California Statewide Travel Survey: Lookup Table

Transportation Secure Data Center

Revised: 2016-12-07

Summary Statistics

Travel Diary	Households	42,436
	Persons	109,113
Vehicle GPS	Households	406
	Vehicles	677
	Days of Travel	3,265
	GPS Frequency (Hz)	1
Vehicle OBD	Households	1,294
	Vehicles	2,233
	Days of Travel	11,263
	GPS Frequency (Hz)	1
Wearable GPS	Households	3,871
	Persons	7,574
	Days of Travel	19,013
	GPS Frequency (Hz)	1

Blank fields indicate data is not present for this study.

Survey Tables

survey_place

The survey_place table contains one record for each unique place visited for the duration of the study. The place number is unique to each person. The time represented in this table is time spent at a place and is represented by a point. A description of each place is provided, along with a place type. The place table references the survey_households table using the sampno column, and references the survey_persons table using sampno and perno. It is also referenced by the survey_activity table via sampno, perno, and plano.

Name	Data Type	Comment
sampno	numeric	Household identifier
perno	smallint	Person identifier
plano	smallint	Place number (from diary)
vehno	smallint	Vehicle identifier
tripno	smallint	Unlinked trip identifier
place_name*	character varying	Name of place
travel_date	date	Assigned household travel date
arr_time	time without time zone	Arrival time
dep_time	time without time zone	Date time of departure according to diary

mode	smallint	Mode of transport
trip_distance_miles	double precision	Trip distance
air_trip_distance_miles	double precision	Travel distance (air distance)
tripdistanceflag	smallint	Route Distance: 1- Missing. (Note: 2,360 trip places have missing trip distanceit happened when Google failed to generate a route between the places or the client-side Javascript failed to save the route back to the server.)
prev_trip_duration_min	integer	Previous trip duration
act_dur	integer	Activity duration at place in minutes
act_cnt	smallint	Number of activities
block_id*	character varying	Census blockgroup
tract_id	character varying	Place census tract location
county_id	character varying	Trip location county Fid code 2010
state_id	character varying	Place census state ID
place_primarycity	character varying	Trip place location city, primary city name
city	character varying	City of place
zipcode	character varying	ZIP code
state	character varying	Place: state name
parked_loc_type	smallint	Parking location type
parked_other_loc_type	character varying	Parking location type, other
parked_address*	character varying	Parking location address
parked_minutes	integer	Time (in minutes) walking from parking to destination
parked_payed	smallint	Pay to park
parked_amount_payed	character varying	Parking amount
parked_unit	smallint	Parking unit
parked_pay_type	smallint	How did you pay for parking?
parked_other_pay_type	character varying	Pay for parking, other
parked_paymen_ne	character varying	Parking cost not reimbursed by employer
got_out_vehicle	smallint	Get out of vehicle
transit_system	smallint	Transit system
transit_system_other	character varying	Transit system, other
perwgt	double precision	Final person weight
expperwgt	double precision	Expanded final person weight
tcf	double precision	Trip correction factor
tcfperwgt	double precision	Final trip weight
exptcfperwgt	double precision	Expanded final trip weight
tottr	smallint	Total people traveling on trip
hhmem	smallint	Number of household members on trip
lon*	double precision	Latitude of place
lat*	double precision	Latitude of place
non_hh_members	smallint	Number of non-household members traveling together
route	character varying	Transit route
per1	smallint	Person number on trip
per2	smallint	Person number on trip

per3	smallint	Person number on trip
per4	smallint	Person number on trip
per5	smallint	Person number on trip
geom*	geometry	Point representation of the place. Generated from the place longitude/latitude coordinate value in the table (WGS 4326). Origin/destination or arrival/departure points are available but not represented as geometries in this table.

survey_households

The survey_households table includes data from the households who participated in the travel diary survey (a subset of the total households who participated in the study). Of these, one portion also participated in the wearable GPS part of the study and another portion in the vehicle GPS part of the study.

Name	Data Type	Comment
sampno	numeric	Household identifier
assn	smallint	Assigned travel date
recruite_date	date	Recruitment date
dow	smallint	Assigned travel day (1- Monday, 2- Tuesday, 3- Wednesday, 4- Thursday, 5- Friday, 6- Saturday, 7- Sunday)
home_block_id*	character varying	Home location block group identifier
home_tract_id	character varying	Home location census tract identifier
home_county_id	character varying	Residential county: 06001- Alameda, 06003- Alpine, 06005- Amador, 06007- Butte, 06009- Calaveras, 06011- Colusa, 06013- Contra Costa, 06015- Del Norte, 06017- El Dorado, 06019- Fresno, 06021- Glenn, 06023- Humboldt, 06025- Imperial, 06027- Inyo, 06029- Kern, 06031- Kings, 06033- Lake, 06035- Lassen, 06037- Los Angeles, 06039- Madera, 06041- Marin, 06043- Mariposa, 06045- Mendocino, 06047- Merced, 06049- Modoc, 06051- Mono, 06053- Monterey, 06055- Napa, 06057- Nevada, 06059- Orange, 06061- Placer, 06063- Plumas, 06065- Riverside, 06067- Sacramento, 06069- San Benito, 06071- San Bernardino, 06073- San Diego, 06075- San Francisco, 06077- San Joaquin, 06079- San Luis Obispo, 06081- San Mateo, 06083- Santa Barbara, 06085- Santa Clara, 06087- Santa Cruz, 06089- Shasta, 06091- Sierra, 06093- Siskiyou, 06095- Solano, 06097- Sonoma, 06099- Stanislaus, 06101- Sutter, 06103- Tehama, 06105- Trinity, 06107- Tulare, 06109- Tuolumne, 06111- Ventura, 06113- Yolo, 06115- Yuba
home_state_id	character varying	Home location: State census identifier
home_primarycity	character varying	Home location: Cityprimary city name
home_city	character varying	Home location: City name
home_state	character varying	Home location: State
home_zipcode	character varying	Home location: ZIP code
home_lon*	double precision	Home location y-coordinate
home_lat*	double precision	Home location y-coordinate
tenure	integer	Tenure at current home location (range: 197, 98- DK, 99- RF)
prev_city	character varying	Previous address: City
prev_state	character varying	Previous address: State
prev_zipcode	character varying	Previous address: ZIP code
recruite	smallint	Recruit mode (1- CATI, 2- CAWI)

retrieval	smallint	Retrieval mode (1- CATI, 2- CAWI, 3- Mail back [data entry])
incentive	smallint	Incentive flag (1- Yes, 2- No)
sample_type	smallint	Sample type (1- Matched, 2- Unmatched)
cec_sample	smallint	CEC sample flag (1- CEC-DMV, 2- CEC-UC Davis)
gps_sample	smallint	GPS sample (1- GPS Sample, 2- Non-GPS sample, 3- Refused or DQ from GPS)
gps_type	smallint	GPS type (1- Wearable, 2- In-vehicle, 3- In-vehicle OBD)
strata	smallint	The identifier of the strata in which the household was included matches county closely, with a few exceptions
mpo_sample	smallint	Metropolitan Planning Organization (MPO): 1- Alpine, 2- Amador, 3- AMBAG, 4- Butte, 5- Calaveras, 6- Colusa, 7- Del Norte, 8- Fresno, 9- Glenn, 10- Humboldt, 11- Inyo, 12- Kern, 13- Kings, 14- Lake, 15- Lassen, 16- Madera, 17- Mariposa, 18- Mendocino, 19- Merced, 20- Modoc, 21- Mono, 22- MTC, 23- Nevada, 24- Plumas, 25- SACOG, 26- San Joaquin, 27- San Luis Obispo, 28- SANDAG, 29- Santa Barbara, 30- SCAG, 31- Shasta, 32- Sierra, 33- Siskiyou, 34- Stanislaus, 35- Tehama, 36- TMPO, 37- Trinity, 38- Tulare, 39- Tuolumne
long_distance_8w	smallint	Long-distance trips in past 8 weeks (1- Trips to report, 2- No long-distance trips, 8- DK , 9- RF)
long_distance_flag	smallint	Flag for household who reported long-distance trip (1- Yes)
hispanic_flag	smallint	Hispanic household flag (1- Yes, 2- No)
complete_all	smallint	Household complete flag (1- Complete (all household members reported travel), 2- Valid partial complete (large household in N-1 rule)
complete_gps	smallint	Household complete flag (1- It was GPS assigned sample and completed GPS, 2- Valid partial complete [large household in N-1 rule])
mtc_finalflag	smallint	Flag for MTC region household
gps_mtc	smallint	MTC GPS flag
vehicle_count	smallint	Number of household vehicles (range: 015, 98- DK, 99- RF)
vehicle_op_count	smallint	Number of operational household vehicles (range: 015, 98- DK, 99- RF)
vehicle_power_count	smallint	Number of vehicles with power outlet (range: 015, 98- DK, 99- RF)
vehicle_new_power_count	smallint	Number of newer vehicles with power outlet (range: 015)
persons_count	smallint	Household size (range: 115, 98- DK, 99- RF)
non_relative_flag	smallint	Non-related household flag (1- Yes)
worker_count	smallint	Number of household workers
student_count	smallint	Number of household students
license_count	smallint	Number of household driver license holders
bike_count	smallint	Number of household bicycles (range: 015, 98- DK, 99- RF)
trip_count	smallint	Number of household trips on travel day
future	smallint	Willingness to participate in future study? (1- Yes, 2- No)
interview_language	smallint	Interview language (1- English, 2- Spanish)
income	smallint	Household income (1- $0$9,999, 2- $10,000 $24,999, 3- $25,000$34,999, 4- $35,000$49,999, 5- $50,000$74,999, 6- $75,000$99,999, 7- $100,000$149,999, 8- $150,000$199,999, 9- $200,000$249,999, 10- $250,000 or more, 98- DK, 99- RF)
transit_use	smallint	Transit use at least once per week (1- Yes, 2- No, 8- DK, 9- RF)

vehicle_new	smallint	Do you or does anyone in your household plan on buying or leasing a new or used vehicle within the next five years?: 1- Yes, 2- No, 8- DK, 9- RF
residence_type	smallint	Residence Type (01- Single-family house not attached to any other house; 02- Single-family house attached to one or more houses (townhouse, duplex, triplex), each with separate entry; 03- Mobile home; 04- Building with 24 apartments/condos/studios/rooms; 05- Building with 519 apartments/condos/studios/rooms; 06- building with 20 or more apartments/condos/studios/rooms [Note to interviewers: includes dorms, etc.]; 07- Boat, RV, van, etc.; 97- Other (specify); 98- DK; 99- RF)
residence_type_other	character varying	Other type of dwelling (If residence type- other, specify)
home_own	smallint	Home ownership (1- Own/buying (paying off mortgage); 2- Rent; 7- Other (specify), 8- DK, 9- RF)
home_own_other	character varying	Home ownership- other
phone_line	smallint	Number of landline phones (range: 015, 98- DK, 99- RF)
long_distance	smallint	Complete long-distance log (1- Yes, completed; 2- No, not completed; 3- Did not receive log; 8- DK; 9- RF)
buyer1	smallint	Buyer (1- Self/respondent; 2- Spouse/partner; 3- Child/daughter/ son/adopted child/stepchild/son-in-law/daughter-in-law; 8- Other relatives; 9- No relation/housemate/roommate/foster child; 98- DK; 99- RF)
buyer2	smallint	Buyer (1- Self/respondent; 2- Spouse/partner; 3- Child/daughter/ son/adopted child/stepchild/son-in-law/daughter-in-law; 8- Other relatives; 9- No relation/housemate/roommate/foster child; 98- DK; 99- RF)
buyer3	smallint	Buyer (1- Self/respondent; 2- Spouse/partner; 3- Child/daughter/ son/adopted child/stepchild/son-in-law/daughter-in-law; 8- Other relatives; 9- No relation/housemate/roommate/foster child; 98- DK; 99- RF)
buyer4	smallint	Buyer (1- Self/respondent; 2- Spouse/partner; 3- Child/daughter/ son/adopted child/stepchild/son-in-law/daughter-in-law; 8- Other relatives; 9- No relation/housemate/roommate/foster child; 98- DK; 99- RF)
buyer5	smallint	Buyer (1- Self/respondent; 2- Spouse/partner; 3- Child/daughter/ son/adopted child/stepchild/son-in-law/daughter-in-law; 8- Other relatives; 9- No relation/housemate/roommate/foster child; 98- DK; 99- RF)
buyer6	smallint	Buyer (1- Self/respondent; 2- Spouse/partner; 3- Child/daughter/ son/adopted child/stepchild/son-in-law/daughter-in-law; 8- Other relatives; 9- No relation/housemate/roommate/foster child; 98- DK; 99- RF)
buyer7	smallint	Buyer (1- Self/respondent; 2- Spouse/partner; 3- Child/daughter/ son/adopted child/stepchild/son-in-law/daughter-in-law; 8- Other relatives; 9- No relation/housemate/roommate/foster child; 98- DK; 99- RF)
buyer8	smallint	Buyer (1- Self/respondent; 2- Spouse/partner; 3- Child/daughter/ son/adopted child/stepchild/son-in-law/daughter-in-law; 8- Other relatives; 9- No relation/housemate/roommate/foster child; 98- DK; 99- RF)
ldper1	smallint	Household member who completed long-distance log (range: 18, 98- DK, 99- RF)
ldper2	smallint	Household member who completed long-distance log (range: 18, 98- DK, 99- RF)
ldper3	smallint	Household member who completed long-distance log (range: 18, 98- DK, 99- RF)

ldper4	smallint	Household member who completed long-distance log (range: 18, 98- DK, 99- RF)
ldper5	smallint	Household member who completed long-distance log (range: 18, 98- DK, 99- RF)
ldper6	smallint	Household member who completed long-distance log (range: 18, 98- DK, 99- RF)
ldper7	smallint	Household member who completed long-distance log (range: 18, 98- DK, 99- RF)
ldper8	smallint	Household member who completed long-distance log (range: 18, 98- DK, 99- RF)
noveh1	integer	Reason for no possession of a vehicle1: 1- Do not need a carcan do what I need and want to without a motor vehicle; 2- Too expensive to buy; 3- Too expensive to maintain (gas/insurance/ repairs), 4- Health/age related reasons; 5- Cannot get insurance; 6- Concerned about impact on environment; 7- Get rides from other people; 8- No place to park; 9- Use public transit/car share/bike/ walk- HHBIC; 10- No drivers license, 11- Cannot drive- HHBIC; 12- Other- HHBIC; 98- DK; 99- RF
noveh2	integer	Reason for no possession of a vehicle1: 1- Do not need a carcan do what I need and want to without a motor vehicle; 2- Too expensive to buy; 3- Too expensive to maintain (gas/insurance/ repairs), 4- Health/age related reasons; 5- Cannot get insurance; 6- Concerned about impact on environment; 7- Get rides from other people; 8- No place to park; 9- Use public transit/car share/bike/ walk- HHBIC; 10- No drivers license, 11- Cannot drive- HHBIC; 12- Other- HHBIC; 98- DK; 99- RF
noveh3	integer	Reason for no possession of a vehicle1: 1- Do not need a carcan do what I need and want to without a motor vehicle; 2- Too expensive to buy; 3- Too expensive to maintain (gas/insurance/ repairs), 4- Health/age related reasons; 5- Cannot get insurance; 6- Concerned about impact on environment; 7- Get rides from other people; 8- No place to park; 9- Use public transit/car share/bike/ walk- HHBIC; 10- No drivers license, 11- Cannot drive- HHBIC; 12- Other- HHBIC; 98- DK; 99- RF
noveh4	integer	Reason for no possession of a vehicle1: 1- Do not need a carcan do what I need and want to without a motor vehicle; 2- Too expensive to buy; 3- Too expensive to maintain (gas/insurance/ repairs), 4- Health/age related reasons; 5- Cannot get insurance; 6- Concerned about impact on environment; 7- Get rides from other people; 8- No place to park; 9- Use public transit/car share/bike/ walk- HHBIC; 10- No drivers license, 11- Cannot drive- HHBIC; 12- Other- HHBIC; 98- DK; 99- RF
noveh5	integer	Reason for no possession of a vehicle1: 1- Do not need a carcan do what I need and want to without a motor vehicle; 2- Too expensive to buy; 3- Too expensive to maintain (gas/insurance/ repairs), 4- Health/age related reasons; 5- Cannot get insurance; 6- Concerned about impact on environment; 7- Get rides from other people; 8- No place to park; 9- Use public transit/car share/bike/ walk- HHBIC; 10- No drivers license, 11- Cannot drive- HHBIC; 12- Other- HHBIC; 98- DK; 99- RF
noveh6	integer	Reason for no possession of a vehicle1: 1- Do not need a carcan do what I need and want to without a motor vehicle; 2- Too expensive to buy; 3- Too expensive to maintain (gas/insurance/ repairs), 4- Health/age related reasons; 5- Cannot get insurance; 6- Concerned about impact on environment; 7- Get rides from other people; 8- No place to park; 9- Use public transit/car share/bike/ walk- HHBIC; 10- No drivers license, 11- Cannot drive- HHBIC; 12- Other- HHBIC; 98- DK; 99- RF

noveh7	integer	Reason for no possession of a vehicle1: 1- Do not need a carcan do what I need and want to without a motor vehicle; 2- Too expensive to buy; 3- Too expensive to maintain (gas/insurance/ repairs), 4- Health/age related reasons; 5- Cannot get insurance; 6- Concerned about impact on environment; 7- Get rides from other people; 8- No place to park; 9- Use public transit/car share/bike/ walk- HHBIC; 10- No drivers license, 11- Cannot drive- HHBIC; 12- Other- HHBIC; 98- DK; 99- RF
noveh8	integer	Reason for no possession of a vehicle1: 1- Do not need a carcan do what I need and want to without a motor vehicle; 2- Too expensive to buy; 3- Too expensive to maintain (gas/insurance/ repairs), 4- Health/age related reasons; 5- Cannot get insurance; 6- Concerned about impact on environment; 7- Get rides from other people; 8- No place to park; 9- Use public transit/car share/bike/ walk- HHBIC; 10- No drivers license, 11- Cannot drive- HHBIC; 12- Other- HHBIC; 98- DK; 99- RF
hhwgt	double precision	Final household weight
exphhwgt	double precision	Expanded final household weight
geom*	geometry	Point representation of the home location (WGS84, 4326)

survey_activity

The survey_activity table contains information collected during the survey retrieval interview. The interview collected information about each persons activities, recorded in his or her travel diaries, throughout the assigned travel period. The reported activities occur at a single place; however, multiple activities can also occur at one place during a single trip. This table references the survey_place table with sampno, perno, and plano (the survey_place and survey_activity tables share a one-to-many relationship). The activity reported is for a single travel day and contains the highest level of detail about the survey participants trip purpose. The time provided in this table is the duration spent on a particular activity at a particular place. Activities can be sequenced using the tripno, actno, and plano to identify travel behavior (however, this can be accomplished more easily by using the survey_place table). The survey_activity table also references the survey_households table with the sampno row and references the survey_person table with sampno, perno.

