

2017-2018 REGIONAL TRAVEL SURVEY BRIEFING: INITIAL FINDINGS OF OBSERVED DAILY TRIPS

Kenneth Joh, Ph.D., AICP
TPB Transportation Planner

Transportation Planning Board
October 21, 2020



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



REGIONAL TRAVEL SURVEY



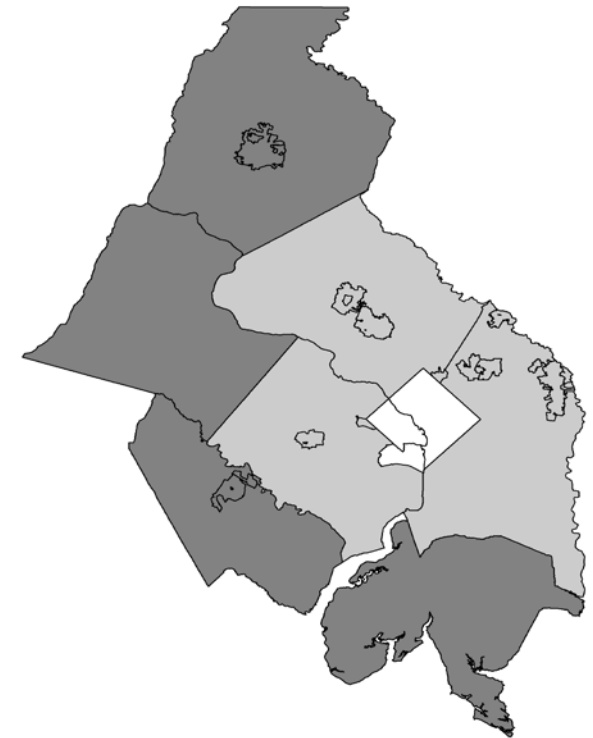
Planning Our Future Together

- No. of person trips made by households on a typical weekday
 - Size, location, no. of workers, income, race/ethnicity, vehicle availability, age, gender, presence of children
- Types of trips made by households on a typical weekday
 - Trip purpose, location of household
 - Jurisdictional distribution of commute/non-commute trips by mode

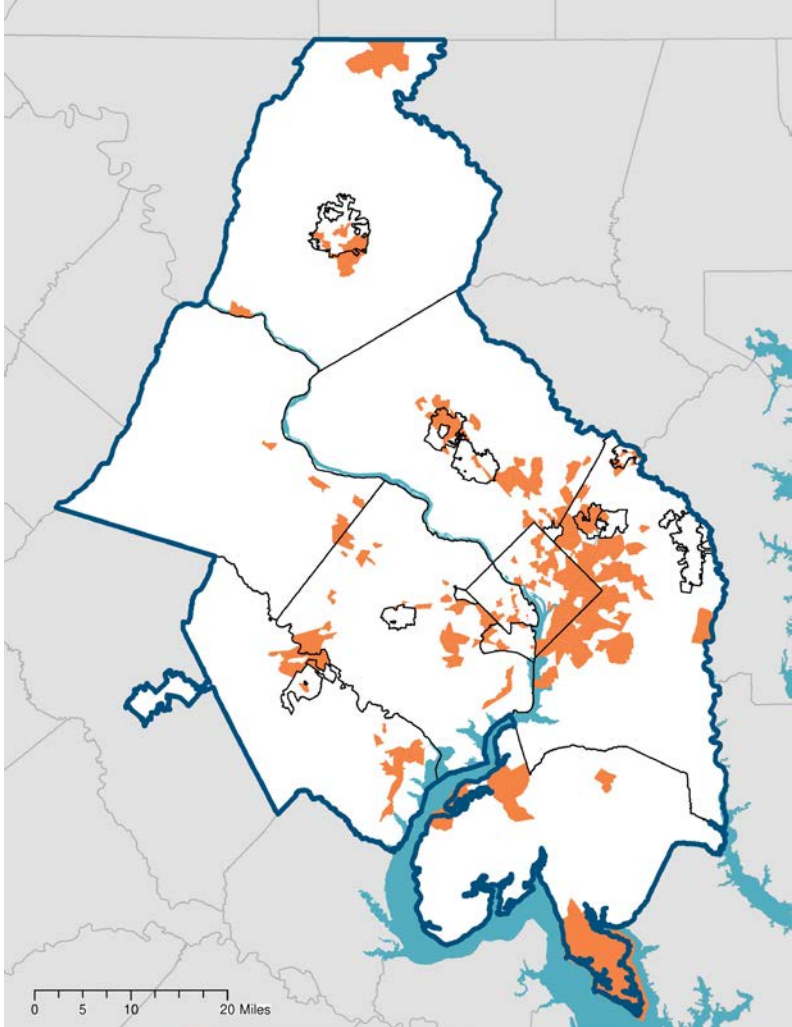
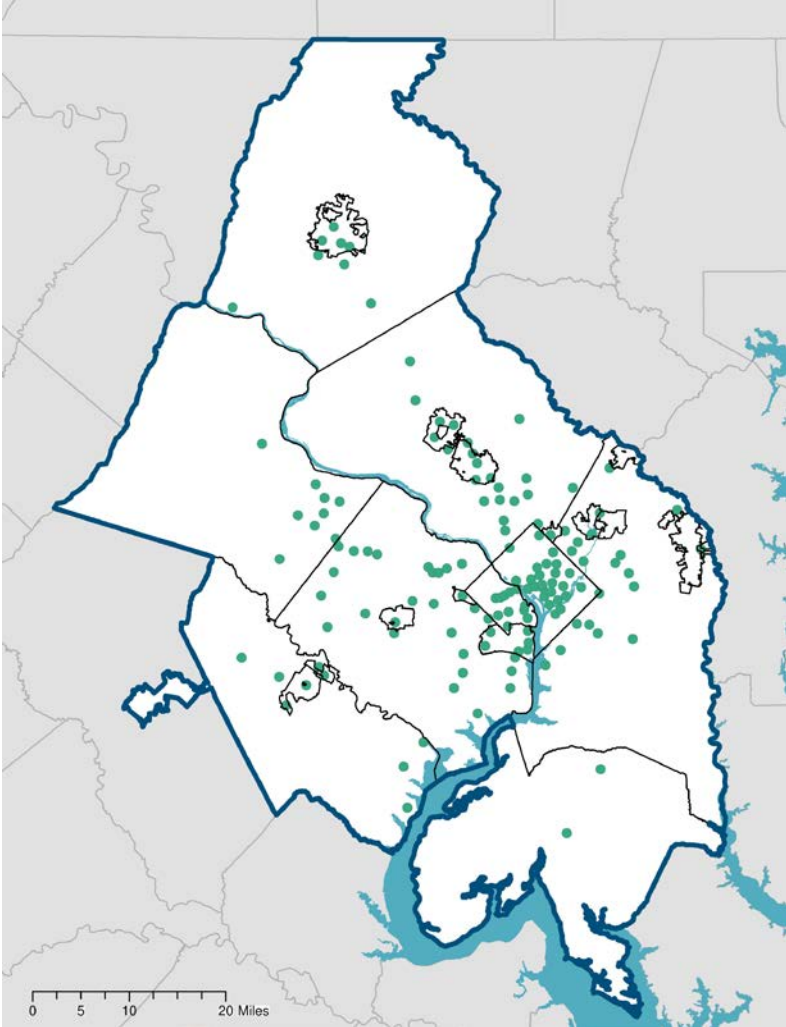


