/False).
control_group	boolean	Indicates if the household participated in the control part of the study defined on the study timeline (True/False).
invitation	boolean	Participant household was solicited by PSRC to participate (True/False).
called	character varying	Participant household contacted PSRC with interest in participation (True/False).
notes	character varying	Comments provided by the participant.
problem	boolean	A problem was encountered during the study. Details provided in the breakdown table (True/False).
no_update_out	boolean	Indicates if the household information required update during the study (True/False).
orientation	boolean	Indicates if the household participated in orientation (True/False).
home_complete	character varying	Indicates if all vehicles in household were sampled (True/False).
address_change	boolean	Details whether a participant changed home address throughout the course of the study.
final_city	character varying	The city of the households current address upon completion of the study.
final_state	character varying	The state of the households current address upon completion of the study.
final_zip	character varying	The ZIP code of the households current address upon completion of the study.
media	boolean	Indicates if the household has Internet access (True/False).
incentive	smallint	Indicates if the household was paid for participation (True/False).
vehicle_count_gps	smallint	The number of household vehicles used in the study.
home_head_age*	smallint	Age of the head of household: 1 = 0-9, 2 = 10-19, 3 = 20-29, 4 = 30-39, 5 = 40-49, 6 = 50-59, 7 = 60-69, 8= 70-79, 9 = 80-89, 10 = 90-99, 99= 99+, 998 = DK, 999 = RF (Column only available in web download).
nrel_homehead_agebin	integer	NREL derived age bins for public distribution (head of household): 1= ¡16 YO, 2= 16-25 YO, 3= 26-35 YO, 4= 36-45 YO, 5= 46-55 YO, 6= 56-65 YO, 7= 66-79 YO, 8= 80+ YO, 999= DK/RF
opt_out	boolean	Indicates if the household opted out of the study (True/False).
notes2	character varying	Further comments provided by the participant.
home_county_name	character varying	The county of the households current address upon entry into the study.
grid_id*	bigint	Grid ID is a unique identifier used to link grid-based information for the region with the location of the household to mine further information about each household.
appr_land_val	integer	Housing assessors land value for the grid cell.
appr_imps_val	integer	The housing assessors improvement value (home value) for the grid cell.
appr_hh_units	character varying	The number of household units for the grid cell.
grid_avg_income	double precision	The average income of households for the surrounding grid cells.
grid_avg_persons	double precision	The average number of individuals in households for the surrounding grid cells.
grid_avg_workers	double precision	The average number of workers in households for the surrounding grid cells.
grid_avg_age_of_head	double precision	The average age of individuals in households for the surrounding grid cells.

grid_avg_children	double precision	The average number of children in households for the surrounding grid cells.
grid_avg_cars	double precision	The average number of cars in households for the surrounding grid cells.
ws_income	integer	The highest income of the household.
ws_living_other	smallint	1 if Yes, 0 if No (answer other than renting or owning)
ws_living_ownhome	smallint	1 if they own their own home, 0 if they do not
ws_living_rent	smallint	1 if they rent their home, 0 if they do not
ws_num_children	smallint	Number of children in each household
ws_num_drivers	smallint	Number of drivers in each household (individuals older than 16).
ws_num_vehicles	smallint	Number of vehicles in each household
ws_age_household_head_min*	smallint	Age of the head of household where 2 or more heads of household reside (minimum age): 1 = 0-9, 2 = 10-19, 3 = 20-29, 4 = 30-39, 5 = 40-49, 6 = 50-59, 7 = 60-69, 8= 70-79, 9 = 80-89, 10 = 90-99, 99= 99+, 998 = DK, 999 = RF (Column only available in web download).
ws_income_min	double precision	The lowest income of an individual in each household where 2 or more wage earning individual reside.
ws_living_other_min	smallint	1 if Yes, 0 if No (answer other than renting or owning)
ws_living_ownhome_min	smallint	Indicates that the individual in the household is living in a home they own (T) or in a home they dont own (null values indicate no response; in cases where two individuals are present, the minimum is displayed).
ws_living_rent_min	smallint	Indicates that the individual in the household is living in a home they rent (T) or are not in a home they rent (null values indicate no response; in cases where two individuals are present, the minimum is displayed).
ws_num_children_min	double precision	The number of children in each household (in cases where two are present, the minimum is displayed).
ws_num_drivers_min	double precision	The number of drivers in each household (in cases where two are present, the minimum is located here).
ws_num_vehicles_min	double precision	The number of vehicles possessed by each household (in cases where two are present, the minimum is located here).
has_ws_data	boolean	Indicates the availability of Web survey results (True/False).
has_gc_hhinfo	boolean	Indicates the availability of grid cell information (True/False).
has_assessor_data	boolean	Indicates the availability of housing assessor information (True/False).
home_city	character varying	Participant city of residence
home_state	character varying	Participant state of residence
home_zipcode	character varying	Participant ZIP code
income_imputed	double precision	The imputed income for each household
geom*	geometry	Geometric point representing household location