Name	**Data Type**	**Comment**
sampno	numeric	Household identifier
perno	smallint	Person number
tripno	smallint	Unlinked trip ID
actno	smallint	Activity number
plano	smallint	Place number
place_name*	character varying	Place name
assn	smallint	Assigned travel date identifier
travel_date	date	Assigned travel date
arr_time	time without time zone	Timestamp of arrival on the travel day
dep_time	time without time zone	Timestamp of departure on the travel day

purpose	smallint	Activity purpose: 1- Personal activities (sleeping, personal care, leisure, chores); 2- Preparing meals/eating; 3- Hosting visitors/entertaining guests; 4- Exercise (with or without equipment)/playing sports; 5- Study/schoolwork; 6- Work for pay at home using telecommunications equipment; 7- Using computer/telephone/cell or smart phone, or other communications device for personal activities; 8- All other activities at home; 9- Work/job duties; 10- Training; 11- Meals at work; 12- Work-sponsored social activities (holiday/birthday celebrations, etc.); 13- Non-work-related activities (social clubs, etc.); 14- Exercise/sports; 15- Volunteer work/activities, 16- All other work-related activities at work; 17- School/classroom/ laboratory; 18- Meals at school/college; 19- After-school or non-class-related sports/physical activities; 20- All other after-school or non-class-related activities (library, music rehearsal, clubs, etc.); 21- Change type of transportation/transfer (walk to bus, walk to/from parked car); 22- pick up/drop off passenger(s); 23- Drive-through meals (snacks, coffee, etc.) (show if PTYPE <> 1 [Home]); 24- Drive-through other (ATM, bank, etc.) (show if PTYPE <> 1); 25- Work-related (meetings, sales calls, deliveries); 26- Service private vehicle (gas, oil, lubes, repairs), 27- Routine shopping (groceries, clothing, convenience store, household maintenance, etc.); 28- Shopping for major purchases or specialty items (appliance, electronics, new vehicles, major household repairs, etc.); 29- Household errands (bank, dry cleaning, etc.); 30- Personal business (visit government office, attorney, accountant, etc.); 31- Eat meal at restaurant/diner; 32- Health care (doctor, dentist, eye care, chiropractor, veterinarian, etc.); 33- Civic/ religious activities; 34- Outdoor exercise (outdoor sports, jogging, bicycling, walking the dog, etc.); 35- Indoor exercise (gym, yoga, etc.); 36- Entertainment (movies, sporting events, etc.); 37- Social/visiting friends and relatives; 38- Other (specify), 39- Loop trip (for interviewer only- not listed on diary), 99- DK/RF
purpose_other	character varying	Activity purpose, other
with_others	smallint	Did anyone else participate with you? (1- Yes, 2- No, 8- DK, 9- RF)
hh_members	smallint	Number of household/family members
other_rel	smallint	Number of other relatives
coworkers	smallint	Number of people from your work
students	smallint	Number of people from your school
cohorts	smallint	Number of people from same religious/social organization
friends	smallint	Number of friends
others	smallint	Number of other relations
block_id*	character varying	Place location: Block group identifier
tract_id	character varying	Place location: Census tract identifier
county_id	character varying	Place location: County identifier
pprimarycity	character varying	Place location: Primary city name
city	character varying	Place location: City name
zipcode	character varying	Place location: ZIP code identifier
perwgt	double precision	Final person weight
experwgt	double precision	Expanded final person weight
tcf	double precision	Trip correction factor
tcfperwgt	double precision	Final trip weight
exptcfperwgt	double precision	Expanded final trip weight
geom*	geometry	Point geometry representing the place at which an activity occurred (WGS84 4326)

survey_vehicles

The survey_vehicles table contains detailed vehicle information for the vehicles described in the survey part of the study (a subset of the total vehicles in the study). Of the vehicle records described, a smaller portion also contain GPS travel data.

Name	Data Type	Comment
sampno	numeric	Household identifier
vehno	smallint	Vehicle number
veh_type	smallint	Vehicle type: 1- Hybrid vehicle, 2- Gasoline-only vehicle, 3- Diesel-only vehicle, 4- Plug-in hybrid electric vehicle, 5- CNG, 6- Electric only, 7- Other, 9- DK/RF
model_year	smallint	Vehicle year: range: 19302013, 9998- DK, 9999- RF
veh_make	smallint	Vehicle make: 11- Acura, 12- Audi, 13- BMW, 57- Buell, 14- Buick, 15- Cadillac, 16- Chevrolet, 17- Chrysler, 18- Daewoo, 19- Dodge, 58- Ducati, 20- Ford, 21- Geo, 22- GMC, 23- Harley Davidson, 24- Honda, 25- Hummer, 26- Hyundai, 27- Infiniti, 28- Isuzu, 29- Jaguar, 30- Jeep, 31- Kawasaki, 32- Kia, 44- Land Rover, 33- Lexus, 34- Lincoln, 35- Mazda, 36- Mercedes, 37- Mercury, 54- Mini, 38- Mitsubishi, 39- Nissan, 40- Oldsmobile, 41- Plymouth, 42- Pontiac, 43- Porsche, 55- Ram, 45- Saab, 46- Saturn, 47- Scion, 56- Smart, 48- Subaru, 49- Suzuki, 50- Toyota, 59- Triumph, 51- Volkswagen, 52- Volvo , 53- Yamaha , 97- Other (specify), 98- DK, 99- RF
veh_make_other	character varying	Vehicle make, other
veh_model*	character varying	Vehicle model
veh_series*	character varying	Series: 000000- No series, 999997- Other (specify), 999998- DK, 999999- RF (refer to series tab for code list)
veh_series_other*	character varying	Series, other
body_type	smallint	Body type: 1- Sedan (4-Door), 2- SUV, 3- Pickup truck, 4- Coupe (2-Door), 5- Convertible , 6- Hatchback, 7- Wagon, 8- Minivan , 9- Van , 10- Other kind of truck, 11- Recreational vehicle, 12- Motorcycle, 3- Moped/scooter (e.g., Vespa), 97- Other, (specifywatercraft, crossover, etc.), 98- DK , 99- RF
body_type_other	character varying	Body type, other
transmission	smallint	Vehicle transmission: 1- Automatic, 2- Manual, 3- Both automatic and manual options (e.g., Tiptronic), 8- DK, 9- RF
power_train	smallint	Power train: 1- Front-wheel drive, 2- Rear-wheel drive 3- Four-wheel drive (all-wheel drive), 7- Other (specify), 8- DK, 9- RF
power_train_other	character varying	Power train, other
cylinders	smallint	Engine cylinders: 1- Two, 2- Four, 3- Five, 4- Six, 5- Eight, 6- Ten, 7- Twelve, 97- Other (specify), 98- DK, 99- RF
cylinders_other	character varying	Cylinders, other
fuel_type1	smallint	Fuel type: 1- Gasoline; 2- Diesel; 3- Electric/electric battery; 4- CNG - Natural gas; 5- Biofuel, ethanol, biodiesel; 7- Other (specify); 8- DK, 9- RF
fuel_type2	smallint	Fuel type: 1- Gasoline; 2- Diesel; 3- Electric/electric battery; 4- CNG - Natural gas; 5- Biofuel, ethanol, biodiesel; 7- Other (specify); 8- DK, 9- RF
fuel_type3	smallint	Fuel type: 1- Gasoline; 2- Diesel; 3- Electric/electric battery; 4- CNG - Natural gas; 5- Biofuel, ethanol, biodiesel; 7- Other (specify); 8- DK, 9- RF

fuel_type4	smallint	Fuel type: 1- Gasoline; 2- Diesel; 3- Electric/electric battery; 4- CNG - Natural gas; 5- Biofuel, ethanol, biodiesel; 7- Other (specify); 8- DK, 9- RF
fuel_type5	smallint	Fuel type: 1- Gasoline; 2- Diesel; 3- Electric/electric battery; 4- CNG - Natural gas; 5- Biofuel, ethanol, biodiesel; 7- Other (specify); 8- DK, 9- RF
fuel_type6	smallint	Fuel type: 1- Gasoline; 2- Diesel; 3- Electric/electric battery; 4- CNG - Natural gas; 5- Biofuel, ethanol, biodiesel; 7- Other (specify); 8- DK, 9- RF
fuel_type_other	character varying	Fuel type, other
outlet	smallint	Electrical outlet: range: 18999, 9000- No outlet, 9998- DK, 9999- RF
outlet_volt	integer	Outlet volts: 1- Standard 110 Volt (outlet for small appliances, lamps, etc.); 2- 220 Volt (round outlet for large appliances such as washing machines, dryers, refrigerators); 8- DK; 9- RF
outlet_electric	smallint	Working power outlet? (1- Yes, 2- No, 8- DK , 9- RF)
purchase_type	smallint	Vehicle acquired: 1- New, 2- Used, 8- DK, 9- RF
ownership	smallint	Vehicle Ownership: 1- Owned by household member, 2- Leased by household member, 3- Owned or leased by employer/company, 4- Owned or leased by person not living in household, 7- Other, 8- DK, 9- RF
ownership_other	character varying	Vehicle ownership, other
insurance	smallint	Vehicle insurance? (1- Yes, 2- No, 8- DK, 9- RF)
obd_device	smallint	Vehicle devices? (1- Yes, 2- No, 8- DK, 9- RF)
vehicle_used	smallint	Vehicle used on travel day? (1- Yes, 2- No)
why_no_travel	smallint	Reason why not: 1- Did not travel on travel day, 2- Vehicle not needed, 3- Prefer to use transit, 4- Used bicycle, 5- Prefer to walk, 6- Vehicle not working/in shop, 7- Traveled with others, 8- Wanted to help the environment, 9- Parking cost too high, 10- Fuel costs too high, 11- Short trip, 12- Long trip, 97- Other (specify), 98- DK, 99- RF
why_no_travel_other	character varying	Reason why not, other
hhwgt	double precision	Final household weight
exphhwgt	double precision	Expanded final household weight
geom*	geometry	Geometric point of vehicles home location

Name	**Data Type**	**Comment**
sampno	numeric	
ld_tripno	smallint	
travel_date	date	
last_trip_date	smallint	
start_ts	character varying	
trip_purpose	smallint	
trip_purpose_other	character varying	
trip_people	smallint	
trip_hh_members	smallint	
returnhometripflag	smallint	
origin_place_name*	character varying	

origin_type	smallint	
origin_city	character varying	
origin_state	character varying	
origin_zipcode	character varying	
origin_primarycity	character varying	
origin_country	character varying	
origin_lon*	double precision	
origin_lat*	double precision	
destination_place_name*	character varying	
destination_city	character varying	
destination_state	character varying	
destination_zipcode	character varying	
destination_primarycity	character varying	
destination_country	character varying	
destination_lon*	double precision	
destination_lat*	double precision	
dep_mode1	smallint	
dep_mode2	smallint	
dep_mode3	smallint	
dep_mode4	smallint	
arr_place_name*	character varying	
arr_mode1	smallint	
arr_mode2	smallint	
arr_mode3	smallint	
arr_mode4	smallint	
origin_state_id	character varying	
origin_county_id	character varying	
origin_tract_id	character varying	
origin_block_id*	character varying	
destination_state_id	character varying	
destination_county_id	character varying	
destination_tract_id	character varying	
destination_block_id*	character varying	
mode1	smallint	
mode2	smallint	
mode3	smallint	
mode4	smallint	
perno1	smallint	
perno2	smallint	
perno3	smallint	
perno4	smallint	
perno5	smallint	
perno6	smallint	

perno7	smallint	
perno8	smallint	
geom*	geometry	

survey_person

The survey_person table contains personal information from the persons who completed the travel diary survey (a subset of the total persons who participated in the study). In the records of the persons who completed the survey, a smaller portion also contain GPS travel data.

Name	Data Type	Comment
sampno	numeric	Household identifier
perno	smallint	Person number
vehno	smallint	Vehicle driven by respondent (range: 115, 98- DK, 99- RF)
travel_date	date	Assigned household travel date
relation	smallint	Relationship to head of house: 1- Self; 2- Spouse/partner; 3- child/daughter/son/adopted child/stepchild/son-in-law/daughter-in-law; 4- Parent/parent in-law/stepparent; 5- Brother or sister (stepbrother/stepsister); 6- Grandparent, 7- Grandchild; 8- Other relative; 9- No relation/housemate/ roommate/foster child, 99- RF
gender	smallint	Gender: 1- Male, 2- Female, 9- RF
age*	smallint	Age (range: 098, 9999 years old or older, 998- DK, 999- RF)
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
education	smallint	Level of education completed: 1- Not a high school graduate, 12 grade or less (including young children); 2- High school graduate (high school diploma or GED); 3- Some college credit but no degree; 4- Associate or technical school degree; 5- Bachelors or undergraduate degree; 6- Graduate degree (includes professional degree such as M.D., D.D.S., J.D.); 7- Other (specify); 8- DK, 9- RF
education_other	character varying	Level of education completed, other
has_diary	smallint	Have diary to refer To: 1- Yes, 2- No, 9- Prefer not to answer
person_trips	smallint	Person trips
walk_trips	smallint	Walk in the last week (range: 050, 98- DK, 99- RF)
bike_trips	smallint	Bicycle in the last week (range: 050, 98- DK, 99- RF)
motor_trip	smallint	1- Yes, has at least one motor trip on travel day (Mode- 5, 6, 7, 8, 10); 2- No, do not have motor trip on travel day
hispanic_flag	smallint	Hispanic or Latino: 1- Yes, 2- No, 8- DK, 9- RF
race1	smallint	Ethnicity or race: 1- White, 2- Black or African American; 3- American Indian or Alaska Native; 4- Asian (Asian Indian, Japanese, Chinese, Korean, Filipino, Vietnamese); 5- Native Hawaiian or Pacific Islander (Guamanian, Samoan, Fijian); 97- Other (specify); 98- DK; 99- RF
race2	smallint	Ethnicity or race: 1- White, 2- Black or African American; 3- American Indian or Alaska Native; 4- Asian (Asian Indian, Japanese, Chinese, Korean, Filipino, Vietnamese); 5- Native Hawaiian or Pacific Islander (Guamanian, Samoan, Fijian); 97- Other (specify); 98- DK; 99- RF

race3	smallint	Ethnicity or race: 1- White, 2- Black or African American; 3- American Indian or Alaska Native; 4- Asian (Asian Indian, Japanese, Chinese, Korean, Filipino, Vietnamese); 5- Native Hawaiian or Pacific Islander (Guamanian, Samoan, Fijian); 97- Other (specify); 98- DK; 99- RF
race4	smallint	Ethnicity or race: 1- White, 2- Black or African American; 3- American Indian or Alaska Native; 4- Asian (Asian Indian, Japanese, Chinese, Korean, Filipino, Vietnamese); 5- Native Hawaiian or Pacific Islander (Guamanian, Samoan, Fijian); 97- Other (specify); 98- DK; 99- RF
race_other	character varying	Ethnicity or race, other
citizen	smallint	Nativity: 1- Yes, 2- No, 8- DK, 9- RF
country_birth	smallint	Country of birth (range: 19002012, 9998- DK, 9999- RF)
driver_license	smallint	Valid drivers license: 1- Yes, 2- No, 8- DK, 9- RF
transit_pass	smallint	Transit pass: 1- Yes, 2- No, 8- DK, 9- RF
transit_pass_t1	smallint	Type of transit pass: 1- Bay Area Clipper Card (Clip); 2- San Diego Compass Card (Comp); 3- Tap Card or EZ Transit Pass; 4- Other local bus pass; 5- Other express/ commuter bus pass; 6- Other light rail/subway/train/ streetcar pass; 7- Dial-a-ride/paratransit pass; 8- Ferry/boat pass; 97- Other (specify); 98- DK; 99- RF
transit_pass_t2	smallint	Type of transit pass: 1- Bay Area Clipper Card (Clip); 2- San Diego Compass Card (Comp); 3- Tap Card or EZ Transit Pass; 4- Other local bus pass; 5- Other express/ commuter bus pass; 6- Other light rail/subway/train/ streetcar pass; 7- Dial-a-ride/paratransit pass; 8- Ferry/boat pass; 97- Other (specify); 98- DK; 99- RF
transit_pass_t3	smallint	Type of transit pass: 1- Bay Area Clipper Card (Clip); 2- San Diego Compass Card (Comp); 3- Tap Card or EZ Transit Pass; 4- Other local bus pass; 5- Other express/ commuter bus pass; 6- Other light rail/subway/train/ streetcar pass; 7- Dial-a-ride/paratransit pass; 8- Ferry/boat pass; 97- Other (specify); 98- DK; 99- RF
transit_pass_t4	smallint	Type of transit pass: 1- Bay Area Clipper Card (Clip); 2- San Diego Compass Card (Comp); 3- Tap Card or EZ Transit Pass; 4- Other local bus pass; 5- Other express/ commuter bus pass; 6- Other light rail/subway/train/ streetcar pass; 7- Dial-a-ride/paratransit pass; 8- Ferry/boat pass; 97- Other (specify); 98- DK; 99- RF
transit_pass_t5	smallint	Type of transit pass: 1- Bay Area Clipper Card (Clip); 2- San Diego Compass Card (Comp); 3- Tap Card or EZ Transit Pass; 4- Other local bus pass; 5- Other express/ commuter bus pass; 6- Other light rail/subway/train/ streetcar pass; 7- Dial-a-ride/paratransit pass; 8- Ferry/boat pass; 97- Other (specify); 98- DK; 99- RF
transit_pass_t6	smallint	Type of transit pass: 1- Bay Area Clipper Card (Clip); 2- San Diego Compass Card (Comp); 3- Tap Card or EZ Transit Pass; 4- Other local bus pass; 5- Other express/ commuter bus pass; 6- Other light rail/subway/train/ streetcar pass; 7- Dial-a-ride/paratransit pass; 8- Ferry/boat pass; 97- Other (specify); 98- DK; 99- RF
transit_pass_t7	smallint	Type of transit pass: 1- Bay Area Clipper Card (Clip); 2- San Diego Compass Card (Comp); 3- Tap Card or EZ Transit Pass; 4- Other local bus pass; 5- Other express/ commuter bus pass; 6- Other light rail/subway/train/ streetcar pass; 7- Dial-a-ride/paratransit pass; 8- Ferry/boat pass; 97- Other (specify); 98- DK; 99- RF
transit_pass_other	character varying	Type of transit pass, other