Sub-Regional Areas

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



Activity Centers and Equity Emphasis Areas



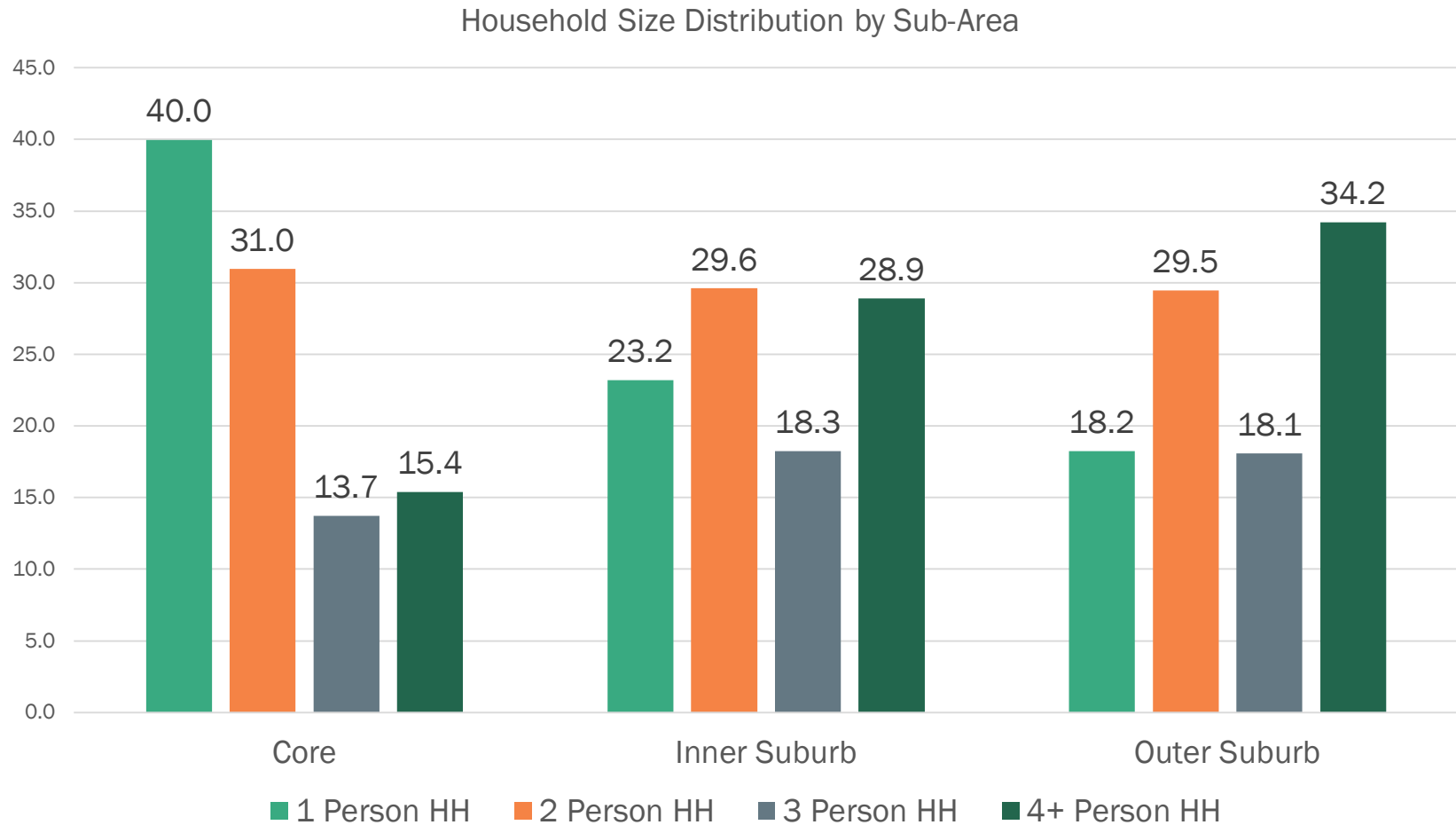
Households in the Region



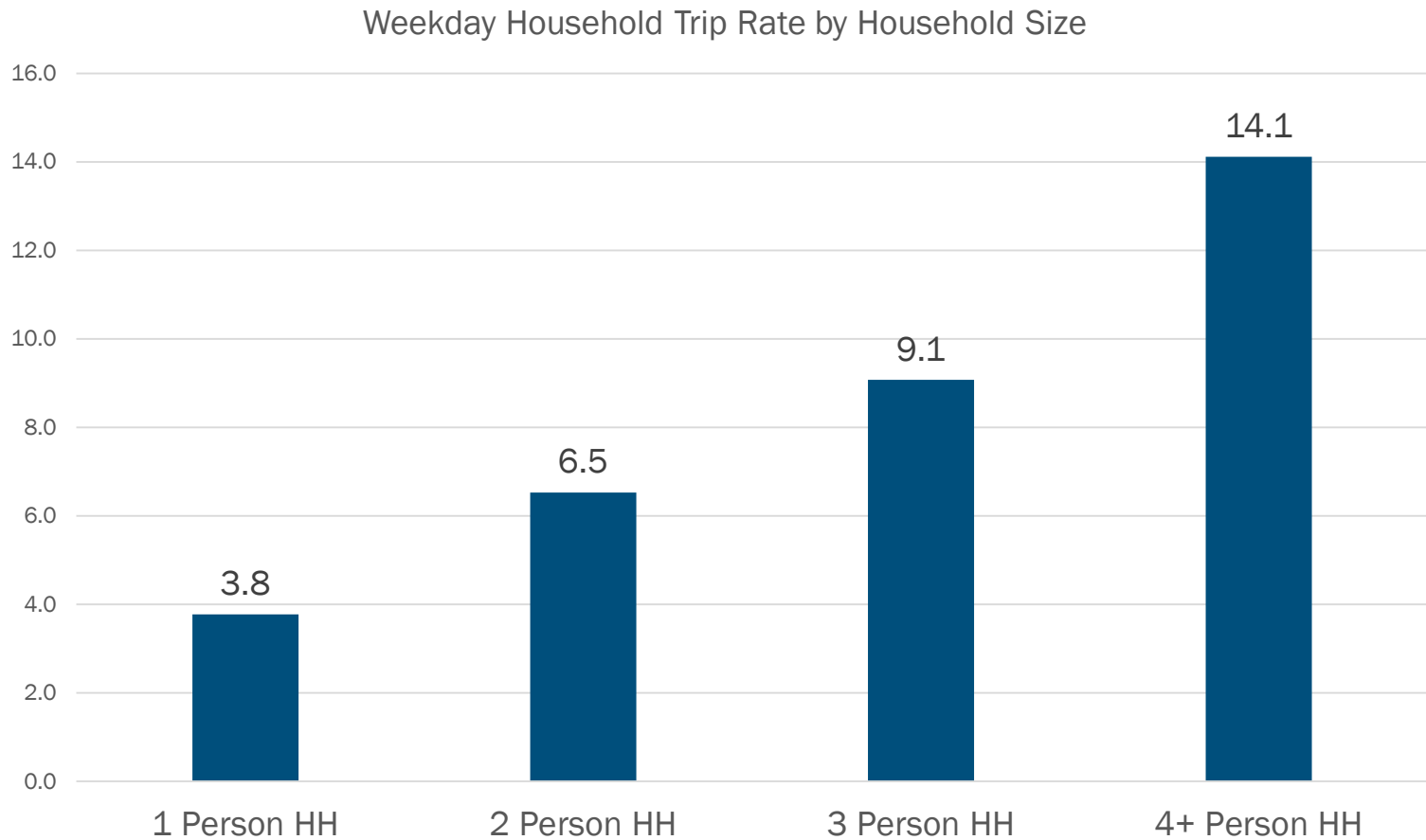
There are 2.1 million households in the TPB region



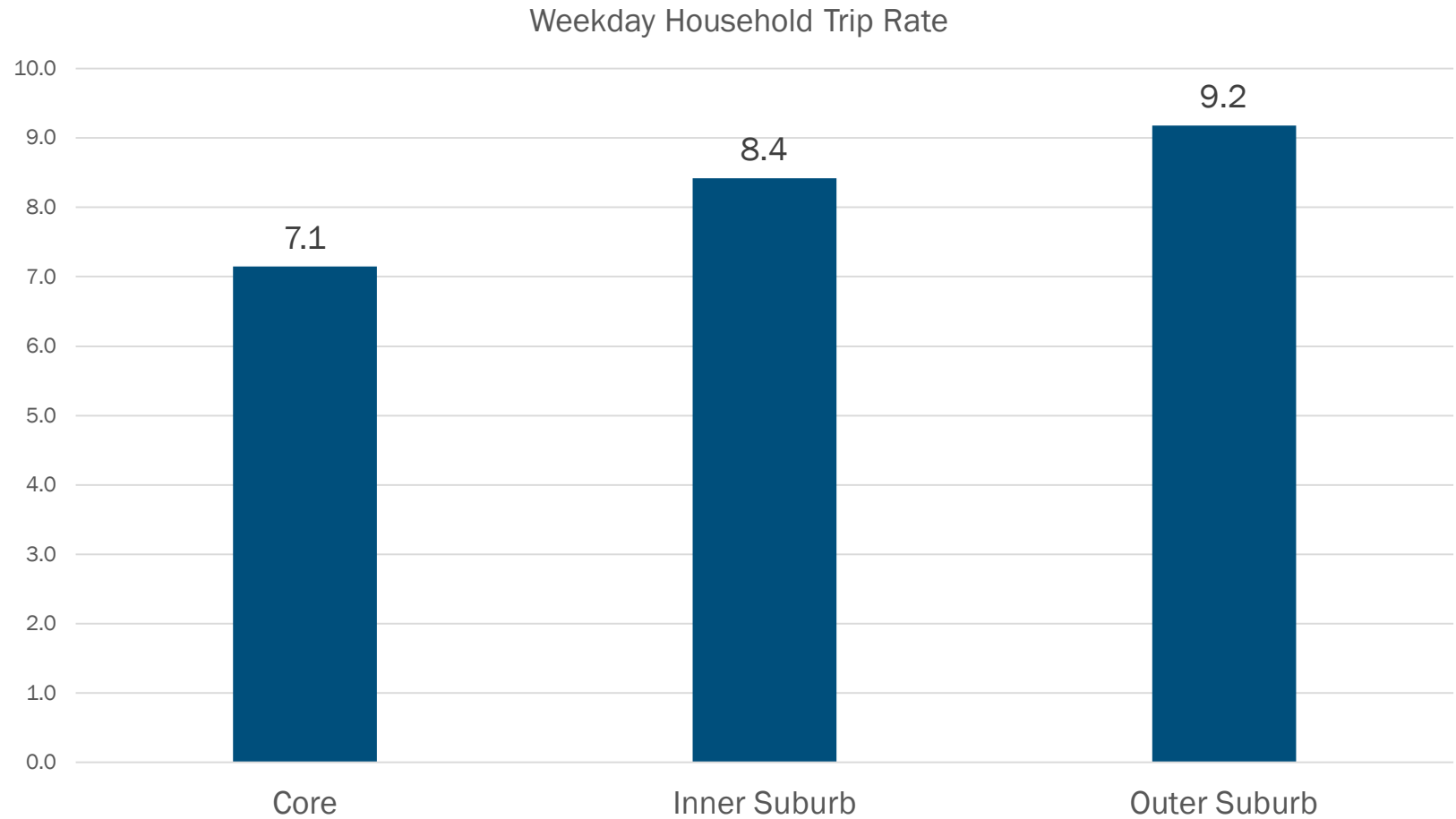
Households in the Core Are Smaller on Average



