2017-2018 REGIONAL TRAVEL SURVEY BRIEFING: CHANGE IN OBSERVED TRIPS SINCE 2007/08

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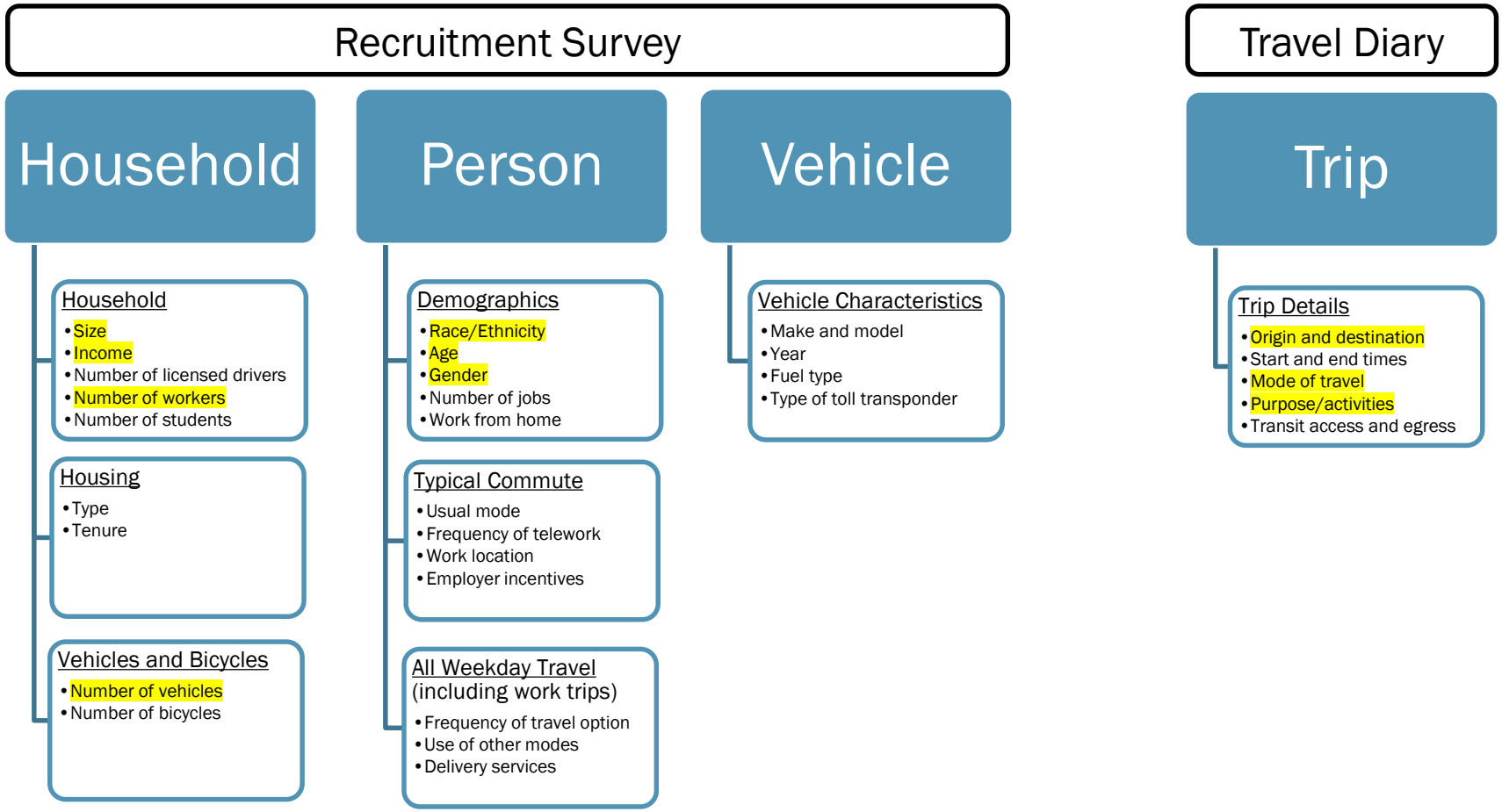
TPB Technical Committee
November 6, 2010

Agenda Item 11

National Capital Region
Transportation Planning Board

Overview of Regional Travel Survey Information



Taking a Deeper Dive into the Travel Diary

- The last briefing provided a **cross-sectional snapshot** of observed travel in the TPB region by sub-area, activity centers, and equity emphasis areas
  - Differences in household/person trip rates by demographic characteristics
  - Differences in commute/non-commute trip share
- Today's briefing will provide a **longitudinal comparison** of observed travel from 2007/08 – 2017/18

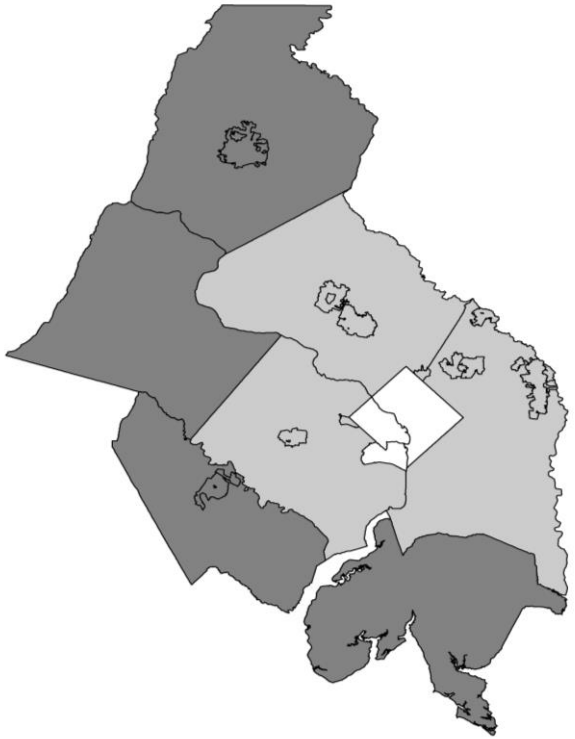
REGIONAL
TRAVEL SURVEY

Planning Our Future Together

- Change in reported travel between 2007/08 and 2017/18
  - Daily weekday trips
  - Mode share of all trips
  - Commute trips
  - Weekday trips by destination and mode
- Additional 2017/2018 RTS tabulations
  - Trip length by mode
  - Trip length by purpose

Sub-Regional Areas

Sub-Area	Jurisdiction
Core	District of Columbia
	Arlington County
	City of Alexandria
Inner Suburb	Montgomery County
	Prince George's County
	Fairfax County, including City of Fairfax and City of Falls Church
Outer Suburb	Charles County
	Frederick County
	Loudoun County
	Prince William County, City of Manassas, and City of Manassas Park