clipper_card_t1	smallint	Type of clipper card: 1- Cash value; 2- AC Transit - adult 31-day local pass; 3- AC Transit adult 31-day transbay pass; 4- AC Transit senior/RTC local monthly pass; 5- AC Transit youth 31-day local pass; 6- BART $48 high value discount; 7- BART $64 high value discount card; 8- Caltrain adult monthly pass; 9- Caltrain adult monthly and muni pass; 10- Caltrain adult 8-ride ticket; 11- Caltrain eligible discount monthly pass; 12- Caltrain eligible discount 8-ride ticket; 13- SF muni adult muni/BART fast pass; 14- SF muni adult muni only monthly pass; 15 - SF muni adult 10-ride book; 16- SF muni senior monthly pass; 17- SF muni disabled monthly pass; 18- SF muni youth monthly pass; 19- Samtrans adult local monthly pass; 20- Samtrans adult local/SF monthly pass; 21- Samtrans adult express monthly pass; 22- Samtrans eligible discount monthly pass; 23- Samtrans youth monthly pass; 24- VTA adult monthly pass; 25- VTA express adult monthly pass; 26- VTA senior/RTC monthly pass, 27- VTA youth monthly pass; 98- DK; 99- RF
clipper_card_t2	smallint	Type of clipper card: 1- Cash value; 2- AC Transit - adult 31-day local pass; 3- AC Transit adult 31-day transbay pass; 4- AC Transit senior/RTC local monthly pass; 5- AC Transit youth 31-day local pass; 6- BART $48 high value discount; 7- BART $64 high value discount card; 8- Caltrain adult monthly pass; 9- Caltrain adult monthly and muni pass; 10- Caltrain adult 8-ride ticket; 11- Caltrain eligible discount monthly pass; 12- Caltrain eligible discount 8-ride ticket; 13- SF muni adult muni/BART fast pass; 14- SF muni adult muni only monthly pass; 15 - SF muni adult 10-ride book; 16- SF muni senior monthly pass; 17- SF muni disabled monthly pass; 18- SF muni youth monthly pass; 19- Samtrans adult local monthly pass; 20- Samtrans adult local/SF monthly pass; 21- Samtrans adult express monthly pass; 22- Samtrans eligible discount monthly pass; 23- Samtrans youth monthly pass; 24- VTA adult monthly pass; 25- VTA express adult monthly pass; 26- VTA senior/RTC monthly pass, 27- VTA youth monthly pass; 98- DK; 99- RF
clipper_card_t3	smallint	Type of clipper card: 1- Cash value; 2- AC Transit - adult 31-day local pass; 3- AC Transit adult 31-day transbay pass; 4- AC Transit senior/RTC local monthly pass; 5- AC Transit youth 31-day local pass; 6- BART $48 high value discount; 7- BART $64 high value discount card; 8- Caltrain adult monthly pass; 9- Caltrain adult monthly and muni pass; 10- Caltrain adult 8-ride ticket; 11- Caltrain eligible discount monthly pass; 12- Caltrain eligible discount 8-ride ticket; 13- SF muni adult muni/BART fast pass; 14- SF muni adult muni only monthly pass; 15 - SF muni adult 10-ride book; 16- SF muni senior monthly pass; 17- SF muni disabled monthly pass; 18- SF muni youth monthly pass; 19- Samtrans adult local monthly pass; 20- Samtrans adult local/SF monthly pass; 21- Samtrans adult express monthly pass; 22- Samtrans eligible discount monthly pass; 23- Samtrans youth monthly pass; 24- VTA adult monthly pass; 25- VTA express adult monthly pass; 26- VTA senior/RTC monthly pass, 27- VTA youth monthly pass; 98- DK; 99- RF
compass_card	smallint	Type of compass card: 1- Regional monthly pass adult; 2- regional monthly pass youth; 3- Regional monthly pass senior/disabled/Medicare; 4- Premium express monthly pass adult; 5- Premium express monthly pass youth; 6- Premium express monthly pass senior/disabled/ Medicare; 7- Coaster 1 zone monthly pass; 8- Coaster 2 zone monthly pass; 9- Coaster 3 zone monthly pass; 10- Coaster monthly pass youth; 11- Coaster monthly pass senior/disabled/ Medicare; 12- Sprinter/breeze monthly pass; 98- DK; 99- RF
typs_ex_pass_card	smallint	Type of Tap/EZ Pass Card: 1- 30-day pass; 27-day pass; 3- EZ transit pass; 4- Freeway express stamp;, 5- Tap stored value; 98- DK; 99- RF
toll_pass	smallint	Toll pass: 1- Yes, 2- No, 8- DK, 9- RF

car_sharing	smallint	Car sharing: 1- Yes, 2- No, 8- DK, 9- RF
employment	smallint	Employed: 1- Yes, 2- No, 8- DK, 9- RF
empl_status	smallint	Employment status: 1- Retired, 2- Disabled/on disability status, 3- Homemaker, 4- Unemployed But looking for work, 5- Unemployed and not looking for work, 6- Student, 7- Volunteer, 97- Other (specify), 98- DK, 99- RF
empl_status_other	character varying	Employment status, other
empl_industry	smallint	Industry: 11- Agriculture (farming/forestry/fishing/ hunting); 21- Mining/quarrying/oil or gas drilling; 22- Utility company/sewage treatment facility/utilities in general; 23- Construction; 31- Manufacturing (bakery/food processor/ mill/manufacturer/machine shop/medical biotechnology); 42- Wholesale trade; 44- Retail trade (store, shop, dealer [e.g., auto dealer], etc.; 48- Transportation (bus or train company/airline/postal service, warehouse or storage); 51- Information (publisher/phone company/movie company/ Internet company/library/data processing/computer company), 52- Finance and insurance (bank/insurance company/ credit union/finance company); 53- Real estate company and any rental or leasing company, including auto or video rental; 54- Professional scientific or technical services (law/accounting/design/engineering/ consulting or advertising firm or company/veterinary services; 55- Management of services and companies; 56- Administrative support-employment agency/travel agency/security guard company/waste management (trash) company/remediation services; 61- Educational services school/university/training school; 62- Healthcare and social assistance (hospital/ doctors office/assisted living home/day care center); 71- Entertainment (art gallery/museum/theatre/bowling alley/casino); 72- Accommodation or food services (hotel/ restaurant); 81- Other services except public administration (auto repair/hair or nail salon/barber shop/funeral home/ labor union; 92- Public administration (government agency/city or county department/military); 97- Other (specify); 98- DK; 99- RF
empl_industry_other	character varying	Industry, other

empl_occupation	smallint	Occupation: 11- Management (president, CEO, manager, director, etc.); 13- Business and financial operations (management analyst, research analyst, agent, accountant, etc.); 15- Computer and mathematical (computer programmer, Web developer, statistician, etc.); 17- Architecture and engineering (architect, engineer, drafter, surveyor, etc.); 19- Life, physical, and social sciences (scientist, survey research, psychologist, science technician, etc.); 21- Community and social services (counselor, clergy, social worker, probation officer, etc.), 23- Legal (lawyer, law clerk, paralegal, etc.); 25- Education, training and library (teacher, college professor, librarian, teacher assistant, etc.), 27- Arts, design, entertainment, sports and media (professional athlete, writer, camera operator, etc.), 29- Healthcare practitioners and technical (MD, RN, LVN, dentist, veterinarian, licensed technician, therapist, etc.); 31- Healthcare support (health aide, nursing assistant, massage therapist, etc.), 33- Protective services (correctional officer, police officer, firefighter, security guard, crossing guard, security screener, lifeguard, etc.); 35- Food preparation and serving (cook, waiter/waitress, bartender, food server, dishwasher, etc.), 37- Building and grounds cleaning and maintenance (janitor, maid, housekeeper, gardener); 39- Personal care and service (hairdresser, tour guide, childcare worker, card dealer, etc.), 41- Sales and related (cashier, sales clerk, sales agent, real estate broker, etc.), 43- Office and administrative support (bank teller, office clerk, account clerk, postal service clerk, data entry clerk, secretary, administrative assistant, etc.); 45- Farming, fishing, and forestry (farmer, field worker, animal trainer/breeder, etc.); 47- Construction and extraction (electrician, carpenter, painter, construction equipment operator, miner, driller, explosive worker, etc.), 49- Installation, maintenance, and repair (repairer, mechanic, equipment installer, etc.), 51- Production (assembler, baker, machinist, lab technician, medical, dental, ophthalmic, jeweler, etc.); 53- Transportation and material moving (bus or taxi driver, truck driver, crane operator, ship loader), 55- Military specific; 97- Other (specify); 98- DK; 99- RF
empl_occupation_other	character varying	Occupation, other
empl_loc_type	smallint	Work location: 1- Fixed, 2- Home, 3- No fixed workplace, varies, 8- DK, 9- RF
empl_name*	character varying	Primary work name
empl_city	character varying	Primary work city
empl_zipcode	character varying	Primary work ZIP code
empl_state	character varying	Primary state
empl_cross_street1*	character varying	Primary work cross street1
empl_cross_street2*	character varying	Primary work cross street2
empl_block_id*	character varying	Work location block
empl_tract_id	character varying	Work location census tract ID 2010
empl_county_id	character varying	Work location county FID code 2010
empl_state_id	character varying	Primary work state (NA- not applicable/out of the country)
empl_primarycity	character varying	Work location city (primary city name)
empl_lon*	double precision	Primary work x-coordinates
empl_lat*	double precision	Primary work y-coordinates
workday_count	smallint	Days at primary work (range: 17, 8- DK, 9- RF)
workday_mon	smallint	Workdays: 1- Monday, 2- Tuesday, 3- Wednesday, 4- Thursday, 5- Friday, 6- Saturday, 7- Sunday, 8- Monday - Friday, 98- DK, 99- RF
workday_tue	smallint	Workdays: 1- Monday, 2- Tuesday, 3- Wednesday, 4- Thursday, 5- Friday, 6- Saturday, 7- Sunday, 8- Monday - Friday, 98- DK, 99- RF

workday_wed	smallint	Work Days: 1- Monday, 2- Tuesday, 3- Wednesday, 4- Thursday, 5- Friday, 6- Saturday, 7- Sunday, 8- Monday - Friday, 98- DK, 99- RF
workday_thurs	smallint	Workdays: 1- Monday, 2- Tuesday, 3- Wednesday, 4- Thursday, 5- Friday, 6- Saturday, 7- Sunday, 8- Monday - Friday, 98- DK, 99- RF
workday_fri	smallint	Workdays: 1- Monday, 2- Tuesday, 3- Wednesday, 4- Thursday, 5- Friday, 6- Saturday, 7- Sunday, 8- Monday - Friday, 98- DK, 99- RF
workday_sat	smallint	Workdays: 1- Monday, 2- Tuesday, 3- Wednesday, 4- Thursday, 5- Friday, 6- Saturday, 7- Sunday, 8- Monday - Friday, 98- DK, 99- RF
workday_sun	smallint	Workdays: 1- Monday, 2- Tuesday, 3- Wednesday, 4- Thursday, 5- Friday, 6- Saturday, 7- Sunday, 8- Monday - Friday, 98- DK, 99- RF
hour_per_week	smallint	Hours work per week (range: 1- 150, 998- DK, 999- RF)
workday_flex	smallint	Flexible work schedule: 1- I have no flexibility in my work schedule, 2- I have some flexibility in my work schedule, 3- Im pretty much free to adjust my schedule as I like, 8- DK, 9- RF
workday_flex_opt	smallint	Flexible programs offered: 1- Yes, 2- No, 8- DK, 9- RF
commute_mode	smallint	Work mode: 1- Walk; 2- Bike; 3- Wheelchair/mobility scooter; 4- Other non-motorized; 5- Auto/van/truck driver; 6- Auto/van/truck passenger; 7- Carpool/vanpool; 8- Motorcycle/scooter/moped; 9- Taxi/hired car/limo; 10- Rental car/vehicle; 11- Private shuttle (Super shuttle, employer, hotel, etc.); 12- Greyhound bus; 13- Plane; 14- Other private transit; 15- Local bus, rapid bus; 16- Express bus/commuter bus (AC Transbay, Golden Gate Transit, etc.); 17- Premium bus (Metro Orange/Silver Line); 18- School bus; 19- Public transit shuttle (DASH, Emery Go Round, etc.); 20- AirBART/LAX FlyAway; 21- Dial-a-ride/paratransit (access services, etc.); 22- Amtrak bus; 23- Other bus; 24- BART, Metro Red/Purple Line; 25- ACE, Amtrak, Caltrain, Coaster, Metrolink; 26- Metro Blue/Green/Gold Line, Muni Metro, Sacramento Light Rail, San Diego Sprinter/Trolley/Orange/ Blue/Green, VTA light rail; 27- Streetcar/cable car, 28- Other rail; 29- Ferry/boat; 99- RF
job_count	smallint	How many jobs? (range: 015; 98- DK; 99- RF)
empl_sec_loc	smallint	Work location: 1- Fixed, 2- Home, 3- No fixed workplace, Varies, 8- DK, 9- RF
empl_sec_name	character varying	Secondary work name
empl_sec_city	character varying	Secondary work city
empl_sec_zipcode	character varying	Secondary work ZIP code
empl_sec_state	character varying	Secondary work state: NA- not applicable/out of the country
empl_sec_state_id	character varying	Second work location state FIPS code
empl_sec_primarycity	character varying	Second work location city (primary city name)
empl_sec_cross_street1	character varying	Secondary work cross street1
empl_sec_cross_street2	character varying	Secondary work cross street2
workday_sec_count	smallint	Days of secondary work: range: 17, 8- DK, 9- RF
disabled	smallint	Disability status: 1- Yes, 2- No, 8- DK, 9- RF
dis_type1	smallint	Disability type1: 1- Hearing impaired/deaf (serious difficulty hearing); 2- Sight impaired/blind (includes difficulty seeing even when wearing glasses); 3- Cognitive impaired, such as serious difficulty concentrating, remembering, or making decisions; 4- Balance or respiratory impairment, such as difficulty walking or climbing stairs with difficulty; 5- Difficulty dressing or bathing; 6- Difficulty doing errands alone, such as visiting a doctors office or shopping; 97- Other (specify); 98- DK; 99- RF

dis_type2	smallint	Disability type2: 1- Hearing impaired/deaf (serious difficulty hearing); 2- Sight impaired/blind (includes difficulty seeing even when wearing glasses); 3- Cognitive impaired, such as serious difficulty concentrating, remembering, or making decisions; 4- Balance or respiratory impairment, such as difficulty walking or climbing stairs with difficulty; 5- Difficulty dressing or bathing; 6- Difficulty doing errands alone, such as visiting a doctors office or shopping; 97- Other (specify); 98- DK; 99- RF
dis_type3	smallint	Disability type3: 1- Hearing impaired/deaf (serious difficulty hearing); 2- Sight impaired/blind (includes difficulty seeing even when wearing glasses); 3- Cognitive impaired, such as serious difficulty concentrating, remembering, or making decisions; 4- Balance or respiratory impairment, such as difficulty walking or climbing stairs with difficulty; 5- Difficulty dressing or bathing; 6- Difficulty doing errands alone, such as visiting a doctors office or shopping; 97- Other (specify); 98- DK; 99- RF
dis_type4	smallint	Disability type4: 1- Hearing impaired/deaf (serious difficulty hearing); 2- Sight impaired/blind (includes difficulty seeing even when wearing glasses); 3- Cognitive impaired, such as serious difficulty concentrating, remembering, or making decisions; 4- Balance or respiratory impairment, such as difficulty walking or climbing stairs with difficulty; 5- Difficulty dressing or bathing; 6- Difficulty doing errands alone, such as visiting a doctors office or shopping; 97- Other (specify); 98- DK; 99- RF
dis_type5	smallint	Disability type5: 1- Hearing impaired/deaf (serious difficulty hearing); 2- Sight impaired/blind (includes difficulty seeing even when wearing glasses); 3- Cognitive impaired, such as serious difficulty concentrating, remembering, or making decisions; 4- Balance or respiratory impairment, such as difficulty walking or climbing stairs with difficulty; 5- Difficulty dressing or bathing; 6- Difficulty doing errands alone, such as visiting a doctors office or shopping; 97- Other (specify); 98- DK; 99- RF
dis_type6	smallint	Disability type6: 1- Hearing impaired/deaf (serious difficulty hearing); 2- Sight impaired/blind (includes difficulty seeing even when wearing glasses); 3- Cognitive impaired, such as serious difficulty concentrating, remembering, or making decisions; 4- Balance or respiratory impairment, such as difficulty walking or climbing stairs with difficulty; 5- Difficulty dressing or bathing; 6- Difficulty doing errands alone, such as visiting a doctors office or shopping; 97- Other (specify); 98- DK; 99- RF
dis_type7	smallint	Disability type7: 1- Hearing impaired/deaf (serious difficulty hearing); 2- Sight impaired/blind (includes difficulty seeing even when wearing glasses); 3- Cognitive impaired, such as serious difficulty concentrating, remembering, or making decisions; 4- Balance or respiratory impairment, such as difficulty walking or climbing stairs with difficulty; 5- Difficulty dressing or bathing; 6- Difficulty doing errands alone, such as visiting a doctors office or shopping; 97- Other (specify); 98- DK; 99- RF
dis_other	character varying	Disability type, other
dis_lis_plate	smallint	Disabled license plate? (1- Yes, 2- No, 8- DK, 9- RF)
dis_reg	smallint	Disabled Transit Registration? (1- Yes, 2- No, 8- DK, 9- RF)
student	smallint	Student? (1- Yes- Full Time, 2- Yes- Part Time, 3- No, 8- DK, 9- RF)