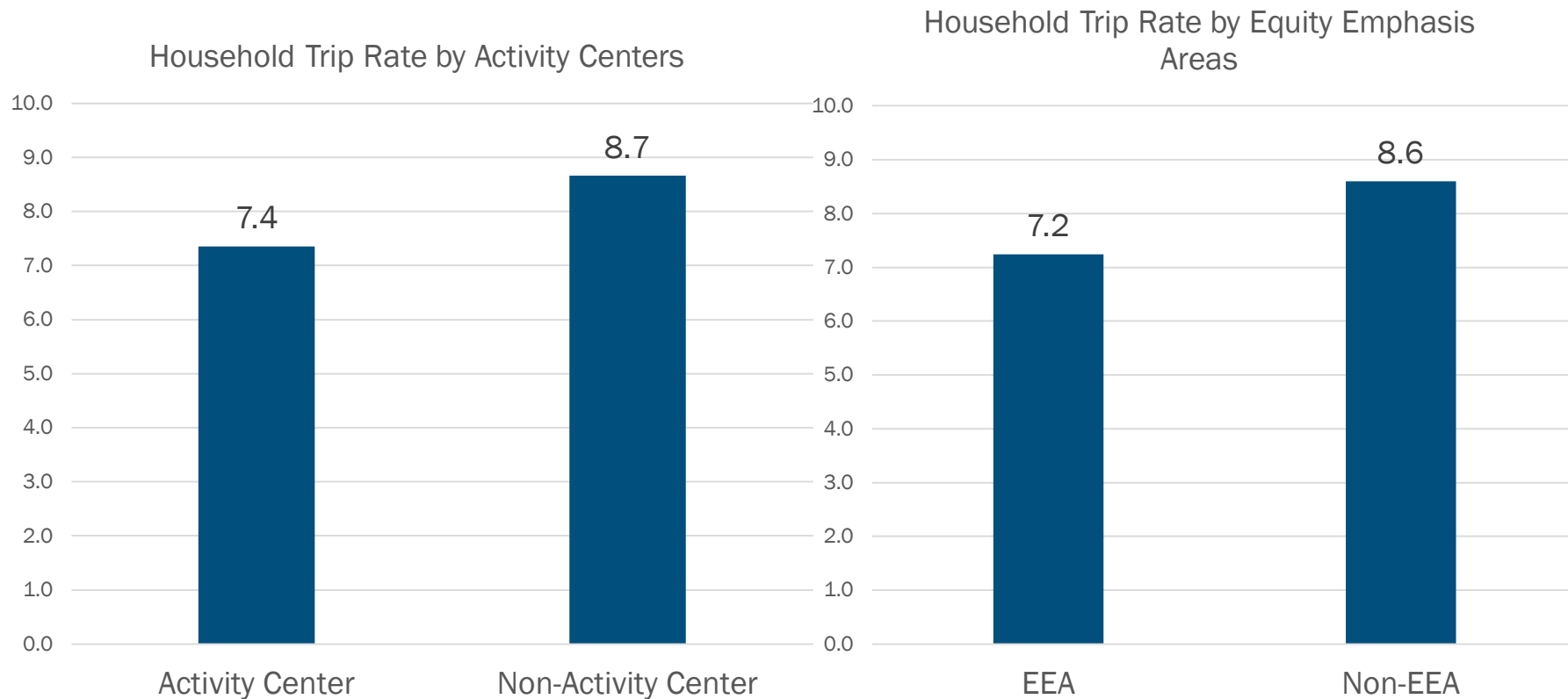
Household Trip Rates Increase with Household Size



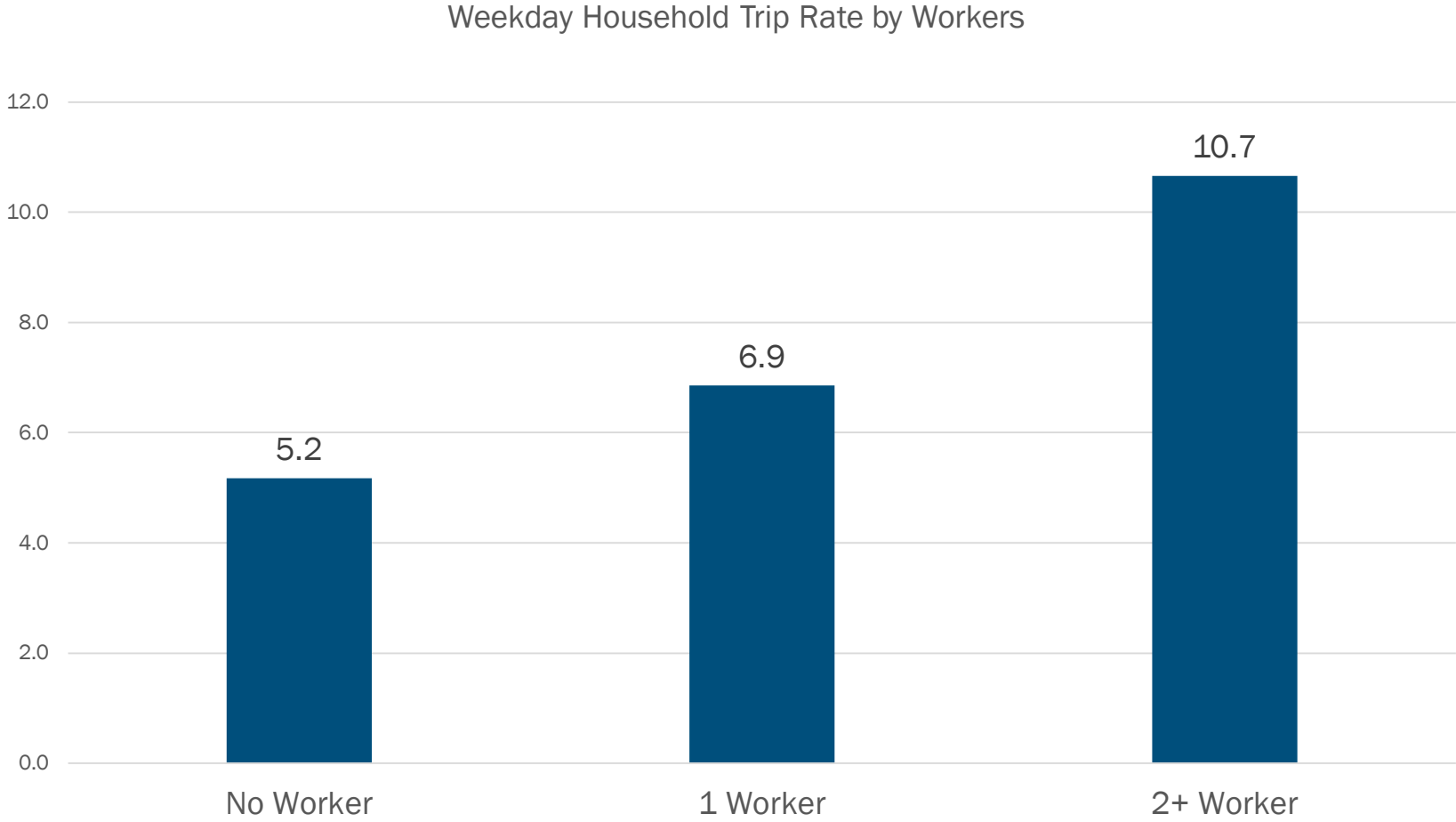
Household Trip Rate Increases from Core to Suburbs



