



2017/2018 Regional Travel Survey In-Depth Analysis

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

In the Fall of 2019, TPB staff began releasing the preliminary results of the Regional Travel Survey. The RTS is a once-a-decade household travel survey which 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. The piece is part of a series of responses to thought provoking questions offered by our stakeholders.

QUESTION

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?

INTRODUCTION

The 2017/2018 Regional Travel Survey (RTS) data can provide us with insights on the use of transit and personal vehicles in the Washington metropolitan region. This question looks at the travel behaviors after work of weekday commuters who use transit for their work to home commute. The purpose of the travel was examined, as was the use of a personal vehicle versus all other travel modes. The primary source of data is from the one-day travel diary that was completed by all household members who participated in the survey.

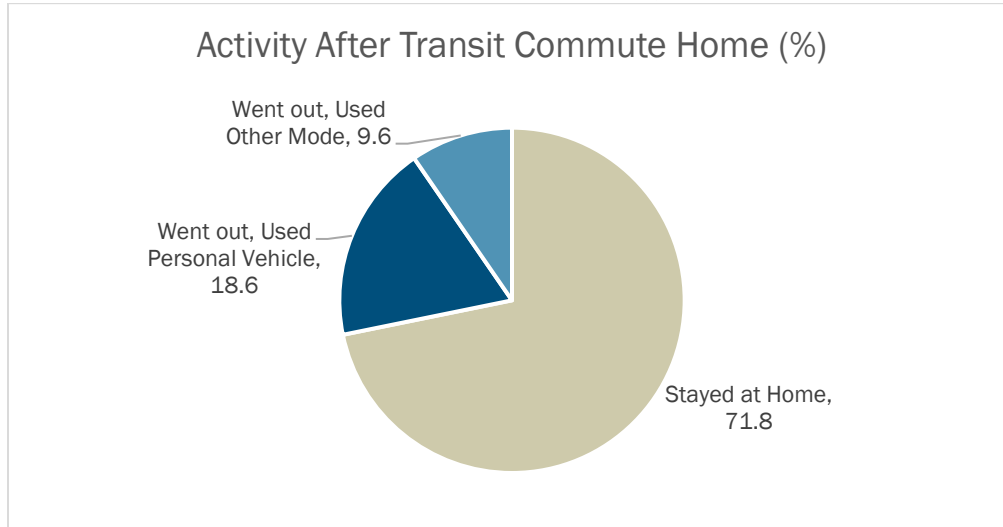
APPROACH

We determined which commuters used transit for work to home trips. We then examined the trip purpose of any subsequent travel using a personal vehicle by those commuters. For this analysis, a personal vehicle is defined as a travel mode equal to auto driver or auto passenger (motorcycles are not included because they were not observed). The all other modes category includes rail and bus transit, walk, bicycle, taxi/ridehail, and air. (Other modes such as private bus, paratransit, and water were not observed.) Trip purposes were based on primary destination activity and were categorized into work-related, drop off/pick up, school, personal business, shop/meal, and social/recreation trips. We determined the share of the transit commuters who used a personal vehicle for each of those trip purposes. Next, we analyzed the activities after returning home of transit commuters. The categories included: stayed at home, used a personal vehicle for shopping, used a personal vehicle for a meal, used a personal vehicle for other activities, shopped by other mode, went for a meal by other mode, and went out for another purpose by other mode. Lastly, we did a broad demographic analysis of the subsequent activities of transit commuters. This was done by cross tabulating after-work activities with income, race, gender, and the presence of children in the household.

Detailed breakdowns of each part of this question are shown in the tables and charts below, with key takeaways for each. Highlighting is used in certain tables for emphasis. In advance of preparing these responses, the tabulations were reviewed for accuracy and robustness. To create these tables for the TPB Planning Region, the survey results were expanded using weights that considered the probability of selection of individual households as well as adjustments for household size, workplace location, and Metrorail ridership.

