

first-example-mode-summary

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Load in Packages

IF YOU need to download some packages on github: `travelSurveyTools`, `psrcelmer`, and `psrcplot`. For this use the syntax: `library(devtools) devtools::install_github('rsgInc/travelSurveyTools') devtools::install_github('psrc/psrcelmer') devtools::install_github('psrc/psrcplot')`

Debugging `travelSurveyTools`

`travelSurveyTools` still has many cryptic error messages usually related to data or codebook formatting and naming. You may need to debug to find where or why the problem exists.

You can use: `devtools::load_all('C:/GitHub/travelSurveyTools/R')` and then `browser()` and put breakpoints in the code to find the problem.

Read in data items from Elmer

The `travelSurveyTools` package expects everything to be a `data.table`, so run `setDT` all over the place.

```
trip<- get_query(sql= "select trip_id, household_id as hh_id, day_id,
person_id, mode_1, survey_year, travelers_total, trip_weight
                        from HHSurvey.v_trips_labels")

setDT(trip)
```

Read in Codebook

```
## Warning: Expecting logical in I3354 / R3354C9: got 'telework_time_23'
```

```
## Warning: Expecting logical in J3354 / R3354C10: got 'None'
```

```
## Warning: Expecting logical in I3355 / R3355C9: got 'telework_time_23'
```

```
## Warning: Expecting logical in J3355 / R3355C10: got 'None'
```

```
## Warning: Expecting logical in I3356 / R3356C9: got 'telework_time_23'
```

```
## Warning: Expecting logical in J3356 / R3356C10: got 'More than 6 hours'
```

Warning: Expecting logical in I3357 / R3357C9: got 'telework_time_23'

Warning: Expecting logical in J3357 / R3357C10: got '1-6 hours'

Warning: Expecting logical in I3358 / R3358C9: got 'telework_time_23'

Warning: Expecting logical in J3358 / R3358C10: got 'Less than 1 hour'

Warning: Expecting logical in I3359 / R3359C9: got 'telework_time_23'

Warning: Expecting logical in J3359 / R3359C10: got 'None'

Warning: Expecting logical in I3360 / R3360C9: got 'telework_time_23'

Warning: Expecting logical in J3360 / R3360C10: got 'Less than 1 hour'

Warning: Expecting logical in I3361 / R3361C9: got 'telework_time_23'

Warning: Expecting logical in J3361 / R3361C10: got 'Less than 1 hour'

Warning: Expecting logical in I3362 / R3362C9: got 'telework_time_23'

Warning: Expecting logical in J3362 / R3362C10: got 'Less than 1 hour'

Warning: Expecting logical in I3363 / R3363C9: got 'telework_time_23'

Warning: Expecting logical in J3363 / R3363C10: got 'Less than 1 hour'

Warning: Expecting logical in I3364 / R3364C9: got 'telework_time_23'

Warning: Expecting logical in J3364 / R3364C10: got '1-3 hours'

Warning: Expecting logical in I3365 / R3365C9: got 'telework_time_23'

Warning: Expecting logical in J3365 / R3365C10: got '1-3 hours'

Warning: Expecting logical in I3366 / R3366C9: got 'telework_time_23'

Warning: Expecting logical in J3366 / R3366C10: got '1-3 hours'

Warning: Expecting logical in I3367 / R3367C9: got 'telework_time_23'

Warning: Expecting logical in J3367 / R3367C10: got '1-3 hours'

Warning: Expecting logical in I3368 / R3368C9: got 'telework_time_23'

Warning: Expecting logical in J3368 / R3368C10: got '1-3 hours'

Warning: Expecting logical in I3369 / R3369C9: got 'telework_time_23'

Warning: Expecting logical in J3369 / R3369C10: got '1-3 hours'

Warning: Expecting logical in I3370 / R3370C9: got 'telework_time_23'

Warning: Expecting logical in J3370 / R3370C10: got '1-3 hours'

Warning: Expecting logical in I3371 / R3371C9: got 'telework_time_23'

Warning: Expecting logical in J3371 / R3371C10: got '1-3 hours'

Warning: Expecting logical in I3372 / R3372C9: got 'telework_time_23'

Warning: Expecting logical in J3372 / R3372C10: got '3-6 hours'