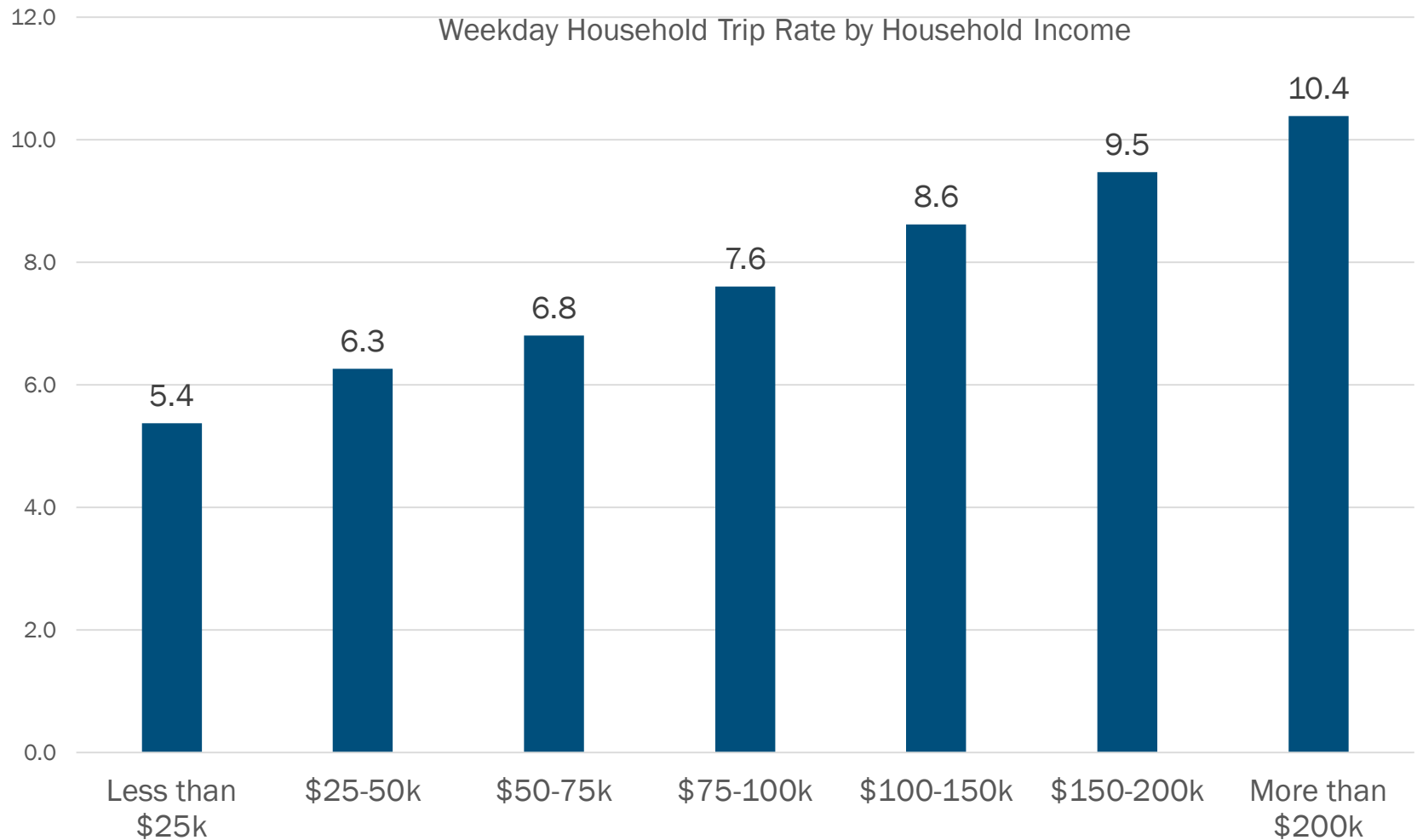
Lower Household Trip Rates in Activity Centers and Equity Emphasis Areas



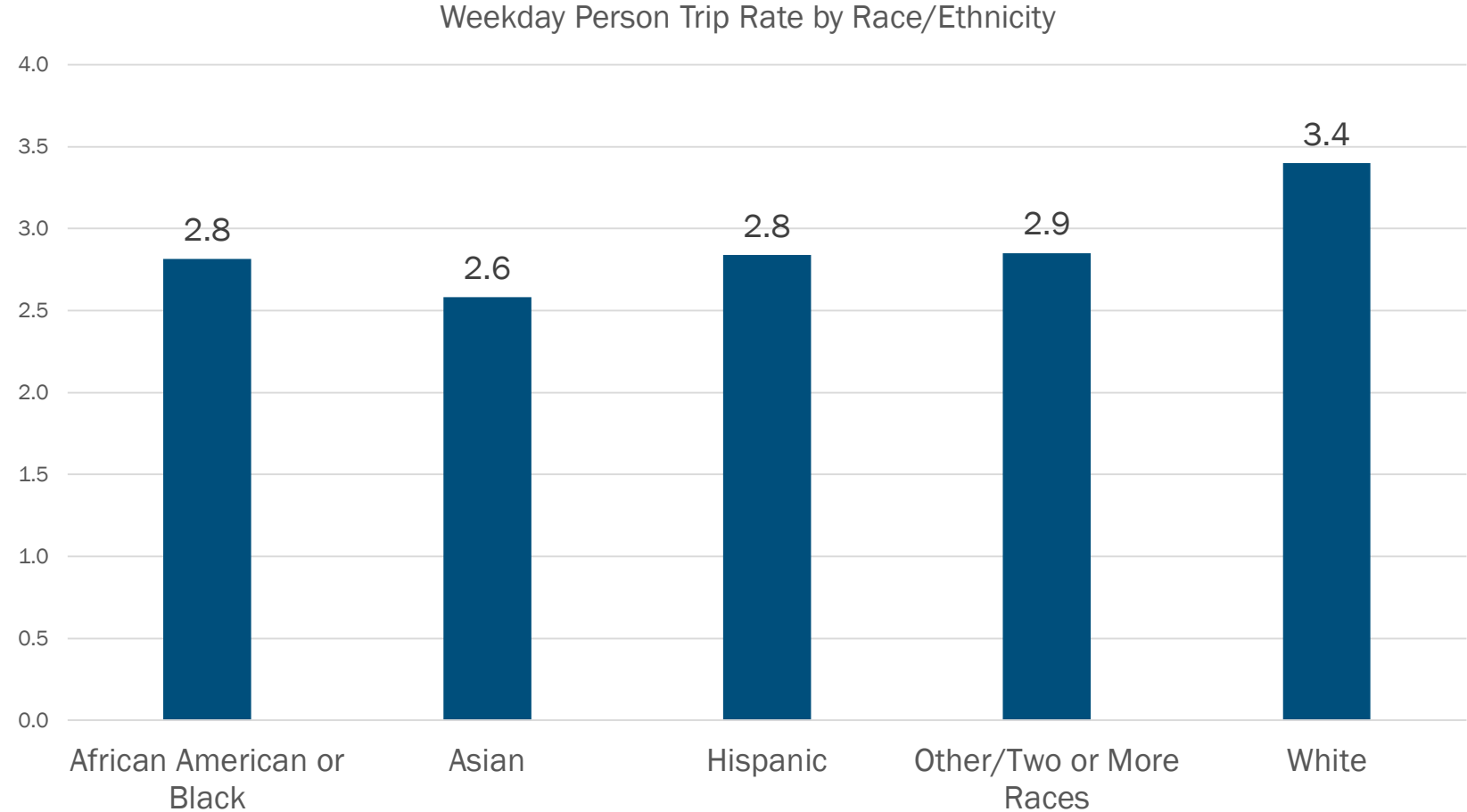
Household Trip Rate Increases with Number of Workers