Households in the Region

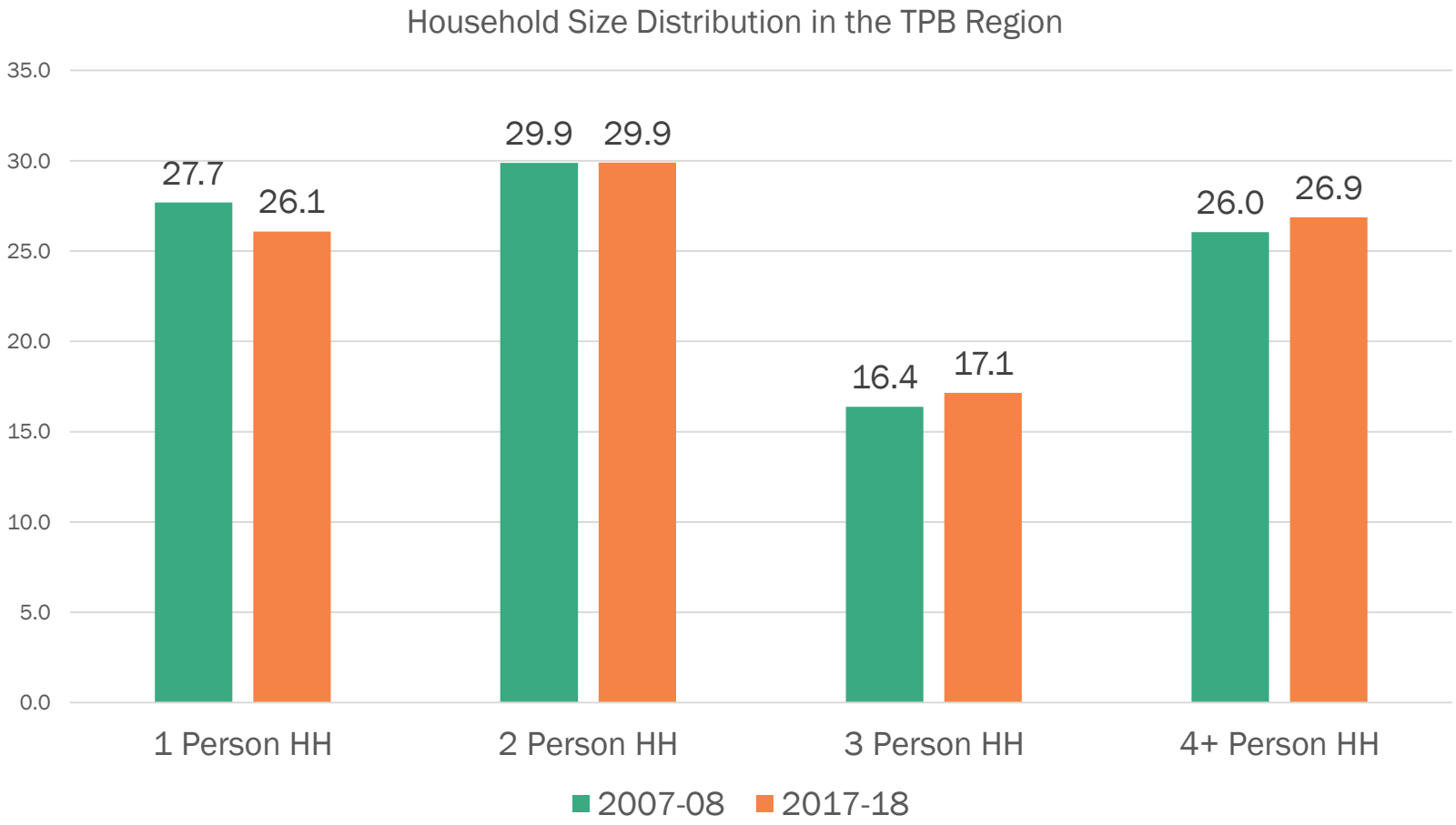
Image Credit: Kenneth Joh

The TPB region increased by 300,000 households since 2007/08

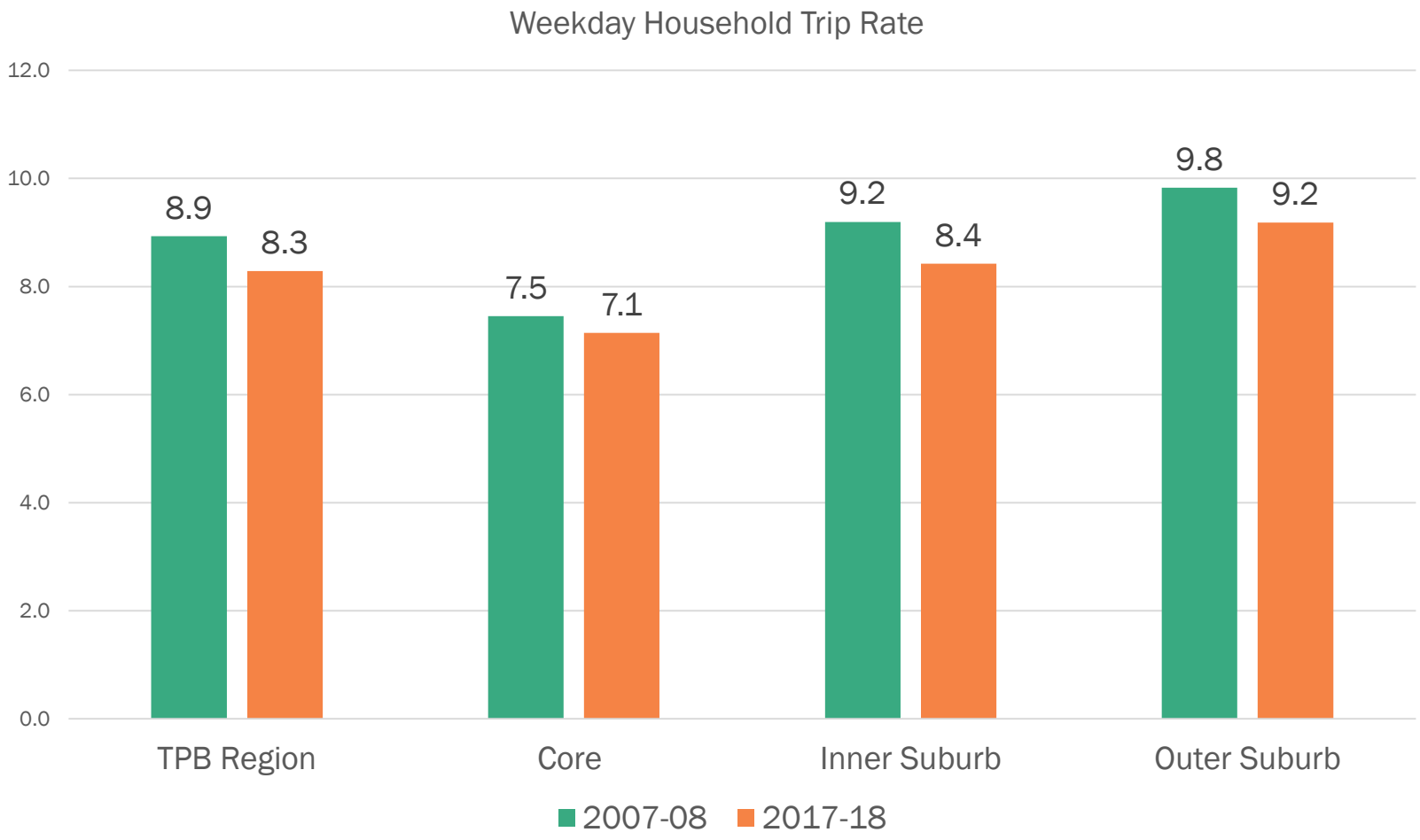
The region has added new transportation infrastructure

Image Credit: Washington Post

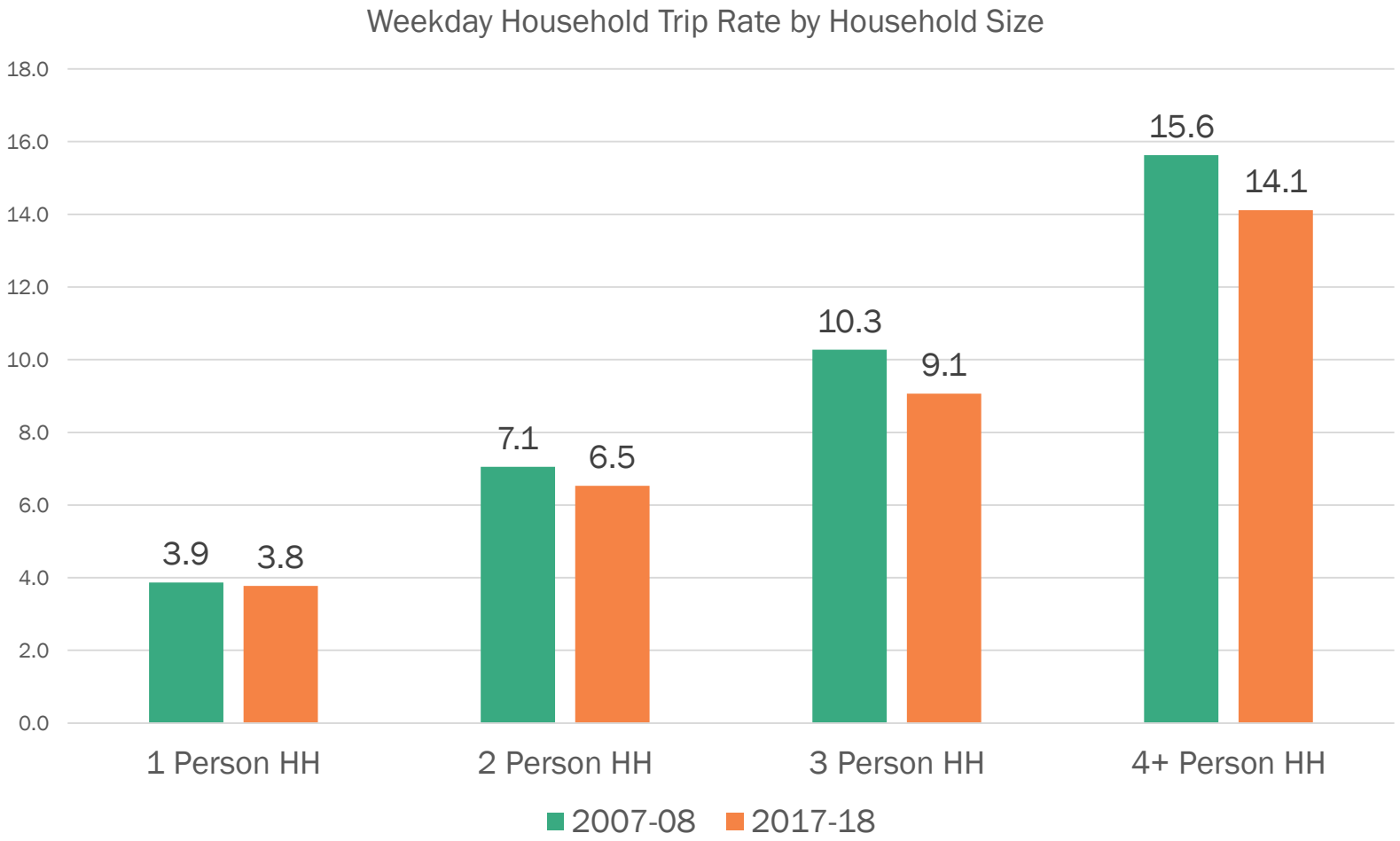
Household Sizes Have Slightly Increased



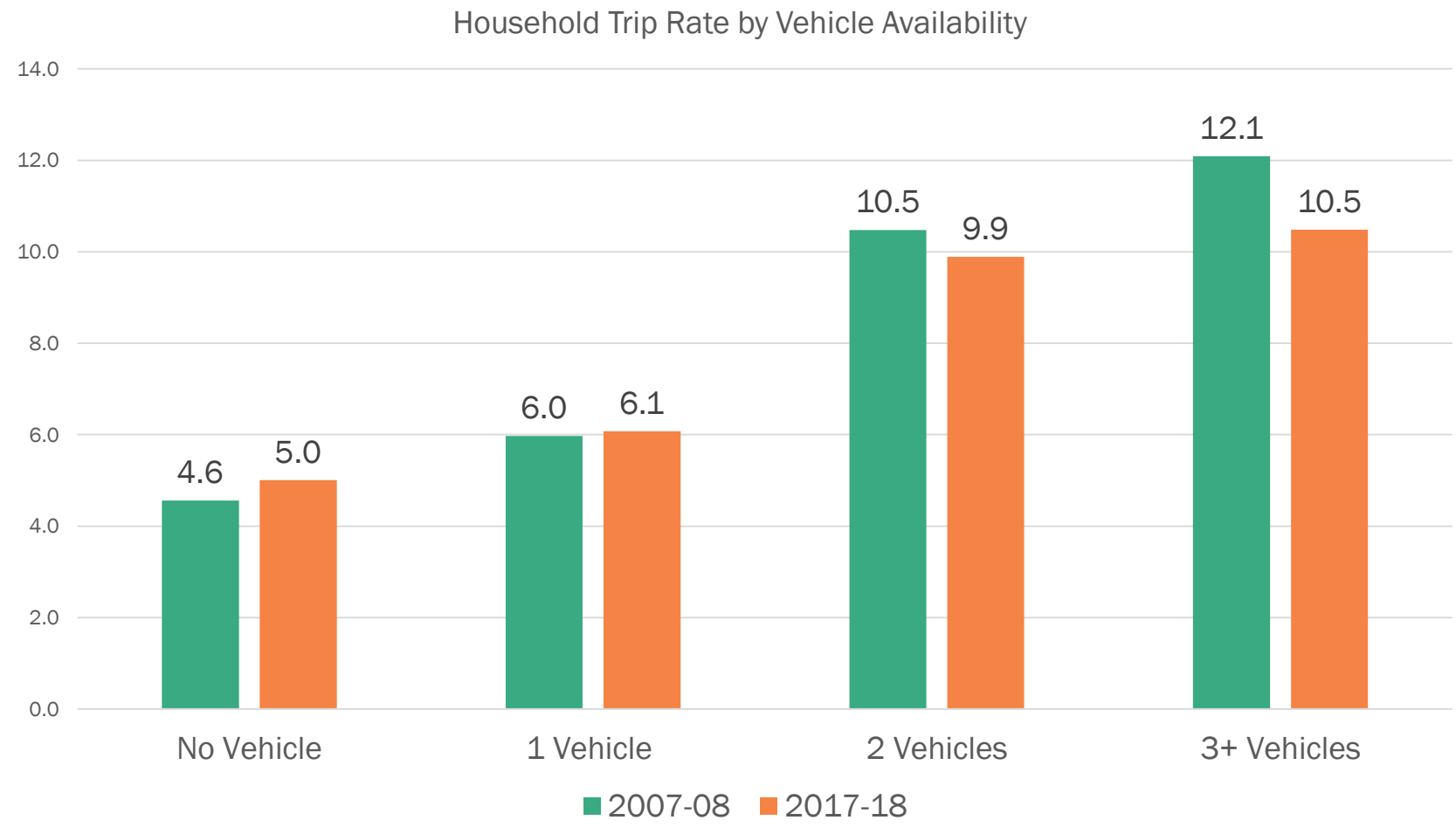
Households are Taking Fewer Trips in 2017/18