school_mode	smallint	School mode: 1- Walk; 2- Bike; 3- Wheelchair/mobility scooter; 4- Other non-motorized; 5- Auto/van/truck driver; 6- Auto/van/truck passenger; 7- Carpool/vanpool; 8- Motorcycle/scooter/moped; 9- Taxi/hired car/limo; 10- Rental car/vehicle; 11- Private shuttle (Super shuttle, employer, hotel, etc.); 12- Greyhound bus; 13- Plane; 14- Other private transit; 15- Local bus, rapid bus; 16- Express bus/commuter bus (AC Transbay, Golden Gate Transit, etc.); 17- Premium bus (Metro Orange/Silver Line); 18- School bus; 19- Public transit shuttle (DASH, Emery Go Round, etc.); 20- AirBART/LAX FlyAway; 21- Dial-a-ride/paratransit (access services, etc.); 22- Amtrak bus; 23- Other bus; 24- BART, Metro Red/Purple Line; 25- ACE, Amtrak, Caltrain, Coaster, Metrolink; 26- Metro Blue/Green/Gold Line, Muni Metro, Sacramento Light Rail, San Diego Sprinter/Trolley/Orange/ Blue/Green, VTA light rail; 27- Streetcar/cable car, 28- Other rail; 29- Ferry/boat; 99- RF
school_grade	smallint	School grade level attends: 1- Daycare; 2- Nursery school, preschool; 3- Kindergarten to grade 8; 4- Grade 9 to 12, 5- Technical/vocational school; 6- 2-year college (community college); 7- 4-year college or university; 8- Graduate school/professional; 97- Other (specify); 98- DK; 99- RF
school_grade_other	character varying	School grade level attends, other
school_home	smallint	Home school: 1- Yes, 2- No, 8- DK, 9- RF
school_online	smallint	Online school: 1- On campus only, 2- Online only, 3- Both on campus and online, 8- DK, 9- RF
school_pre	smallint	Preschool location: 1- Home of a relative/family member; 2- Home of a friend, 3- Private daycare center, 7- Other (specify), 8- DK, 9- RF
school_pre_other	character varying	Preschool location, other
school_name*	character varying	School name
school_city	character varying	School city
school_zipcode	character varying	School ZIP code
school_state	character varying	School state
school_cross_street1*	character varying	School cross streets
school_cross_street2*	character varying	School cross streets
school_block_id*	character varying	School location block
school_tract_id	character varying	School location census tract ID 2010
school_county_id	character varying	School location county Fid code 2010
school_state_id	character varying	School state NA, not applicable/out of the country
school_primarycity	character varying	School location city, primary city name
school_lon*	double precision	School x-coordinates
school_lat*	double precision	School y-coordinates
transit_trip	smallint	Transit trips used in past week: range: 050, 98- DK, 99- RF
transit_subsidy	smallint	Transit subsidy? (1- Yes, 2- No, 8- DK, 9- RF)
transit_subsidy_amt	double precision	Subsidized amount
transit_subsidy_unit	smallint	Fare Unit: 1- Per hour, 2- Per day, 3- Per week, 4- Per month, 5- Per semester, 6- Per year, 7- Other (specify), 8- DK, 9- RF
transit_subsidy_unit_other	character varying	Fare unit, other
interview	smallint	Are you interviewing this person? (1- Yes, 2- No)
interview_proxy	smallint	Which person served as proxy?
interview_log_complete	smallint	Did this person complete the travel log? 1- Yes, completed; 2- No, not completed; 3- Did not receive materials; 8- DK; 9- RF

toll_use	smallint	Did you use a toll? 1- Yes, toll road; 2- Yes, toll bridge; 3- No; 8- DK, 9- RF
toll_road1	smallint	Toll road: 1- I-580 express lanes (Alameda County), 2- I-680 express lanes (Alameda County), 3- 91 express lanes (Orange and Riverside Counties), 4- San Joaquin Hills toll road (SR-73) (Orange County), 5- Foothill toll road (SR-241) (Orange County), 6- Eastern (SR-241/SR-261/SR-133) toll (Orange County), 7- Interstate 15 express lanes (San Diego County), 8- South Bay Expressway (SBX) (SR-125) (San Diego County), 9- 17-Mile Drive (Monterey County, 98- DK 99- RF
toll_road2	smallint	Toll road: 1- I-580 express lanes (Alameda County), 2- I-680 express lanes (Alameda County), 3- 91 express lanes (Orange and Riverside Counties), 4- San Joaquin Hills toll road (SR-73) (Orange County), 5- Foothill toll road (SR-241) (Orange County), 6- Eastern (SR-241/SR-261/SR-133) toll (Orange County), 7- Interstate 15 express lanes (San Diego County), 8- South Bay Expressway (SBX) (SR-125) (San Diego County), 9- 17-Mile Drive (Monterey County, 98- DK 99- RF
toll_road3	smallint	Toll road: 1- I-580 express lanes (Alameda County), 2- I-680 express lanes (Alameda County), 3- 91 express lanes (Orange and Riverside Counties), 4- San Joaquin Hills toll road (SR-73) (Orange County), 5- Foothill toll road (SR-241) (Orange County), 6- Eastern (SR-241/SR-261/SR-133) toll (Orange County), 7- Interstate 15 express lanes (San Diego County), 8- South Bay Expressway (SBX) (SR-125) (San Diego County), 9- 17-Mile Drive (Monterey County, 98- DK 99- RF
toll_road4	smallint	Toll road: 1- I-580 express lanes (Alameda County), 2- I-680 express lanes (Alameda County), 3- 91 express lanes (Orange and Riverside Counties), 4- San Joaquin Hills toll road (SR-73) (Orange County), 5- Foothill toll road (SR-241) (Orange County), 6- Eastern (SR-241/SR-261/SR-133) toll (Orange County), 7- Interstate 15 express lanes (San Diego County), 8- South Bay Expressway (SBX) (SR-125) (San Diego County), 9- 17-Mile Drive (Monterey County, 98- DK 99- RF
toll_road5	smallint	Toll road: 1- I-580 express lanes (Alameda County), 2- I-680 express lanes (Alameda County), 3- 91 express lanes (Orange and Riverside Counties), 4- San Joaquin Hills toll road (SR-73) (Orange County), 5- Foothill toll road (SR-241) (Orange County), 6- Eastern (SR-241/SR-261/SR-133) toll (Orange County), 7- Interstate 15 express lanes (San Diego County), 8- South Bay Expressway (SBX) (SR-125) (San Diego County), 9- 17-Mile Drive (Monterey County, 98- DK 99- RF
toll_road6	smallint	Toll road: 1- I-580 express lanes (Alameda County), 2- I-680 express lanes (Alameda County), 3- 91 express lanes (Orange and Riverside Counties), 4- San Joaquin Hills toll road (SR-73) (Orange County), 5- Foothill toll road (SR-241) (Orange County), 6- Eastern (SR-241/SR-261/SR-133) toll (Orange County), 7- Interstate 15 express lanes (San Diego County), 8- South Bay Expressway (SBX) (SR-125) (San Diego County), 9- 17-Mile Drive (Monterey County, 98- DK 99- RF
toll_road7	smallint	Toll road: 1- I-580 express lanes (Alameda County), 2- I-680 express lanes (Alameda County), 3- 91 express lanes (Orange and Riverside Counties), 4- San Joaquin Hills toll road (SR-73) (Orange County), 5- Foothill toll road (SR-241) (Orange County), 6- Eastern (SR-241/SR-261/SR-133) toll (Orange County), 7- Interstate 15 express lanes (San Diego County), 8- South Bay Expressway (SBX) (SR-125) (San Diego County), 9- 17-Mile Drive (Monterey County, 98- DK 99- RF

toll_road8	smallint	Toll road: 1- I-580 express lanes (Alameda County), 2- I-680 express lanes (Alameda County), 3- 91 express lanes (Orange and Riverside Counties), 4- San Joaquin Hills toll road (SR-73) (Orange County), 5- Foothill toll road (SR-241) (Orange County), 6- Eastern (SR-241/SR-261/SR-133) toll (Orange County), 7- Interstate 15 express lanes (San Diego County), 8- South Bay Expressway (SBX) (SR-125) (San Diego County), 9- 17-Mile Drive (Monterey County, 98- DK 99- RF
toll_road9	smallint	Toll road: 1- I-580 express lanes (Alameda County), 2- I-680 express lanes (Alameda County), 3- 91 express lanes (Orange and Riverside Counties), 4- San Joaquin Hills toll road (SR-73) (Orange County), 5- Foothill toll road (SR-241) (Orange County), 6- Eastern (SR-241/SR-261/SR-133) toll (Orange County), 7- Interstate 15 express lanes (San Diego County), 8- South Bay Expressway (SBX) (SR-125) (San Diego County), 9- 17-Mile Drive (Monterey County, 98- DK 99- RF
toll_road10	smallint	Toll road: 1- I-580 express lanes (Alameda County), 2- I-680 express lanes (Alameda County), 3- 91 express lanes (Orange and Riverside Counties), 4- San Joaquin Hills toll road (SR-73) (Orange County), 5- Foothill toll road (SR-241) (Orange County), 6- Eastern (SR-241/SR-261/SR-133) toll (Orange County), 7- Interstate 15 express lanes (San Diego County), 8- South Bay Expressway (SBX) (SR-125) (San Diego County), 9- 17-Mile Drive (Monterey County, 98- DK 99- RF
toll_bridge1	smallint	Toll bridge: 1- Antioch Bridge, 2- Benicia - Martinez Bridge, 3- Carquinez Bridge, 4- Dumbarton Bridge, 5- Golden Gate Bridge, 6- Richmond: San Rafael Bridge, 7- San Francisco: Oakland Bay Bridge, 8- San Mateo: Hayward Bridge, 98- DK, 99- RF
toll_bridge2	smallint	Toll bridge: 1- Antioch Bridge, 2- Benicia - Martinez Bridge, 3- Carquinez Bridge, 4- Dumbarton Bridge, 5- Golden Gate Bridge, 6- Richmond: San Rafael Bridge, 7- San Francisco: Oakland Bay Bridge, 8- San Mateo: Hayward Bridge, 98- DK, 99- RF
toll_bridge3	smallint	Toll bridge: 1- Antioch Bridge, 2- Benicia - Martinez Bridge, 3- Carquinez Bridge, 4- Dumbarton Bridge, 5- Golden Gate Bridge, 6- Richmond: San Rafael Bridge, 7- San Francisco: Oakland Bay Bridge, 8- San Mateo: Hayward Bridge, 98- DK, 99- RF
toll_bridge4	smallint	Toll bridge: 1- Antioch Bridge, 2- Benicia - Martinez Bridge, 3- Carquinez Bridge, 4- Dumbarton Bridge, 5- Golden Gate Bridge, 6- Richmond: San Rafael Bridge, 7- San Francisco: Oakland Bay Bridge, 8- San Mateo: Hayward Bridge, 98- DK, 99- RF
toll_bridge5	smallint	Toll bridge: 1- Antioch Bridge, 2- Benicia - Martinez Bridge, 3- Carquinez Bridge, 4- Dumbarton Bridge, 5- Golden Gate Bridge, 6- Richmond: San Rafael Bridge, 7- San Francisco: Oakland Bay Bridge, 8- San Mateo: Hayward Bridge, 98- DK, 99- RF
toll_bridge6	smallint	Toll bridge: 1- Antioch Bridge, 2- Benicia - Martinez Bridge, 3- Carquinez Bridge, 4- Dumbarton Bridge, 5- Golden Gate Bridge, 6- Richmond: San Rafael Bridge, 7- San Francisco: Oakland Bay Bridge, 8- San Mateo: Hayward Bridge, 98- DK, 99- RF
toll_bridge7	smallint	Toll bridge: 1- Antioch Bridge, 2- Benicia - Martinez Bridge, 3- Carquinez Bridge, 4- Dumbarton Bridge, 5- Golden Gate Bridge, 6- Richmond: San Rafael Bridge, 7- San Francisco: Oakland Bay Bridge, 8- San Mateo: Hayward Bridge, 98- DK, 99- RF
toll_bridge8	smallint	Toll bridge: 1- Antioch Bridge, 2- Benicia - Martinez Bridge, 3- Carquinez Bridge, 4- Dumbarton Bridge, 5- Golden Gate Bridge, 6- Richmond: San Rafael Bridge, 7- San Francisco: Oakland Bay Bridge, 8- San Mateo: Hayward Bridge, 98- DK, 99- RF
toll_bridge9	smallint	Toll bridge: 1- Antioch Bridge, 2- Benicia - Martinez Bridge, 3- Carquinez Bridge, 4- Dumbarton Bridge, 5- Golden Gate Bridge, 6- Richmond: San Rafael Bridge, 7- San Francisco: Oakland Bay Bridge, 8- San Mateo: Hayward Bridge, 98- DK, 99- RF

toll_bridge10	smallint	Toll bridge: 1- Antioch Bridge, 2- Benicia - Martinez Bridge, 3- Carquinez Bridge, 4- Dumbarton Bridge, 5- Golden Gate Bridge, 6- Richmond: San Rafael Bridge, 7- San Francisco: Oakland Bay Bridge, 8- San Mateo: Hayward Bridge, 98- DK, 99- RF
hov_lane	smallint	HOV lane used? (1- Yes, 2- No, 98- DK, 99- RF)
why_no_trips	smallint	Reason for no trips on travel day: 1- Personally sick, 2- Vacation or personal day, 3- Caretaking sick kids, 4- Caretaking sick other, 5- Homebound elderly or disabled, 6- Worked at home for pay, 7- Not scheduled to work, 8- Worked around home (not for pay), 9- No transportation available, 10- Out of California, 11- Weather, 12- No reason to travel, 97- Other (specify) 98- DK, 99- RF
why_no_trips_other	character varying	Why no trips on travel day, other
incomplete	smallint	Person retrieval incomplete flag from valid partial complete household (1- Did not report travel)
perwgt	double precision	Final person weight
expperwgt	double precision	Expanded final person weight
geom*	geometry	Point geometry of persons household

survey_longtrips

The survey_longtrips table contains long-distance trips taken by the population in the 8 weeks leading up to the study. The origin and destination pairs identified were treated as a multipoint and the extent of travel is global.

Name	Data Type	Comment
sampno	numeric	Household identifier
ld_tripno	smallint	Long-distance trip number
travel_date	date	Date
last_trip_date	smallint	Latest long-distance trip flag: 0- No, 1- Yes
start_ts	character varying	Timestamp at start of long trip
trip_purpose	smallint	Long-distance trip purpose: 1- Going to work; 2- Business (Work-related meeting/convention/ seminar); 3- Combined business and pleasure; 4- School-related activity; 5- Visit friends/family/ relatives; 6- Medical; 7- vacation/sightseeing; 8- Outdoor recreation (sports, fishing, hunting, camping, boating, etc.); 9- Entertainment (theater, concert, sports event, gambling, etc.); 10- Personal business (e.g., shopping); 11- Drive someone else; 12- Return home; 97- other (specify); 98- DK; 99- RF
trip_purpose_other	character varying	Long-distance trip purpose, other
trip_people	smallint	People on trip (range: 025, 98- DK, 99- RF)
trip_hh_members	smallint	Household members on trip (range: 08, 98- DK, 99- RF)
returnhometripflag	smallint	Time start
origin_place_name*	character varying	Origin place name
origin_type	smallint	Origin: 1- Home, 2- Primary job, 3- School, 4- Second job, 7- Other, specify address, 8- DK, 9- RF
origin_city	character varying	Origin city
origin_state	character varying	Origin state
origin_zipcode	character varying	Origin ZIP code
origin_primarycity	character varying	Long-distance trip origin cityprimary city name

origin_country	character varying	Origin country
origin_lon*	double precision	Origin x-coordinate
origin_lat*	double precision	Origin y-coordinate
destination_place_name*	character varying	Departure place name
destination_city	character varying	Destination city
destination_state	character varying	Destination state
destination_zipcode	character varying	Destination ZIP code
destination_primarycity	character varying	Long-distance trip destination cityprimary city name
destination_country	character varying	Destination country
destination_lon*	double precision	Destination x-coordinate
destination_lat*	double precision	Destination y-coordinate
dep_mode1	smallint	Departure mode: 1- Walk; 2- Bike; 3- Wheelchair/ mobility scooter; 4- Other non-motorized (specify); 5- Auto/fan/truck driver; 6- Auto/van/truck passenger; 7- Carpool/vanpool; 8- Motorcycle/ scooter/moped; 9- Taxi/hired car/limo; 10- Rental car/vehicle; 11- Private shuttle (super shuttle, employer, hotel, etc.); 12- Greyhound bus, 13- Plane; 14- Other private transit (specify); 15- Local bus/rapid bus; 16- Express bus/commuter bus (Ac Transbay, Golden Gate Transit, etc.); 17- Premium bus (Metro Orange/Silver Line); 18- School bus; 19- Public transit shuttle (DASH, Emery Go Round, etc.); 20- AirBART/LAX FlyAway; 21- Dial-a-ride/paratransit (access services, etc.); 22- Amtrak bus; 23- Other bus (write code and specify); 24- BART/Metro Red/Purple Line; 25- ACE/Amtrak/ Caltrain/Coaster/Metrolink; 26- Metro Blue/ Green/Gold Line/Muni Metro, Sacramento Light Rail/San Diego Sprinter/Trolley/Orange/Blue/ Green/VTA Light Rail; 27- Streetcar/cable car; 28- Other rail (specify); 29- Ferry/boat; 99- DK/RF
dep_mode2	smallint	Departure Mode: 1- Walk; 2- Bike; 3- Wheelchair/ mobility scooter; 4- Other non-motorized (specify); 5- Auto/fan/truck driver; 6- Auto/van/truck passenger; 7- Carpool/vanpool; 8- Motorcycle/ scooter/moped; 9- Taxi/hired car/limo; 10- Rental car/vehicle; 11- Private shuttle (super shuttle, employer, hotel, etc.); 12- Greyhound bus, 13- Plane; 14- Other private transit (specify); 15- Local bus/rapid bus; 16- Express bus/commuter bus (Ac Transbay, Golden Gate Transit, etc.); 17- Premium bus (Metro Orange/Silver Line); 18- School bus; 19- Public transit shuttle (DASH, Emery Go Round, etc.); 20- AirBART/LAX FlyAway; 21- Dial-a-ride/paratransit (access services, etc.); 22- Amtrak bus; 23- Other bus (write code and specify); 24- BART/Metro Red/Purple Line; 25- ACE/Amtrak/ Caltrain/Coaster/Metrolink; 26- Metro Blue/ Green/Gold Line/Muni Metro, Sacramento Light Rail/San Diego Sprinter/Trolley/Orange/Blue/ Green/VTA Light Rail; 27- Streetcar/cable car; 28- Other rail (specify); 29- Ferry/boat; 99- DK/RF