v_person

The v_person table provides the demographic characteristics of persons in each household derived from surveys completed by participant households at the beginning the study. This table contains records from 264 vehicle households and 434 drivers.

Name	Data Type	Comment
sampno	character varying	Unique household identifier
survey_id	smallint	Unique identification number assigned during completion of the Web survey (each household completed one survey).
driver_id	smallint	Unique identification number for each driver (the survey asked for responses from multiple drivers in each household).
number_of_drivers	smallint	Number of drivers in household (individuals older than 16)
number_of_vehicles	smallint	Number of vehicles in household
percentage_paid_by_toll	smallint	Percentage of road costs that should be paid for on a pay as you drive basis (respondent opinion).
percentage_paid_by_taxes	smallint	Percentage of road costs that should be paid for by taxes (respondent opinion).
concern_for_privacy	smallint	Level of concern about privacy implications of a toll system that involves collecting specific road use information for individual vehicles on a scale of 1-7 (1 = Not concerned at all, 7 = Very concerned).
zipcode	integer	ZIP code in which the household is located.
living_ownhome	text	1 if they own their own home, 0 if they do not
living_rent	text	1 If they rent their home, 0 if they do not
living_other	text	1 If Yes, 0 If No (answer other than renting or owning)
number_of_kids	smallint	Number of children younger than 16 who are living at home.
age_household_head*	smallint	Age of head of household
nrel_homehead_agebin	integer	NREL derived age bins for public distribution (head of household): 1= ¡16 YO, 2= 16-25 YO, 3= 26-35 YO, 4= 36-45 YO, 5= 46-55 YO, 6= 56-65 YO, 7= 66-79 YO, 8= 80+ YO, 999= DK/RF
moved_recently	smallint	Changes In location of workplace or school since March 28, 2005.
household_income	integer	Households total annual income for 2004 before taxes.
age*	smallint	Age of driver
nrel_agebin	integer	NREL derived age bins for public distribution: 1= ¡16 YO, 2= 16-25 YO, 3= 26-35 YO, 4= 36-45 YO, 5= 46-55 YO, 6= 56-65 YO, 7= 66-79 YO, 8= 80+ YO, 999= DK/RF
gender	character varying	Gender of driver (male/female)
driver_per_week_commute	smallint	Number of times a week the driver drives alone to travel to or from work or school.
driver_per_week_transit	smallint	Number of times a week the driver takes public transit to travel to or from work or school.
driver_per_week_-carpool_passenger	smallint	Number of times a week the driver is a passenger in a carpool to travel to or from work or school.
driver_per_week-_carpool_driver	smallint	Number of times a week the driver is a passenger in a carpool to travel to or from work or school
employment	smallint	Driver employment status (1- Yes, 0- No)
empl_full_time	smallint	Driver has a full-time employment status (1- Yes, 0- No).
empl_part_time	smallint	Driver has a part-time employment status (1- Yes, 0- No).
student	smallint	Driver is a student (1- Yes, 0- No)
empl_homemaker	smallint	Driver is a homemaker (1- Yes, 0- No)
empl_retired	smallint	Driver is retired (1- Yes, 0- No)
empl_status	smallint	Driver is unemployed (1- Yes, 0- No)
driver_years_education	smallint	Number of years of education

vehicle*	text	Vehicle description
geom*	geometry	GPS point representing household location

v_person_crosswalk

The v_person_crosswalk table links the v_person table to the v_vehicles table. It was generated by NREL to link tables in the data set.