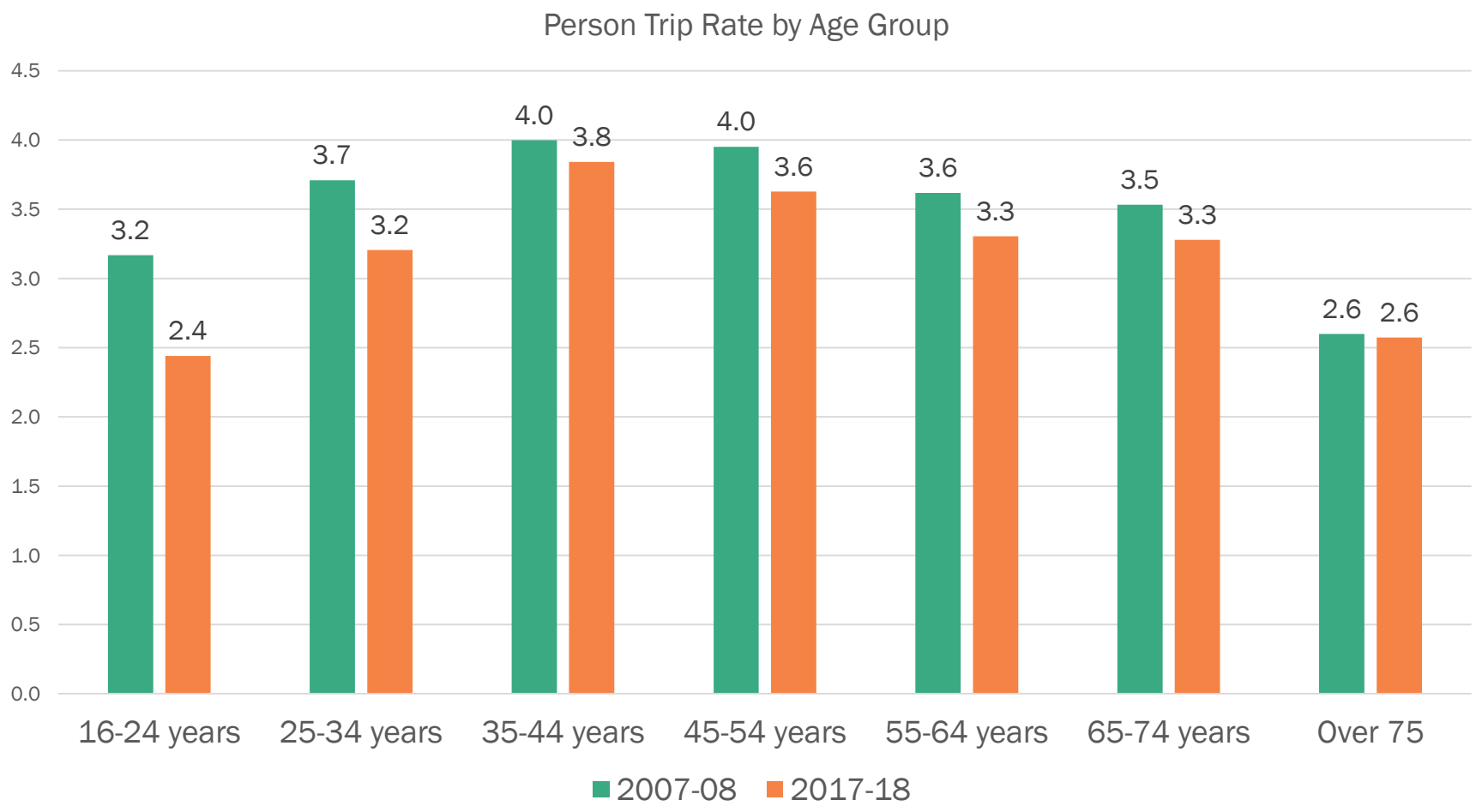
Larger Decrease in Household Trips for Larger Households



Change in Household Trip Rate Varies by Vehicle Availability



Largest Decrease in Trips for Persons Under 35



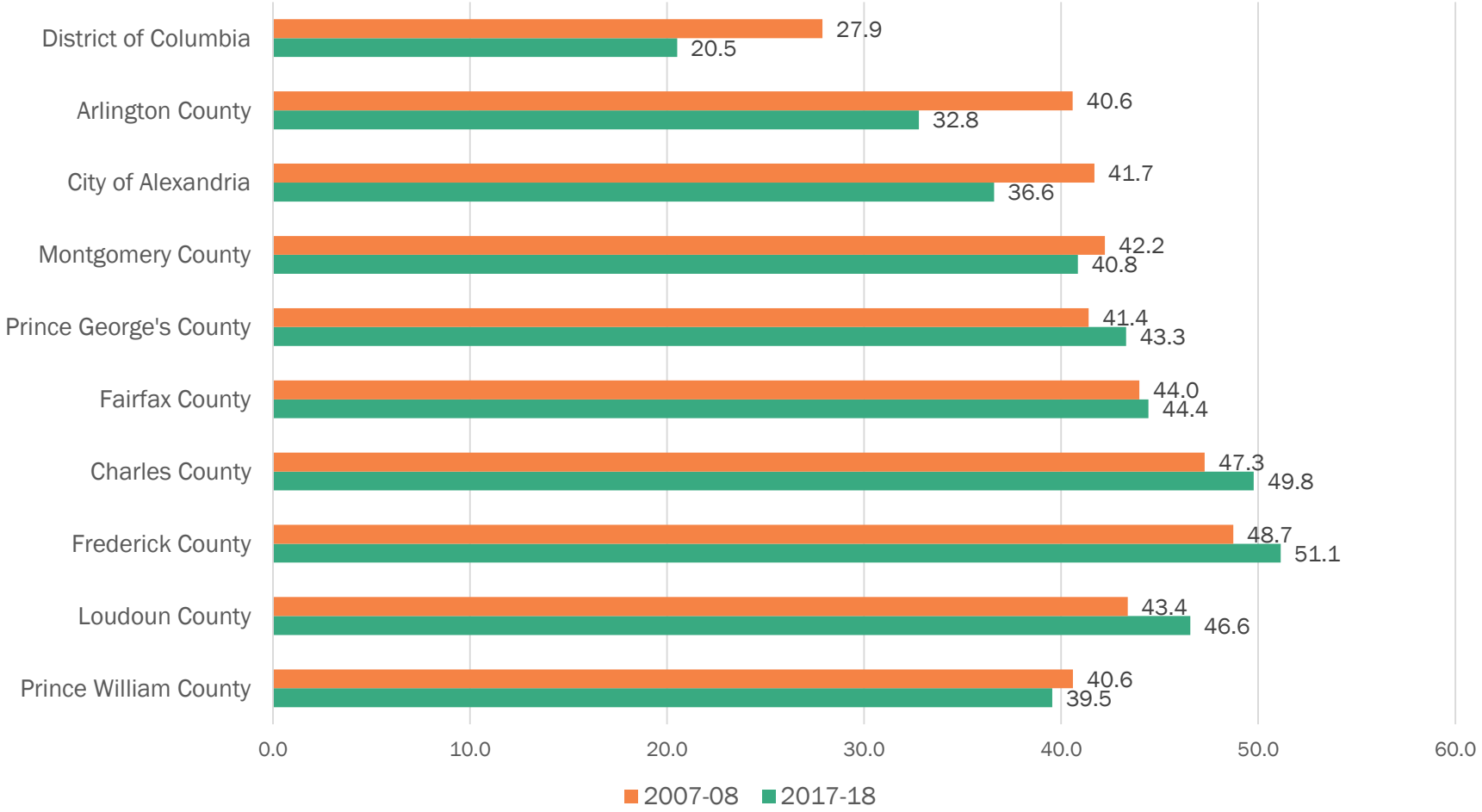
Summary of Changes in Weekday Household/ Person Trip Rates

- Households in the TPB region are taking fewer trips in 2017/18 compared with 2007/08
- Larger decrease in daily weekday trips for households with 3 or more persons
- Decrease in daily weekday trips for households with 2 or more vehicles
- Larger decrease in daily weekday trips for persons under 35

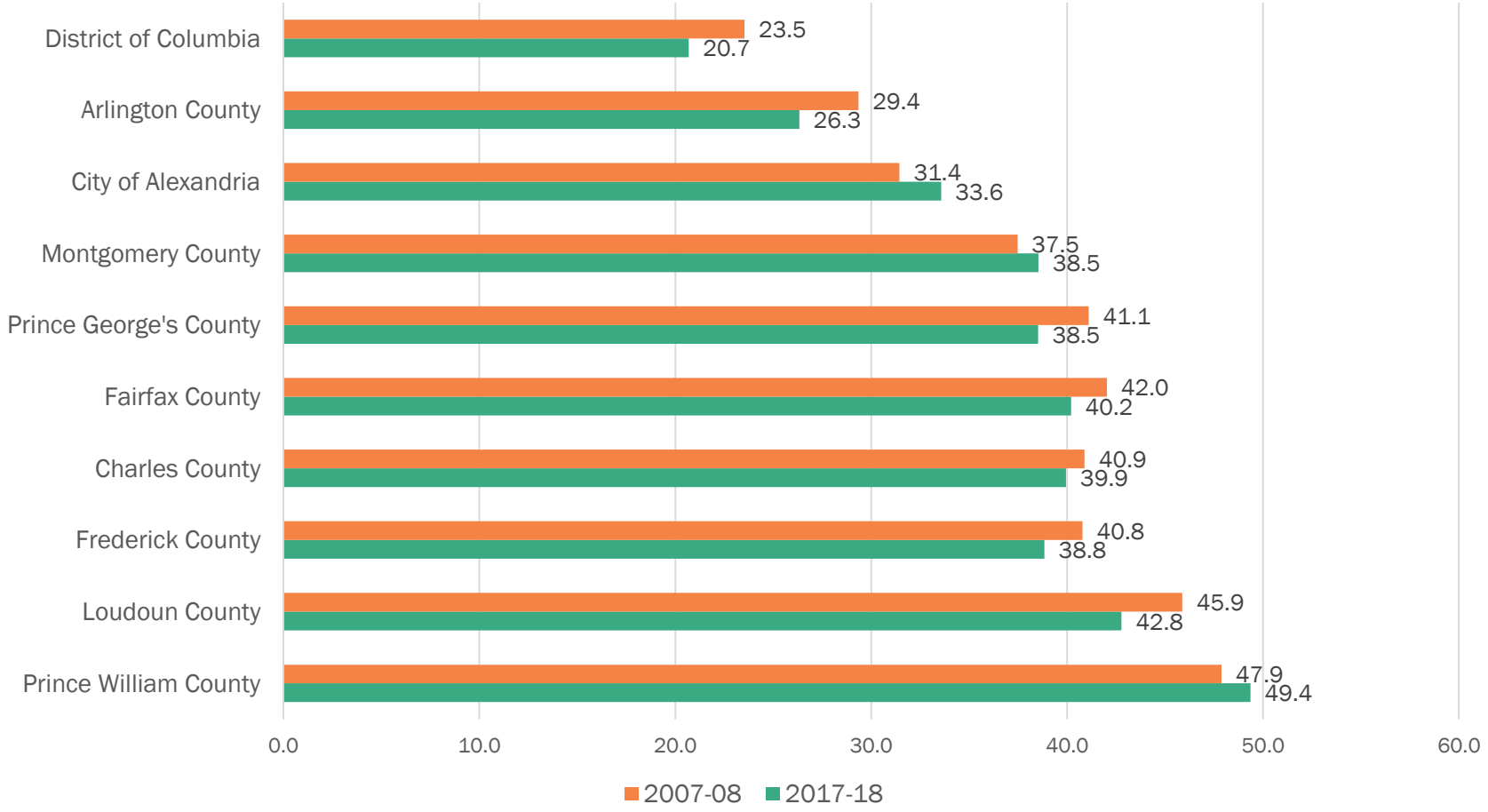
Change in Mode Share of All Weekday Trips by Region and Sub-Area