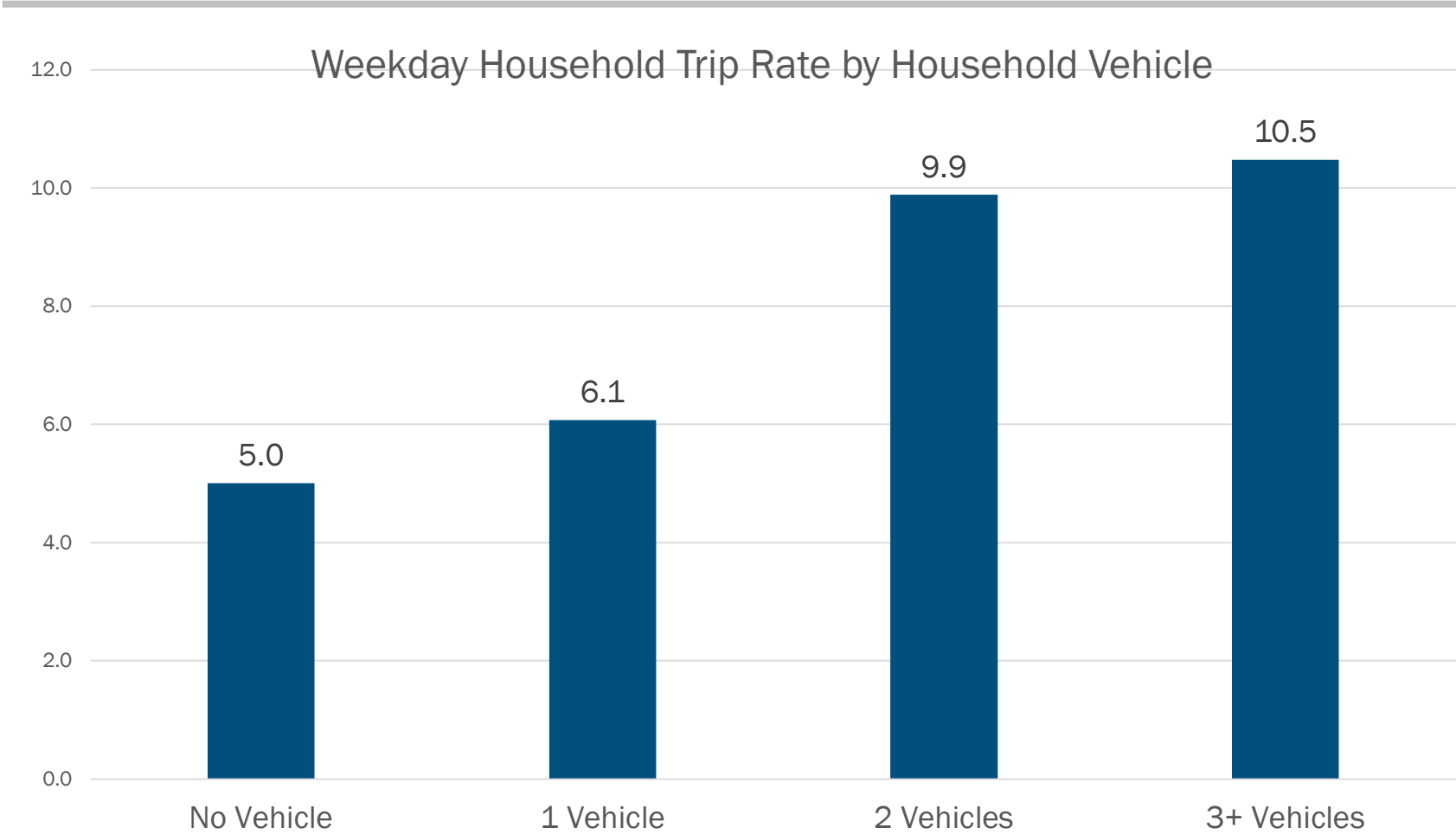
Household Trip Rate Increases with HH Income



Weekday Person Trip Rate Varies by Race/Ethnicity

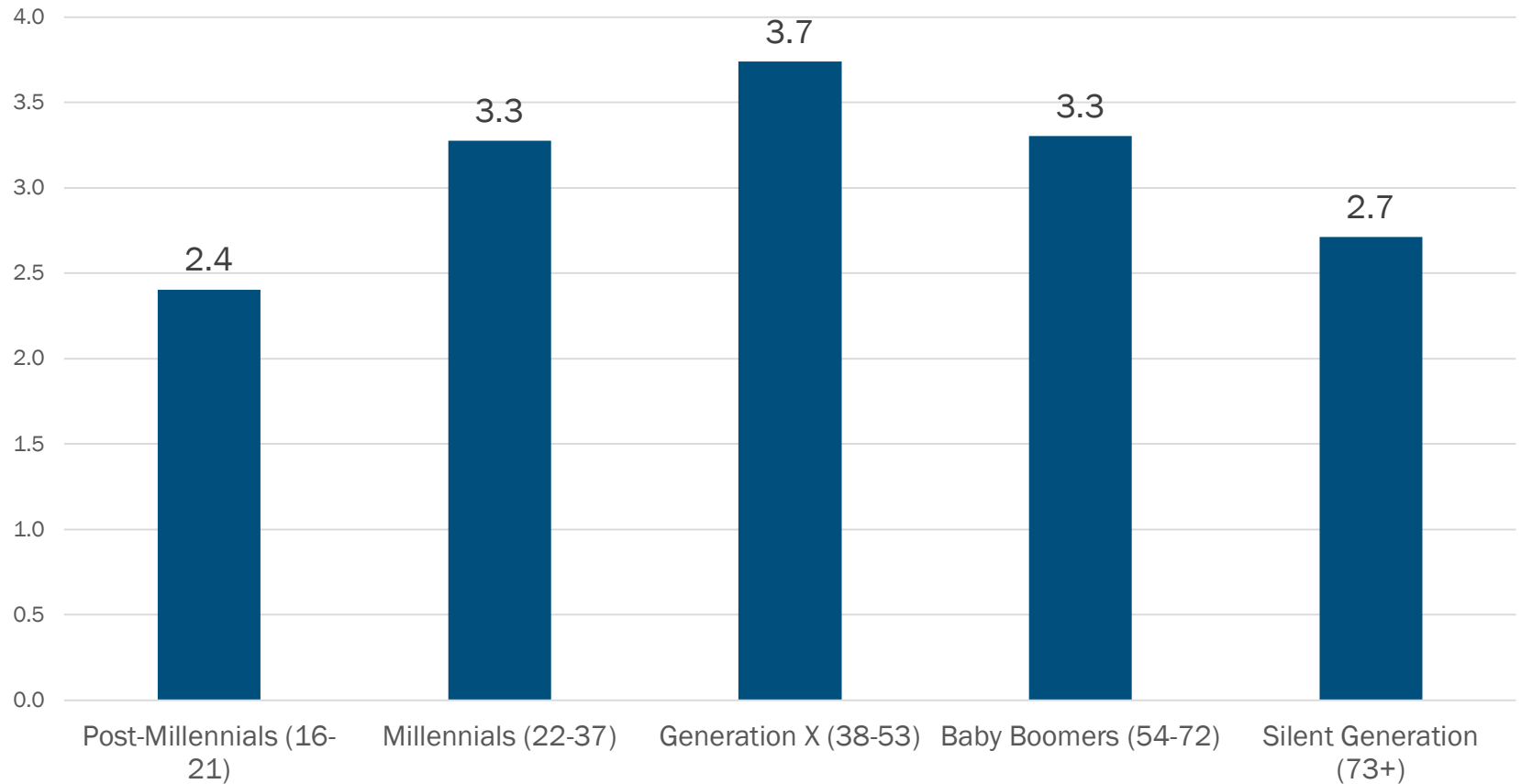


Household Trip Rate Increases with Vehicle Availability

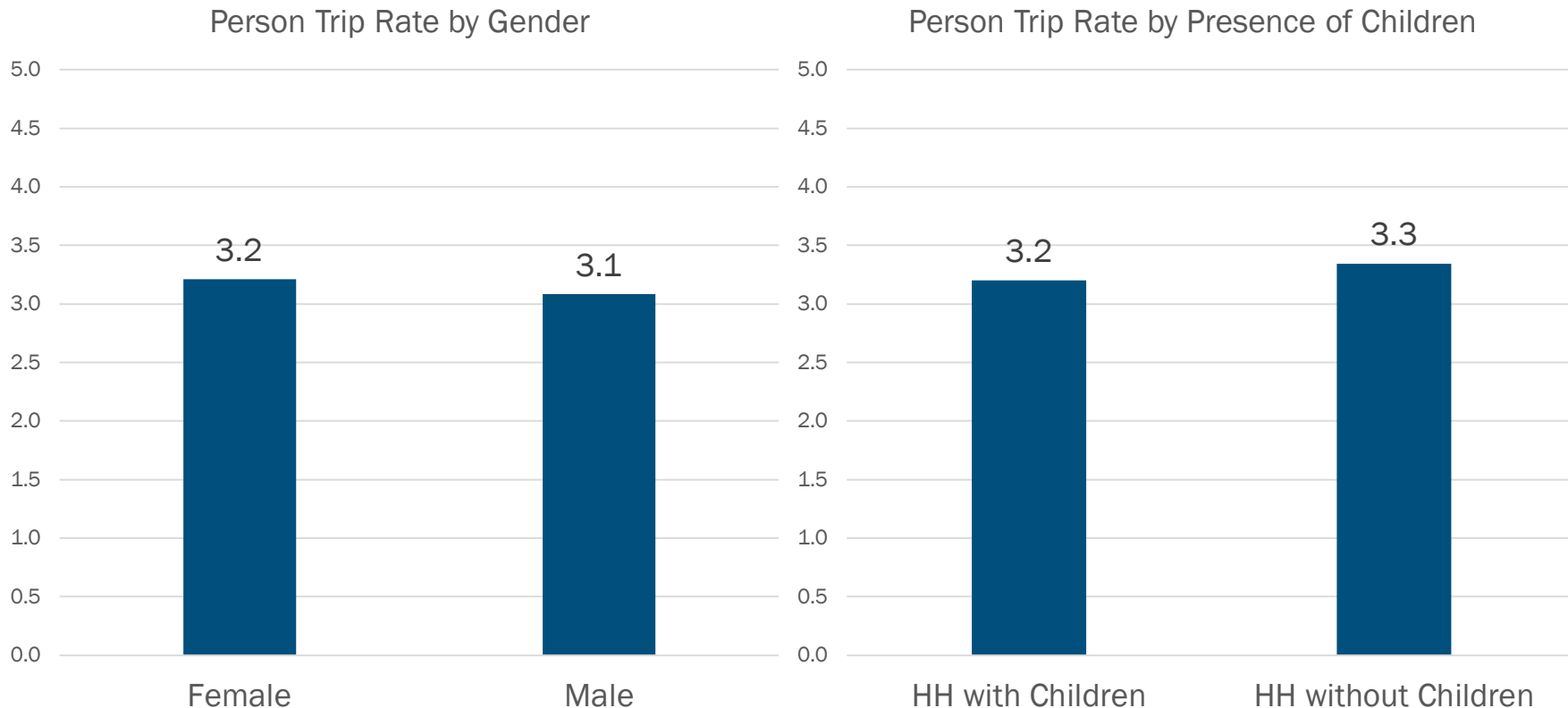


Life Stage Influences Weekday Person Trip Rate

Weekday Person Trip Rate by Age Group



Females and Persons in Households without Children Produce a Slightly Higher Trip Rate



