2017-2018 REGIONAL TRAVEL SURVEY: IN-DEPTH ANALYSIS

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National Capital Region
Transportation Planning Board

Overview of Regional Travel Survey (RTS) and In-Depth Analysis of Stakeholder Questions

- The 2017/2018 Regional Travel Survey (RTS) is a once-a-decade household travel survey for the National Capital Region

- The RTS collected detailed information about households and their daily travel obtained from a travel diary

- TPB staff asked regional stakeholders to offer questions that the RTS might help inform; TPB staff conducted an in-depth analysis of these questions for the TPB Planning Region

- This presentation highlights a few of the responses to the questions offered by our stakeholders

Overview of Regional Travel Survey Information

Recruitment Survey

Household

Household
- Size
- Income
- Number of licensed drivers
- Number of workers
- Number of students

Housing
- Type
- Tenure

Vehicles and Bicycles
- Number of vehicles
- Number of bicycles

Person

Demographics
- Race/Ethnicity
- Age
- Gender
- Number of jobs
- Work from home

Typical Commute
- Usual mode
- Frequency of telework
- Work location
- Employer incentives

All Weekday Travel (including work trips)
- Frequency of travel option
- Use of other modes
- Delivery services

Vehicle

Vehicle Characteristics
- Make and model
- Year
- Fuel type
- Type of toll transponder

Travel Diary

Trip

Trip Details
- Origin and destination
- Start and end times
- Mode of travel
- Purpose/activities
- Transit access and egress

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RTS In-Depth Analysis Questions

Topic	Question
Travel Patterns for Low-Income Households	How do travel patterns (by travel mode, trip purpose, trip length, and trip duration) differ for very low (less than $25,000) and low-income ($25,000 - $49,999) households?
Work Start and End Times	How have average work start and end times changed over the past ten years?
Growth in Telework Eligibility & Frequency	What are the temporal patterns of teleworking? How are they changing?
Telework and Proximity to High-Capacity Transit (HCT)	How does proximity to high-capacity transit (HCT) correspond with telework eligibility and frequency?
Dimensions and Characteristics of Peak and Off-Peak Travel	How do travel modes differ for peak and off-peak travel? How do trip purpose, trip length, and trip duration differ for peak and off-peak travel? How do they differ for all travel modes versus transit modes? What is the income and race/ethnicity breakdown for persons traveling during off-peak hours? How do they differ for all travel modes vs. transit modes?
Transit Riders: Commute-only versus All-Purpose Socio-economic Characteristics	Do commuters who use transit differ in socio-demographic characteristics from all-purpose transit riders?
Transit ridership, free parking, and transit subsidies	Do free parking and transit subsidies influence the choice of taking public transit? Did it change between 2007/2008 and 2017/2018?
Late-Night Travel: Characteristics of Travelers and Trips	What are the characteristics and trip patterns of people who travel during late-night hours?
Trends in Late Night Travel Modes	Have the travel modes of late-night travelers changed over time (from 2007/08 to 2017/18)?
Use of Personal Vehicles for Activities After Using Transit for Work Commute Trips	What is the incidence rate of weekday commuters returning home via public transit and heading out again by using a personal vehicle to shop? When weekday commuters head home via public transit, what reasons do they have for heading out by personal vehicle? What travel activities do weekday commuters engage in after heading home via public transit?
School Trips: Share of Total Trips, Trip Times	• What share of drop off/pick up trips in the TPB Planning Region are school and day care trips? • What share of school trips are performed by university students in the TPB Planning Region? • What share of drop off/pick up trips in the TPB Planning Region are performed in the following time periods? (AM peak, midday, PM peak, all other times) • What is the share of school trips out of total trips for the region, subregional area, and county-level jurisdiction?

Telework Eligibility/Frequency and Proximity to High-Capacity Transit (HCT)

What are the temporal patterns of teleworking and how have they changed?

How does proximity to HCT correspond with telework eligibility and frequency?

- Telework eligibility (2007/08 vs. 2017/18): If primary employer offers telework

- Telework frequency (2007/08 vs. 2017/18): Number of weekday telecommutes per week

- Proximity to HCT (2017/18): Living and working locations are within a half-mile or ten-minute walk from a HCT station

Telework Eligibility/Frequency and Proximity to High-Capacity Transit (HCT)