dep_mode3	smallint	Departure Mode: 1- Walk; 2- Bike; 3- Wheelchair/ mobility scooter; 4- Other non-motorized (specify); 5- Auto/fan/truck driver; 6- Auto/van/truck passenger; 7- Carpool/vanpool; 8- Motorcycle/ scooter/moped; 9- Taxi/hired car/limo; 10- Rental car/vehicle; 11- Private shuttle (super shuttle, employer, hotel, etc.); 12- Greyhound bus, 13- Plane; 14- Other private transit (specify); 15- Local bus/rapid bus; 16- Express bus/commuter bus (Ac Transbay, Golden Gate Transit, etc.); 17- Premium bus (Metro Orange/Silver Line); 18- School bus; 19- Public transit shuttle (DASH, Emery Go Round, etc.); 20- AirBART/LAX FlyAway; 21- Dial-a-ride/paratransit (access services, etc.); 22- Amtrak bus; 23- Other bus (write code and specify); 24- BART/Metro Red/Purple Line; 25- ACE/Amtrak/ Caltrain/Coaster/Metrolink; 26- Metro Blue/ Green/Gold Line/Muni Metro, Sacramento Light Rail/San Diego Sprinter/Trolley/Orange/Blue/ Green/VTA Light Rail; 27- Streetcar/cable car; 28- Other rail (specify); 29- Ferry/boat; 99- DK/RF
dep_mode4	smallint	Departure Mode: 1- Walk; 2- Bike; 3- Wheelchair/ mobility scooter; 4- Other non-motorized (specify); 5- Auto/fan/truck driver; 6- Auto/van/truck passenger; 7- Carpool/vanpool; 8- Motorcycle/ scooter/moped; 9- Taxi/hired car/limo; 10- Rental car/vehicle; 11- Private shuttle (super shuttle, employer, hotel, etc.); 12- Greyhound bus, 13- Plane; 14- Other private transit (specify); 15- Local bus/rapid bus; 16- Express bus/commuter bus (Ac Transbay, Golden Gate Transit, etc.); 17- Premium bus (Metro Orange/Silver Line); 18- School bus; 19- Public transit shuttle (DASH, Emery Go Round, etc.); 20- AirBART/LAX FlyAway; 21- Dial-a-ride/paratransit (access services, etc.); 22- Amtrak bus; 23- Other bus (write code and specify); 24- BART/Metro Red/Purple Line; 25- ACE/Amtrak/ Caltrain/Coaster/Metrolink; 26- Metro Blue/ Green/Gold Line/Muni Metro, Sacramento Light Rail/San Diego Sprinter/Trolley/Orange/Blue/ Green/VTA Light Rail; 27- Streetcar/cable car; 28- Other rail (specify); 29- Ferry/boat; 99- DK/RF
arr_place_name*	character varying	Arrival place name
arr_mode1	smallint	Arrival Mode: 1- Walk; 2- Bike; 3- Wheelchair/ mobility scooter; 4- Other non-motorized (specify); 5- Auto/fan/truck driver; 6- Auto/van/truck passenger; 7- Carpool/vanpool; 8- Motorcycle/ scooter/moped; 9- Taxi/hired car/limo; 10- Rental car/vehicle; 11- Private shuttle (super shuttle, employer, hotel, etc.); 12- Greyhound bus, 13- Plane; 14- Other private transit (specify); 15- Local bus/rapid bus; 16- Express bus/commuter bus (Ac Transbay, Golden Gate Transit, etc.); 17- Premium bus (Metro Orange/Silver Line); 18- School bus; 19- Public transit shuttle (DASH, Emery Go Round, etc.); 20- AirBART/LAX FlyAway; 21- Dial-a-ride/paratransit (access services, etc.); 22- Amtrak bus; 23- Other bus (write code and specify); 24- BART/Metro Red/Purple Line; 25- ACE/Amtrak/ Caltrain/Coaster/Metrolink; 26- Metro Blue/ Green/Gold Line/Muni Metro, Sacramento Light Rail/San Diego Sprinter/Trolley/Orange/Blue/ Green/VTA Light Rail; 27- Streetcar/cable car; 28- Other rail (specify); 29- Ferry/boat; 99- DK/RF

arr_mode2	smallint	Arrival Mode: 1- Walk; 2- Bike; 3- Wheelchair/ mobility scooter; 4- Other non-motorized (specify); 5- Auto/fan/truck driver; 6- Auto/van/truck passenger; 7- Carpool/vanpool; 8- Motorcycle/ scooter/moped; 9- Taxi/hired car/limo; 10- Rental car/vehicle; 11- Private shuttle (super shuttle, employer, hotel, etc.); 12- Greyhound bus, 13- Plane; 14- Other private transit (specify); 15- Local bus/rapid bus; 16- Express bus/commuter bus (Ac Transbay, Golden Gate Transit, etc.); 17- Premium bus (Metro Orange/Silver Line); 18- School bus; 19- Public transit shuttle (DASH, Emery Go Round, etc.); 20- AirBART/LAX FlyAway; 21- Dial-a-ride/paratransit (access services, etc.); 22- Amtrak bus; 23- Other bus (write code and specify); 24- BART/Metro Red/Purple Line; 25- ACE/Amtrak/ Caltrain/Coaster/Metrolink; 26- Metro Blue/ Green/Gold Line/Muni Metro, Sacramento Light Rail/San Diego Sprinter/Trolley/Orange/Blue/ Green/VTA Light Rail; 27- Streetcar/cable car; 28- Other rail (specify); 29- Ferry/boat; 99- DK/RF
arr_mode3	smallint	Arrival Mode: 1- Walk; 2- Bike; 3- Wheelchair/ mobility scooter; 4- Other non-motorized (specify); 5- Auto/fan/truck driver; 6- Auto/van/truck passenger; 7- Carpool/vanpool; 8- Motorcycle/ scooter/moped; 9- Taxi/hired car/limo; 10- Rental car/vehicle; 11- Private shuttle (super shuttle, employer, hotel, etc.); 12- Greyhound bus, 13- Plane; 14- Other private transit (specify); 15- Local bus/rapid bus; 16- Express bus/commuter bus (Ac Transbay, Golden Gate Transit, etc.); 17- Premium bus (Metro Orange/Silver Line); 18- School bus; 19- Public transit shuttle (DASH, Emery Go Round, etc.); 20- AirBART/LAX FlyAway; 21- Dial-a-ride/paratransit (access services, etc.); 22- Amtrak bus; 23- Other bus (write code and specify); 24- BART/Metro Red/Purple Line; 25- ACE/Amtrak/ Caltrain/Coaster/Metrolink; 26- Metro Blue/ Green/Gold Line/Muni Metro, Sacramento Light Rail/San Diego Sprinter/Trolley/Orange/Blue/ Green/VTA Light Rail; 27- Streetcar/cable car; 28- Other rail (specify); 29- Ferry/boat; 99- DK/RF
arr_mode4	smallint	Arrival Mode: 1- Walk; 2- Bike; 3- Wheelchair/ mobility scooter; 4- Other non-motorized (specify); 5- Auto/fan/truck driver; 6- Auto/van/truck passenger; 7- Carpool/vanpool; 8- Motorcycle/ scooter/moped; 9- Taxi/hired car/limo; 10- Rental car/vehicle; 11- Private shuttle (super shuttle, employer, hotel, etc.); 12- Greyhound bus, 13- Plane; 14- Other private transit (specify); 15- Local bus/rapid bus; 16- Express bus/commuter bus (Ac Transbay, Golden Gate Transit, etc.); 17- Premium bus (Metro Orange/Silver Line); 18- School bus; 19- Public transit shuttle (DASH, Emery Go Round, etc.); 20- AirBART/LAX FlyAway; 21- Dial-a-ride/paratransit (access services, etc.); 22- Amtrak bus; 23- Other bus (write code and specify); 24- BART/Metro Red/Purple Line; 25- ACE/Amtrak/ Caltrain/Coaster/Metrolink; 26- Metro Blue/ Green/Gold Line/Muni Metro, Sacramento Light Rail/San Diego Sprinter/Trolley/Orange/Blue/ Green/VTA Light Rail; 27- Streetcar/cable car; 28- Other rail (specify); 29- Ferry/boat; 99- DK/RF
origin_state_id	character varying	Long-distance trip origin state (FIPS)
origin_county_id	character varying	Long-distance trip origin location county FID code 2010
origin_tract_id	character varying	Long-distance trip origin location census tract ID 2010
origin_block_id*	character varying	Long-distance trip origin location block
destination_state_id	character varying	Long-distance trip origin state (Fips)
destination_county_id	character varying	Long-distance trip destination location county FID code 2010
destination_tract_id	character varying	Long-distance trip destination location census tract ID 2010
destination_block_id*	character varying	Long-distance trip destination block

mode1	smallint	Long-distance mode: 1- Walk; 2- Bike; 3- Wheelchair/ mobility scooter; 4- Other non-motorized (specify); 5- Auto/fan/truck driver; 6- Auto/van/truck passenger; 7- Carpool/vanpool; 8- Motorcycle/ scooter/moped; 9- Taxi/hired car/limo; 10- Rental car/vehicle; 11- Private shuttle (super shuttle, employer, hotel, etc.); 12- Greyhound bus, 13- Plane; 14- Other private transit (specify); 15- Local bus/rapid bus; 16- Express bus/commuter bus (AC Transbay, Golden Gate Transit, etc.); 17- Premium bus (Metro Orange/Silver Line); 18- School bus; 19- Public transit shuttle (DASH, Emery Go Round, etc.); 20- AirBART/LAX FlyAway; 21- Dial-a-ride/paratransit (access services, etc.); 22- Amtrak bus; 23- Other bus (write code and specify); 24- BART/Metro Red/Purple Line; 25- ACE/Amtrak/ Caltrain/ Coaster/Metrolink; 26- Metro Blue/ Green/Gold Line/Muni Metro, Sacramento Light Rail/San Diego Sprinter/Trolley/Orange/Blue/ Green/VTA Light Rail; 27- Streetcar/cable car; 28- Other rail (specify); 29- Ferry/boat; 99- DK/RF
mode2	smallint	Long-distance mode: 1- Walk; 2- Bike; 3- Wheelchair/ mobility scooter; 4- Other non-motorized (specify); 5- Auto/fan/truck driver; 6- Auto/van/truck passenger; 7- Carpool/vanpool; 8- Motorcycle/ scooter/moped; 9- Taxi/hired car/limo; 10- Rental car/vehicle; 11- Private shuttle (super shuttle, employer, hotel, etc.); 12- Greyhound bus, 13- Plane; 14- Other private transit (specify); 15- Local bus/rapid bus; 16- Express bus/commuter bus (AC Transbay, Golden Gate Transit, etc.); 17- Premium bus (Metro Orange/Silver Line); 18- School bus; 19- Public transit shuttle (DASH, Emery Go Round, etc.); 20- AirBART/LAX FlyAway; 21- Dial-a-ride/paratransit (access services, etc.); 22- Amtrak bus; 23- Other bus (write code and specify); 24- BART/Metro Red/Purple Line; 25- ACE/Amtrak/ Caltrain/ Coaster/Metrolink; 26- Metro Blue/ Green/Gold Line/Muni Metro, Sacramento Light Rail/San Diego Sprinter/Trolley/Orange/Blue/ Green/VTA Light Rail; 27- Streetcar/cable car; 28- Other rail (specify); 29- Ferry/boat; 99- DK/RF
mode3	smallint	Long-distance mode: 1- Walk; 2- Bike; 3- Wheelchair/ mobility scooter; 4- Other non-motorized (specify); 5- Auto/fan/truck driver; 6- Auto/van/truck passenger; 7- Carpool/vanpool; 8- Motorcycle/ scooter/moped; 9- Taxi/hired car/limo; 10- Rental car/vehicle; 11- Private shuttle (super shuttle, employer, hotel, etc.); 12- Greyhound bus, 13- Plane; 14- Other private transit (specify); 15- Local bus/rapid bus; 16- Express bus/commuter bus (AC Transbay, Golden Gate Transit, etc.); 17- Premium bus (Metro Orange/Silver Line); 18- School bus; 19- Public transit shuttle (DASH, Emery Go Round, etc.); 20- AirBART/LAX FlyAway; 21- Dial-a-ride/paratransit (access services, etc.); 22- Amtrak bus; 23- Other bus (write code and specify); 24- BART/Metro Red/Purple Line; 25- ACE/Amtrak/ Caltrain/ Coaster/Metrolink; 26- Metro Blue/ Green/Gold Line/Muni Metro, Sacramento Light Rail/San Diego Sprinter/Trolley/Orange/Blue/ Green/VTA Light Rail; 27- Streetcar/cable car; 28- Other rail (specify); 29- Ferry/boat; 99- DK/RF

mode4	smallint	Long-distance mode: 1- Walk; 2- Bike; 3- Wheelchair/ mobility scooter; 4- Other non-motorized (specify); 5- Auto/fan/truck driver; 6- Auto/van/truck passenger; 7- Carpool/vanpool; 8- Motorcycle/ scooter/moped; 9- Taxi/hired car/limo; 10- Rental car/vehicle; 11- Private shuttle (super shuttle, employer, hotel, etc.); 12- Greyhound bus, 13- Plane; 14- Other private transit (specify); 15- Local bus/rapid bus; 16- Express bus/commuter bus (AC Transbay, Golden Gate Transit, etc.); 17- Premium bus (Metro Orange/Silver Line); 18- School bus; 19- Public transit shuttle (DASH, Emery Go Round, etc.); 20- AirBART/LAX FlyAway; 21- Dial-a-ride/paratransit (access services, etc.); 22- Amtrak bus; 23- Other bus (write code and specify); 24- BART/Metro Red/Purple Line; 25- ACE/Amtrak/ Caltrain/ Coaster/Metrolink; 26- Metro Blue/ Green/Gold Line/Muni Metro, Sacramento Light Rail/San Diego Sprinter/Trolley/Orange/Blue/ Green/VTA Light Rail; 27- Streetcar/cable car; 28- Other rail (specify); 29- Ferry/boat; 99- DK/RF
perno1	smallint	Person who made trip1
perno2	smallint	Person who made trip2
perno3	smallint	Person who made trip3
perno4	smallint	Person who made trip4
perno5	smallint	Person who made trip5
perno6	smallint	Person who made trip6
perno7	smallint	Person who made trip7
perno8	smallint	Person who made trip8
geom*	geometry	A linestring created from the origin and destination latitude longitude representing the linear path of travel from start to finish.

Vehicle Tables

v_obd_vehicles

The v_obd_vehicles table contains one record for each vehicle deployed with GPS equipment during the study period. Summary information for each GPS data collection day is provided. This table is available for OBD+ vehicle GPS households only.

Name	Data Type	Comment
sampno	numeric	Household identifier
vehno	smallint	Vehicle identifier
vin*	character varying	VIN from OBD sensor at the beginning of the deployment (OBD sample only) if available
veh_type	smallint	Vehicle Type: 1- Hybrid vehicle, 2- Gasoline-only vehicle, 3- Diesel-only vehicle, 4- Plug-in hybrid electric vehicle, 5- CNG, 6- Electric only, 7- Other, 9- DK/RF
veh_type_other	character varying	Vehicle type, other
fuel_type	smallint	Vehicle fuel type
fuel_type2	smallint	Secondary vehicle fuel type
fuel_type_obd	character varying	Fuel type from OBD sensor (OBD sample only) if available
license_plate*	character varying	License plate number if reported on participation sheet

start_odometer	character varying	Starting odometer value if reported on participation sheet
diarytripsday1	smallint	Number of all unique diary trips reported on day 1
gpstripsday1	smallint	Number of GPS trips collected on day 1 of deployment period
obdtripsday1	smallint	Number of OBD trips collected on day 1 of deployment period
gpstripsday2	smallint	Number of GPS trips collected on day 2 of deployment period
obdtripsday2	smallint	Number of OBD trips collected on day 2 of deployment period
gpstripsday3	smallint	Number of GPS trips collected on day 3 of deployment period
obdtripsday3	smallint	Number of OBD trips collected on day 3 of deployment period
gpstripsday4	smallint	Number of GPS trips collected on day 4 of deployment period
obdtripsday4	smallint	Number of OBD trips collected on day 4 of deployment period
gpstripsday5	smallint	Number of GPS trips collected on day 5 of deployment period
obdtripsday5	smallint	Number of OBD trips collected on day 5 of deployment period
gpstripsday6	smallint	Number of GPS trips collected on day 6 of deployment period
obdtripsday6	smallint	Number of OBD trips collected on day 6 of deployment period
gpstripsday7	smallint	Number of GPS trips collected on day 7 of deployment period
obdtripsday7	smallint	Number of OBD trips collected on day 7 of deployment period
totalgpstrips	smallint	Number of GPS trips collected during 7-day deployment period
totalobdtrips	smallint	Number of OBD vehicle trips collected during 7-day deployment period
geom*	geometry	Geometric point data

v_obd_sortedtrips

The v_obd_sortedtrips table contains an integrated record of all trips, both diary-reported and GPS-captured, by persons or vehicles for all complete households. This table contains only persons or vehicles whose diary data could to be matched to GPS data or that confirmed no travel on the travel day.