Warning: Expecting logical in I3373 / R3373C9: got 'telework_time_23'

Warning: Expecting logical in J3373 / R3373C10: got '3-6 hours'

Warning: Expecting logical in I3374 / R3374C9: got 'telework_time_23'

Warning: Expecting logical in J3374 / R3374C10: got '3-6 hours'

Warning: Expecting logical in I3375 / R3375C9: got 'telework_time_23'

Warning: Expecting logical in J3375 / R3375C10: got '3-6 hours'

Warning: Expecting logical in I3376 / R3376C9: got 'telework_time_23'

Warning: Expecting logical in J3376 / R3376C10: got '3-6 hours'

Warning: Expecting logical in I3377 / R3377C9: got 'telework_time_23'

Warning: Expecting logical in J3377 / R3377C10: got '3-6 hours'

Warning: Expecting logical in I3378 / R3378C9: got 'telework_time_23'

Warning: Expecting logical in J3378 / R3378C10: got '3-6 hours'

Warning: Expecting logical in I3379 / R3379C9: got 'telework_time_23'

Warning: Expecting logical in J3379 / R3379C10: got '3-6 hours'

Warning: Expecting logical in I3380 / R3380C9: got 'telework_time_23'

Warning: Expecting logical in J3380 / R3380C10: got '3-6 hours'

Warning: Expecting logical in I3381 / R3381C9: got 'telework_time_23'

Warning: Expecting logical in J3381 / R3381C10: got '3-6 hours'

Warning: Expecting logical in I3382 / R3382C9: got 'telework_time_23'

Warning: Expecting logical in J3382 / R3382C10: got '3-6 hours'

Warning: Expecting logical in I3383 / R3383C9: got 'telework_time_23'

Warning: Expecting logical in J3383 / R3383C10: got '3-6 hours'

Warning: Expecting logical in I3384 / R3384C9: got 'telework_time_23'

Warning: Expecting logical in J3384 / R3384C10: got 'More than 6 hours'

Warning: Expecting logical in I3385 / R3385C9: got 'telework_time_23'

Warning: Expecting logical in J3385 / R3385C10: got 'More than 6 hours'

Warning: Expecting logical in I3386 / R3386C9: got 'telework_time_23'

Warning: Expecting logical in J3386 / R3386C10: got 'More than 6 hours'

Warning: Expecting logical in I3387 / R3387C9: got 'telework_time_23'

Warning: Expecting logical in J3387 / R3387C10: got 'More than 6 hours'

Warning: Expecting logical in I3388 / R3388C9: got 'telework_time_23'

Warning: Expecting logical in J3388 / R3388C10: got 'More than 6 hours'

Warning: Expecting logical in I3389 / R3389C9: got 'telework_time_23'

Warning: Expecting logical in J3389 / R3389C10: got 'More than 6 hours'

Warning: Expecting logical in I3390 / R3390C9: got 'telework_time_23'

Warning: Expecting logical in J3390 / R3390C10: got 'More than 6 hours'

Warning: Expecting logical in I3391 / R3391C9: got 'telework_time_23'

Warning: Expecting logical in J3391 / R3391C10: got 'More than 6 hours'

Warning: Expecting logical in I3392 / R3392C9: got 'telework_time_23'

Warning: Expecting logical in J3392 / R3392C10: got 'More than 6 hours'

Warning: Expecting logical in I3393 / R3393C9: got 'telework_time_23'

Warning: Expecting logical in J3393 / R3393C10: got 'More than 6 hours'

Warning: Expecting logical in I3394 / R3394C9: got 'telework_time_23'

Warning: Expecting logical in J3394 / R3394C10: got 'More than 6 hours'

Warning: Expecting logical in I3395 / R3395C9: got 'telework_time_23'

Warning: Expecting logical in J3395 / R3395C10: got 'More than 6 hours'

Warning: Expecting logical in I3396 / R3396C9: got 'telework_time_23'

Warning: Expecting logical in J3396 / R3396C10: got 'More than 6 hours'

Warning: Expecting logical in I3397 / R3397C9: got 'telework_time_23'

Warning: Expecting logical in J3397 / R3397C10: got 'More than 6 hours'

Warning: Expecting logical in I3398 / R3398C9: got 'telework_time_23'