Telework Eligibility and Frequency – 2007/08 vs 2017/18
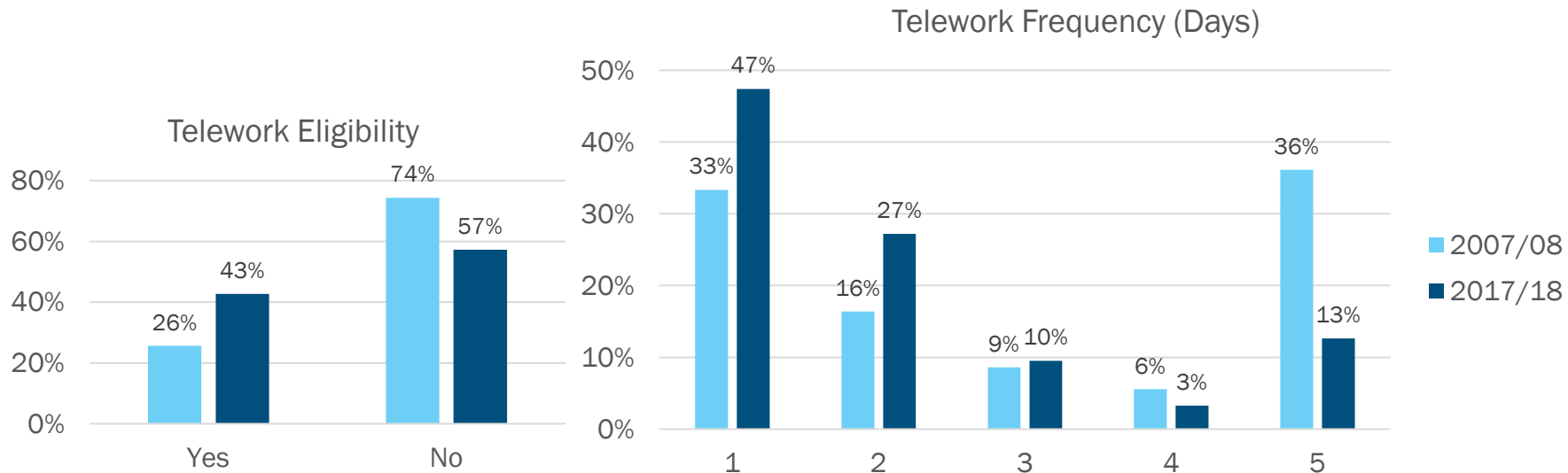
Telework Eligibility

Telework Frequency (Days)

Legend: 2007/08, 2017/18

Telework Eligibility/Frequency and Proximity to High-Capacity Transit (HCT)

Telework Eligibility by Proximity to HCT Station
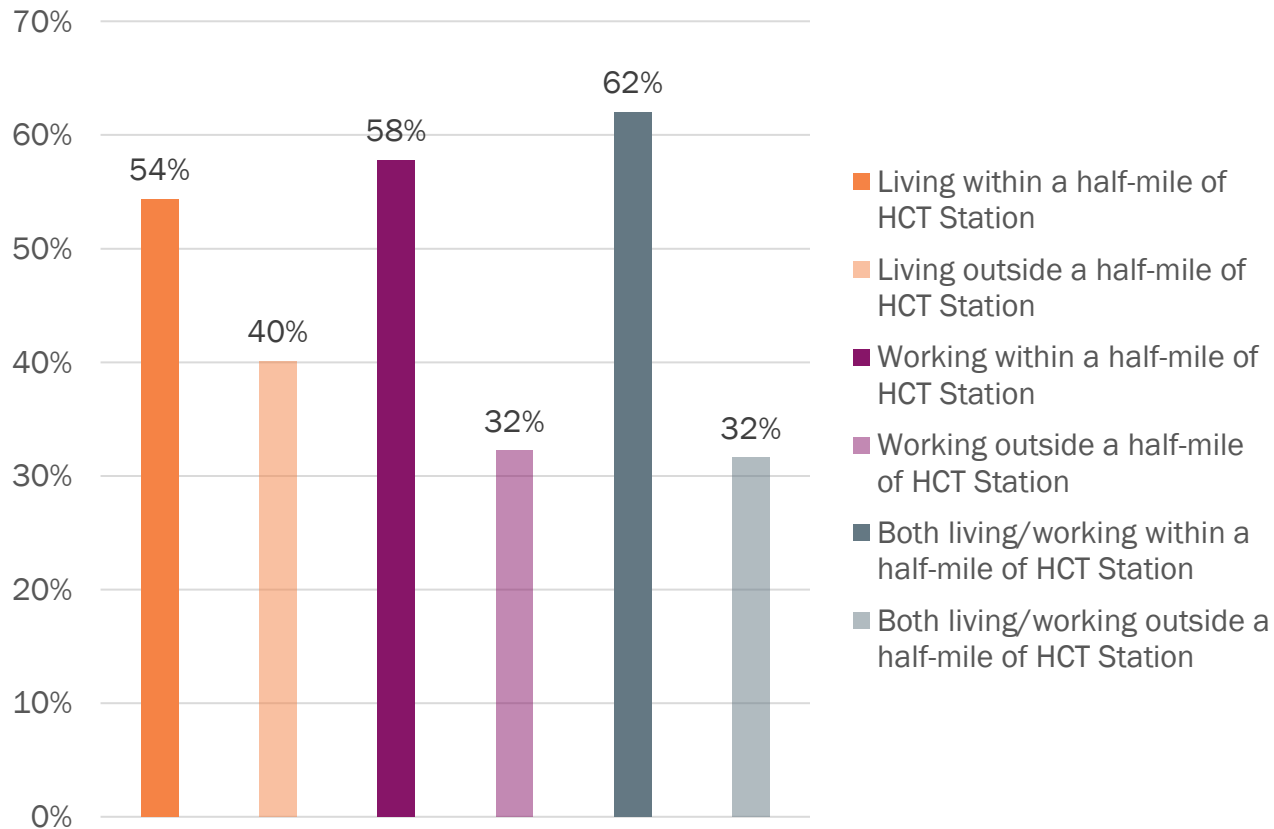
Legend:
- Living within a half-mile of HCT Station
- Living outside a half-mile of HCT Station
- Working within a half-mile of HCT Station
- Working outside a half-mile of HCT Station
- Both living/working within a half-mile of HCT Station
- Both living/working outside a half-mile of HCT Station