Name	**Data Type**	**Comment**
sampno	numeric	Household identifier
vehno	smallint	Vehicle identifier
trip	character varying	Diary trip (in the case of vehicle trips, aggregated from the personal diaries); normally, the diary trip ID [1 to N], special cases -999, Placeholder for GPS trips before the first diary trip, 999, Placeholder for GPS trips after the last diary trip; decimal numbers (X.5) = GPS-only tours
startplace*	character varying	Name of starting place (null if a GPS-only tour)
endplace*	character varying	Name of ending place (null if a GPS-only tour)
startgpsplaceid	smallint	GPS place ID of the starting place, can be joined (with sampno and perno) to PlaceGPSTMs GPSplaceid for details on the starting place (you may get duplicates but they will be identical on GPS fields)
endgpsplaceid	character varying	GPS place ID of the ending place, can be joined (with sampno and perno) to PlaceGPSTMs GPSplaceid for details on the starting place (you may get duplicates but they will be identical on GPS fields)
newgpslist	character varying	New GPS places found within this diary trip that are not accounted for in the diary (when trip = 999, list includes endGPSplaceid, because the last GPS Place was not accounted for in the diary)

v_obd_points

The v_obd_points table contains all valid GPS points (associated with GPS trips) collected by the sampled vehicle GPS/OBD households during the assigned travel day. All higher level tables (households, persons, trips, etc.) are derived from point tables. For public download, the v_obd_points data is segregated by vehicle and available in the sorted_by_vehicle.zip file. Thus, the v_obd_points table is not available in the full_survey.zip download. This decision was made to better organize the data and manage file sizes. The OBD data provided in this table is incomplete since some data could have been lost in joining to the GPS data by time_local (due to time_local not being synced between OBD and GPS loggers).

Name	Data Type	Comment
sampno	numeric	Household identifier
vehno	smallint	Vehicle identifier
gpstripid	smallint	Trip number within file
obdtripid	smallint	Trip number within obd file
localid	integer	Point index within original file
time_local	timestamp without time zone	Local date and time
longitude*	double precision	Longitude (dd WGS84) of point
latitude*	double precision	Latitude (dd WGS84) of point
gpsspeed	double precision	GPS point speed in mph
obdspeed	double precision	OBD point speed in mph
obdmafr	double precision	OBD Mass airflow rate (6-second frequency)
obdengload	double precision	OBD engine load (6-second frequency)
obdengspeed	double precision	OBD engine speed/rpm (6-second frequency)
obdthrottlepos	double precision	OBD throttle position (6-second frequency)
geom*	geometry	Geometric point data

v_obd_households

The v_obd_gpstrips table contains trip-level information for each valid GPS trip detected in the GPS point data collected by the sampled households during the assigned travel day.

Name	Data Type	Comment
sampno	numeric	Household identifier
home_county_id	character varying	County ID provided by NuStats
mpo_id	smallint	MPO ID provided by NuStats
vehicle_count	smallint	Total number of vehicles reported for household
vehicle_count_gps	smallint	Number of vehicles deployed with GPS devices
travel_day1	timestamp without time zone	Assigned travel date for diary completion
gps_trips_td	smallint	Number of GPS trips on assigned travel date
gps_trips_27	smallint	Number of GPS trips on days 2 and 7
obd_trips_td	smallint	Number of OBD trips on assigned travel date
obd_trips_27	smallint	Number of OBD trips on days 2-7
diary_trips_td	smallint	Total of all diary trips on assigned travel date (null if diarycomplete = 0)

gps_complete	smallint	GPS data exist for vehicles with GPS instrumentation (or at least 2 from a 3-vehicle household) or diary confirms no travel on assigned travel date (0- False, 1- True)
diary_complete	smallint	Diary data were retrieved for this household (0- False, 1- True)
obd_complete	smallint	OBD data exist for all instrumented vehicles (or for at least 2 vehicles from 3-vehicle households) or diary data confirms no travel on assigned travel date
gps_obd_diary_complete	smallint	GPS, OBD, and diary status are all complete
gps_diary_complete	smallint	GPS and diary are complete (0- False, 1- True)
gps_diary_obd_-diary_complete	smallint	Either GPS and diary status complete or OBD and diary are complete
deldateid	smallint	First GeoStats deliverable this household appeared in (1- April, 2- July, 3- October, 4- January, 5- Draft Final, 6- Final: all data)
nsdeliverable	smallint	NuStats deliverable location (1- Primary deliverable, 2- Supplementary Deliverable)
cec_sample	smallint	Identifies California Energy Commission sample households (1- DMV, 2- UC-Davis, Null- Core)
geom*	geometry	Point grabbed from place table where place name - home

v_households

The v_households table includes data from the households who participated in the vehicle GPS part of the study (a subset of the total households who participated in the study). Of these, a smaller portion were also included in the survey part of the study. Four households participated in the vehicle GPS part of the study only and are unique to the v_households table.

Name	**Data Type**	**Comment**
sampno	numeric	Household identifier
home_county_id	character varying	County ID provided by NuStats
mpo_id	integer	MPO ID provided by NuStats
vehicle_count	integer	Total number of vehicles reported for household
vehicle_count_gps	integer	Number of vehicles deployed with GPS devices
travel_day1	timestamp without time zone	Assigned travel date for diary completion
gps_trips_td	integer	Number of GPS trips on assigned travel date
gps_trips_27	integer	Number of GPS trips on days 2 and 7
diary_trips_td	integer	Total of all diary trips on assigned travel date (null if diarycomplete = 0)
gps_complete	integer	GPS data exist for vehicles with GPS instrumentation or diary confirms no travel on assigned travel date (0- False, 1- True)
diary_complete	integer	Diary data were retrieved for this household (0- False, 1- True)
gps_diary_complete	integer	Both GPS and diary are complete (0- False, 1- True)
deldateid	integer	First Geostats deliverable this household appeared in (1-April, 2- July, 3- October, 4- January, 5- Draft final, 6- Final: all data)
nsdeliverable	integer	NuStats deliverable location (1- Primary deliverable, 2- Supplementary deliverable)
geom*	geometry	Point grabbed from place table where place name = home

v_gpslinks

The spatial layers used in the link-matching were developed from a number of sources based on need and availability. For example, In the MTC area, road, bike, rail, and ferry databases were provided for use with matching. In the rest of the state, TIGER road data were used and integrated with transit networks where available. To improve the matching process, some road segments were flipped to coordinate the topological direction and the direction of travel. This prevented the link-matching routine from matching the GPS to the wrong side of a divided highway. TIGER data were also adjusted when clear connectivity gaps were identified. The algorithm used to perform the link-matching (70 CHTS Final Report Version 1.0), was based on another proposed by Marshal, Hackney, and Axhausen, with the added feature of performing shortest network paths on gaps found in the final routes. Each record in the Shapefile received a unique ID in PostGIS, which matched its position in the original file. This field (uid) was used to associate the GPS points with the link features.

Name	Data Type	Comment
sampno	numeric	Household identifier
vehno	smallint	Vehicle identifier
gpstripid	smallint	Trip number from file
gpstravdayid	smallint	Travel day within travel period (range: 17, where: 1 = Sunday and 7 = Saturday)
gpstravdaytripid	smallint	Trip number within travel day (restarts at 1 each day)
matchedlayer	character varying	Name of matched geographic information system (GIS) layer (all values "arc_streets_topo")
matchedfield	character varying	Name of the match field in the match GIS layer (all values GID)
featureorder	integer	Order of the route segment
featureid*	integer	Value of the match field corresponding to the matched feature
seltype	smallint	Selection type of the match feature (1 - GPS 2 - shortest path)
direction	integer	Direction along link with respect to topology (1 - Same, -1 - Opposed)
start_time	timestamp without time zone	Timestamp when vehicle entered link (interpolated)
end_time	timestamp without time zone	Timestamp when vehicle exiting link (interpolated)
lrs_start*	double precision	Start LRS measure along the links topological direction
lrs_end*	double precision	End LRS measure along the links topological direction
geom*	geometry	Geometric linestring created by matching the timestamps from the v_gps_links table to the timestamps from the v_points table.

v_obd_place

The v_obd_place table contains all diary-reported trips by persons or vehicles for all households. This table contains only persons or vehicles whose diary data could be matched to GPS data or that confirmed no travel on the travel day.

Name	Data Type	Comment
sampno	numeric	Household identifier
vehno	smallint	Vehicle identifier
gpsplaceid	smallint	Place number (from GPS)
plano	smallint	Place number (from diary)

arr_match_type	smallint	Match type of incoming trips destination: 1- Matched by time/distance, 2- Matched by an analyst, 3- Single link in chain, 4- Multiple links in chain, 5- All links in a round trip, 6- Before all GPS trips, 7- Between GPS trips, 8- After all GPS trips, 9- No diary is available for the travel day. Because GPS is collected for a longer period than the diary, the last diary place will often have this as a depmatchtype.
dep_match_type	smallint	Match type of outgoing trips destination: 1- Matched by time/distance, 2- Matched by an analyst, 3- Single link in chain, 4- Multiple links in chain, 5- All links in a round trip, 6- Before all GPS trips, 7- Between GPS trips, 8- After all GPS trips, 9- No diary is available for the travel day. Because GPS is collected for a longer period than the diary, the last diary place will often have this as a depmatchtype.
name*	character varying	Name of place
address*	character varying	Address of place
city	character varying	City of place
lon*	double precision	Longitude of place
lat*	double precision	Latitude of place
arr_gpslon*	double precision	Longitude of last GPS point before arrival
arr_gpslat*	double precision	Latitude of last GPS point before arrival
dep_gpslon*	double precision	Longitude of first GPS point after departure
dep_gpslat*	double precision	Latitude of first GPS point after departure
distance	double precision	Distance between GPS trip end and diary trip end
arr_time	timestamp without time zone	Date-time of arrival according to diary
dep_time	timestamp without time zone	Date-time of departure according to diary
arr_gpstime	timestamp without time zone	Date-time of arrival according to GPS
dep_gpstime	timestamp without time zone	Date-time of departure according to GPS
place_type	character varying	Home, work, school, other
gps_loc_type	character varying	Home, work, school, other
geom*	geometry	Point representation of the place. Generated from the place latitude/longitude coordinate values in the table WGS 4326. Origin/destination or arrival/departure points are available but not represented as geometries in this table.

v_obd_gpstrips

The v_obd_gpstrips table contains trip-level information for each valid GPS trip detected in the GPS point data collected by the sampled households during the assigned travel day.

Name	**Data Type**	**Comment**
sampno	numeric	Household identifier
vehno	smallint	Vehicle identifier
gpstripid	smallint	Trip number within file
gpstravdayid	smallint	Travel day within travel period (1- Sunday, 7- Saturday)
gpstravdaytripid	smallint	Trip number within travel day (restarts at 1 each day)
start_time	timestamp without time zone	Local date and time of trip start
end_time	timestamp without time zone	Local date and time of trip end

duration_min	double precision	Duration of trip (in minutes)
distance_miles	double precision	Distance covered during trip (in miles)
avg_speed_mph	double precision	Average speed (in mph)
max_speed_mph	double precision	Max speed (in mph)
origin_lon*	double precision	Starting longitude (dd WGS84) of trip
origin_lat*	double precision	Starting latitude (dd WGS84) of trip
destination_lon*	double precision	Ending longitude (dd WGS84) of trip
destination_lat*	double precision	Ending latitude (dd WGS84) of trip
destination_distfromlast	double precision	Distance between previous trip destination and current trip origin (in meters)
gaptime	double precision	Time between previous trip/stage destination and current trip/stage origin (in minutes)
tripareatype	smallint	Area defined by California State Boundary: 1- Internal origin and internal destination, 2- Internal origin and external destination, 3- External origin and internal destination, 4- External origin and external destination
workrelated	smallint	Trip suspected to be work related? (0- No, 1- Yes)
nontransport	smallint	Trip suspected to be a non-transportation trip? (0- No, 1- Yes)
onsite	smallint	Trip appears to be within boundaries of a single location? (0- No, 1- Yes)
looptrip	smallint	Trip starts and ends at same location? (0- No, 1- Yes)
origin_loc_type	character varying	Home, work, school, other (based on matched trip end or proximity to geocoded habitual location)
destination_loc_type	character varying	Home, work, school, other (based on matched trip end or proximity to geocoded habitual location)
geom*	geometry	A line representation created by NREL to represent that path of travel for the trip. Points are grouped using the start and end GPS timestamps, and ordered to create a line (WGS84, 4326).

v_vehicles

The v_vehicles table provides trip summary data for the vehicles outfitted with onboard GPS devices.

Name	Data Type	Comment
sampno	numeric	Household identifier
vehno	smallint	Vehicle identifier
diarytripsday1	smallint	Number of all unique diary trips reported on day 1
gpstripsday1	smallint	Number of GPS trips collected on day 1 of deployment period
gpstripsday2	smallint	Number of GPS trips collected on day 2 of deployment period
gpstripsday3	smallint	Number of GPS trips collected on day 3 of deployment period
gpstripsday4	smallint	Number of GPS trips collected on day 4 of deployment period
gpstripsday5	smallint	Number of GPS trips collected on day 5 of deployment period
gpstripsday6	smallint	Number of GPS trips collected on day 6 of deployment period
gpstripsday7	smallint	Number of GPS trips collected on day 7 of deployment period
totalgpstrips	smallint	Number of GPS trips collected during 7-day deployment period
geom*	geometry	Geometric point data

v_place

The v_place table contains all diary-reported vehicle trips for all vehicle households. This table contains only vehicles whose diary data could be matched to GPS data or that confirmed no travel on the travel day.

Name	Data Type	Comment
sampno	numeric	Household identifier
vehno	smallint	Vehicle identifier
gpsplaceid	smallint	Place number (from GPS)
plano	smallint	Place number (from diary)
arr_match_type	smallint	Match type of incoming trips destination: 1- Matched by time/distance, 2- Matched by an analyst, 3- Single link in chain, 4- Multiple links in chain, 5- All links in a round trip, 6- Before all GPS trips, 7- Between GPS trips, 8- After all GPS trips, 9- No diary is available for the travel day. Because GPS is collected for a longer period than the diary, the last diary place will often have this as a depmatchtype.
dep_match_type	smallint	Match type of incoming trips destination: 1- Matched by time/distance, 2- Matched by an analyst, 3- Single link in chain, 4- Multiple links in chain, 5- All links in a round trip, 6- Before all GPS trips, 7- Between GPS trips, 8- After all GPS trips, 9- No diary is available for the travel day. Because GPS is collected for a longer period than the diary, the last diary place will often have this as a depmatchtype.
name*	character varying	Name of place
address*	character varying	Address of place
city	character varying	City of place
lon*	double precision	Longitude of place
lat*	double precision	Latitude of place
arr_gpslon*	double precision	Longitude of last GPS point before arrival
arr_gpslat*	double precision	Latitude of last GPS point before arrival
dep_gpslon*	double precision	Longitude of first GPS point after departure
dep_gpslat*	double precision	Latitude of first GPS point after departure
distance	double precision	Distance between GPS trip end and diary trip end
arr_time	timestamp without time zone	Date-time of arrival according to diary
dep_time	timestamp without time zone	Date-time of departure according to diary
arr_gpstime	timestamp without time zone	Date-time of arrival according to GPS
dep_gpstime	timestamp without time zone	Date-time of departure according to GPS
diaryloctype	character varying	Home, work, school, other
gpsloctype	character varying	Home, work, school, other
geom*	geometry	Point representation of the place. Generated from the place latitude/longitude coordinate values in the table (WGS 4326). Origin/destination or arrival/departure points are available but not represented as geometries in this table.

v_missedtrips

The v_missedtrips table contains a comparison of diary-reported trips and GPS-captured trips by persons or vehicles for complete households. This table contains only persons or vehicles whose diary data could be matched to GPS data or whose diary data confirmed no travel on the travel day.

Name	Data Type	Comment
sampno	numeric	Household identifier
vehno	smallint	Vehicle identifier
gpsdiarycomplete	smallint	GPS and diary are complete (0- False, 1- True)
nbgpstripsdiaryday	smallint	Number of trips captured by GPS on the travel day
nbdiaryreportedtrips	smallint	Number of trips reported by diary for the vehicle on the travel day
rawmatchdifference	smallint	Difference between the nbgpstripdiarday and nbdiaryreportedtrips columns
nbmissinggpstrips	smallint	Number of trips reported by diary, not in GPS dta
nbmissingdiarytrips	smallint	Number of trips captured by GPS, not in diary
nbadjustedmissdiary	smallint	Number of unique trips falling into an exception category

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. 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	integer	Unique household identifier
vehno	smallint	Original study vehicle identifier
gpstripid	integer	Trip identifier
localid	integer	Point index within original file
time_local	timestamp without time zone	Local timestamp
longitude*	double precision	Longitude recorded by the GPS device
latitude*	double precision	Latitude recorded by the GPS device
gpsspeed	double precision	GPS speed (in MPH)
geom*	geometry	Geometric point data

v_obd_missedtrips

The v_obd_gpstrips table contains trip-level information for each valid GPS trip detected in the GPS point data collected by the sampled households during the assigned travel day.