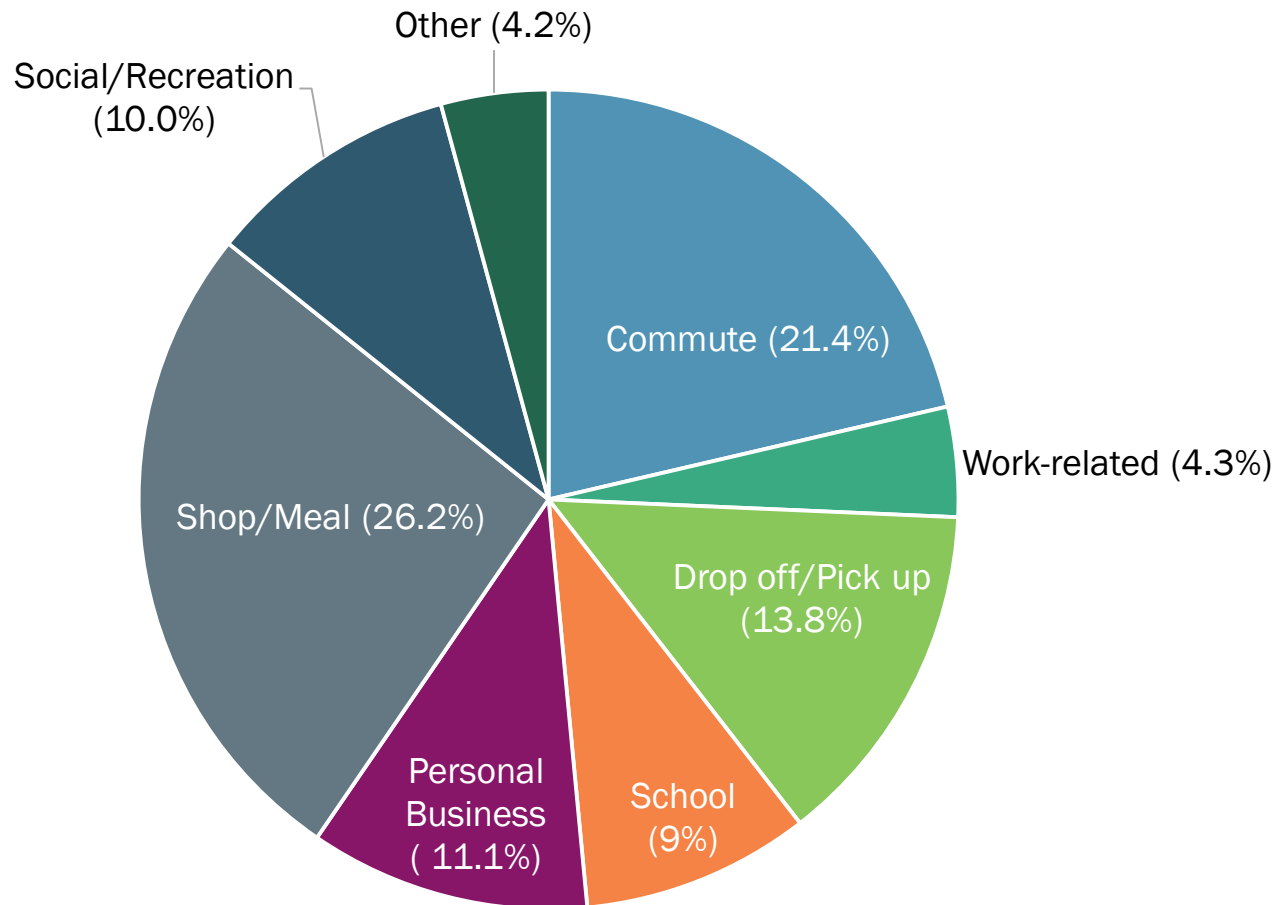
Summary of Weekday Person/Household Trip Rates

- Household trip rates increase from core to outer suburbs
- Household trip rates lower in equity emphasis areas and regional activity centers
- Trips per household increase with household income and size
- Non-Hispanic whites take more trips per person than other race/ethnic groups
- No vehicle households take fewer trips per household than households with vehicles
- Post-millennials take fewer trips per person than other age groups



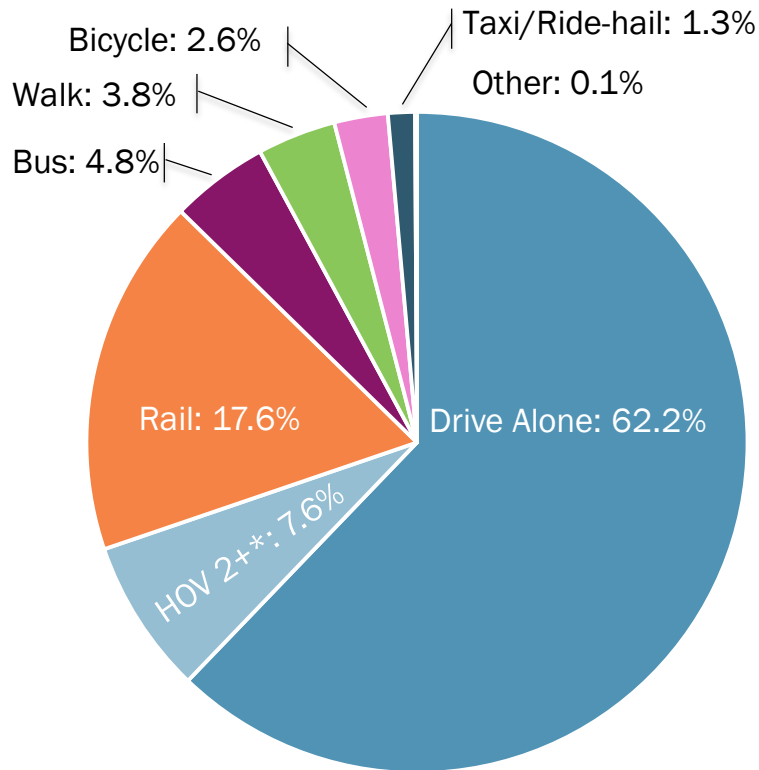
Daily Trip Share by Purpose (All Modes – TPB Region)

An estimated 17.1 million trips are made on a typical weekday in this region

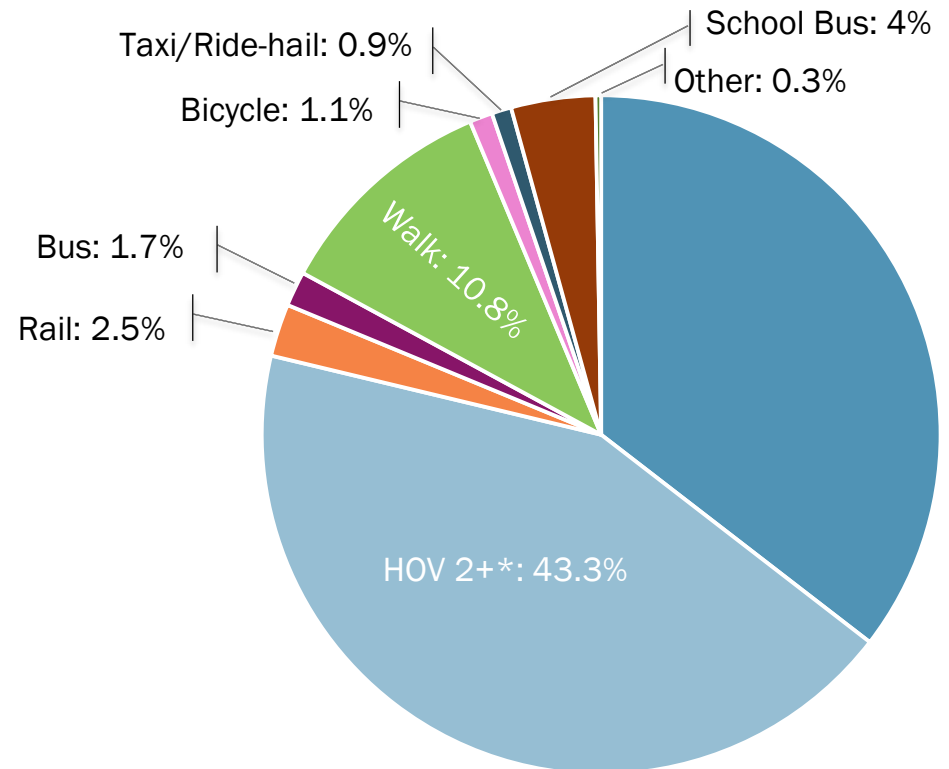


Mode Share of Weekday Trips (TPB Region)