Values: 54%, 40%, 58%, 32%, 62%, 32%

Telework Eligibility/Frequency and Proximity to High-Capacity Transit (HCT)

Telework Eligibility by Household Income

Living/Working TAZ	Less Than $50,000 (%)	$50,000 or more (%)
Living within a half-mile of HCT Station	36	56
Living outside a half-mile of HCT Station	29	41
Working within a half-mile of HCT Station	38	60
Working outside a half-mile of HCT Station	26	33
Both living/working within a half-mile of HCT Station	41	64
Both living/working outside a half-mile of HCT Station	26	32
All Areas	36	56

Telework Eligibility/Frequency and Proximity to High-Capacity Transit (HCT)

Telework Frequency by Proximity to HCT Station

Telework Frequency by whether Living/Working TAZs are within a half-mile of a HCT Station

Legend:
- Living within a half-mile of HCT Station
- Living outside a half-mile of HCT Station
- Working within a half-mile of HCT Station
- Working outside a half-mile of HCT Station
- Both living/working within a half-mile of HCT Station

X-axis: Telework Days Per Week (1, 2, 3, 4, 5+)

Data values:
- 1 day: 52%, 46%, 51%, 43%, 54%, 42%
- 2 days: 28%, 27%, 27%, 28%, 26%, 27%
- 3 days: 7%, 10%, 9%, 10%, 7%, 11%
- 4 days: 3%, 3%, 3%, 3%, 3%, 3%
- 5+ days: 10%, 13%, 10%, 16%, 9%, 16%

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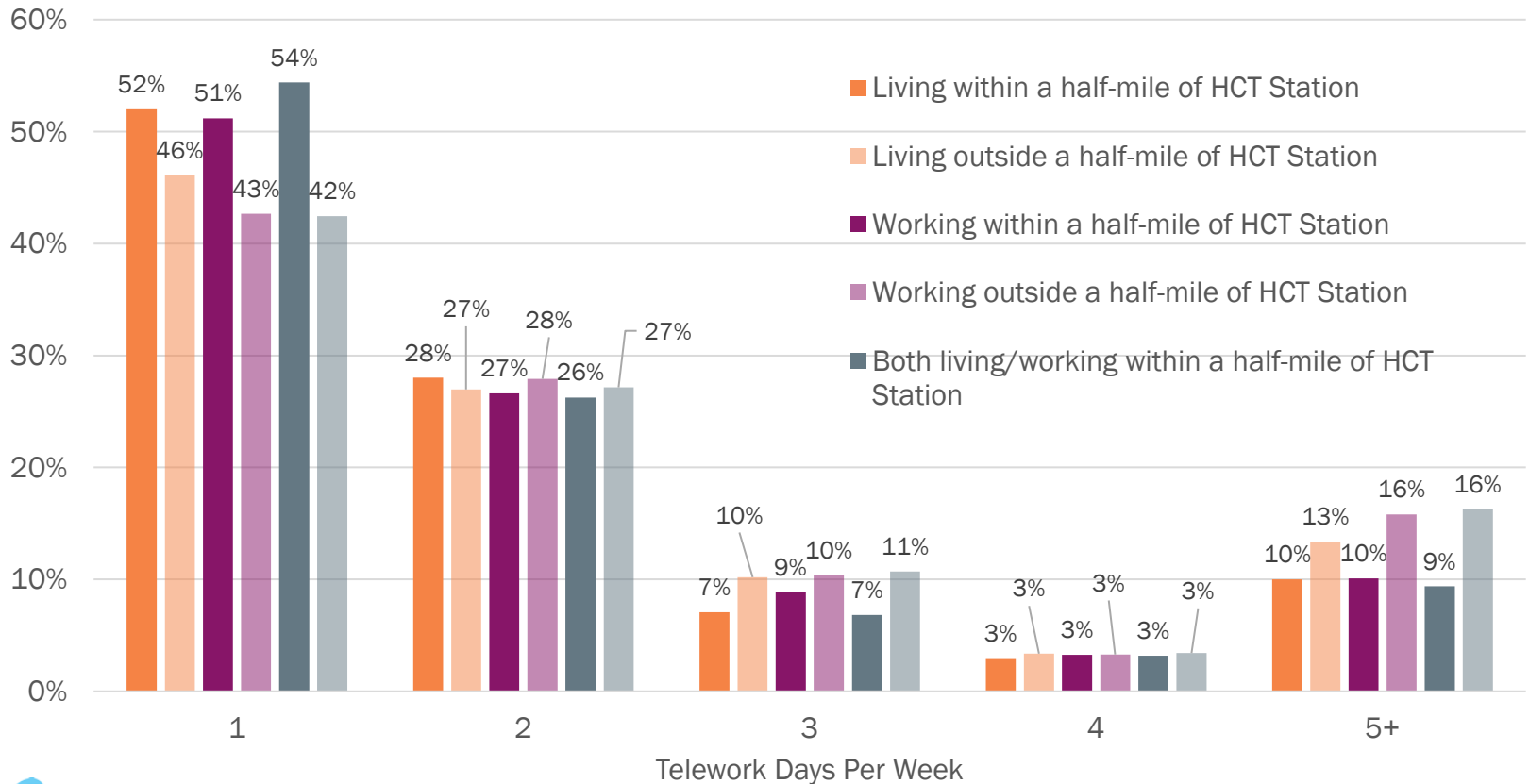
Telework Eligibility/Frequency and Proximity to High-Capacity Transit (HCT)