Name	Data Type	Comment
sampno	numeric	Household identifier
vehno	smallint	Vehicle identifier

gpsdiarycomplete	smallint	GPS and diary are complete (0- False, 1- True)
nbgpstripsdiaryday	smallint	Number of trips captured by GPS on the travel day
nbdiaryreportedtrips	smallint	Number of trips reported by diary for the vehicle on the travel day
rawmatchdifference	smallint	Difference between the nbgpstripdiarday and nbdiaryreportedtrips columns
nbmissinggpstrips	smallint	Number of trips reported by diary, not in GPS data
nbmissingdiarytrips	smallint	Number of trips captured by GPS, not in diary
nbadjustedmissdiary	smallint	Number of unique trips falling into an exception category

v_gpstrips

The v_gpstrips table contains trip-level information for each valid GPS trip detected in the GPS point data collected by the sampled households during the assigned travel day.

Name	Data Type	Comment
sampno	numeric	Household identifier
vehno	smallint	Vehicle identifier
gpstripid	smallint	Trip number within file
gpstravdayid	integer	Travel day within travel period (1- Sunday, 7- Saturday)
gpstravdaytripid	smallint	Trip number within travel day (restarts at 1 each day)
start_time	timestamp without time zone	Local date and time of trip start
end_time	timestamp without time zone	Local date and time of trip end
duration_min	double precision	Duration of trip in minutes
distance_miles	double precision	Distance covered during trip in miles
avg_speed_mph	double precision	Average speed (mph)
max_speed_mph	double precision	Max speed (mph)
origin_lon*	double precision	Starting longitude (dd WGS84) of trip
origin_lat*	double precision	Starting latitude (dd WGS84) of trip
destination_lon*	double precision	Ending longitude (dd WGS84) of trip
destination_lat*	double precision	Ending latitude (dd WGS84) of trip
destination_distfromlast	double precision	Distance between previous trip destination and current trip origin (in meters)
gaptime	double precision	Time between previous trip/stage destination and current trip/stage origin (in minutes)
tripareatype	smallint	1- Internal origin: internal destination, 2- Internal origin: external destination, 3- External origin: internal destination, 4- External origin: external destination, area defined by California state boundary
workrelated	smallint	1- Trip suspected to be work related, 0- Otherwise
nontransport	smallint	1- Trip suspected to be a non-transportation trip, 0- Otherwise
onsite	smallint	1- Trip appears to be within boundaries of a single location, 0- Otherwise
looptrip	smallint	1- Trip starts and ends at same location, 0- Otherwise
origin_loc_type	character varying	Home, work, school, other (based on proximity to geocoded home, work, or school location)

destination_loc_type	character varying	Home, work, school, other (based on proximity to geocoded home, work, or school location)
geom*	geometry	A line representation created by NREL to represent that path of travel for the trip. Points are grouped using the start and end GPS timestamps and ordered to create a line (WGS84, 4326)

v_sortedtrips

The v_sortedtrips table contains an integrated record of all trips, both diary-reported and GPS-captured trips, by persons or vehicles for all complete households. This table contains only persons or vehicles whose diary data could be matched to GPS data or that confirmed no travel on the travel day.

Name	Data Type	Comment
sampno	numeric	Household identifier
vehno	smallint	Vehicle identifier
trip	character varying	Diary trip (in the case of vehicle trips, aggregated from the personal diaries); normally, the diary trip ID [1 to N], Special Cases -999 = placeholder for GPS trips before the first diary trip, 999 = placeholder for GPS trips after the last diary trip; decimal numbers (X.5) = GPS-only tours
startplace*	character varying	Name of starting place (null if a GPS-only tour)
endplace*	character varying	Name of ending place (null if a GPS-only tour)
startgpsplaceid	smallint	GPS place ID of the starting place, can be joined (with sampno and perno) to PlaceGPSTMs GPSplaceid for details on the starting place (you may get duplicates but they will be identical on GPS fields)
endgpsplaceid	character varying	GPS place ID of the ending place, can be joined (with sampno and perno) to PlaceGPSTMs GPSplaceid for details on the starting place (you may get duplicates but they will be identical on GPS fields)
newgpslist	character varying	New GPS places found within this diary trip that are not accounted for in the diary (when trip = 999, list Includes endGPSplaceid, because the last GPS place was not accounted for in the diary)

obd_trips

The obd_trips table contains trip-level information for each trip identified by the OBD engine sensor during the study period. This table is available for vehicle GPS/OBD households only.

Name	Data Type	Comment
sampno	numeric	Household identifier
vehno	smallint	Vehicle identifier
vin*	character varying	VIN reported from OBD Device, if available. In a few vehicles the VIN changes during the deployment. This indicates that the OBD device was moved from one vehicle to another by the household participant(s).
obdtripid	smallint	Trip number within file
travdayid	smallint	Travel day within travel week (n = 1 to 7)

travdayobdtripid	smallint	OBD trip number within travel day (restarts at 1 each day)
obdstarttime	timestamp without time zone	Local time and date of trip start
obdendtime	timestamp without time zone	Local time and date of trip end
obdduration	smallint	Duration of trip (in minutes)
obddistance	double precision	Distance covered during trip (in km)
avgspeed	double precision	Average speed (in kph)
maxspeed	double precision	Maximum speed (in kph)
numhardacc	smallint	Number of hard accelerations
numextracc	smallint	Number of extreme accelerations
numharddec	smallint	Number of hard decelerations
numextdec	smallint	Number of extreme decelerations
obdspeedfailed	smallint	0- passed, 1- failed parameter error or failed to log
obdmafrfailed	smallint	0- passed, 1- failed parameter error or failed to log
obdengloadfailed	smallint	0- passed, 1- failed parameter error or failed to log
obdengspeedfailed	smallint	0- passed, 1- failed parameter error or failed to log
obdthrottleposfailed	smallint	0- passed, 1- failed parameter error or failed to log

obd_points

The obd_points table contains point-level information for each trip identified by the OBD engine sensor during the study period. This table is available for vehicle GPS/OBD households only. For public download, the obd_points data is segregated by vehicle and available in the sorted_by_vehicle.zip file. Thus, the obd_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	Original study vehicle identifier
obdtripid	smallint	Trip identifier
time_local	timestamp without time zone	Local timestamp
time_utc	timestamp without time zone	Universal Coordinated Time (UTC) time and date
obdspeed	smallint	OBD point speed (in kph)
obdmafr	double precision	OBD mass airflow rate (6-second frequency)
obdengload	double precision	OBD engine load (6-second frequency)
obdengspeed	double precision	OBD engine speed/rpm (6-second frequency)
obdthrottlepos	double precision	OBD throttle position (6-second frequency)

Wearable Tables

w_gpstripstages

The w_gpstripstages table contains one record for each trip stage identified within a wearable GPS trip, where a stage is defined as travel made by a given travel mode.

Name	Data Type	Comment
sampno	numeric	Household identifier
perno	smallint	Person identifier
gpstripid	smallint	Trip number from file
gpstravdayid	smallint	Travel day within travel period (n = 1 to 3)
gpstravdaytripid	smallint	Trip number within travel day (restarts at 1 each day)
stage_id	smallint	Stage number within trip
start_time	timestamp without time zone	Local timestamp of trip start
end_time	timestamp without time zone	Local timestamp of trip end
duration_min	double precision	Duration of trip stage (in minutes)
distance_miles	double precision	Distance covered during trip stage (in miles)
avg_speed_mph	double precision	Average speed during trip stage (mph)
avg_gpsspeed	double precision	Average speed at all points within trip (mph)
max_speed_mph	double precision	Max speed during trip stage (mph)
travel_mode	smallint	Imputed travel mode (mode codes are identical to NuStats CATI modes)
origin_lon*	double precision	Starting longitude (dd WGS84) of trip stage
origin_lat*	double precision	Starting latitude (dd WGS84) of trip stage
destination_lon*	double precision	Ending longitude (dd WGS84) Of Trip Stage
destination_lat*	double precision	Ending Latitude (dd WGS84) of trip stage
distfromlastdest	double precision	Distance between previous trip destination and current trip origin (in feet). Null if distance > 500 meters
gaptime	double precision	Time between previous trip/stage destination and current trip/stage origin (in minutes)
geom*	geometry	Geometric linestring

w_person

The w_person table contains one record for each person deployed with wearable GPS equipment during the study period. Summary information for each GPS data collection day is provided.

Name	Data Type	Comment
sampno	numeric	Household identifier
perno	smallint	Person identifier
diarytripsday1	smallint	Number of all diary trips reported on day 1
gpstripsday1	smallint	Number of GPS trips collected on day 1 of deployment period
gpstripsday2	smallint	Number of GPS trips collected on day 2 of deployment period
gpstripsday3	smallint	Number of GPS trips collected on day 3 of deployment period

totalgpstrips	smallint	Number of GPS trips collected during 7-day deployment period
geom*	geometry	Geometric point data

w_missedtrips

The w_missedtrips table contains a comparison of diary-reported trips and GPS-captured trips by persons or vehicles for complete households. The table contains data only for persons or vehicles whose diary data could be matched to GPS data or that confirmed no travel on the assigned travel day.

Name	Data Type	Comment
sampno	numeric	Household identifier
perno	smallint	Person identifier
gpsdiarycomplete	smallint	GPS and diary are complete (0- False, 1- True)
nbgpstripsdiaryday	smallint	Number of trips captured by GPS on the travel day
nbdiaryreportedtrips	smallint	Number of trips reported by diary for the person on the travel day
rawmatchdifference	smallint	Difference between nbgpstripdiarday and nbdiaryreportedtrips
nbmissinggpstrips	smallint	Number of trips reported by diary not in GPS data
nbmissingdiarytrips	smallint	Number of trips captured by GPS, not in diary
nbadjustedmissdiary	smallint	Number of unique trips falling into an exception category

w_sortedtrips

The w_sortedtrips table contains an integrated record of all trips, both diary-reported and GPS-captured, by persons or vehicles for all complete households. This table contains only data for persons or vehicles whose diary data could be matched to GPS data or that confirmed no travel on the travel day.

Name	Data Type	Comment
sampno	numeric	Household identifier
perno	smallint	Person identifier
trip	character varying	Diary trip- in the case of vehicle trips aggregated from personal diaries (range: 1 to N, -999 = Placeholder for GPS trips before the first diary trip, 999 = Placeholder for GPS trips after the last diary trip, decimal numbers (X.5) - GPS-only tours
startplace*	character varying	Name of starting place (null if a GPS-only tour)
endplace*	character varying	Name of ending place (null if a GPS-only tour)
startgpsplaceid	smallint	GPS place ID of the starting place (can be joined with sampno and perno to PlaceGPSTMs gpsplaceid for details on the starting place (note: there may be duplicates but they will be identical on GPS fields)
endgpsplaceid	character varying	GPS place ID of the ending place (can be joined with sampno and perno to PlaceGPSTMs gpsplaceid for details on the starting place (note: there may be duplicates but they will be identical on GPS fields))

newgpslist	character varying	New GPS Places found within diary trip that are not accounted for in the diary (comma-separated list of places), null if no new GPS places between startplace and endplace; special cases: when trip = -999, the list includes startgpsplaceid. Because the first GPS place was not accounted for in the diary, when trip= 999, The list includes endgpsplaceid because the last GPS place was not accounted for in the diary.

w_gpslinks

The spatial layers used in the link matching were developed from a number of different sources based on need and availability. In the MTC area, MTC provided road, bike, rail, and ferry databases to use in the matching. In the rest of the state, TIGER road data were used and integrated with transit networks where available. To improve the matching process, some road segments were flipped to coordinate the topological direction and the direction of travel. This prevents the link-matching routine from matching the GPS to the wrong side of a divided highway. TIGER data were also adjusted when clear connectivity gaps were identified. The algorithm (70 CHTS Final Report Version 1.0) used to perform the link-matching, was based on one proposed by Marshal, Hackney, and Axhausen with the added feature of performing the shortest network paths on gaps found in the final routes. Each record in the shapefile received a unique ID in PostGIS, which matched its position in the original file; this field (uid) was used to associate the GPS points with the link features.

Name	Data Type	Comment
sampno	numeric	Household identifier
perno	smallint	Person identifier
gpstripid	smallint	Trip number from file
gpstravdayid	smallint	Travel day within travel period (1- Sunday, 7- Saturday)
gpstravdaytripid	smallint	Trip number within travel day (restarts at 1 each day)
matched_layer	character varying	Name of matched GIS layer (all values "caltrans_streets_topo")
matched_field	character varying	Name of the match field in the match GIS layer (all values GID)
feature_order	integer	Order of the route segment
feature_id*	integer	Value of matchfield corresponding to the matched feature
sel_type	smallint	Selection type of the match feature (1 GPS, 2 - Shortest path)
direction	integer	Direction along link with respect to topology (1 - Same, -1 - Opposed)
start_time	timestamp without time zone	Timestamp when vehicle entering link (interpolated)
end_time	timestamp without time zone	Timestamp when vehicle exiting link (interpolated)
lrs_start*	double precision	Start LRS measure along the links topological direction
lrs_end*	double precision	End LRS measure along the links topological direction
geom*	geometry	Geometric linestring

w_linkedtrips

The "w_linkedtrips" table contains linked wearable trips with fields matching those produced in the 2001 CHTS.

Name	Data Type	Comment

sampno	integer	Household identifier
perno	smallint	Person identifier
lt_gpstripid	integer	Unique linked trip identifier
tot_activities	smallint	Number of activities included in the linked trip
lt_mode	text	The primary mode of the linked trip- i.e. the mode that accounted for the greatest distance traveled within the linked trip (mode codes are identical to NuStats CATI modes)
lt_type	text	The 4-step trip type classification of the linked trip (origin type, destination type): H- Home activities, W- Work activities, S- Shop activities, O- Other activities
oplano	text	The place number of the linked trip origin
oactno	text	The activity number of the linked trip origin
dplano	text	The place number of the linked trip destination
dactno	text	The activity number of the linked trip destination
tripdist	text	The total distance of all segments in the linked trip (in miles)
tripdur	text	The total time spent traveling over all segments in the linked trip (in min.)
ignoredactdur	text	The total time spent in activities ignored during the linked trip
jplano	text	A string containing the planos of all activities in the linked trip (joined by ":")
jactno	text	A string containing the actnos of all activities in the linked trip (joined by ":")
japurp	text	A string containing the apurps of all activities in the linked trip (joined by ":")
jmode	text	A string containing the modes to all places in the linked trip (joined by ":")
jtripdist	text	A string containing the distances to all places in the linked trip (joined by ":")
sameod	text	A boolean variable set to TRUE if the linked trip has the same origin and destination (loop trip)

w_gpstrips

The w_gpstrips table contains trip results from the wearable GPS subsample. The table also contains trip summary information derived from GPS data during the assigned travel day.

Name	**Data Type**	**Comment**
sampno	numeric	Household identifier
perno	smallint	Person identifier
gpstripid	smallint	Trip number within file
gpstravdayid	integer	Travel day within travel period (1- Sunday, 7- Saturday)
gpstravdaytripid	smallint	Trip number within travel day (restarts at 1 each day)
start_time	timestamp without time zone	Local date and time of trip start
end_time	timestamp without time zone	Local date and time of trip end
duration_min	double precision	Duration of trip (in minutes)
distance_miles	double precision	Distance covered during trip (in miles)
avg_speed_mph	double precision	Average speed (mph)

max_speed_mph	double precision	Max speed (mph)
travel_mode	smallint	Imputed travel mode (if single mode or stage, then mode code, if multiple, then longest distance traveled mode)
nbstages	smallint	Count of unique trip stages (each stage is change in travel mode)
travmodelist	character varying	Comma-delimited sequence of travel modes
numuniqmodes	smallint	Count of unique travel modes
uniqmodelist	character varying	Comma-delimited list of unique modes ordered numerically
origin_lon*	double precision	Longitude (dd WGS84) of trip origin
origin_lat*	double precision	Latitude (dd WGS84) of trip origin
destination_lon*	double precision	Longitude (dd WGS84) of trip destination
destination_lat*	double precision	Latitude (dd WGS84) Of trip destination
distfromlastdest	double precision	Distance between previous trip destination and current trip origin (in meters)
gaptime	double precision	Time between previous trip/stage destination and current trip/stage origin (in minutes)
tripareatype	smallint	Area defined by California state boundary: 1- Internal origin, internal destination, 2- Internal origin, external destination, 3- External origin, internal destination, 4- External origin, external destination
workrelated	smallint	1- Trip suspected to be work related, 0- Otherwise
no_transport	smallint	1- Trip suspected to be a non-transportation trip, 0- Otherwise
onsite	smallint	1- Trip appears to be within boundaries of a single location, 0- Otherwise
looptrip	smallint	1- Trip starts and ends at same location, 0- Otherwise
origin_loc_type	character varying	Home, work, school, other (based on proximity to geocoded home, work, or school location)
destination_loc_type	character varying	Home, work, school, other (based on proximity to geocoded home, work, or school location)
geom*	geometry	A line representation created by NREL to represent the path of travel for the trip. Points are grouped using the start and end GPS timestamps, and ordered to create a line (WGS84, 4326).

w_points

The w_points table contains all valid GPS points (associated with GPS trips) collected by the sampled wearable households during the assigned travel day. All higher level tables (households, persons, trips, etc.) are derived from point tables. For public download, the w_points data is segregated by person and available in the sorted_by_person.zip file. Thus, the w_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	integer	Unique household identifier
perno	integer	Person identifier
gpstripid	integer	Trip identifier
localid	integer	Point identifier
time_local	timestamp without time zone	Local timestamp
longitude*	double precision	The longitude recorded by the GPS device

latitude*	double precision	The latitude recorded by the GPS device
gpsspeed	double precision	GPS speed (in mph)
geom*	geometry	GPS point data

w_place

The w_place table contains all diary-reported trips by persons or vehicles for all households. This table contains only data for persons or vehicles whose diary data could be matched to GPS data or that confirmed no travel on the travel day.