Travel Mode	TPB Region 2007/08	TPB Region 2017/18	Core 2007/08	Core 2017/18	Inner Suburb 2007/08	Inner Suburb 2017/18	Outer Suburb 2007/08	Outer Suburb 2017/18
Drive Alone	41.2	39.9	33.1	25.9	42.7	42.9	44.0	45.1
Drive Others and Auto Passenger	38.6	37.3	26.2	24.0	40.2	39.2	44.9	44.3
Rail Transit	4.5	5.0	9.9	11.2	4.0	4.3	1.2	1.3
Bus Transit	1.8	2.0	5.2	5.1	1.2	1.4	0.4	0.7
Walk	9.1	9.6	21.9	25.1	6.9	6.6	4.0	3.5
Bicycle	0.6	1.4	1.3	3.8	0.5	0.9	0.2	0.2
Taxi/Ride-Hail	0.3	1.0	0.8	3.0	0.2	0.6	0.1	0.1
School Bus	3.8	3.4	1.2	1.1	4.1	3.7	4.9	4.5
Other	0.3	0.4	0.4	0.7	0.2	0.4	0.4	0.2

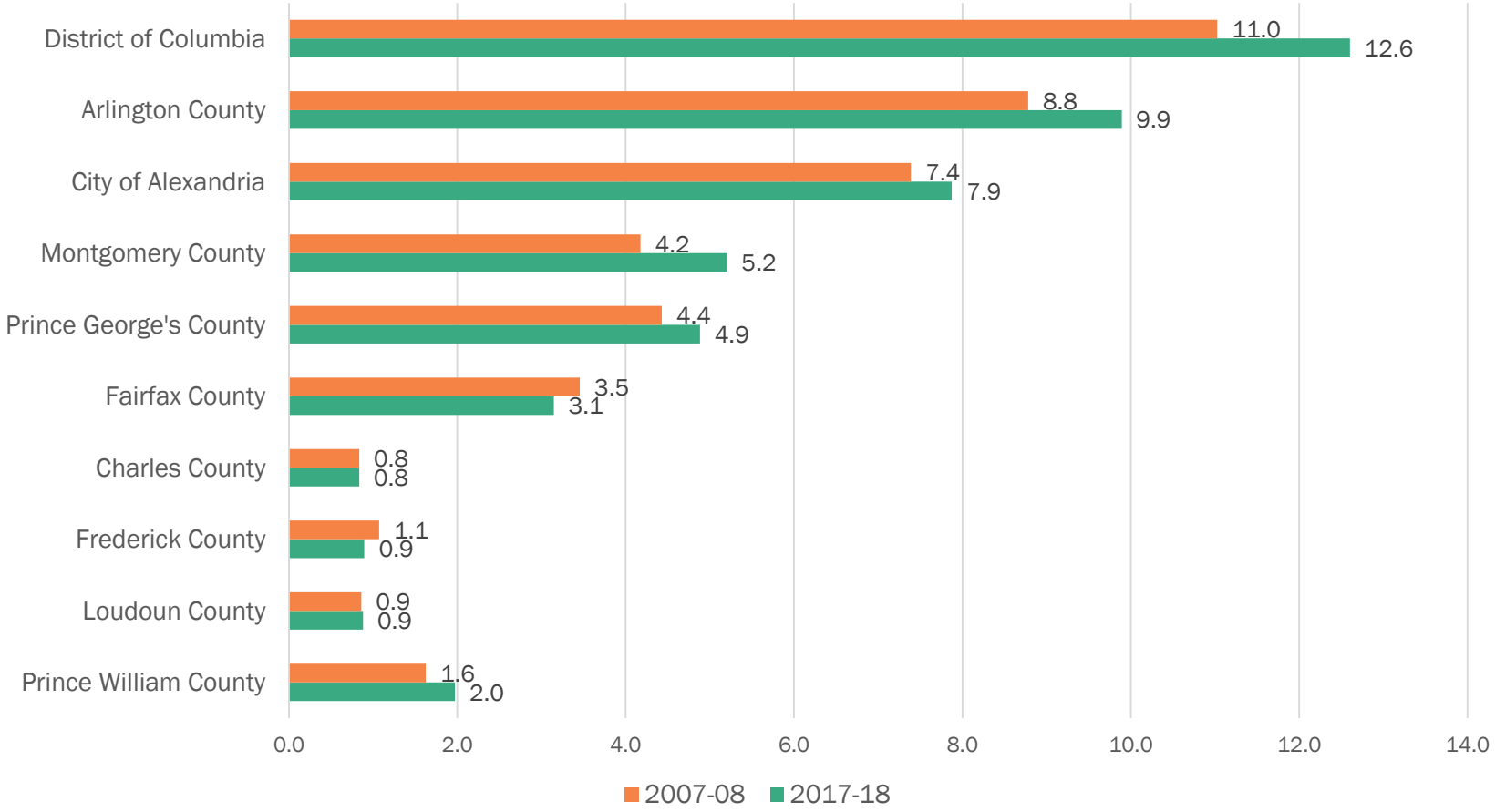
Mode Share for All Trips – Drive Alone (2007/08 – 2017/18)



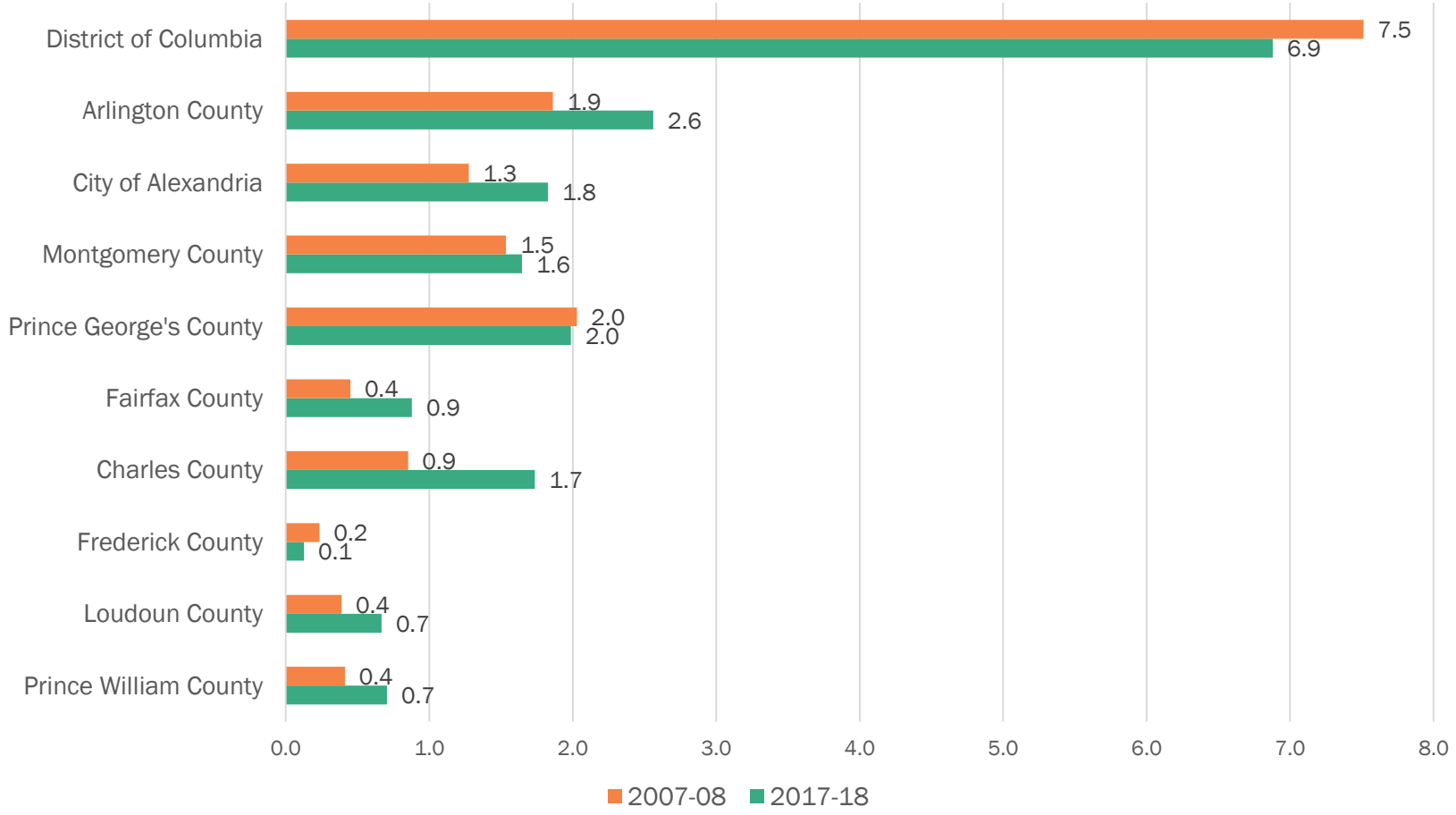
Mode Share for All Trips – Drive Others and Auto Passenger (2007/08 – 2017/18)