Summary of Findings

- Telework eligibility has increased in the TPB region since 2007/08

- More workers are teleworking one or two days per week and fewer workers are teleworking full time in 2017/18

- Workers living or working within a half-mile of HCT stations are more likely to telework than outside of a half-mile of HCT stations

- Workers who either live and/or work within a half-mile of HCT stations are more likely to telework one day per week

- Workers who either live and/or work outside a half-mile of HCT stations are more likely to telework five or more days per week

Dimensions and Characteristics of Peak and Off-Peak Travel

How do travel modes, trip purpose, trip length, and trip duration differ for peak and off-peak travel?

What is the income breakdown for persons traveling during peak and off-peak hours?

- Travel mode, trip purpose, trip length, and trip duration for work and non-work trips

- Peak commute hours (5:30-9:30 am and 3:00-7:00 pm weekdays) vs. non-peak hours

- All travel modes vs. transit modes (rail and bus)

Dimensions and Characteristics of Peak and Off-Peak Travel

Travel Mode and Trip Purpose for Peak and Off-Peak

Travel Mode (%)	Off-Peak	Peak
Drive Alone	44.3	38.5
Drive Others	16.1	15.9
Auto Passenger	21	22.8
Rail Transit	1.6	5.1
Bus Transit	1.6	2.2
Other	0.4	0.4
Taxi/Ridehail	1.3	0.7
School Bus	1.7	4.7
Walk	10.9	8.1
Bike	1	1.6

Trip Purpose - All Modes (%)	Off-Peak	Peak
Work	15.4	24.6
Work-related	5.7	3.4
Drop off/pick up	8.8	17.3
School	2.4	13.7
Personal Business	13.9	9.5
Shop/Meal	38.5	18.3
Social/Recreation	10.6	9.5
Other	4.7	3.9

Trip Purpose – Transit Modes (%)	Off-Peak	Peak
Work	32.4	62.6
Work-related	8.3	3.3
Drop off/pick up	2	3.2
School	4.1	4
Personal Business	11.3	4.7
Shop/Meal	25.4	13.8
Social/Recreation	9.6	5.8
Other	6.8	2.5

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Dimensions and Characteristics of Peak and Off-Peak Travel

Trip Length and Trip Duration for Off-Peak/Peak Travel

Median Trip Length for Off-Peak/Peak Travel (Miles)

	Off-Peak	Peak
All Modes	2.8	3.3
Transit Modes	4.6	7.2
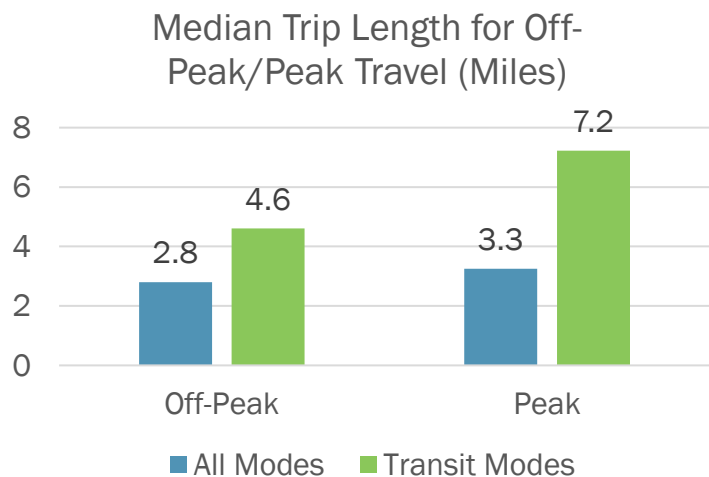
Trip Duration – All Modes (%)	Off-Peak	Peak
Less than 15 min	40.7	33.3
15 - 30 min	36	33.3
30 - 45 min	13.5	17
45 - 60 min	4.2	7.4
60 - 90 min	3.1	6.2
Greater than 90 min	2	2.7
Trip Duration – Transit Modes (%)	Off-Peak	Peak
Less than 15 min	2.7	0.9
15 - 30 min	17.9	11.3
30 - 45 min	28.1	26
45 - 60 min	15.6	21.9
60 - 90 min	21.5	28.3
Greater than 90 min	13.2	11.7

Dimensions and Characteristics of Peak and Off-Peak Travel

Travel Mode for Off-Peak/Peak Travel by Household Income

Travel Mode – Off-Peak (%)	<$25K	$25-50K	$50-75K	$75-100K	$100-150	>$150K
Drive Alone	35.4	45.6	48	45.3	43.9	43.9
Drive Others	11.3	15.1	15.7	16.5	17.1	16.3
Auto Passenger	24.7	17.3	19.6	20.7	22.3	20.9
Rail Transit	2.1	1.6	1.8	1.8	1.3	1.6
Bus Transit	10.1	4	1.4	0.7	1.2	0.6
Other	0.6	0.4	0.3	0.3	0.4	0.6
Taxi/Ridehail	2.4	2.6	1.2	1.4	0.9	1.2
School Bus	0.9	2	1.6	1.5	1.9	1.7
Walk	11.8	10.5	9.3	11	9.8	12.2
Bike	0.8	0.8	1.1	0.9	1	1.1