Warning: Expecting logical in J3398 / R3398C10: got 'More than 6 hours'

Warning: Expecting logical in I3399 / R3399C9: got 'telework_time_23'

Warning: Expecting logical in J3399 / R3399C10: got 'More than 6 hours'

Warning: Expecting logical in I3400 / R3400C9: got 'telework_time_23'

Warning: Expecting logical in J3400 / R3400C10: got 'More than 6 hours'

Warning: Expecting logical in I3401 / R3401C9: got 'telework_time_23'

Warning: Expecting logical in J3401 / R3401C10: got 'More than 6 hours'

Warning: Expecting logical in I3402 / R3402C9: got 'telework_time_23'

Warning: Expecting logical in J3402 / R3402C10: got 'More than 6 hours'

Warning: Expecting logical in I3403 / R3403C9: got 'telework_time_23'

Warning: Expecting logical in J3403 / R3403C10: got 'More than 6 hours'

Warning: Expecting logical in I3404 / R3404C9: got 'telework_time_23'

Warning: Expecting logical in J3404 / R3404C10: got 'More than 6 hours'

Warning: Expecting logical in I3405 / R3405C9: got 'telework_time_23'

Warning: Expecting logical in J3405 / R3405C10: got 'More than 6 hours'

Warning: Expecting logical in I3406 / R3406C9: got 'telework_time_23'

Warning: Expecting logical in J3406 / R3406C10: got 'More than 6 hours'

Warning: Expecting logical in I3407 / R3407C9: got 'telework_time_23'

Warning: Expecting logical in J3407 / R3407C10: got 'More than 6 hours'

Warning: Expecting logical in I3408 / R3408C9: got 'telework_time_23'

Warning: Expecting logical in J3408 / R3408C10: got 'More than 6 hours'

Warning: Expecting logical in I3409 / R3409C9: got 'telework_time_23'

Warning: Expecting logical in J3409 / R3409C10: got 'More than 6 hours'

Warning: Expecting logical in I3410 / R3410C9: got 'telework_time_23'

Warning: Expecting logical in J3410 / R3410C10: got 'More than 6 hours'

Warning: Expecting logical in I3411 / R3411C9: got 'telework_time_23'

Warning: Expecting logical in J3411 / R3411C10: got 'More than 6 hours'

Warning: Expecting logical in I3412 / R3412C9: got 'telework_time_23'

Warning: Expecting logical in J3412 / R3412C10: got 'More than 6 hours'

Warning: Expecting logical in I3413 / R3413C9: got 'telework_time_23'

Warning: Expecting logical in J3413 / R3413C10: got 'More than 6 hours'

Warning: Expecting logical in I3414 / R3414C9: got 'telework_time_23'

Warning: Expecting logical in J3414 / R3414C10: got 'More than 6 hours'

Warning: Expecting logical in I3415 / R3415C9: got 'telework_time_23'

Warning: Expecting logical in J3415 / R3415C10: got 'More than 6 hours'

Warning: Expecting logical in I3416 / R3416C9: got 'telework_time_23'

Warning: Expecting logical in J3416 / R3416C10: got 'More than 6 hours'

Warning: Expecting logical in I3417 / R3417C9: got 'telework_time_23'

Warning: Expecting logical in J3417 / R3417C10: got 'More than 6 hours'

Warning: Expecting logical in I3418 / R3418C9: got 'telework_time_23'

Warning: Expecting logical in J3418 / R3418C10: got 'More than 6 hours'

Warning: Expecting logical in I3419 / R3419C9: got 'telework_time_23'

Warning: Expecting logical in J3419 / R3419C10: got 'More than 6 hours'

Warning: Expecting logical in I3420 / R3420C9: got 'telework_time_23'

Warning: Expecting logical in J3420 / R3420C10: got 'More than 6 hours'

Warning: Expecting logical in I3421 / R3421C9: got 'telework_time_23'

Warning: Expecting logical in J3421 / R3421C10: got 'More than 6 hours'

Warning: Expecting logical in I3422 / R3422C9: got 'telework_time_23'

Warning: Expecting logical in J3422 / R3422C10: got 'More than 6 hours'

Warning: Expecting logical in I3423 / R3423C9: got 'telework_time_23'

Warning: Expecting logical in J3423 / R3423C10: got 'More than 6 hours'