Name	Data Type	Comment
sampno	character varying	Household identifier
driver_id	smallint	Driver identification number
vehno	smallint	Vehicle identifier

v_household_hourly

The v_household_hourly table is an aggregate table containing the distance driven by a household for each hour of each day of the study. The bktp_mt_total data are aggregated so that a row stores the distance travelled by each household (hhid) for each hour (hour_of_day) of each day (day_of_week). The analysis performed on the data by PSRC does not assess the distance travelled per vehicle in multiple vehicle households.

Name	Data Type	Comment
sampno	character varying	Unique household identifier
date_from_start	integer	Number of days since the beginning of the study.
day_of_week	integer	Day of the week identified by a single digit (1 = Sunday and 7 = Saturday).
hour_of_day	integer	Hour of the day on which the trip(s) Began (1 = 12:00 a.m. to 1:00 a.m., 24 = 11:00 p.m. to 12:00 a.m.).
num_trips	integer	Number of trips starting within the given hour.
vehicle_miles	double precision	Total number of miles from trips that started during the given hour.
vehicle_hours	double precision	Hours on the road for given trips.
pretoll_period	smallint	Trip(s) occurred in the pre-toll period as defined on the study timeline (1- Yes, 0- No).
posttoll_period	smallint	Trip(s) occurred in the post-toll period as defined on the study timeline (1- Yes, 0- No).
toll_amount	double precision	Total amount tolled for the given trips (sum of toll_amount from v_gpstrips Table).
miles_tolled	double precision	Total miles driven on the tolled network for the given trips (sum of bktp_mt_tolled from the v_gpstrips table).
miles_zero_tolled	double precision	Total miles driven on the tolled road network during non-tolling periods for the given trips. Sum of bktp_mt_zero_tolled from the v_gpstrips table.
miles_non_tolled	double precision	Total miles driven outside the tolled road network for the given trips. Sum of bktp_mt_non_tolled from the v_gpstrips table.
house_vehicles_amount	integer	Number of vehicles associated with the household.

num_tolled_links	integer	Number of tolled links the vehicle travelled for the given trips.
num_tolled_zero_links	integer	Number of tolled links the vehicle travelled during non-tolling periods for the given trips.
any_bad_trips	integer	A trip identified for the household during that hour was identified as bad (1- Yes, 0- No).

v_vehicles

The v_vehicles table is a subset of the web survey data indicating the vehicle ID and information about vehicle type.

Name	Data Type	Comment
sampno	character varying	Household identifier
vehno	smallint	Vehicle identifier
type*	character varying	The year, make, and model information input manually (numerous errors are included because of manual input)
numofvehicles	smallint	Number of vehicles in household
geom*	geometry	Geometric point data

v_breakdowns

The v_breakdowns table summarizes events during the study when there was an issue with the onboard GPS data collection unit or a mechanical issue with the vehicle when no data were recorded (reported to a representative).

Name	Data Type	Comment
sampno	character varying	Unique household identifier
vehno	smallint	Vehicle number
obu_serial_number	character varying	Unique identification number of the onboard GPS unit (OBU).
transmission_leak	real	Number of days the OBU has gone without transmission.
as_of_date	date	Date the transmission leak was identified.
prr_rep	character	Initials of the representative to whom the problem was reported.
prr_entry_date	date	Date the representative filled in the information.
veh_temp_idle	character varying	Indicates if the vehicle was temporarily idle (Yes/No).
temp_idle_begin	character varying	Provides beginning date and/or text describing the reason for not using the vehicle.
temp_idle_end	character varying	End date and/or text description
obu_prob	character	Was the OBU broken? (Yes/No)
prob_begin	character varying	Should be a date (participants sometimes entered ”Yes”)
prob_end	character varying	Should be a date (participants sometimes entered ”Ongoing”)
prob_type	character varying	Description of problem
unresolved	character varying	Action item for repair team
calculated_start_date	date	Date of last transmission for the identified breakdown.
calculated_end_date	date	Date of first transmission following the identified breakdown.

v_vacations

Summarizes events during the study when the participant was on vacation (reported to a representative).