Travel Mode – Peak (%)	<$25K	$25-50K	$50-75K	$75-100K	$100-150	>$150K
Drive Alone	30.7	37.1	42.4	39.6	39.2	37.8
Drive Others	10.5	15	14.3	16	16.4	16.5
Auto Passenger	18.6	19.7	19.8	24.2	22.7	24
Rail Transit	4.4	3.6	5.2	6.2	5.4	4.8
Bus Transit	11.4	6.4	2.7	1.9	1.5	1.2
Other	0.9	0.6	0.3	0.3	0.4	0.4
Taxi/Ridehail	1.5	1	0.8	0.7	0.6	0.6
School Bus	5.4	7.6	4.2	3	5	4.6
Walk	15	7.8	8.7	7.1	7.5	8.1
Bike	1.6	1.1	1.5	1	1.3	2

Dimensions and Characteristics of Peak and Off-Peak Travel

Summary of Findings

- Persons are more likely to take rail and bus transit, school bus, and bike trips during peak hours

- More people travel to and from work and school during peak hours

- Trip lengths are generally longer during peak hours, and transit trips are further in distance than other travel modes

- Trips tend to be longer in duration during peak hours compared with off-peak hours

- Lower income households are much more likely to take bus transit and taxi/ridehail trips for both peak and off-peak hours

Use of Personal Vehicles for Activities After Using Transit for Work Commute Trips

What is the incidence rate of weekday transit commuters returning home and heading out again by personal vehicle?

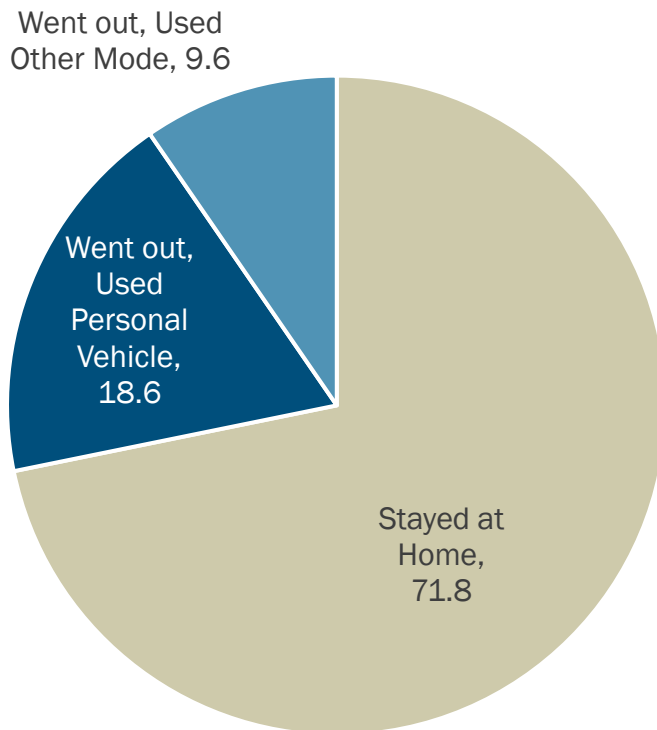What is the trip purpose by personal vehicle after transit commute trips?

What are the travel activities after a transit commute trip?

- Personal vehicle = auto driver or auto passenger (excluding motorcycles)

- Trip purposes: work-related, drop off/pick up, school, shop, meal, personal business, social/recreation, other

- Activities after returning home of transit commuters

Use of Personal Vehicles for Activities After Using Transit for Work Commute Trips

Activity After Transit Commute Home (%)

- Went out, Used Other Mode, 9.6
- Went out, Used Personal Vehicle, 18.6
- Stayed at Home, 71.8

Purpose of Personal Vehicle Trip After Transit Commute (%)

- School, 2.6
- Other, 6.0
- Work-related, 6.2
- Personal Business, 10.3
- Drop off/pick up, 14.1
- Meal, 18.1
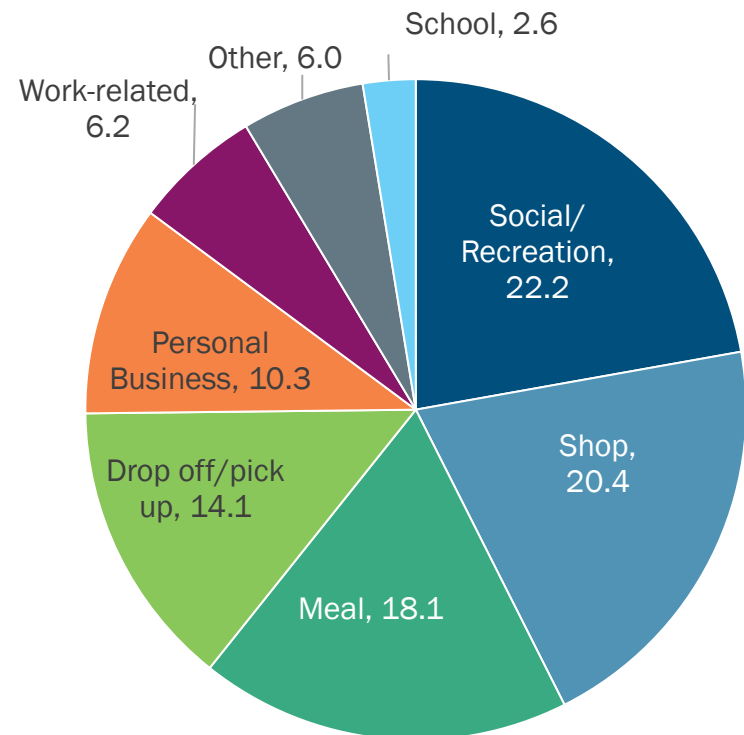- Social/Recreation, 22.2
- Shop, 20.4