Commute Trips



Non-Commute Trips



* Includes Drive Others and Auto Passenger Trips



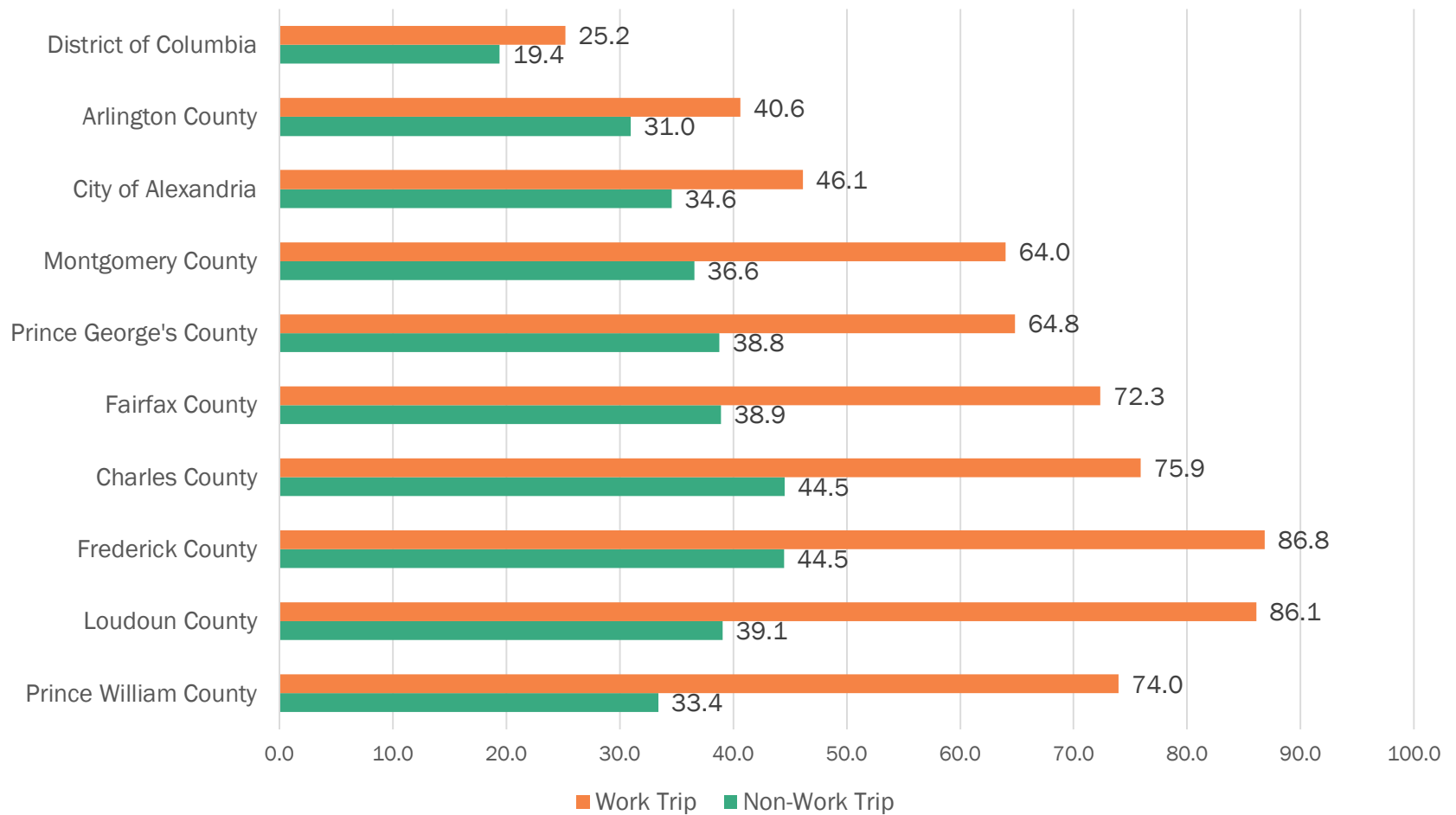
Mode Share of Commuter Trips by Sub-Area, Activity Center, and Equity Emphasis Area

Commuter Mode	Core	Inner Suburb	Outer Suburb	Not in Activity Centers	Activity Centers	Not in EEAs	EEAs
Drive Alone	31.9	67.4	80.3	67.8	49.1	65.0	52.3
Drive Others and Auto Passenger	4.2	7.6	11.0	8.3	6.0	7.4	8.3
Rail	31.7	17.0	4.4	14.7	24.2	16.8	20.2
Bus	9.8	3.4	3.2	4.1	6.4	3.8	8.2
Walk	11.2	2.2	0.5	0.9	2.3	3.4	5.3
Bicycle	7.6	1.4	0.4	2.2	7.8	2.5	3.1
Taxi/Ride-Hail	3.4	0.9	0.1	2.0	4.1	0.9	2.7
Other	0.1	0.1	0.1	0.1	0.0	0.0	0.0

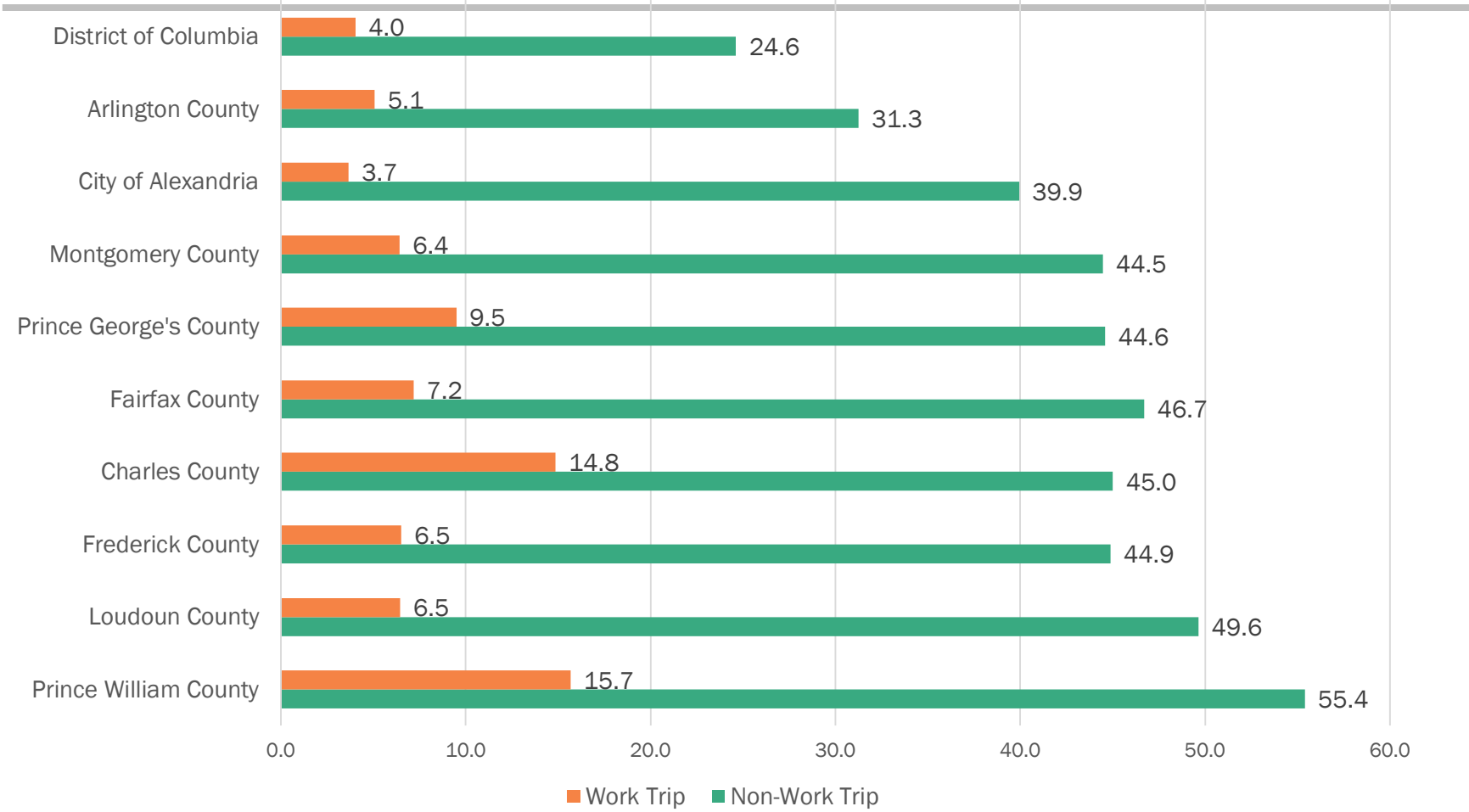
Mode Share of Non-Commute Trips by Sub-Area, Activity Center, and Equity Emphasis Area