Warning: Expecting logical in I3424 / R3424C9: got 'telework_time_23'

Warning: Expecting logical in J3424 / R3424C10: got 'More than 6 hours'

Warning: Expecting logical in I3425 / R3425C9: got 'telework_time_23'

Warning: Expecting logical in J3425 / R3425C10: got 'More than 6 hours'

Warning: Expecting logical in I3426 / R3426C9: got 'telework_time_23'

Warning: Expecting logical in J3426 / R3426C10: got 'Missing: Skip Logic'

Warning: Expecting logical in I3427 / R3427C9: got 'telework_time_23'

Warning: Expecting logical in J3427 / R3427C10: got 'More than 6 hours'

Warning: Expecting logical in I3428 / R3428C9: got 'telework_time_23'

Warning: Expecting logical in J3428 / R3428C10: got 'More than 6 hours'

Warning: Expecting logical in I3429 / R3429C9: got 'telework_time_23'

Warning: Expecting logical in J3429 / R3429C10: got 'More than 6 hours'

Warning: Expecting logical in I3430 / R3430C9: got 'telework_time_23'

Warning: Expecting logical in J3430 / R3430C10: got 'More than 6 hours'

Warning: Expecting logical in I3431 / R3431C9: got 'telework_time_23'

Warning: Expecting logical in J3431 / R3431C10: got 'More than 6 hours'

Warning: Expecting logical in I3432 / R3432C9: got 'telework_time_23'

Warning: Expecting logical in J3432 / R3432C10: got 'More than 6 hours'

Warning: Expecting logical in I3433 / R3433C9: got 'telework_time_23'

Warning: Expecting logical in J3433 / R3433C10: got 'More than 6 hours'

Warning: Expecting logical in I3434 / R3434C9: got 'telework_time_23'

Warning: Expecting logical in J3434 / R3434C10: got 'More than 6 hours'

Warning: Expecting logical in I3435 / R3435C9: got 'telework_time_23'

Warning: Expecting logical in J3435 / R3435C10: got 'More than 6 hours'

Warning: Expecting logical in I3436 / R3436C9: got 'telework_time_23'

Warning: Expecting logical in J3436 / R3436C10: got 'More than 6 hours'

Warning: Expecting logical in I3437 / R3437C9: got 'telework_time_23'

Warning: Expecting logical in J3437 / R3437C10: got 'More than 6 hours'

Warning: Expecting logical in I3438 / R3438C9: got 'telework_time_23'

Warning: Expecting logical in J3438 / R3438C10: got 'More than 6 hours'

Warning: Expecting logical in I3439 / R3439C9: got 'telework_time_23'

Warning: Expecting logical in J3439 / R3439C10: got 'More than 6 hours'

Warning: Expecting logical in I3440 / R3440C9: got 'telework_time_23'

Warning: Expecting logical in J3440 / R3440C10: got 'More than 6 hours'

Warning: Expecting logical in I3441 / R3441C9: got 'telework_time_23'

Warning: Expecting logical in J3441 / R3441C10: got 'More than 6 hours'

Warning: Expecting logical in I3442 / R3442C9: got 'telework_time_23'

Warning: Expecting logical in J3442 / R3442C10: got 'More than 6 hours'

Warning: Expecting logical in I3443 / R3443C9: got 'telework_time_23'

Warning: Expecting logical in J3443 / R3443C10: got 'More than 6 hours'

Warning: Expecting logical in I3444 / R3444C9: got 'telework_time_23'

Warning: Expecting logical in J3444 / R3444C10: got 'More than 6 hours'

Warning: Expecting logical in I3445 / R3445C9: got 'telework_time_23'

Warning: Expecting logical in J3445 / R3445C10: got 'More than 6 hours'

Warning: Expecting logical in I3446 / R3446C9: got 'telework_time_23'

Warning: Expecting logical in J3446 / R3446C10: got 'More than 6 hours'

Warning: Expecting logical in I3447 / R3447C9: got 'telework_time_23'

Warning: Expecting logical in J3447 / R3447C10: got 'More than 6 hours'

Warning: Expecting logical in I3448 / R3448C9: got 'telework_time_23'

Warning: Expecting logical in J3448 / R3448C10: got 'More than 6 hours'