Use of Personal Vehicles for Activities After Using Transit for Work Commute Trips

Travel Activities After Transit Commute Trip

Uses Personal Vehicle for Meal, 3.4
Uses Personal Vehicle to Shop, 3.8
Goes Out by Personal Vehicle, 11.4
Uses Other Mode for Meal, 1.9
Uses Other Mode to Shop, 1.9
Goes Out by Other Mode, 5.8
Stays Home, 71.8
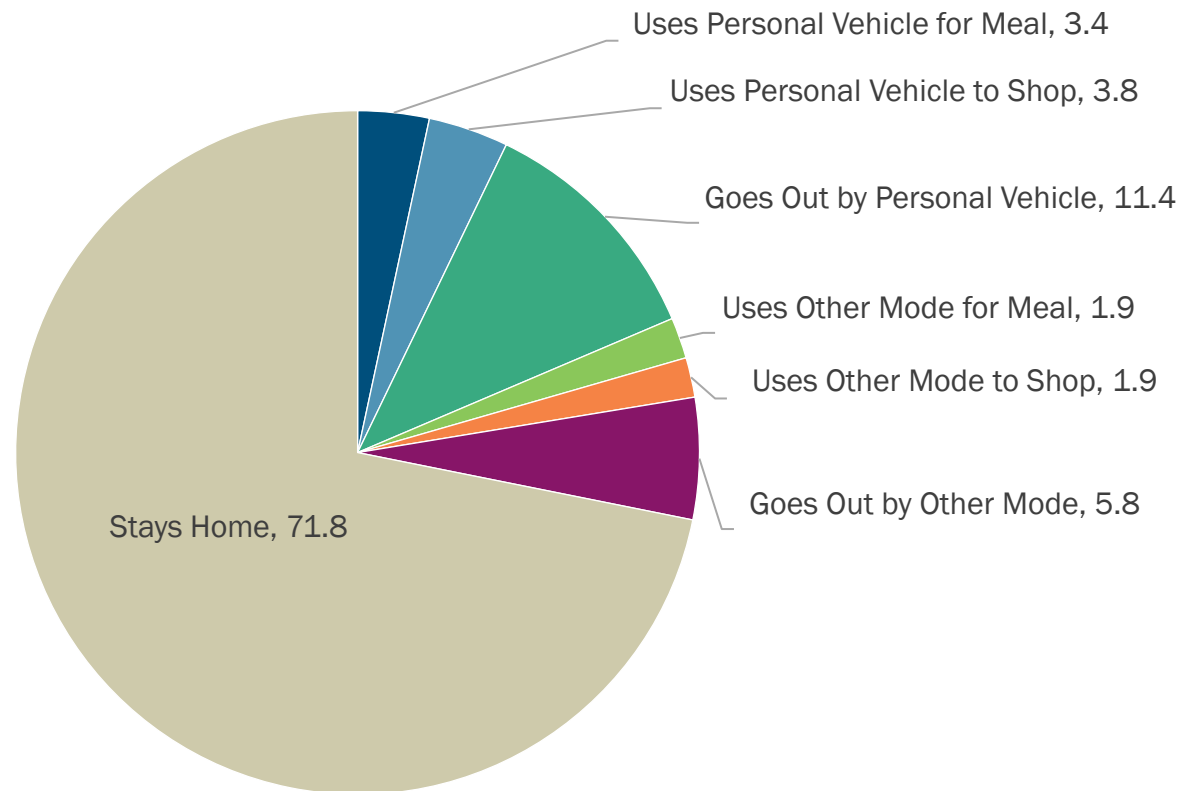
Use of Personal Vehicles for Activities After Using Transit for Work Commute Trips

Travel Activities After Transit Commute Trip

By Income (%)