Name	Data Type	Comment
sampno	character varying	Unique household identifier
vehno	smallint	Vehicle number
obu_serial_number	character varying	Unique identification number of the on the on board GPS unit (OBU)
transmission_leak	real	Number of days the onboard GPS has gone without transmission
as_of_date	date	The date the transmission leak was identified
prr_rep	character	Initials of the representative to whom the problem was reported
prr_entry_date	date	The date the representative filled in the information
vacation_begin	date	Should be a date; representative entered
vacation_end	date	Should be a date; representative entered
calculated_start_time	date	date of last transmission for the identified vacation
calculated_end_time	date	date of first transmission following the identified vacation

v_points

The v_points table contains all valid GPS points (associated with GPS trips) collected by the sampled vehicle GPS households during the assigned travel day (collected at 1 data point every 10 seconds). All higher level tables (households, persons, trips, etc.) are derived from point tables. For public download, the v_points data is segregated by vehicle and available in the sorted_by_vehicle.zip file. Thus, the v_points table is not available in the full_survey.zip download. This decision was made to better organize the data and manage file sizes.

Name	Data Type	Comment
sampno	numeric	Unique household identifier
vehno	smallint	Vehicle number
latitude*	double precision	Latitude recorded by the GPS device
longitude*	double precision	Longitude recorded by the GPS device
hdop	double precision	N/A
time_local	timestamp without time zone	Local timestamp
obu_serial	character varying	Unique identification number of the onboard GPS unit (OBU).
calc_miles_duration	double precision	Distance travelled since last recorded point (in miles).
calc_time_duration	double precision	Time elapsed since last recorded point (in seconds).
gpsspeed	double precision	calc_miles_duration/calc_time_duration (in MPH).
geom*	geometry	Geometric point data

Sorted by Vehicle Tables

gps_points

The v_points table contains all valid GPS points (associated with GPS trips) collected by the sampled vehicle GPS households during the assigned travel day (collected at 1 data point every 10 seconds). All higher level tables (households, persons, trips, etc.) are derived from point tables. For public download, the v_points data is segregated by vehicle and available in the sorted_by_vehicle.zip file. Thus, the v_points table is not available in the full_survey.zip download. This decision was made to better organize the data and manage file sizes.

Name	Data Type	Comment
sampno	numeric	Unique household identifier
vehno	smallint	Vehicle number
hdop	double precision	N/A
time_local	timestamp without time zone	Local timestamp
obu_serial	character varying	Unique identification number of the onboard GPS unit (OBU).
calc_miles_duration	double precision	Distance travelled since last recorded point (in miles).
calc_time_duration	double precision	Time elapsed since last recorded point (in seconds).
gpsspeed	double precision	calc_miles_duration/calc_time_duration (in MPH).

gps_households

The v_households table contains detailed information about economic and demographic characteristics for study households. The table contains information taken directly from the web survey in addition to data sampled from a grid-based spatial layer.

Name	Data Type	Comment
sampno	character varying	Unique household identifier
final_participation	boolean	Indicates if the household completed the study (True/False).
control_group	boolean	Indicates if the household participated in the control part of the study defined on the study timeline (True/False).
invitation	boolean	Participant household was solicited by PSRC to participate (True/False).
called	character varying	Participant household contacted PSRC with interest in participation (True/False).
notes	character varying	Comments provided by the participant.
problem	boolean	A problem was encountered during the study. Details provided in the breakdown table (True/False).
no_update_out	boolean	Indicates if the household information required update during the study (True/False).
orientation	boolean	Indicates if the household participated in orientation (True/False).
home_complete	character varying	Indicates if all vehicles in household were sampled (True/False).
address_change	boolean	Details whether a participant changed home address throughout the course of the study.
final_city	character varying	The city of the households current address upon completion of the study.