Warning: Expecting logical in I3449 / R3449C9: got 'telework_time_23'

Warning: Expecting logical in J3449 / R3449C10: got 'More than 6 hours'

Warning: Expecting logical in I3450 / R3450C9: got 'telework_time_23'

Warning: Expecting logical in J3450 / R3450C10: got 'More than 6 hours'

Warning: Expecting logical in I3451 / R3451C9: got 'telework_time_23'

Warning: Expecting logical in J3451 / R3451C10: got 'More than 6 hours'

Warning: Expecting logical in I3452 / R3452C9: got 'telework_time_23'

Warning: Expecting logical in J3452 / R3452C10: got 'More than 6 hours'

```
## Warning: Expecting logical in I3453 / R3453C9: got 'telework_time_23'

## Warning: Expecting logical in J3453 / R3453C10: got 'More than 6 hours'

## Warning: Expecting logical in I3454 / R3454C9: got 'telework_time_23'

## Warning: Expecting logical in J3454 / R3454C10: got 'More than 6 hours'

## Warning: Expecting logical in I3455 / R3455C9: got 'telework_time_23'

## Warning: Expecting logical in J3455 / R3455C10: got 'More than 6 hours'

## Warning: Expecting logical in I3456 / R3456C9: got 'telework_time_23'

## Warning: Expecting logical in J3456 / R3456C10: got 'More than 6 hours'
```

Set IDs as characters

I guess for joining?, functionalize convert all ids to charcets

```
trip[, trip_id := as.character(trip_id)]
trip[, hh_id := as.character(hh_id)]
trip[, person_id := as.character(person_id)]
trip[, day_id := as.character(day_id)]

trip <- trip%>%mutate(survey_year=as.character(survey_year))
```

Make a new variable

If your variable is going to be a transformation of existing data in the codebook- for example grouping- you need to add the new variable and its new values to the internal to code, working codebook.

Adding a new variable to the codebook

make a function with bunch of default #to do make this easier

```
variable_list<-rbind(
  variable_list,
  data.table(
    variable = c("mode_simple", "mode_w_sov"),
    is_checkbox = c(0,0),
    hh = c(0,0),
    person = c(0,0),
    day = c(0,0),
    trip = c(1,1),
    vehicle = c(0,0),
    location = c(0,0),
    description = c("mode aggregation","SOV mode aggregation"),
    logic = c("mode aggregation","SOV mode aggregation"),
```

```

    data_type = c("integer/categorical", "integer/categorical"),
    shared_name = c("mode_simple", "mode_w_sov")
  )
)

```

Add associated values

```

group_labels<-get_grouped_labels(group_id='group_1', group_name='mode_simple')
value_labels<-add_values_code(group_name='mode_simple')
trip<-grp_to_tbl(tbl=trip, ungrouped_name='mode_1', grouped_name='mode_simple')

value<- c(0,1,2,3,4,5)
label=c('SOV', 'HOV', 'Walk', 'Transit', 'Bike', 'Other')
val_labels<-data.frame(value, label)
val_labels<-val_labels%>%mutate(variable='mode_w_sov')%>%
  mutate(group_1_title = NA, group_1_value = NA,
         group_2_title = NA, group_2_value= NA,
         group_3_title = NA, group_3_value = NA)

all_value_labels<-value_labels%>%select(variable, value, label, group_1_title, group_1_value,
                                       group_2_title, group_2_value, group_3_title, group_3_value)
new_value_labels<-rbind(all_value_labels, val_labels)
new_value_labels[, val_order := seq_len(nrow(new_value_labels))]
value_labels<-new_value_labels

```

add mode__w__sov to the trip table

```

trip<- trip%>%mutate(travelers_total_fix= ifelse(travelers_total!='1 traveler', 'More than 1', '1 traveler'))
trip<-trip%>%mutate(mode_simple= replace_na(mode_simple, 'Drive'))%>%
mutate(mode_w_sov=case_when(
  mode_simple=="Drive"& travelers_total=="1 traveler" ~ 'SOV',
  is.na(travelers_total) ~ 'SOV',
  mode_simple=="Drive"& travelers_total!='1 traveler'~ 'HOV',
  .default= mode_simple
))

```

The package expects the data to be in a list of data.tables.

```

hts_data = list(#hh = hh,
               #person = person,
               #day = day,
               trip = trip)