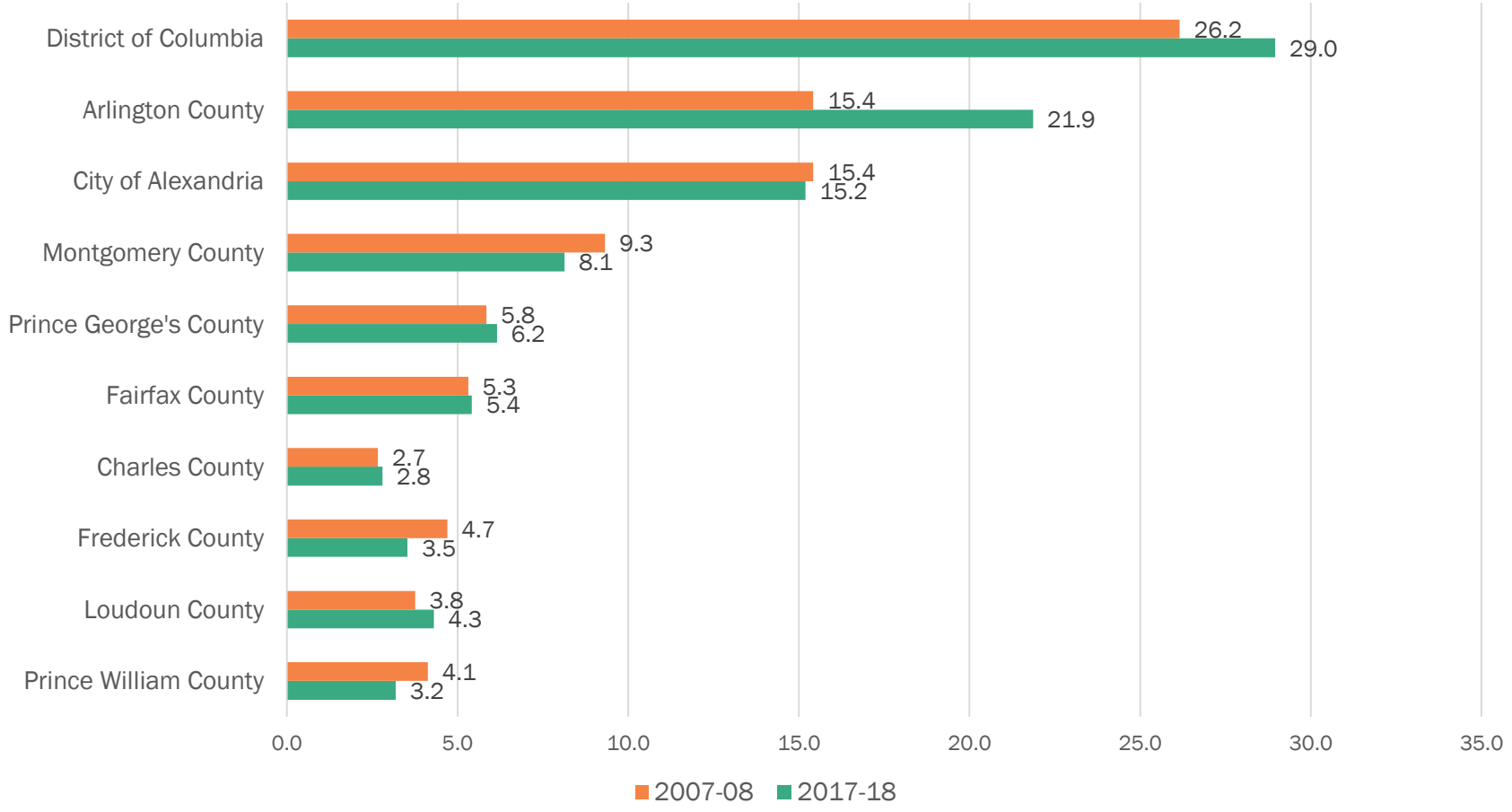
Mode Share for All Trips – Rail Transit (2007/08 – 2017/18)



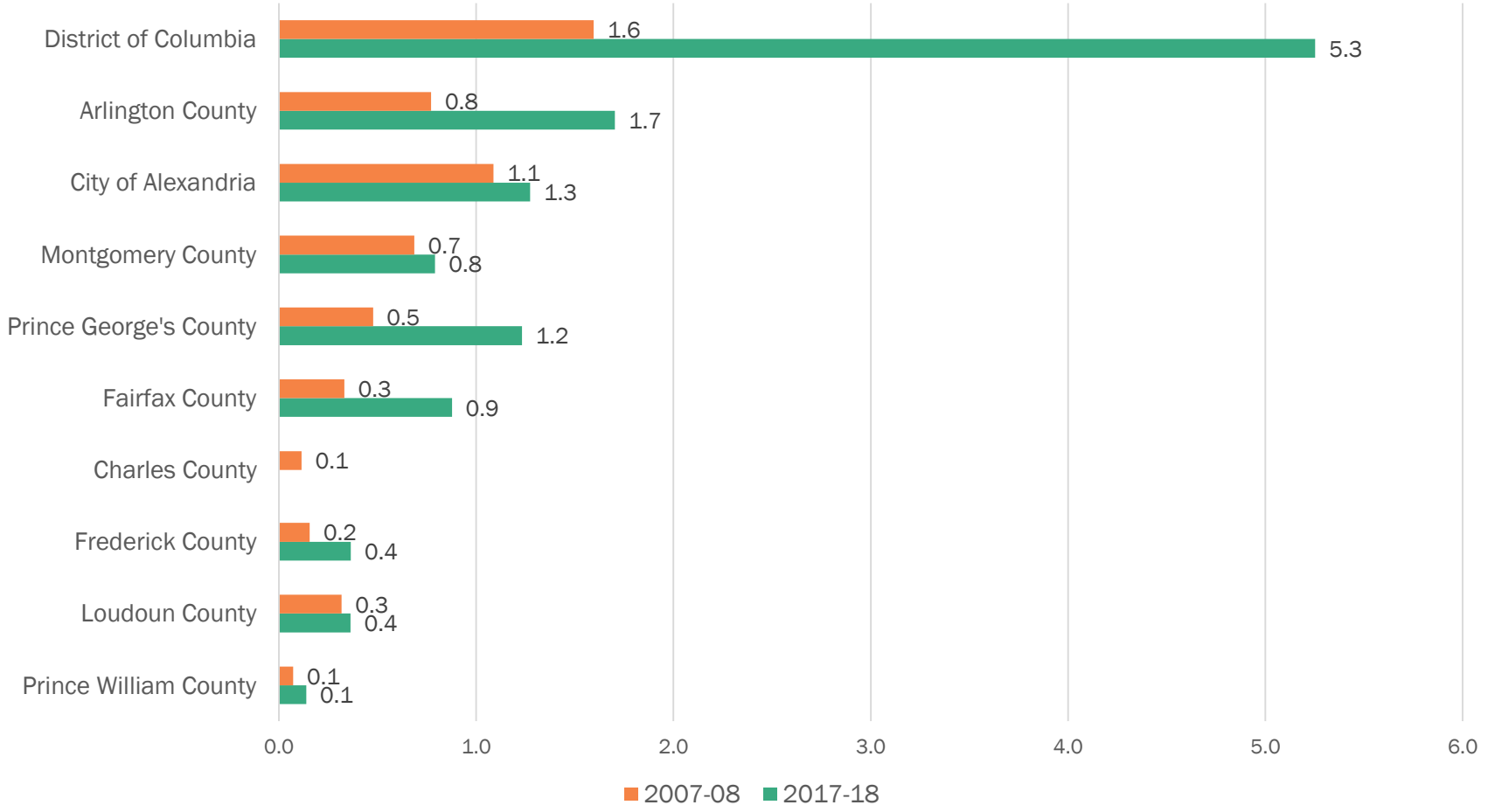
Mode Share for All Trips – Bus Transit (2007/08 – 2017/18)



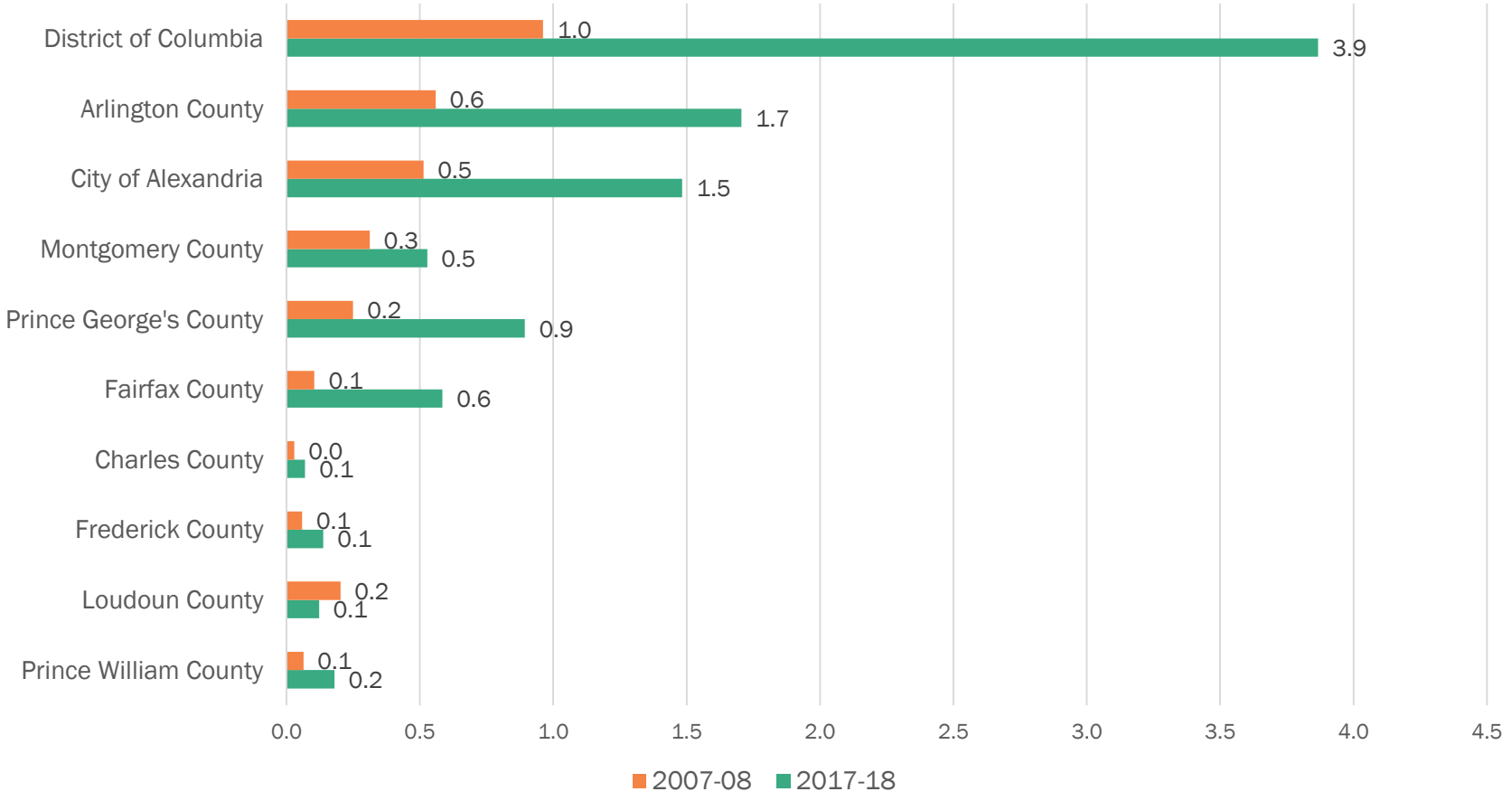
Mode Share for All Trips – Walk (2007/08 – 2017/18)