ANALYSIS AND KEY FINDINGS

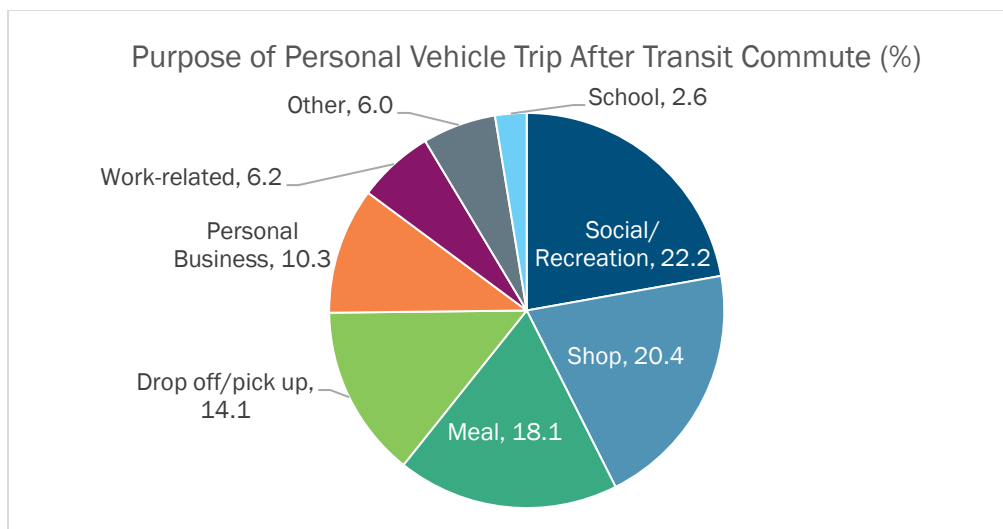
A. Incidence rate of weekday transit commuters returning home and heading back out again



Key Findings for incidence rate of weekday transit commuters returning home and heading back out again:

- After returning home via public transit, 28 percent of weekday transit commuters headed out again after returning from work.
 - For every two weekday transit commuters who went back out by a personal vehicle, one went back out using another mode.

B. Trip Purpose for Trips by Personal Vehicle After Transit Commute Trips

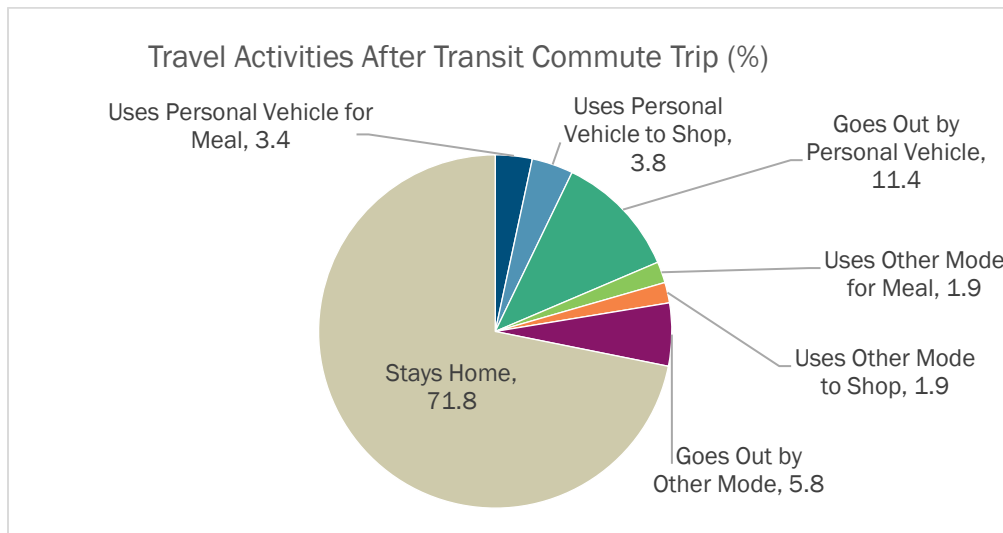


Key Findings for Trips by Personal Vehicle After Transit Work Commute*:

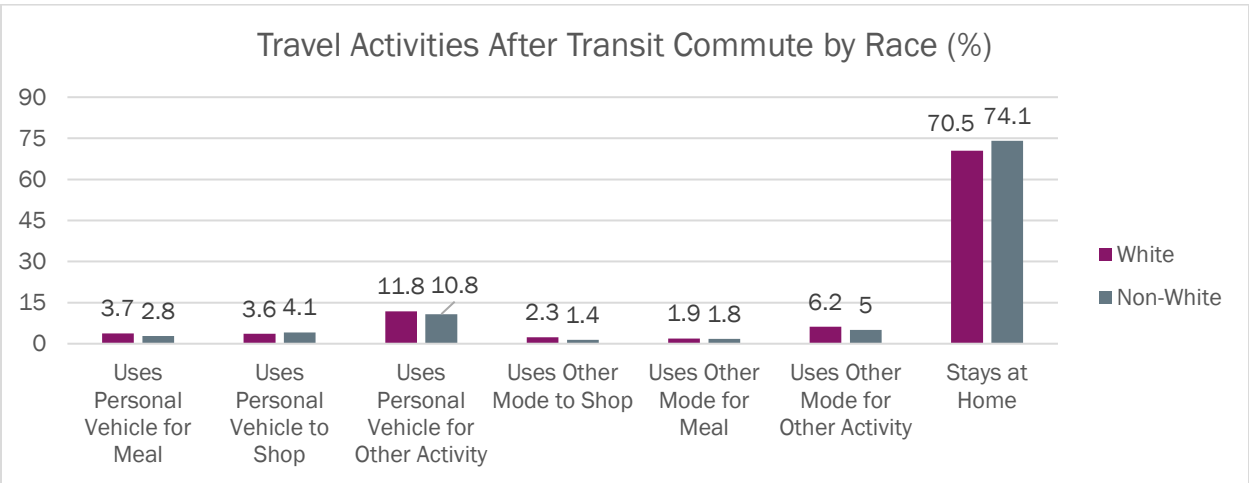
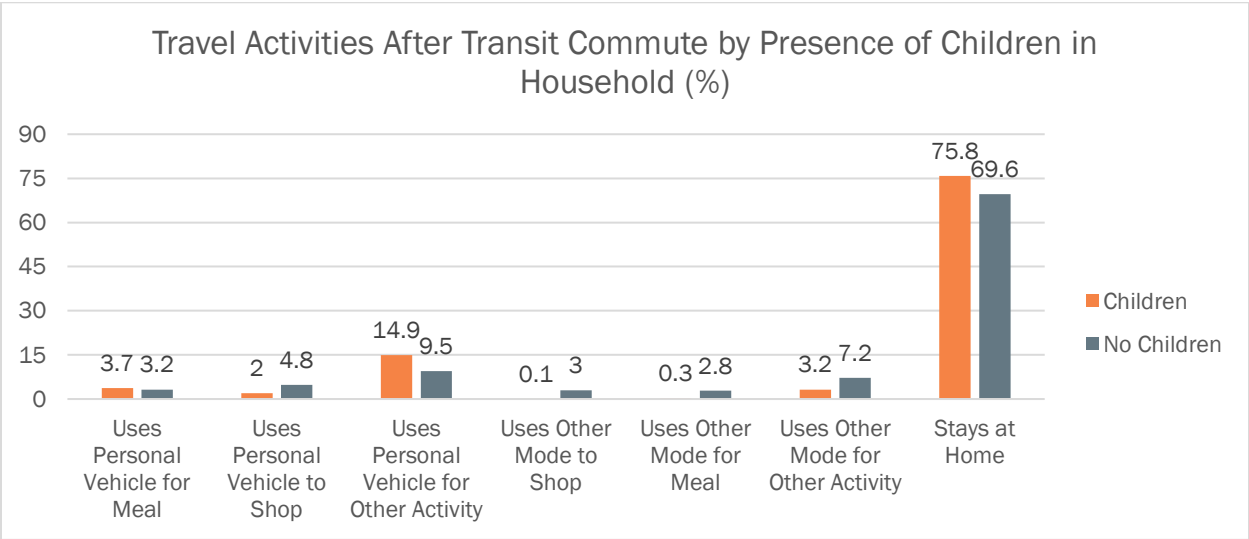
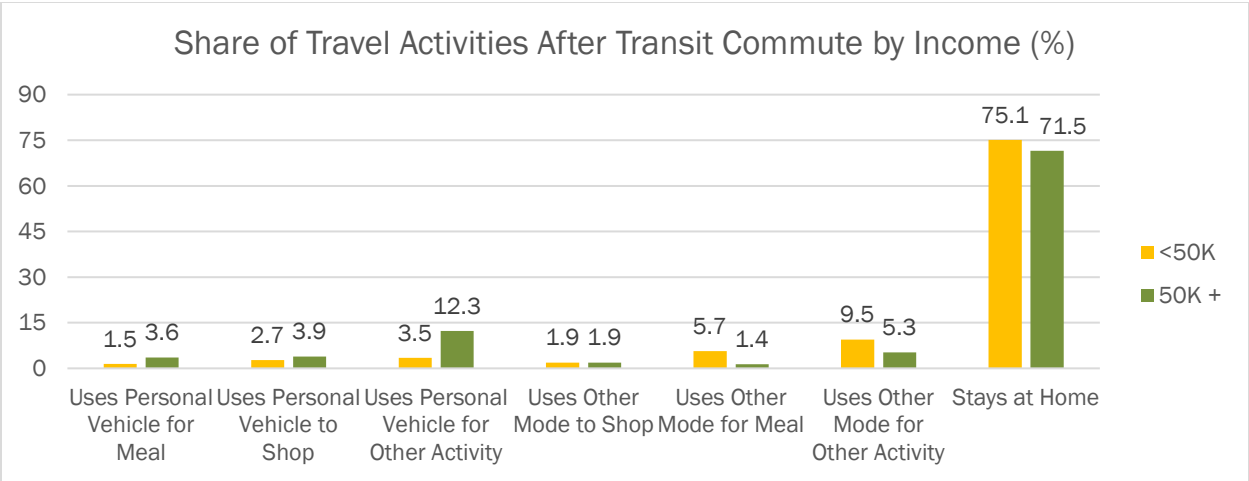
- Social/recreational, shopping, and meal trips make up the largest shares of trips using a personal vehicle after returning home from work via transit.
- Trips to drop-off or pick-up people and personal business each account for at least a tenth of trips.