```

```

#some how a duplicate snuck into the variable list not sure how
variable_list<-variable_list%>%distinct(variable, .keep_all=TRUE)

```

```

##summarize data

```

```

mode_summary = summarize_weighted(hts_data= hts_data,
                                   summarize_var = 'mode_w_sov',
                                   summarize_by = 'survey_year',
                                   id_cols='trip_id',
                                   wt_cols='trip_weight',
                                   wtname='trip_weight'
                                   )

```

```

## Warning in hts_validate_variable_list(variables_dt, data): Variable(s) do not
## have a location specified: accuracy, age, attend_school_1, attend_school_2,
## attend_school_3, attend_school_998, attend_school_999, bearing, bike_freq,
## broadband, carshare_freq, collect_time, commute_dur, commute_freq,
## commute_subsidy_1, commute_subsidy_2, commute_subsidy_3, commute_subsidy_4,
## commute_subsidy_5, commute_subsidy_6, commute_subsidy_7, commute_subsidy_996,
## commute_subsidy_998, commute_subsidy_use_1, commute_subsidy_use_2,
## commute_subsidy_use_3, commute_subsidy_use_4, commute_subsidy_use_5,
## commute_subsidy_use_6, commute_subsidy_use_7, commute_subsidy_use_996,
## day_weight, deliver_elsewhere, deliver_food, deliver_grocery, deliver_none,
## deliver_office, deliver_other, deliver_package, deliver_work, diary_platform,
## disability_person, education, employment, ethnicity_1, ethnicity_2,
## ethnicity_3, ethnicity_4, ethnicity_997, ethnicity_999, ethnicity_other,
## ev_typical_charge_1, ev_typical_charge_2, ev_typical_charge_3,
## ev_typical_charge_4, ev_typical_charge_5, ev_typical_charge_6,
## ev_typical_charge_997, fuel, gender, hh_day_iscomplete, hh_is_complete,
## hh_weight, hhgroup, hhincome_detailed, hhincome_followup, hhsize,
## home_in_region, hours_work, industry, industry_other, is_participant,
## jobs_count, lat, license, loc_end, loc_start, lon, make, mobility_aides, model,
## model_other, no_school_closed, no_school_dont_know, no_school_no_answer,
## no_school_online_home, no_school_online_other, no_school_other, no_school_sick,
## no_school_vacation, notravel_delivery, notravel_housework, notravel_kidsbreak,