final_state	character varying	The state of the households current address upon completion of the study.
final_zip	character varying	The ZIP code of the households current address upon completion of the study.
media	boolean	Indicates if the household has Internet access (True/False).
incentive	smallint	Indicates if the household was paid for participation (True/False).
vehicle_count_gps	smallint	The number of household vehicles used in the study.
nrel_homehead_agebin	integer	NREL derived age bins for public distribution (head of household): 1= ¡16 YO, 2= 16-25 YO, 3= 26-35 YO, 4= 36-45 YO, 5= 46-55 YO, 6= 56-65 YO, 7= 66-79 YO, 8= 80+ YO, 999= DK/RF
opt_out	boolean	Indicates if the household opted out of the study (True/False).
notes2	character varying	Further comments provided by the participant.
home_county_name	character varying	The county of the households current address upon entry into the study.
appr_land_val	integer	Housing assessors land value for the grid cell.
appr_imps_val	integer	The housing assessors improvement value (home value) for the grid cell.
appr_hh_units	character varying	The number of household units for the grid cell.
grid_avg_income	double precision	The average income of households for the surrounding grid cells.
grid_avg_persons	double precision	The average number of individuals in households for the surrounding grid cells.
grid_avg_workers	double precision	The average number of workers in households for the surrounding grid cells.
grid_avg_age_of_head	double precision	The average age of individuals in households for the surrounding grid cells.
grid_avg_children	double precision	The average number of children in households for the surrounding grid cells.
grid_avg_cars	double precision	The average number of cars in households for the surrounding grid cells.
ws_income	integer	The highest income of the household.
ws_living_other	smallint	1 if Yes, 0 if No (answer other than renting or owning)
ws_living_ownhome	smallint	1 if they own their own home, 0 if they do not
ws_living_rent	smallint	1 if they rent their home, 0 if they do not
ws_num_children	smallint	Number of children in each household
ws_num_drivers	smallint	Number of drivers in each household (individuals older than 16).
ws_num_vehicles	smallint	Number of vehicles in each household
ws_income_min	double precision	The lowest income of an individual in each household where 2 or more wage earning individual reside.
ws_living_other_min	smallint	1 if Yes, 0 if No (answer other than renting or owning)
ws_living_ownhome_min	smallint	Indicates that the individual in the household is living in a home they own (T) or in a home they dont own (null values indicate no response; in cases where two individuals are present, the minimum is displayed).
ws_living_rent_min	smallint	Indicates that the individual in the household is living in a home they rent (T) or are not in a home they rent (null values indicate no response; in cases where two individuals are present, the minimum is displayed).
ws_num_children_min	double precision	The number of children in each household (in cases where two are present, the minimum is displayed).

ws_num_drivers_min	double precision	The number of drivers in each household (in cases where two are present, the minimum is located here).
ws_num_vehicles_min	double precision	The number of vehicles possessed by each household (in cases where two are present, the minimum is located here).
has_ws_data	boolean	Indicates the availability of Web survey results (True/False).
has_gc_hhinfo	boolean	Indicates the availability of grid cell information (True/False).
has_assessor_data	boolean	Indicates the availability of housing assessor information (True/False).
home_city	character varying	Participant city of residence
home_state	character varying	Participant state of residence
home_zipcode	character varying	Participant ZIP code
income_imputed	double precision	The imputed income for each household

gps_vehicles

The v_vehicles table is a subset of the web survey data indicating the vehicle ID and information about vehicle type.

Name	**Data Type**	**Comment**
sampno	character varying	Household identifier
vehno	smallint	Vehicle identifier
numofvehicles	smallint	Number of vehicles in household

* Indicates that the column has been redacted from cleansed data sets available at www.nrel.gov/tsdc. It has been determined that the column contains sensitive data that must be viewed within the TSDC's secure portal environment.

Note: When necessary, a series of lookup tables was provided in the database to identify the meanings of certain integer-represented responses to survey questions.

How to Cite the TSDC:

If you use TSDC data in a publication, please send a notification to **tsdc@nrel.gov** and include a citation that is consistent with the following format in your publication:

"Transportation Secure Data Center" (2016). National Renewable Energy Laboratory. |*Date TSDC data was accessed*|. www.nrel.gov/tsdc.