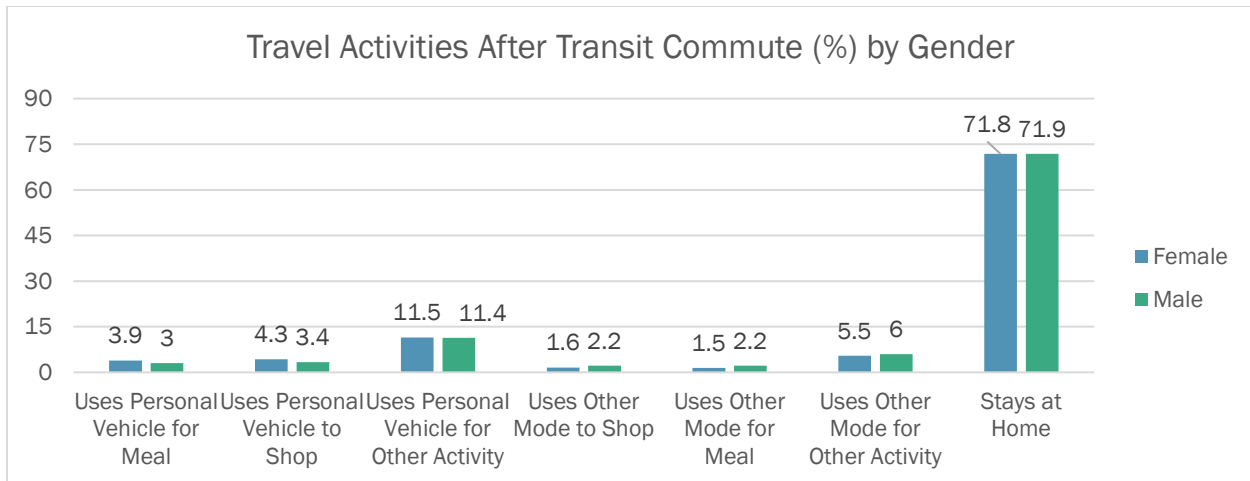
*The number of records in this group is too small to draw reasonable conclusions for smaller demographic cohorts.