Name	Data Type	Comment
sampno	numeric	Household identifier
perno	smallint	Person identifier
gpsplaceid	smallint	Place number (from GPS)
plano	smallint	Place number (from diary)
arr_match_type	smallint	Match type of incoming trips destination: 1- Matched by time/distance, 2- Matched by an analyst, 3- Single link in chain, 4- Multiple links in chain, 5- All links in a round trip, 6- Before all GPS Trips, 7- Between GPS trips, 8- After all GPS trips, 9: No diary is available for the travel day. Because gps is collected for a longer period than the diary, the last diary place will often have this as a depmatchtype.
dep_match_type	smallint	Match type of outgoing trips destination: 1- Matched by time/distance, 2- Matched by an analyst, 3- Single link in chain, 4- Multiple links in chain, 5- All links in a round trip, 6- Before all GPS Trips, 7- Between GPS trips, 8- After all GPS trips, 9: No diary is available for the travel day. Because gps is collected for a longer period than the diary, the last diary place will often have this as a depmatchtype.
name*	character varying	Name of place
address*	character varying	Address of place
city	character varying	City of place
lon*	double precision	Longitude of place
lat*	double precision	Latitude of place
arr_gpslon*	double precision	Longitude of last GPS point before arrival
arr_gpslat*	double precision	Latitude of last GPS point before arrival
dep_gpslon*	double precision	Longitude of first GPS point after departure
dep_gpslat*	double precision	Latitude of first GPS point after departure
distance	double precision	Distance between GPS trip end and diary trip end (in feet)
arr_time	timestamp without time zone	Date-time of arrival according to diary
dep_time	timestamp without time zone	Date-time of departure according to diary
arr_gpstime	timestamp without time zone	Date-time of arrival according to GPS
dep_gpstime	timestamp without time zone	Date-time of departure according to GPS
diaryloctype	character varying	Home, work, school, other (diary)
gpsloctype	character varying	Home, work, school, other (GPS)
geom*	geometry	Point representation of the place generated from the places lat/lon coordinate value in the table (WGS 4326). Origin/destination or arrival/departure points are available but are not represented as geometries in this table.

w_households

The w_households table includes data from the households who participated in the wearable GPS part of the study (a subset of the total households who participated in the study). Of these, a smaller portion were also included in the survey part of the study. 14 households participated in the wearable GPS part of the study only and are unique to the w_households table.

Name	Data Type	Comment
sampno	numeric	Household identifier
home_county_id	character varying	County ID provided by NuStats
mpo_id	integer	MPO ID provided by NuStats
persons_count	integer	Household size (range: 115, 98- DK, 99- RF)
persons_count_gps	integer	Number of persons deployed with GPS devices
travel_day1	timestamp without time zone	Assigned travel date for diary completion
gps_trips_td	integer	Number of GPS wearable trips on assigned travel date
gps_trips_23	integer	Number of GPS wearable trips on days 2 and 3
diary_trips_td	integer	Total of all diary trips on assigned travel date (null if diarycomplete = 0)
gps_complete	integer	GPS data exist for all instrumented persons (or for at least 2 persons in 3 person household) or CATI confirms no travel on assigned travel date (0- False, 1- True)
diary_complete	integer	Diary data were retrieved for this household (0- False, 1- True)
gps_diary_complete	integer	GPS and diary are complete (0- False, 1- True)
deldateid	integer	First deliverable for this household appeared in: 1-April, 2-July, 3-October, 4-January, 5-Draft final, 6-Final- All data
nsdeliverable	integer	NuStats deliverable location: 1- Primary deliverable, 2- Supplementary deliverable
mtcflag	integer	Identifies MTC sample household
geom*	geometry	Point grabbed from place table where place name = home

Sorted by Vehicle Tables

gps_households

The v_households table includes data from the households who participated in the vehicle GPS part of the study (a subset of the total households who participated in the study). Of these, a smaller portion were also included in the survey part of the study. Four households participated in the vehicle GPS part of the study only and are unique to the v_households table.

Name	Data Type	Comment
sampno	numeric	Household identifier
home_county_id	character varying	County ID provided by NuStats
mpo_id	integer	MPO ID provided by NuStats
vehicle_count	integer	Total number of vehicles reported for household

vehicle_count_gps	integer	Number of vehicles deployed with GPS devices
travel_day1	timestamp without time zone	Assigned travel date for diary completion
gps_trips_td	integer	Number of GPS trips on assigned travel date
gps_trips_27	integer	Number of GPS trips on days 2 and 7
diary_trips_td	integer	Total of all diary trips on assigned travel date (null if diarycomplete = 0)
gps_complete	integer	GPS data exist for vehicles with GPS instrumentation or diary confirms no travel on assigned travel date (0- False, 1- True)
diary_complete	integer	Diary data were retrieved for this household (0- False, 1- True)
gps_diary_complete	integer	Both GPS and diary are complete (0- False, 1- True)
deldateid	integer	First Geostats deliverable this household appeared in (1-April, 2-July, 3- October, 4- January, 5- Draft final, 6- Final: all data)
nsdeliverable	integer	NuStats deliverable location (1- Primary deliverable, 2- Supplementary deliverable)

gps_obd_points

The v_obd_points table contains all valid GPS points (associated with GPS trips) collected by the sampled vehicle GPS/OBD households during the assigned travel day. All higher level tables (households, persons, trips, etc.) are derived from point tables. For public download, the v_obd_points data is segregated by vehicle and available in the sorted_by_vehicle.zip file. Thus, the v_obd_points table is not available in the full_survey.zip download. This decision was made to better organize the data and manage file sizes. The OBD data provided in this table is incomplete since some data could have been lost in joining to the GPS data by time_local (due to time_local not being synced between OBD and GPS loggers).

Name	Data Type	Comment
sampno	numeric	Household identifier
vehno	smallint	Vehicle identifier
gpstripid	smallint	Trip number within file
obdtripid	smallint	Trip number within obd file
localid	integer	Point index within original file
time_local	timestamp without time zone	Local date and time
gpsspeed	double precision	GPS point speed in mph
obdspeed	double precision	OBD point speed in mph
obdmafr	double precision	OBD Mass airflow rate (6-second frequency)
obdengload	double precision	OBD engine load (6-second frequency)
obdengspeed	double precision	OBD engine speed/rpm (6-second frequency)
obdthrottlepos	double precision	OBD throttle position (6-second frequency)

obd_points

The obd_points table contains point-level information for each trip identified by the OBD engine sensor during the study period. This table is available for vehicle GPS/OBD households only. For public download, the obd_points data is segregated by vehicle and available in the sorted_by_vehicle.zip file. Thus, the obd_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	Original study vehicle identifier
obdtripid	smallint	Trip identifier
time_local	timestamp without time zone	Local timestamp
time_utc	timestamp without time zone	Universal Coordinated Time (UTC) time and date
obdspeed	smallint	OBD point speed (in kph)
obdmafr	double precision	OBD mass airflow rate (6-second frequency)
obdengload	double precision	OBD engine load (6-second frequency)
obdengspeed	double precision	OBD engine speed/rpm (6-second frequency)
obdthrottlepos	double precision	OBD throttle position (6-second frequency)

gps_obd_vehicles

The v_obd_vehicles table contains one record for each vehicle deployed with GPS equipment during the study period. Summary information for each GPS data collection day is provided. This table is available for OBD+ vehicle GPS households only.

Name	Data Type	Comment
sampno	numeric	Household identifier
vehno	smallint	Vehicle identifier
veh_type	smallint	Vehicle Type: 1- Hybrid vehicle, 2- Gasoline-only vehicle, 3- Diesel-only vehicle, 4- Plug-in hybrid electric vehicle, 5- CNG, 6- Electric only, 7- Other, 9- DK/RF
veh_type_other	character varying	Vehicle type, other
fuel_type	smallint	Vehicle fuel type
fuel_type2	smallint	Secondary vehicle fuel type
fuel_type_obd	character varying	Fuel type from OBD sensor (OBD sample only) if available
start_odometer	character varying	Starting odometer value if reported on participation sheet
diarytripsday1	smallint	Number of all unique diary trips reported on day 1
gpstripsday1	smallint	Number of GPS trips collected on day 1 of deployment period
obdtripsday1	smallint	Number of OBD trips collected on day 1 of deployment period
gpstripsday2	smallint	Number of GPS trips collected on day 2 of deployment period
obdtripsday2	smallint	Number of OBD trips collected on day 2 of deployment period
gpstripsday3	smallint	Number of GPS trips collected on day 3 of deployment period
obdtripsday3	smallint	Number of OBD trips collected on day 3 of deployment period
gpstripsday4	smallint	Number of GPS trips collected on day 4 of deployment period
obdtripsday4	smallint	Number of OBD trips collected on day 4 of deployment period
gpstripsday5	smallint	Number of GPS trips collected on day 5 of deployment period
obdtripsday5	smallint	Number of OBD trips collected on day 5 of deployment period
gpstripsday6	smallint	Number of GPS trips collected on day 6 of deployment period
obdtripsday6	smallint	Number of OBD trips collected on day 6 of deployment period
gpstripsday7	smallint	Number of GPS trips collected on day 7 of deployment period
obdtripsday7	smallint	Number of OBD trips collected on day 7 of deployment period

totalgpstrips	smallint	Number of GPS trips collected during 7-day deployment period
totalobdtrips	smallint	Number of OBD vehicle trips collected during 7-day deployment period

gps_obd_households

The v_obd_gpstrips table contains trip-level information for each valid GPS trip detected in the GPS point data collected by the sampled households during the assigned travel day.

Name	Data Type	Comment
sampno	numeric	Household identifier
home_county_id	character varying	County ID provided by NuStats
mpo_id	smallint	MPO ID provided by NuStats
vehicle_count	smallint	Total number of vehicles reported for household
vehicle_count_gps	smallint	Number of vehicles deployed with GPS devices
travel_day1	timestamp without time zone	Assigned travel date for diary completion
gps_trips_td	smallint	Number of GPS trips on assigned travel date
gps_trips_27	smallint	Number of GPS trips on days 2 and 7
obd_trips_td	smallint	Number of OBD trips on assigned travel date
obd_trips_27	smallint	Number of OBD trips on days 2-7
diary_trips_td	smallint	Total of all diary trips on assigned travel date (null if diarycomplete = 0)
gps_complete	smallint	GPS data exist for vehicles with GPS instrumentation (or at least 2 from a 3-vehicle household) or diary confirms no travel on assigned travel date (0- False, 1- True)
diary_complete	smallint	Diary data were retrieved for this household (0- False, 1- True)
obd_complete	smallint	OBD data exist for all instrumented vehicles (or for at least 2 vehicles from 3-vehicle households) or diary data confirms no travel on assigned travel date
gps_obd_diary_complete	smallint	GPS, OBD, and diary status are all complete
gps_diary_complete	smallint	GPS and diary are complete (0- False, 1- True)
gps_diary_obd_ –diary_complete	smallint	Either GPS and diary status complete or OBD and diary are complete
deldateid	smallint	First GeoStats deliverable this household appeared in (1- April, 2- July, 3- October, 4- January, 5- Draft Final, 6- Final: all data)
nsdeliverable	smallint	NuStats deliverable location (1- Primary deliverable, 2- Supplementary Deliverable)
cec_sample	smallint	Identifies California Energy Commission sample households (1- DMV, 2- UC-Davis, Null- Core)

gps_vehicles

The v_vehicles table provides trip summary data for the vehicles outfitted with onboard GPS devices.

Name	Data Type	Comment
sampno	numeric	Household identifier
vehno	smallint	Vehicle identifier
diarytripsday1	smallint	Number of all unique diary trips reported on day 1
gpstripsday1	smallint	Number of GPS trips collected on day 1 of deployment period
gpstripsday2	smallint	Number of GPS trips collected on day 2 of deployment period
gpstripsday3	smallint	Number of GPS trips collected on day 3 of deployment period
gpstripsday4	smallint	Number of GPS trips collected on day 4 of deployment period
gpstripsday5	smallint	Number of GPS trips collected on day 5 of deployment period
gpstripsday6	smallint	Number of GPS trips collected on day 6 of deployment period
gpstripsday7	smallint	Number of GPS trips collected on day 7 of deployment period
totalgpstrips	smallint	Number of GPS trips collected during 7-day deployment period

obd_trips

The obd_trips table contains trip-level information for each trip identified by the OBD engine sensor during the study period. This table is available for vehicle GPS/OBD households only.

Name	Data Type	Comment
sampno	numeric	Household identifier
vehno	smallint	Vehicle identifier
obdtripid	smallint	Trip number within file
travdayid	smallint	Travel day within travel week (n = 1 to 7)
travdayobdtripid	smallint	OBD trip number within travel day (restarts at 1 each day)
obdstarttime	timestamp without time zone	Local time and date of trip start
obdendtime	timestamp without time zone	Local time and date of trip end
obdduration	smallint	Duration of trip (in minutes)
obddistance	double precision	Distance covered during trip (in km)
avgspeed	double precision	Average speed (in kph)
maxspeed	double precision	Maximum speed (in kph)
numhardacc	smallint	Number of hard accelerations
numextracc	smallint	Number of extreme accelerations
numharddec	smallint	Number of hard decelerations
numextdec	smallint	Number of extreme decelerations
obdspeedfailed	smallint	0- passed, 1- failed parameter error or failed to log
obdmafrfailed	smallint	0- passed, 1- failed parameter error or failed to log
obdengloadfailed	smallint	0- passed, 1- failed parameter error or failed to log
obdengspeedfailed	smallint	0- passed, 1- failed parameter error or failed to log
obdthrottleposfailed	smallint	0- passed, 1- failed parameter error or failed to log

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. 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	integer	Unique household identifier
vehno	smallint	Original study vehicle identifier
gpstripid	integer	Trip identifier
localid	integer	Point index within original file
time_local	timestamp without time zone	Local timestamp
gpsspeed	double precision	GPS speed (in MPH)

Sorted by Person Tables

gps_households

The w_households table includes data from the households who participated in the wearable GPS part of the study (a subset of the total households who participated in the study). Of these, a smaller portion were also included in the survey part of the study. 14 households participated in the wearable GPS part of the study only and are unique to the w_households table.

Name	Data Type	Comment
sampno	numeric	Household identifier
home_county_id	character varying	County ID provided by NuStats
mpo_id	integer	MPO ID provided by NuStats
persons_count	integer	Household size (range: 115, 98- DK, 99- RF)
persons_count_gps	integer	Number of persons deployed with GPS devices
travel_day1	timestamp without time zone	Assigned travel date for diary completion
gps_trips_td	integer	Number of GPS wearable trips on assigned travel date
gps_trips_23	integer	Number of GPS wearable trips on days 2 and 3
diary_trips_td	integer	Total of all diary trips on assigned travel date (null if diarycomplete = 0)
gps_complete	integer	GPS data exist for all instrumented persons (or for at least 2 persons in 3 person household) or CATI confirms no travel on assigned travel date (0- False, 1- True)
diary_complete	integer	Diary data were retrieved for this household (0- False, 1- True)
gps_diary_complete	integer	GPS and diary are complete (0- False, 1- True)
deldateid	integer	First deliverable for this household appeared in: 1-April, 2-July, 3-October, 4-January, 5-Draft final, 6-Final- All data
nsdeliverable	integer	NuStats deliverable location: 1- Primary deliverable, 2- Supplementary deliverable
mtcflag	integer	Identifies MTC sample household

person

The w_person table contains one record for each person deployed with wearable GPS equipment during the study period. Summary information for each GPS data collection day is provided.

Name	Data Type	Comment
sampno	numeric	Household identifier
perno	smallint	Person identifier
diarytripsday1	smallint	Number of all diary trips reported on day 1
gpstripsday1	smallint	Number of GPS trips collected on day 1 of deployment period
gpstripsday2	smallint	Number of GPS trips collected on day 2 of deployment period
gpstripsday3	smallint	Number of GPS trips collected on day 3 of deployment period
totalgpstrips	smallint	Number of GPS trips collected during 7-day deployment period

gps_points

The w_points table contains all valid GPS points (associated with GPS trips) collected by the sampled wearable households during the assigned travel day. All higher level tables (households, persons, trips, etc.) are derived from point tables. For public download, the w_points data is segregated by person and available in the sorted_by_person.zip file. Thus, the w_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	integer	Unique household identifier
perno	integer	Person identifier
gpstripid	integer	Trip identifier
localid	integer	Point identifier
time_local	timestamp without time zone	Local timestamp
gpsspeed	double precision	GPS speed (in mph)

gps_trips

The w_gpstrips table contains trip results from the wearable GPS subsample. The table also contains trip summary information derived from GPS data during the assigned travel day.

Name	Data Type	Comment
sampno	numeric	Household identifier
perno	smallint	Person identifier
gpstripid	smallint	Trip number within file
gpstravdayid	integer	Travel day within travel period (1- Sunday, 7- Saturday)
gpstravdaytripid	smallint	Trip number within travel day (restarts at 1 each day)
start_time	timestamp without time zone	Local date and time of trip start
end_time	timestamp without time zone	Local date and time of trip end

duration_min	double precision	Duration of trip (in minutes)
distance_miles	double precision	Distance covered during trip (in miles)
avg_speed_mph	double precision	Average speed (mph)
max_speed_mph	double precision	Max speed (mph)
travel_mode	smallint	Imputed travel mode (if single mode or stage, then mode code, if multiple, then longest distance traveled mode)
nbstages	smallint	Count of unique trip stages (each stage is change in travel mode)
travmodelist	character varying	Comma-delimited sequence of travel modes
numuniqmodes	smallint	Count of unique travel modes
uniqmodelist	character varying	Comma-delimited list of unique modes ordered numerically
distfromlastdest	double precision	Distance between previous trip destination and current trip origin (in meters)
gaptime	double precision	Time between previous trip/stage destination and current trip/stage origin (in minutes)
tripareatype	smallint	Area defined by California state boundary: 1- Internal origin, internal destination, 2- Internal origin, external destination, 3- External origin, internal destination, 4- External origin, external destination
workrelated	smallint	1- Trip suspected to be work related, 0- Otherwise
no_transport	smallint	1- Trip suspected to be a non-transportation trip, 0- Otherwise
onsite	smallint	1- Trip appears to be within boundaries of a single location, 0- Otherwise
looptrip	smallint	1- Trip starts and ends at same location, 0- Otherwise
origin_loc_type	character varying	Home, work, school, other (based on proximity to geocoded home, work, or school location)
destination_loc_type	character varying	Home, work, school, other (based on proximity to geocoded home, work, or school location)

* 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.