Mode Share for All Trips – Bicycle (2007/08 – 2017/18)



Mode Share for All Trips – Taxi/Ride-Hail (2007/08 – 2017/18)



Change in Mode Share of Commute Trips by Region and Sub-Area

Commute Mode	TPB Region 2007/08	TPB Region 2017/18	Core 2007/08	Core 2017/18	Inner Suburb 2007/08	Inner Suburb 2017/18	Outer Suburb 2007/08	Outer Suburb 2017/18
Drive Alone	66.7	62.2	46.9	31.9	69.1	67.4	78.3	80.3
Drive Others and Auto Passenger	11.4	7.6	7.8	4.2	11.9	7.6	13.2	11.0
Rail Transit	14.2	17.6	25.0	31.7	13.9	17.0	4.9	4.4
Bus Transit	3.3	4.6	7.7	9.2	2.4	3.3	1.7	3.1
Walk	2.7	3.8	8.5	11.2	1.3	2.2	1.0	0.5
Bicycle	1.1	2.6	2.9	7.6	0.8	1.4	0.3	0.4
Taxi/Ride-Hail	0.3	1.3	0.7	3.4	0.3	0.9	0.0	0.1
Other	0.4	0.3	0.5	0.7	0.2	0.1	0.7	0.1

Commute Destinations of Households

Commute Mode	Core to Core 2007/08	Core to Core 2017/18	Core to Inner Suburb 2007/08	Core to Inner Suburb 2017/18	Inner Suburb to Core 2007/08	Inner Suburb to Core 2017/18	Inner Suburb to Inner Suburb 2007/08	Inner Suburb to Inner Suburb 2017/18
Drive Alone	42.8	27.5	74.2	66.3	50.8	44.4	73.2	72.0
Drive Others and Auto Passenger	7.9	4.2	6.0	4.0	11.3	7.5	11.7	7.6
Rail Transit	26.6	33.2	15.9	19.5	34.0	42.3	9.6	11.4
Bus Transit	8.5	10.0	2.3	3.4	2.3	2.3	2.5	3.7
Walk	9.7	12.4	0.3	1.7	0.1	0.4	1.7	2.7
Bike	3.1	8.4	1.2	1.9	0.9	1.9	0.8	1.4
Taxi/Ride-Hail	0.9	3.5	0.0	3.0	0.2	1.1	0.3	0.9

Summary of Changes in Mode Share

- Shares of non-automobile modes (rail, bus, walk, bicycle, and taxi/ride-hail for all trips have increased across the region, especially in the core
- Share of automobile trips (drive alone, drive others, passengers) for all trips has slightly decreased since 2007/2008, more so in the core jurisdictions
- Steep decline in car commutes and significant increases in rail/bus transit, walk, bicycle, and taxi/ride-hail commute trips, especially in the core and inner suburbs
- Significant decrease in auto commute trips and significant increase in non-auto modes into the core jurisdictions

Trip Length Distribution by Mode in Miles – All Trips (2017/2018)

Travel Mode	25th Percentile	Median	75th Percentile	90th Percentile
Drive Alone	1.7	4.4	10.4	20.0
Drive Others and Auto Passenger	2.7	6.1	13.1	27.2
Rail Transit	4.8	8.4	14.8	23.6
Bus Transit	1.8	3.3	6.3	15.2
Walk	0.1	0.3	0.5	1.0
Bike	0.8	1.7	3.0	5.9
Taxi/Ride-Hail	1.9	3.5	6.5	10.3

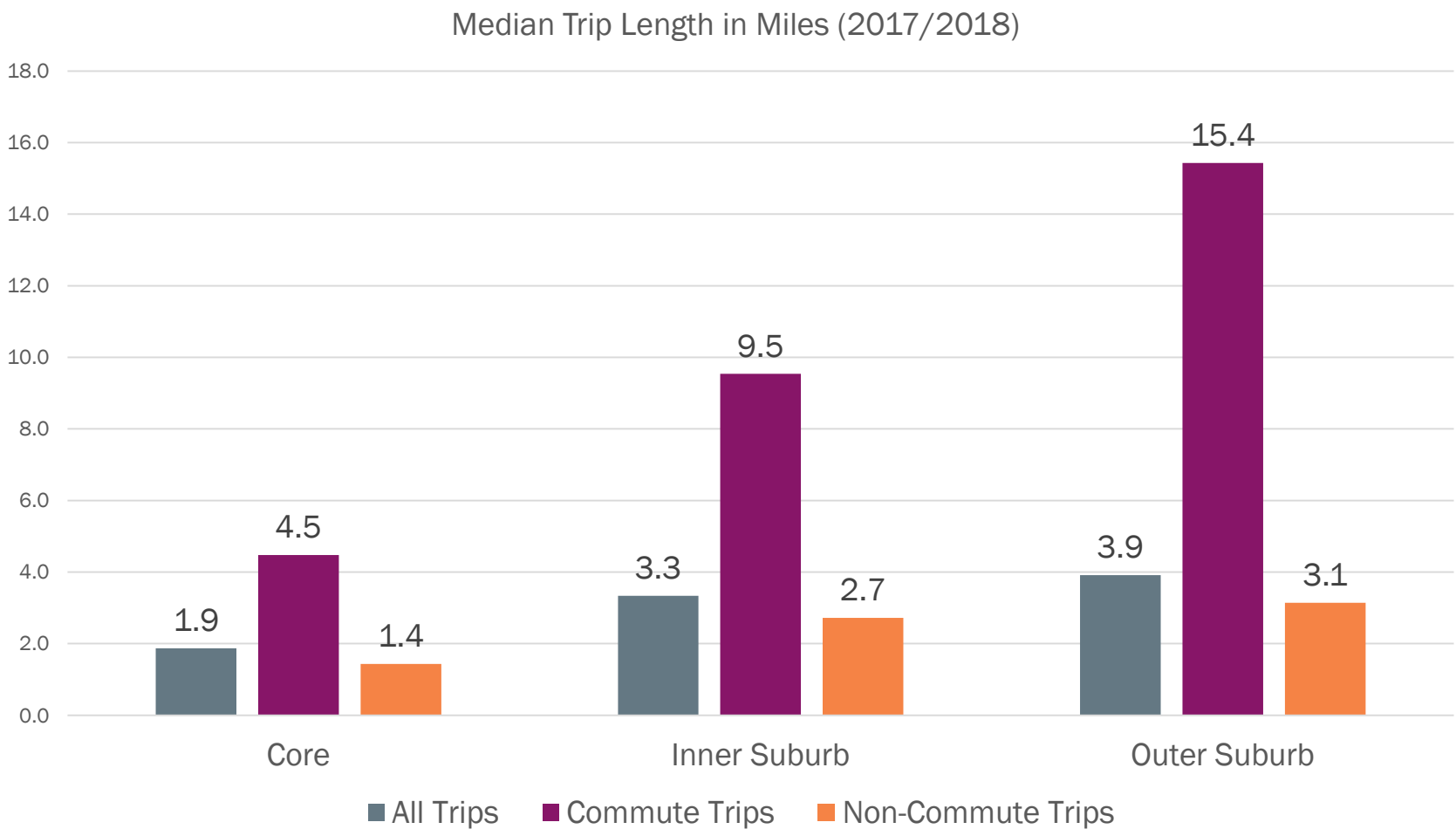
Trip Length Distribution by Mode in Miles – Commute Trips (2017/2018)

Travel Mode	25th Percentile	Median	75th Percentile	90th Percentile
Drive Alone	5.0	9.8	17.5	27.0
Drive Others and Auto Passenger	7.7	17.7	33.9	58.2
Rail Transit	5.8	9.4	16.3	23.7
Bus Transit	2.5	4.5	12.8	27.9
Walk	0.4	0.7	1.4	2.0
Bike	1.9	3.0	5.8	8.8
Taxi/Ride-Hail	2.5	4.2	6.5	9.9

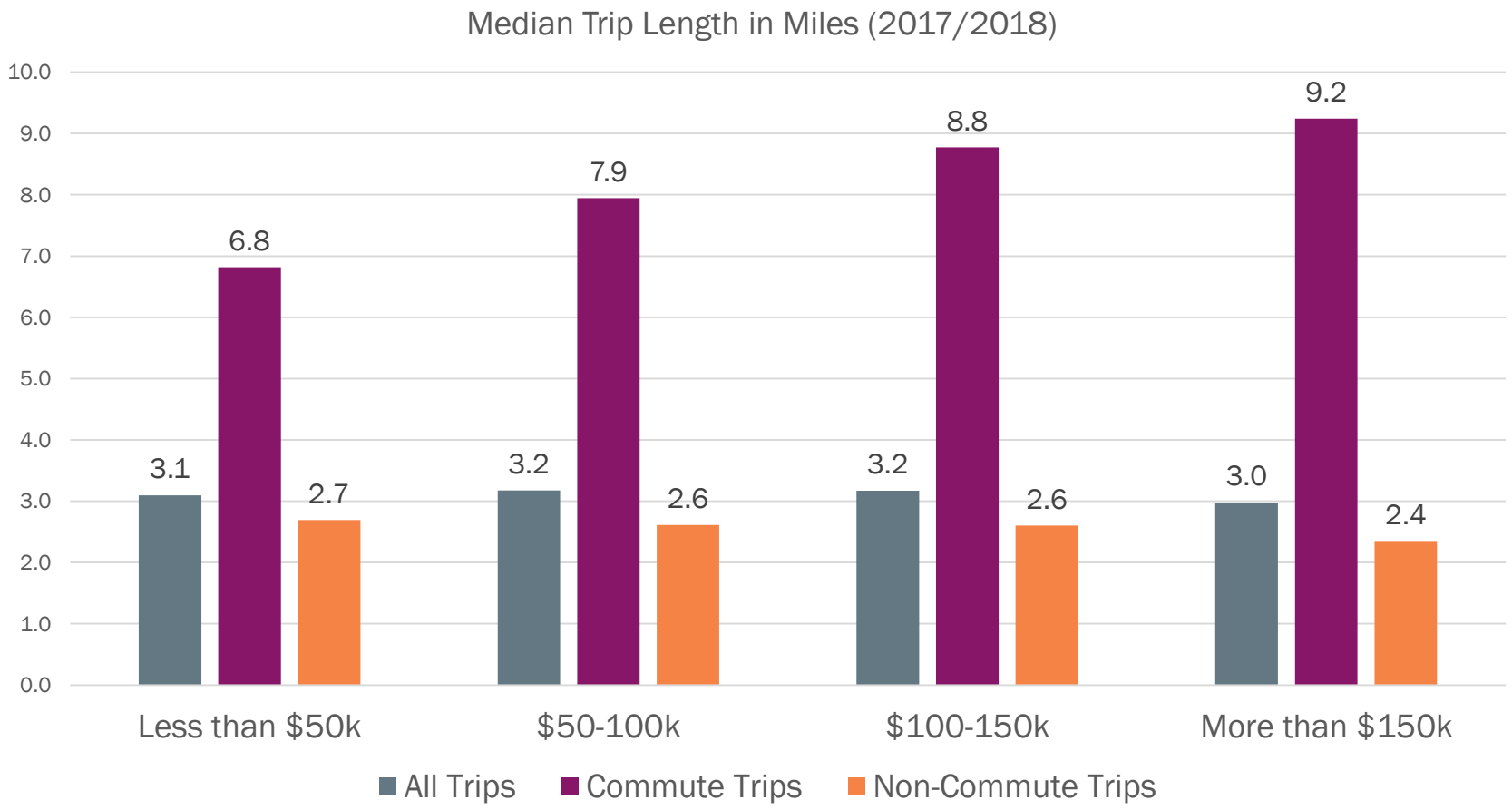
Trip Length Distribution by Mode in Miles – Non-Commute Trips (2017/2018)