C. Travel Activities After Transit Commute Trip



Activities of Individuals who use Transit for Commute Home	Travel Activities After Transit Commute (%)								
	Income Level		Children in Household		Race		Gender		Overall
	<50K	50K +	Children	No Children	White	Non-White	Female	Male	
Uses Personal Vehicle for Meal	1.5	3.6	3.7	3.2	3.7	2.8	3.9	3.0	3.4
Uses Personal Vehicle to Shop	2.7	3.9	2.0	4.8	3.6	4.1	4.3	3.4	3.8
Uses Personal Vehicle for Other Activity	3.5	12.3	14.9	9.5	11.8	10.8	11.5	11.4	11.4
Uses Other Mode to Shop	1.9	1.9	0.1	3.0	2.3	1.4	1.6	2.2	1.9
Uses Other Mode for Meal	5.7	1.4	0.3	2.8	1.9	1.8	1.5	2.2	1.9
Uses Other Mode for Other Activity	9.5	5.3	3.2	7.2	6.2	5.0	5.5	6.0	5.8
Stays at Home	75.1	71.5	75.8	69.6	70.5	74.1	71.8	71.9	71.8





Key Findings for Travel Activities After Transit Work Commute:

- The vast majority of weekday transit commuters remained at home after their commute from work.
- Only 3.8 percent of weekday transit commuters went back out by personal vehicle to shop after returning home from work.
- Almost 10 percent of weekday transit commuters went back out using a mode other than personal vehicle after commuting using transit.
- Persons from lower income households are more likely to use a mode other than personal vehicle for trips after a transit commute than those from higher income households. This suggests that this group may not have easy access to personal vehicles.
- Over 20 percent of persons from households with children use a personal vehicle for after transit commute activities compared with 17.5 percent of those from households without children.
- Persons from households with children have the smallest share of after transit commute shopping by any mode of any demographic group at 2.3 percent compared with 5.7 percent overall. This suggests that this group, while they may have many varied after-work activities, does not generally shop after their work commute.
- Persons from households without children are the most likely to head back out again after returning home from a transit commute, with 17.5 percent using a personal vehicle and 12.9 percent traveling by another mode. Fewer differences were observed for race and gender. White travelers are less likely than non-white travelers to stay at home but that difference cannot be attributed to any single activity. Difference for males and females were small and may not be meaningful.

SUMMARY OF FINDINGS

The RTS can provide some insights into the after-work travel behavior of people who use transit as the primary mode of commuting from work to home.

- The number of persons who use transit for commuting home from work is fairly small. Of this group, the majority remain at home after their commute from work, a much smaller share go back out using a personal vehicle, and the smallest share go back out using another mode.

- Persons who go back out using a personal vehicle are about equally as likely to go shopping, have a meal, or participate in social/recreational activities.
- Persons from lower income households are more likely to use a mode other than personal vehicle for trips after a transit commute than those from higher income households. This suggests that lower income households are more dependent on other modes, such as transit or ridehail, to conduct daily errands.
- 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. This suggests that transit may not fully serve the needs of households with children to perform other types of activities such as daycare and recreational activities.
- Persons from households without children are the most likely to go back out after returning home from a transit commute, with nearly a third taking additional trips by any mode.
- Overall, only four percent of weekday commuters returning home via public transit head out again by personal vehicle to shop.