## notravel_kidshomeschool, notravel_madetrips, notravel_not_sure,
## notravel_notransport, notravel_other, notravel_sick, notravel_telecommute,
## notravel_vacation, notravel_weather, num_complete_fri, num_complete_mon,
## num_complete_sat, num_complete_sun, num_complete_thu,
## num_complete_trip_surveys, num_complete_tue, num_complete_wed,
## num_days_complete_weekday, num_days_complete_weekend, num_participants,
## num_students, num_surveyable, num_trips, numadults, numchildren,
## numdayscomplete, numworkers, office_available, participate, person_is_complete,
## person_weight, prev_home_notwa_city, prev_home_notwa_state,
## prev_home_notwa_zip, prev_home_wa, prev_rent_own, prev_res_factors_amenities,
## prev_res_factors_community_change, prev_res_factors_crime,
## prev_res_factors_employment, prev_res_factors_forced, prev_res_factors_hh_size,
## prev_res_factors_housing_cost, prev_res_factors_income_change,
## prev_res_factors_less_space, prev_res_factors_more_space,
## prev_res_factors_no_answer, prev_res_factors_other, prev_res_factors_quality,
## prev_res_factors_school, prev_res_factors_specify, prev_res_factors_telework,
## prev_res_type, proxy, proxy_complete, proxy_parent, race_afam, race_aiak,
## race_asian, race_hapi, race_noanswer, race_other, race_other_specify,
## race_white, race_category, relationship, remote_class_freq, rent_own,
## reported_lat, reported_lng, res_dur, res_months, res_type, sample_lat,
## sample_lng, sample_segment, school_bg, school_freq, school_in_region,
## school_loc_lat, school_loc_lng, school_mode_typical, school_puma10, schooltype,
## second_home, second_home_in_region, second_home_lat, second_home_lon,

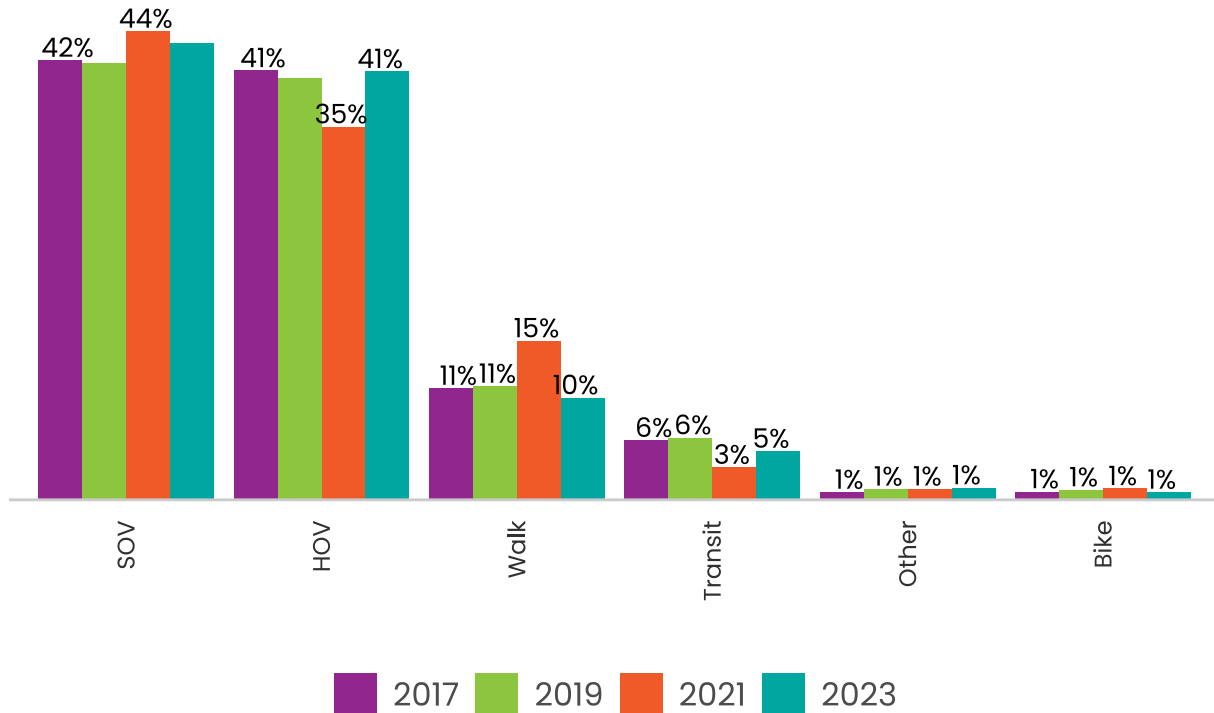
```

```
## sexuality, share_1, share_2, share_3, share_4, share_5, share_996,
## signup_platform, smartphone_type, speed, student, summary_complete, surveyable,
## telecommute_freq, telework_time, tnc_freq, toll_transponder, transit_freq,
## transit_pass, traveldate_end, traveldate_start, trips_yn, vehicle_count,
## vehicleused, vehid, vehnum, walk_freq, work_bg, work_in_region, work_lat,
## work_lng, work_mode, work_puma10, workplace, year
```