Activity	<50K	50K +
Stays at Home	75.1	71.5
Uses Personal Vehicle to Shop	2.7	3.9
Uses Personal Vehicle for Meal	1.5	3.6
Uses Personal Vehicle for Other Activity	3.5	12.3
Uses Other Mode to Shop	1.9	1.9
Uses Other Mode for Meal	5.7	1.4
Uses Other Mode for Other Activity	9.5	5.3
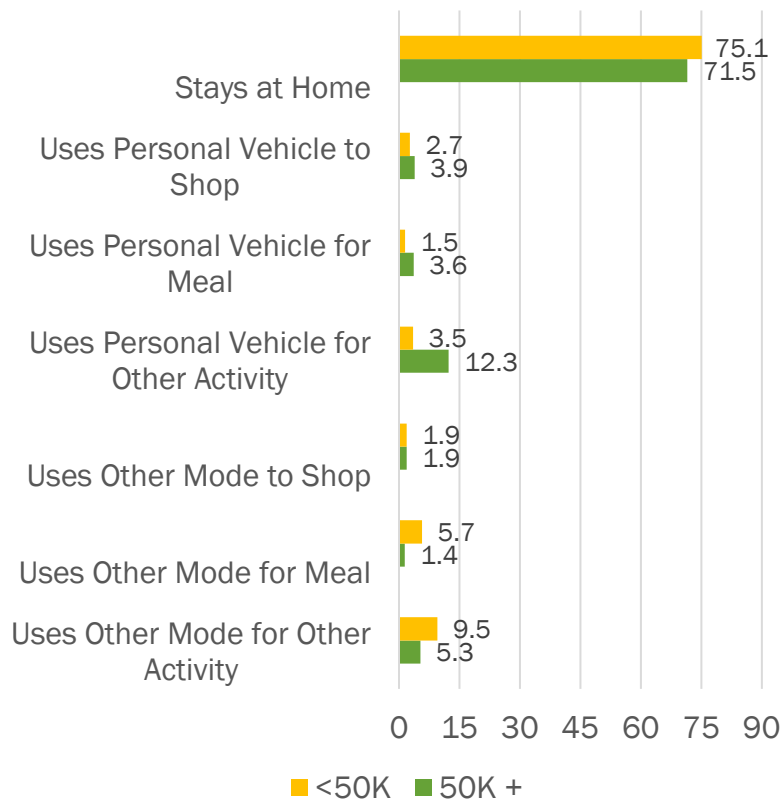
Presence of Children in Household (%)

Activity	No Children	Children
Stays at Home	69.6	75.8
Uses Personal Vehicle to Shop	4.8	2
Uses Personal Vehicle for Meal	3.2	3.7
Uses Personal Vehicle for Other Activity	9.5	14.9
Uses Other Mode to Shop	3	0.1
Uses Other Mode for Meal	2.8	0.3
Uses Other Mode for Other Activity	7.2	3.2

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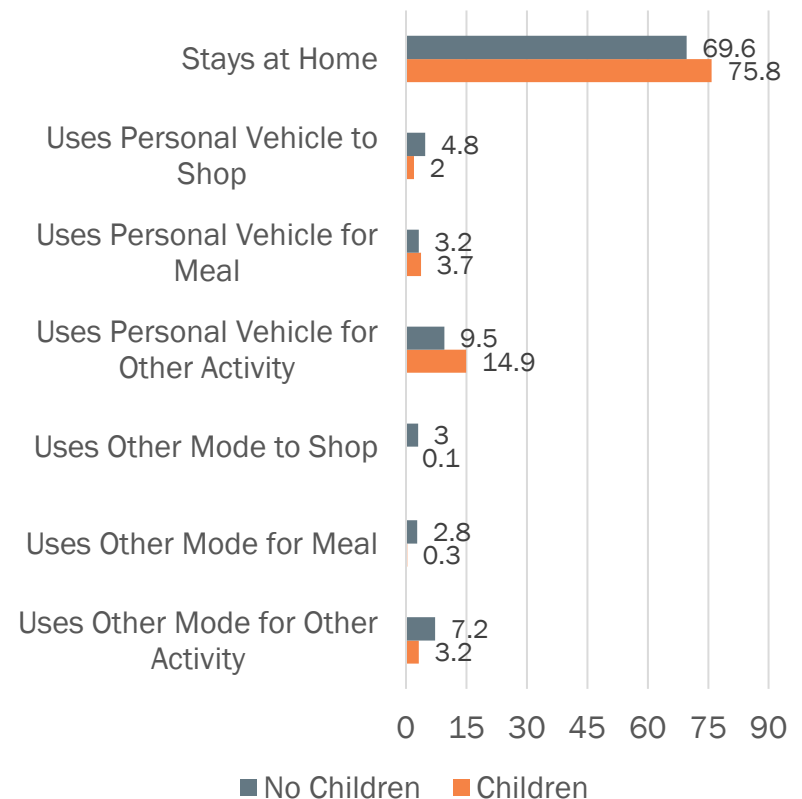Transportation Planning Board

Use of Personal Vehicles for Activities After Using Transit for Work Commute Trips

