National Capital Region
Transportation Planning Board

2017/2018 Regional Travel Survey In-Depth Analysis
Travel Patterns for Low-Income Households

In the Fall of 2019, TPB staff began releasing the preliminary results of the 2017/2018 Regional Travel Survey (RTS). 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. This piece is part of a series of responses to thought-provoking questions offered by our stakeholders.

QUESTION
How do travel patterns (by travel mode, trip purpose, trip length, and trip duration) differ for very low and low-income households?

INTRODUCTION
The RTS data can shed key insights about transportation equity in the Washington metropolitan region by examining travel patterns and behavior across various demographic groups. Providing access to transportation options is paramount to ensuring transportation equity for all travelers. This question takes a deeper dive into how travel patterns differ for very low (less than $25,000 per year) and low-income households ($25,000-$49,999 per year) in the DC region. 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 examined several dimensions of travel, including means of transportation (i.e., primary travel mode), trip purpose, trip length, and trip duration for both work and non-work trips; these data items were compared with household income. Travel mode includes automobile modes (drive alone, drive with others, auto passenger), rail and bus transit, taxi/ridehail, walk, and bicycle. Trip purposes were based on primary destination activity and were categorized into work, work-related, drop off/pick up, school, personal business, shop/meal, and social/recreation trips. Median trip lengths were calculated for all trips (work and non-work) and commute trips. And finally, the duration of all trips and commute trips were compared by household income. This analysis was performed for the TPB Planning Region.

Detailed breakdowns of each comparison 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. Primary Travel Mode by Household Income

Travel Mode (%)	<$25K	$25-50K	$50-75K	$75-100K	$100-150K	>$150K
Drive Alone	33.1	40.7	44.9	42.1	41.3	40.2
Drive Others	10.9	15.0	15.0	16.2	16.7	16.4
Auto Passenger	21.7	18.7	19.7	22.7	22.5	22.8

Travel Mode (%)	<$25K	$25-50K	$50-75K	$75-100K	$100-150K	>$150K
Rail Transit	3.3	2.7	3.6	4.3	3.6	3.6
Bus Transit	10.7	5.4	2.1	1.4	1.4	0.9
Other	0.7	0.5	0.3	0.3	0.4	0.5
Taxi/Ridehail	1.9	1.7	1.0	1.0	0.7	0.8
School Bus	3.1	5.3	3.0	2.3	3.6	3.5
Walk	13.3	9.0	9.0	8.8	8.5	9.7
Bike	1.2	0.9	1.3	1.0	1.2	1.6

Key Findings for Travel Mode by Household Income:
- Higher share of bus transit trips for very low (<$25K) and low ($25-50K) income households
- Higher share of walking trips for very low (<$25K) income households
- Lower share of auto driver (drive alone and drive others) trips for very low (<$25K) income households
- Slightly higher share of taxi/ridehail trips for very low (<$25K) and low ($25-50K) income households

B. Primary Trip Purpose by Household Income

Trip Purpose (%)	<$25K	$25-50K	$50-75K	$75-100K	$100-150K	>$150K
Work	14.1	19.0	20.4	21.5	21.4	21.5
Work-related	4.9	5.1	3.8	4.2	4.5	4.1
Drop off/pick up	9.5	10.9	10.5	12.8	13.4	16.4
School	8.8	10.9	7.6	6.7	8.5	10.6
Personal Business	16.1	12.5	12.0	11.9	10.7	10.5
Shop/Meal	32.4	27.8	30.6	29.1	27.3	22.9
Social/Recreation	8.7	8.4	9.9	9.7	10.1	10.3
Other	5.7	5.5	5.2	4.1	4.1	3.7

Key Findings for Trip Purpose by Household Income:
- Lower share of work trips for very low (<$25K) and low ($25-50K) income households
- Higher share of personal business and shop/meal trips for very low (<$25K) income households
- Slightly lower share of social/recreation trips for very low (<$25K) and low ($25-50K) income households

C. Trip Length by Household Income

Median Trip Length (Miles)	<$25K	$25-50K	$50-75K	$75-100K	$100-150K	>$150K
All Trips	2.7	3.1	2.9	3.4	3.2	2.9
Commute Trips	5.2	6.6	7.4	8.1	8.4	8.9

Key Findings for Trip Length by Household Income:
- Commute trip lengths increase with household income
  - Shortest trip length for very low (<$25K) households
- For all trips, trip lengths do not vary much by household income

D. Trip Duration by Household Income

Trip Duration – All Trips (%)	<$25K	$25-50K	$50-75K	$75-100K	$100-150K	>$150K
Less than 15 min	29.5	30.6	36.9	33.8	37.6	38.2
15 - 30 min	34.9	37.6	33.0	36.4	33.9	33.9
30 - 45 min	17.5	16.2	15.7	16.3	15.2	15.1
45 - 60 min	5.9	6.8	6.5	6.2	5.9	6.0
60 - 90 min	7.0	5.7	5.0	4.9	5.0	4.5
Greater than 90 min	4.9	2.9	2.7	2.2	2.2	2.1

Key Findings for Duration of All Trips by Household Income:
- Lower share of very short trips (less than 15 min) for very low (<$25K) and low ($25-50K) income households
- Higher share of long trips (more than 60 min) very low (<$25K) income households

Trip Duration – Commute Trips (%)	<$25K	$25-50K	$50-75K	$75-100K	$100-150K	>$150K
Less than 15 min	14.1	16.4	12.0	10.5	10.1	10.8
15 - 30 min	29.3	26.1	27.7	27.2	29.0	25.4
30 - 45 min	22.3	22.7	26.1	28.2	25.2	29.2
45 - 60 min	7.9	13.6	14.3	15.1	15.6	15.7
60 - 90 min	12.8	15.5	13.2	14.2	15.6	13.9
Greater than 90 min	11.4	5.2	6.6	4.5	4.5	4.8

Key Findings for Duration of Commute Trips by Household Income:
- Higher share of very short trips (less than 15 min) for very low (<$25K) and low ($25-50K) income households
- Highest share of very long trips (more than 90 min) very low (<$25K) income households

SUMMARY OF FINDINGS
The RTS data reveal that on all of these key dimensions of travel, the travel patterns of very low- and low-income households are different from higher income households.

- For travel mode, very low-income households are less likely to drive and much more likely to use bus transit, taxi/ridehail, or walk; low-income households are more likely to take the bus and use taxi/ridehail. This suggests that lower income households are more dependent on these modes to provide access to jobs and to conduct daily errands.

- Examining differences in trip purpose by household income show that very low- and low-income households are less likely to take work trips and social/recreation trips. For median trip lengths, the RTS data show that commute trip lengths increase with household income, but non-commute trip distances do not vary as much.
- Finally, for trip duration, lower income households have a slightly lower share of very short trips (less than 15 minutes) but are much more likely to experience very long commute trips (greater than 90 minutes), especially for the lowest income group. It shows that workers in these households may not have access to a personal vehicle and are more transit dependent which could lead to longer commute times.