Visualize

```
common_modes<-mode_summary$summary$wtd%>%
  mutate(mode_w_sov= fct_reorder(mode_w_sov,-prop))

static_column_chart(common_modes, x='mode_w_sov', y='prop', fill='survey_year')
```



```
drive_trip<-trip%>%filter(mode_simple=='Drive')

hts_data = list(#hh = hh,
               #person = person,
               #day = day,
               trip = drive_trip)

mode_travelers_summary = summarize_weighted(hts_data= hts_data,
                                             summarize_var = 'travelers_total',
```

```

summarize_by = 'survey_year',
id_cols='trip_id',
wt_cols='trip_weight',
wtname='trip_weight'
)

```

```

## Warning in hts_validate_variable_list(variables_dt, data): Variable(s) do not
## have a location specified: accuracy, age, attend_school_1, attend_school_2,
## attend_school_3, attend_school_998, attend_school_999, bearing, bike_freq,
## broadband, carshare_freq, collect_time, commute_dur, commute_freq,
## commute_subsidy_1, commute_subsidy_2, commute_subsidy_3, commute_subsidy_4,
## commute_subsidy_5, commute_subsidy_6, commute_subsidy_7, commute_subsidy_996,
## commute_subsidy_998, commute_subsidy_use_1, commute_subsidy_use_2,
## commute_subsidy_use_3, commute_subsidy_use_4, commute_subsidy_use_5,
## commute_subsidy_use_6, commute_subsidy_use_7, commute_subsidy_use_996,
## day_weight, deliver_elsewhere, deliver_food, deliver_grocery, deliver_none,
## deliver_office, deliver_other, deliver_package, deliver_work, diary_platform,
## disability_person, education, employment, ethnicity_1, ethnicity_2,
## ethnicity_3, ethnicity_4, ethnicity_997, ethnicity_999, ethnicity_other,
## ev_typical_charge_1, ev_typical_charge_2, ev_typical_charge_3,
## ev_typical_charge_4, ev_typical_charge_5, ev_typical_charge_6,
## ev_typical_charge_997, fuel, gender, hh_day_iscomplete, hh_is_complete,
## hh_weight, hhgroup, hhincome_detailed, hhincome_followup, hhsize,
## home_in_region, hours_work, industry, industry_other, is_participant,
## jobs_count, lat, license, loc_end, loc_start, lon, make, mobility_aides, model,
## model_other, no_school_closed, no_school_dont_know, no_school_no_answer,
## no_school_online_home, no_school_online_other, no_school_other, no_school_sick,
## no_school_vacation, notravel_delivery, notravel_housework, notravel_kidsbreak,
## notravel_kidshomeschool, notravel_madetrips, notravel_not_sure,
## notravel_notransport, notravel_other, notravel_sick, notravel_telecommute,
## notravel_vacation, notravel_weather, num_complete_fri, num_complete_mon,
## num_complete_sat, num_complete_sun, num_complete_thu,
## num_complete_trip_surveys, num_complete_tue, num_complete_wed,
## num_days_complete_weekday, num_days_complete_weekend, num_participants,
## num_students, num_surveyable, num_trips, numadults, numchildren,
## numdayscomplete, numworkers, office_available, participate, person_is_complete,
## person_weight, prev_home_notwa_city, prev_home_notwa_state,
## prev_home_notwa_zip, prev_home_wa, prev_rent_own, prev_res_factors_amenities,
## prev_res_factors_community_change, prev_res_factors_crime,
## prev_res_factors_employment, prev_res_factors_forced, prev_res_factors_hh_size,
## prev_res_factors_housing_cost, prev_res_factors_income_change,
## prev_res_factors_less_space, prev_res_factors_more_space,
## prev_res_factors_no_answer, prev_res_factors_other, prev_res_factors_quality,
## prev_res_factors_school, prev_res_factors_specify, prev_res_factors_telework,
## prev_res_type, proxy, proxy_complete, proxy_parent, race_afam, race_aiak,
## race_asian, race_hapi, race_noanswer, race_other, race_other_specify,
## race_white, race_category, relationship, remote_class_freq, rent_own,
## reported_lat, reported_lng, res_dur, res_months, res_type, sample_lat,
## sample_lng, sample_segment, school_bg, school_freq, school_in_region,
## school_loc_lat, school_loc_lng, school_mode_typical, school_puma10, schooltype,
## second_home, second_home_in_region, second_home_lat, second_home_lon,
## sexuality, share_1, share_2, share_3, share_4, share_5, share_996,
## signup_platform, smartphone_type, speed, student, summary_complete, surveyable,

```

```
## telecommute_freq, telework_time, tnc_freq, toll_transponder, transit_freq,
## transit_pass, traveldate_end, traveldate_start, trips_yesno, vehicle_count,
## vehicleused, vehid, vehnum, walk_freq, work_bg, work_in_region, work_lat,
## work_lng, work_mode, work_puma10, workplace, year
```

Visualize

```
mode_travelers<-mode_travelers_summary$summary$wtd
static_column_chart(mode_travelers, x='travelers_total', y='prop', fill='survey_year')
```