Travel Mode	25th Percentile	Median	75th Percentile	90th Percentile
Drive Alone	1.3	3.1	7.6	15.3
Drive Others and Auto Passenger	2.6	6.0	12.6	25.4
Rail Transit	3.7	6.9	12.2	23.4
Bus Transit	1.5	2.8	5.0	8.7
Walk	0.1	0.3	0.5	0.9
Bike	0.6	1.0	2.3	3.3
Taxi/Ride-Hail	1.8	3.3	6.4	10.5

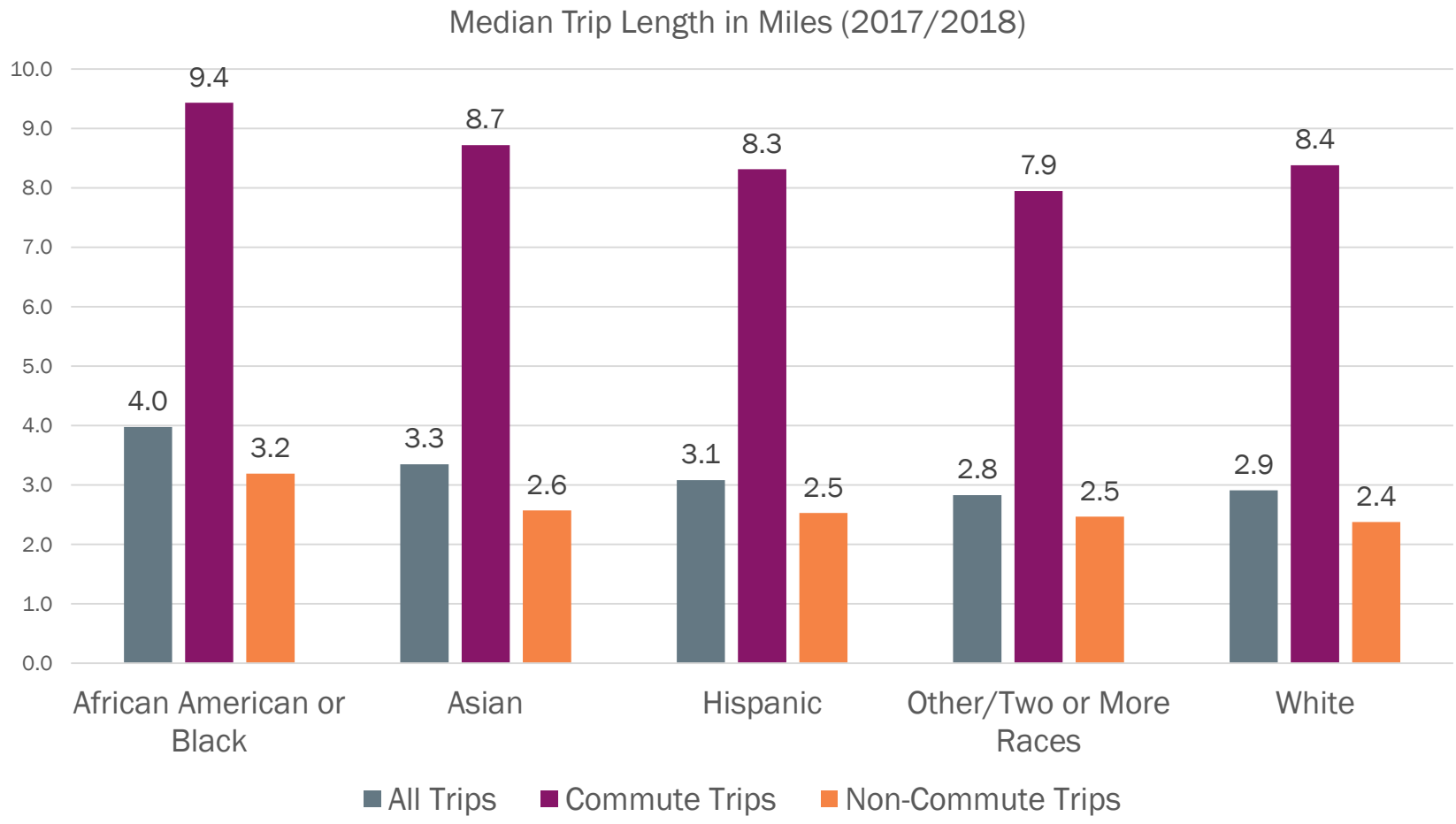
Trip Length Increases from Core to Suburbs



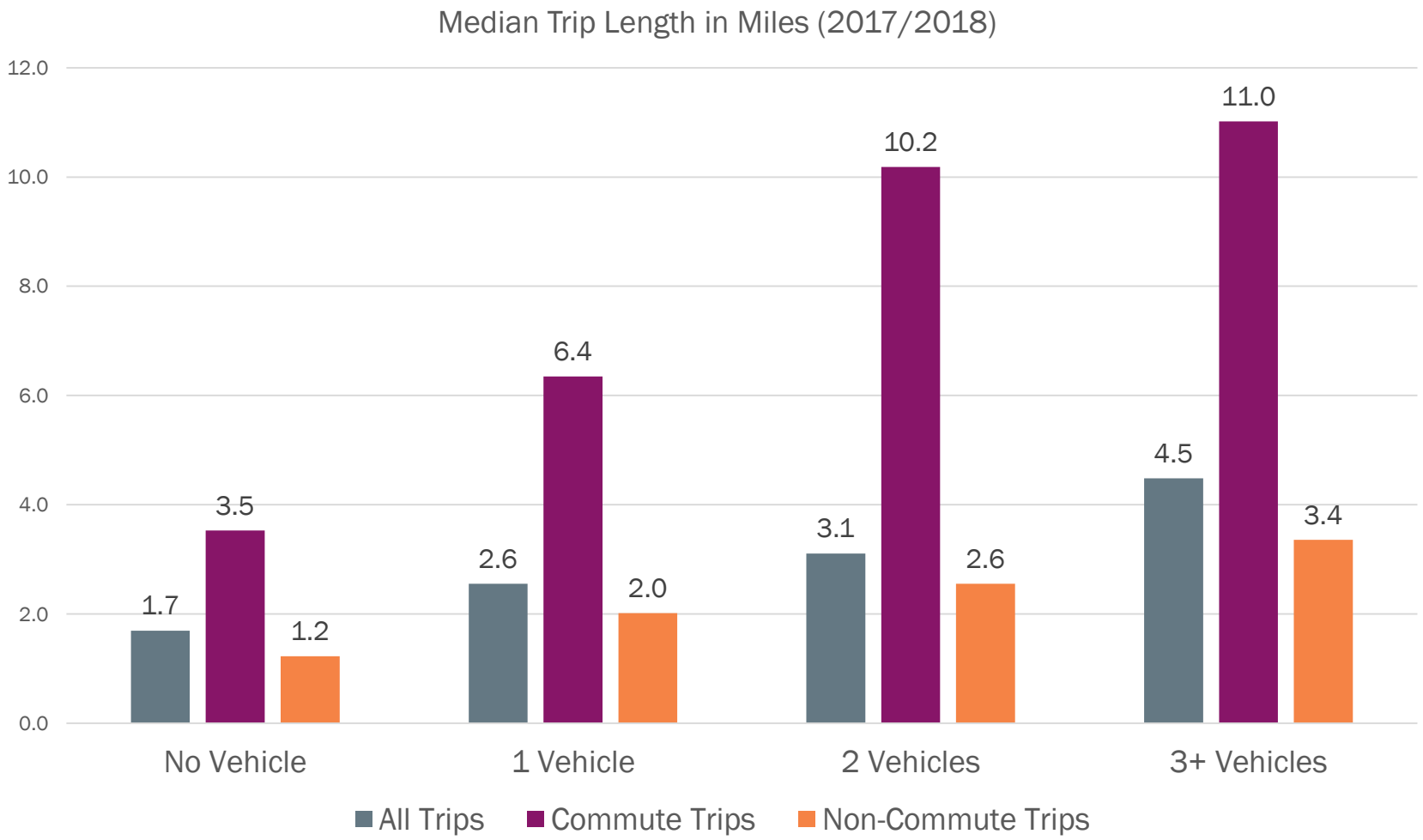
Commute Trip Lengths Increase with Income