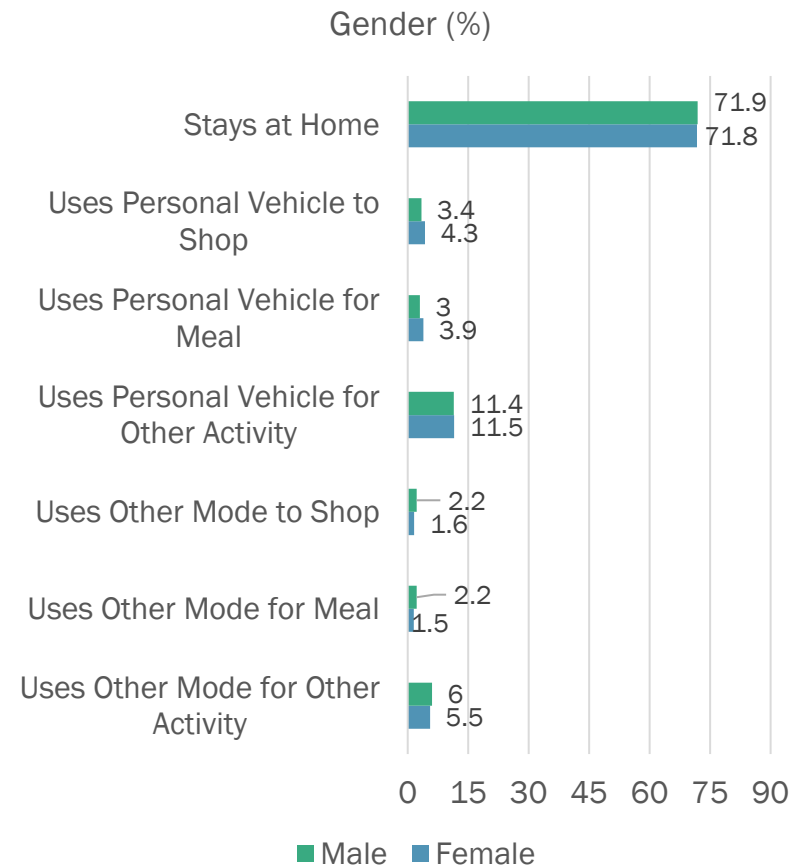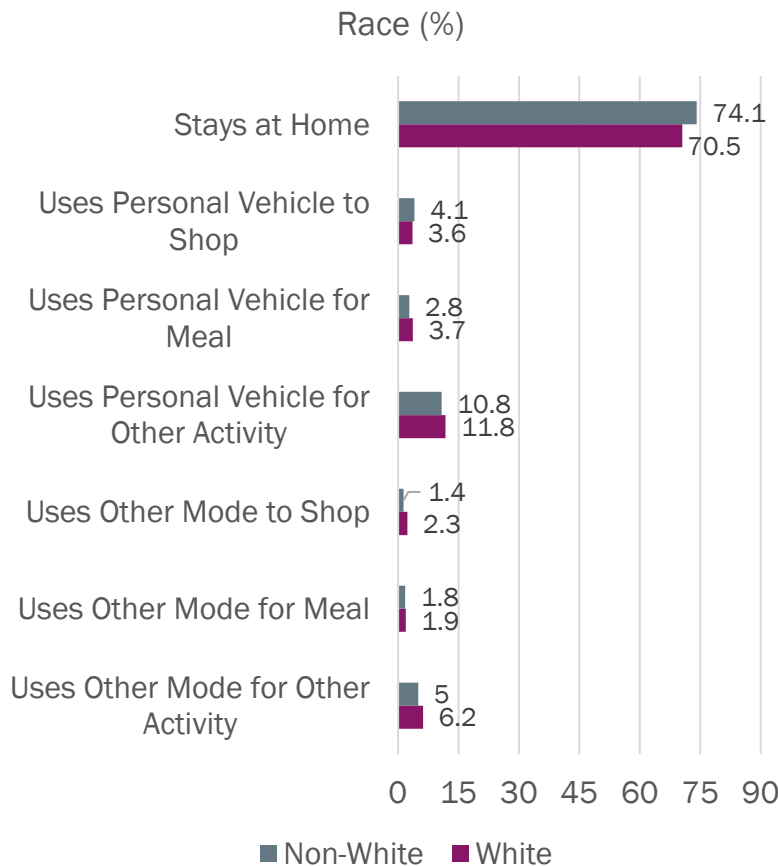## Travel Activities After Transit Commute Trip, cont.

Race (%)

Activity	Non-White	White
Stays at Home	74.1	70.5
Uses Personal Vehicle to Shop	4.1	3.6
Uses Personal Vehicle for Meal	2.8	3.7
Uses Personal Vehicle for Other Activity	10.8	11.8
Uses Other Mode to Shop	1.4	2.3
Uses Other Mode for Meal	1.8	1.9
Uses Other Mode for Other Activity	5	6.2

Gender (%)

Activity	Male	Female
Stays at Home	71.9	71.8
Uses Personal Vehicle to Shop	3.4	4.3
Uses Personal Vehicle for Meal	3	3.9
Uses Personal Vehicle for Other Activity	11.4	11.5
Uses Other Mode to Shop	2.2	1.6
Uses Other Mode for Meal	2.2	1.5
Uses Other Mode for Other Activity	6	5.5

■ Non-White ■ White

■ Male ■ Female

Use of Personal Vehicles for Activities After Using Transit for Work Commute Trips

Summary of Findings

- The number of persons who use transit for commuting home from work is fairly small; among this group, the majority remain at home, and a smaller share go back out using a personal vehicle.

- Persons from lower income households are more likely to use a mode other than personal vehicle for trips after a transit commute compared with persons from higher income households.

- Persons from households with children are most likely to use personal vehicles for after transit trips, but few of those trips are for the purpose of shopping.

- Persons from households without children are most likely to go back out after returning home from a transit commute.

RTS In-Depth Analysis Questions and RTS Resources

- RTS In-Depth Analysis Questions will be posted on the RTS website (https://www.mwcog.org/transportation/data-and-tools/household-travel-survey/)

- Other RTS Resources available on the RTS website:

  - RTS Technical Documentation

  - RTDC RTS Tabulations

  - RTS Public Files

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