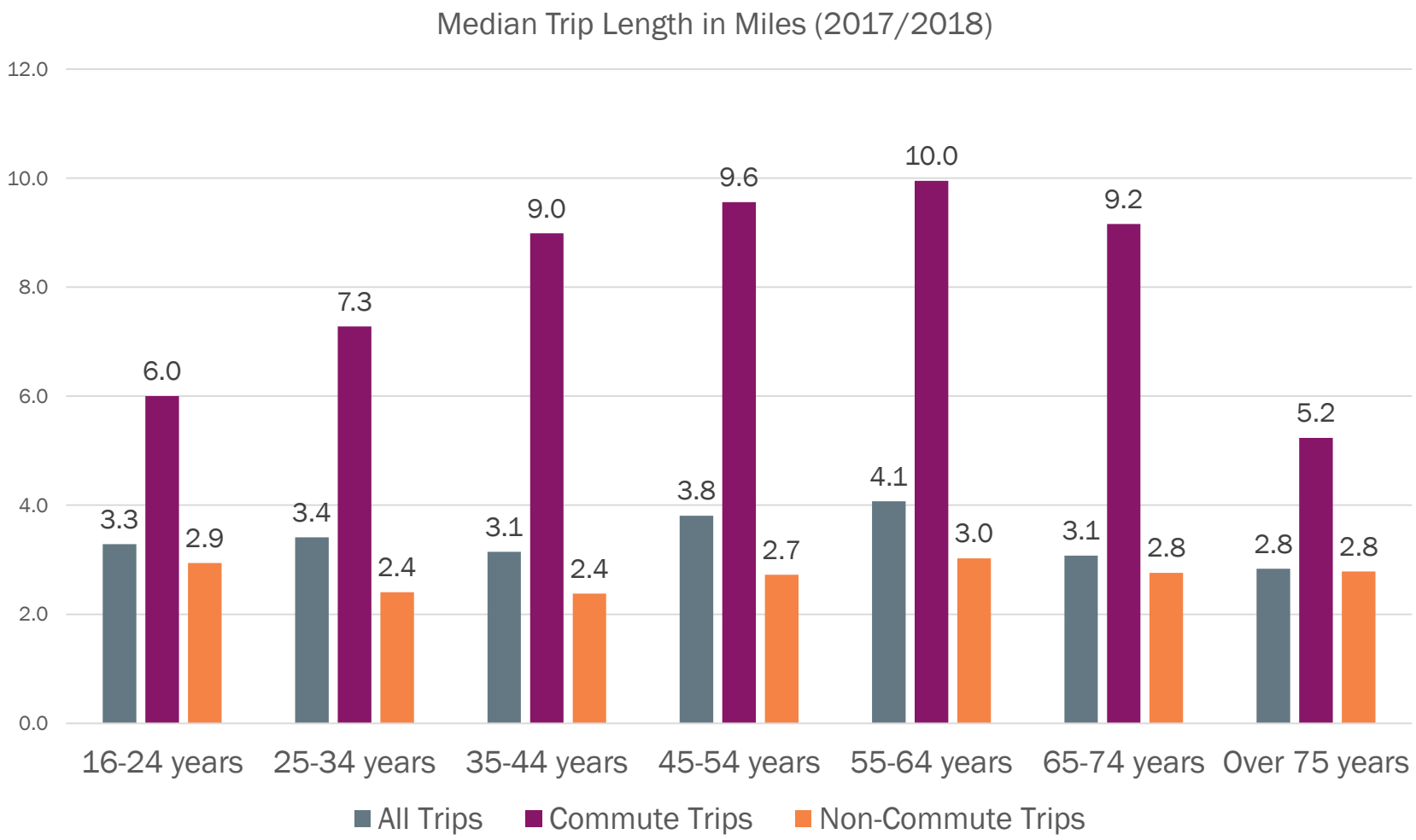
Trip Length Varies by Race/Ethnicity



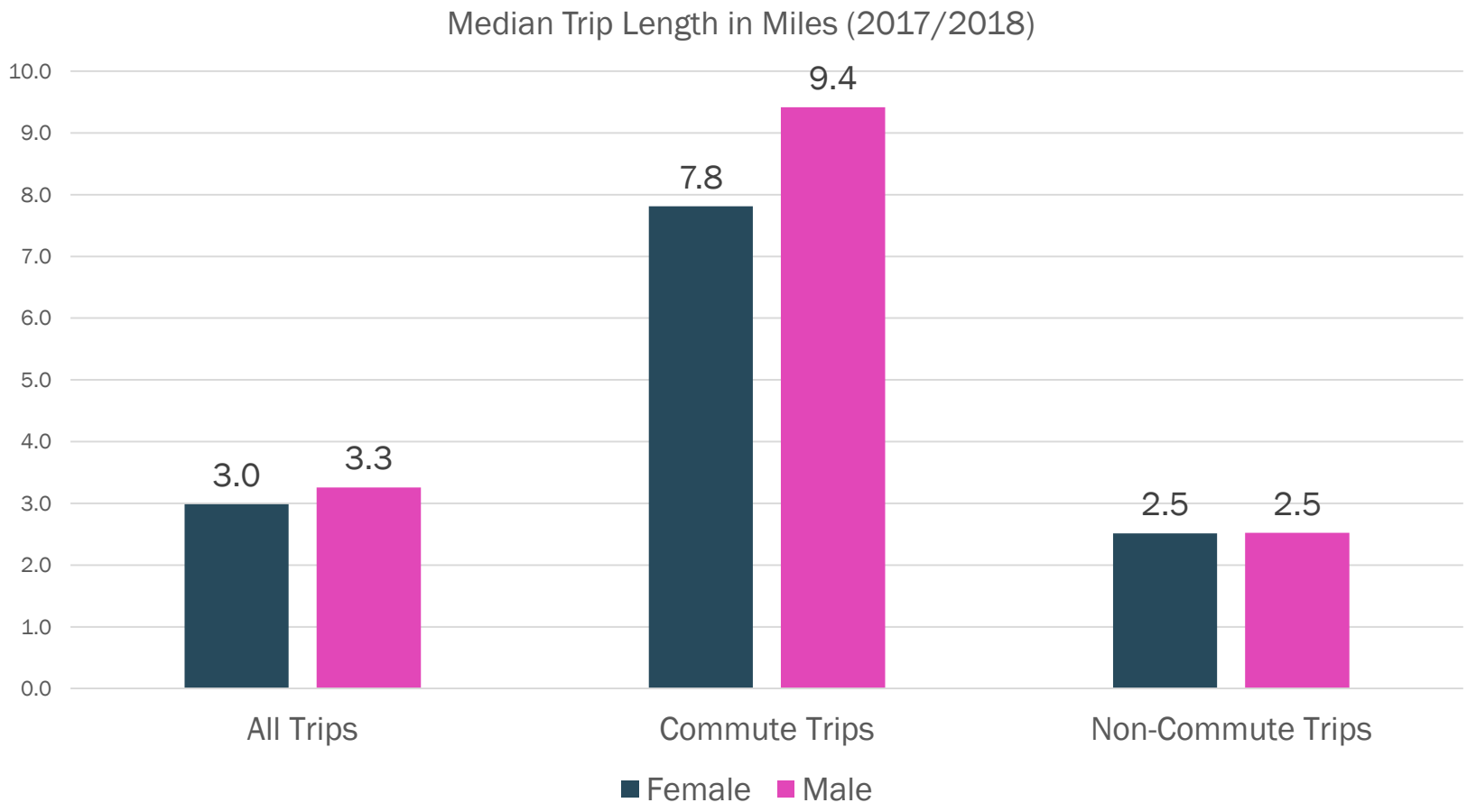
Trip Lengths Increase with Vehicle Availability



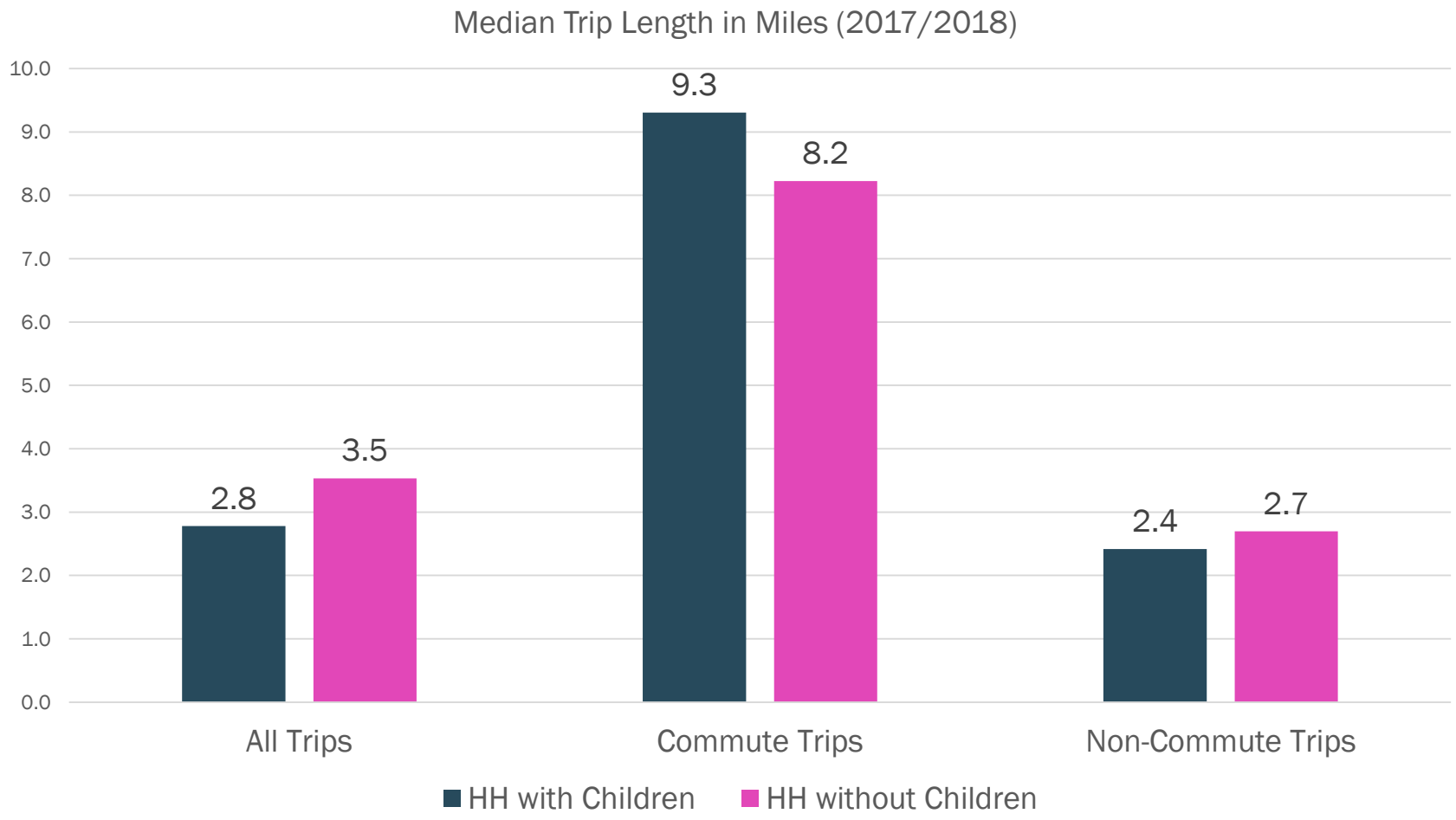
Life Stage Influences Trip Length



Trip Length Varies by Gender



Households with Children Travel Further to Work



Trip Length by Purpose – All Trips (2017/2018)

Purpose	25th Percentile	Median	75th Percentile	90th Percentile
Commute	2.3	6.9	14.2	23.9
Work-Related	1.4	4.1	10.5	21.8
Drop Off/Pick Up	1.0	2.9	7.1	14.9
School	1.1	2.8	6.9	14.6
Personal Business	0.9	2.4	5.8	10.9
Shop/Meal	0.6	2.1	4.9	10.7
Social/Recreation	0.9	2.0	4.8	9.7

Summary of Trip Length Distributions

- Larger trip lengths for HOV 2+ and rail transit trips
- Trip lengths increase from the core to the outer suburbs
- Higher income households have further commutes
- African Americans have further commutes than other race/ethnic groups
- Households with more vehicles take lengthier trips
- Persons who are male commute further to work
- Prime working age persons have the furthest commutes
- Households with children travel further to work

Looking Ahead: Next Steps

- Continue analysis of the RTS trip file
- Examine additional findings from the trip file focusing on recent transportation investments and modes (e.g., express lanes/toll roads, ride-hailing, bicycle/bikeshare)
- Prepare technical documentation and the public release version of the RTS data files

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