Non-Commute Mode	Core	Inner Suburb	Outer Suburb	Not in Activity Centers	Activity Centers	Not in EEAs	EEAs
Drive Alone	24.6	38.0	38.5	36.9	31.1	36.6	31.1
Drive Others and Auto Passenger	28.6	45.3	50.5	45.6	36.2	44.2	39.4
Rail	6.5	1.8	0.7	2.0	4.1	2.1	4.2
Bus	4.3	1.3	0.3	1.4	2.4	0.9	4.9
Walk	28.3	7.4	4.1	8.0	19.3	10.0	13.9
Bicycle	2.9	0.8	0.2	0.9	1.6	1.0	1.5
School Bus	1.4	4.4	5.4	4.3	3.2	4.2	3.4
Taxi/Ride-Hail	2.9	0.6	0.2	0.7	1.7	0.8	1.4
Other	0.5	0.2	0.1	0.2	0.4	0.3	0.2

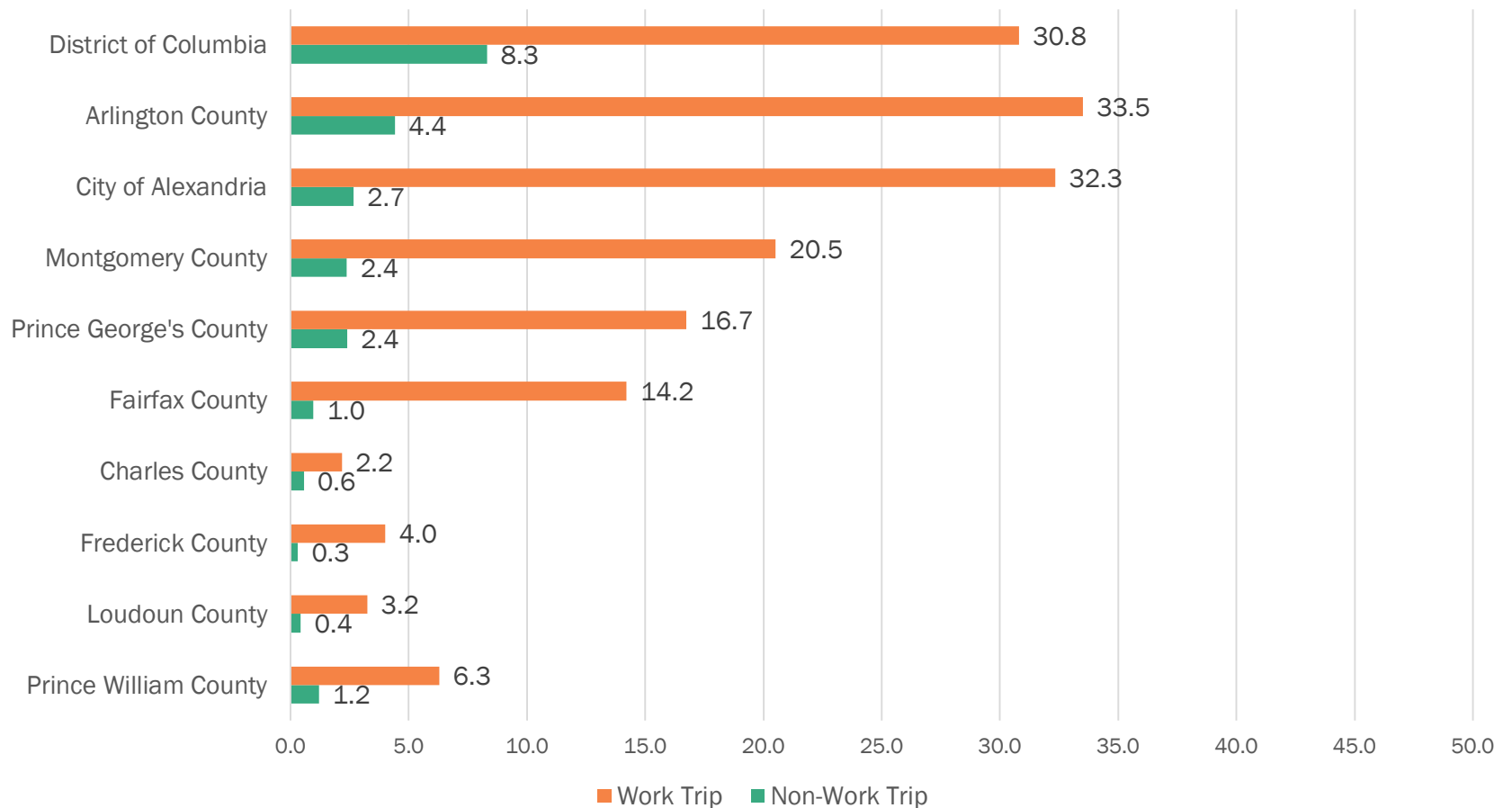
Mode Share of Weekday Trips – Drive Alone



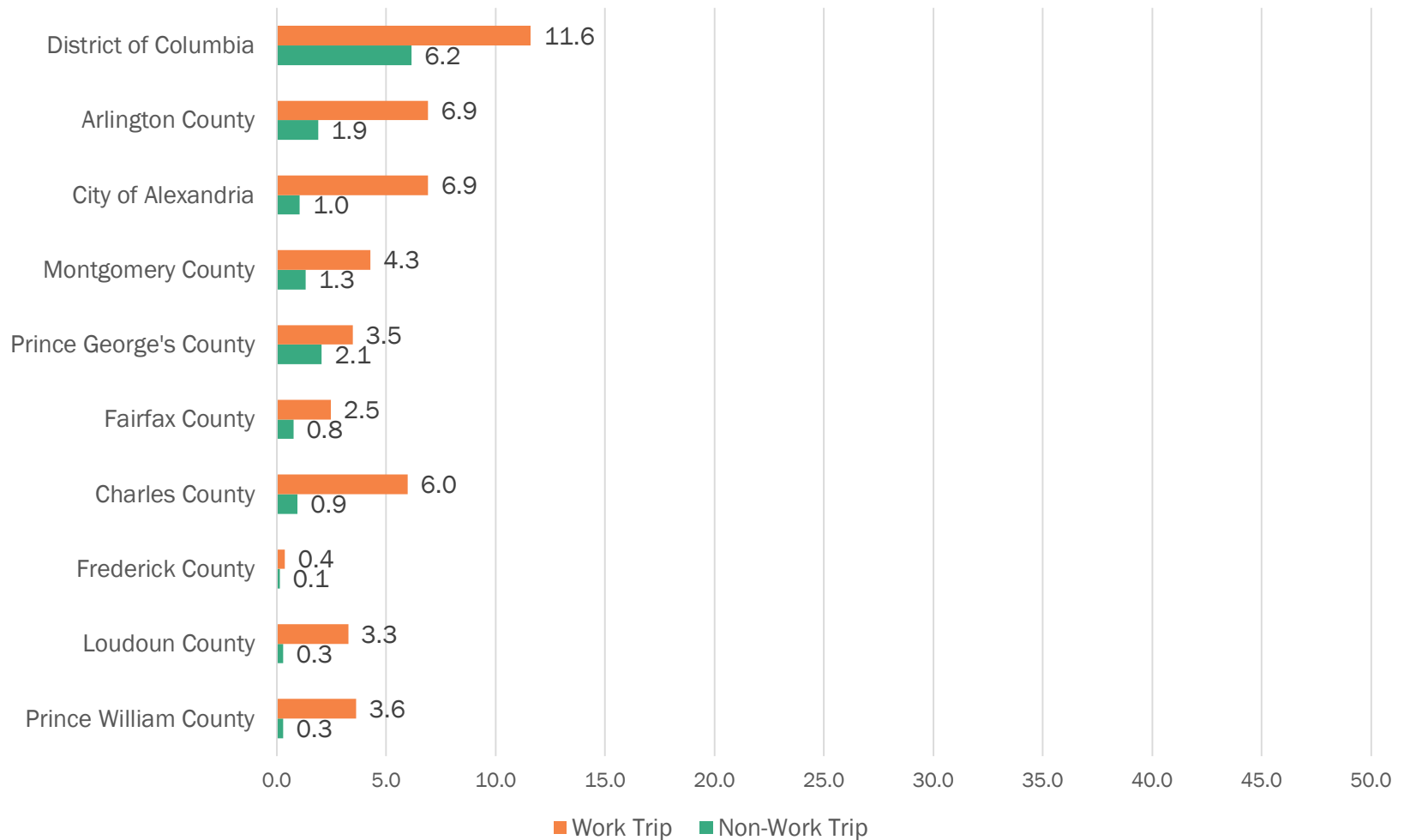
Mode Share of Weekday Trips – Drive Others and Auto Passenger



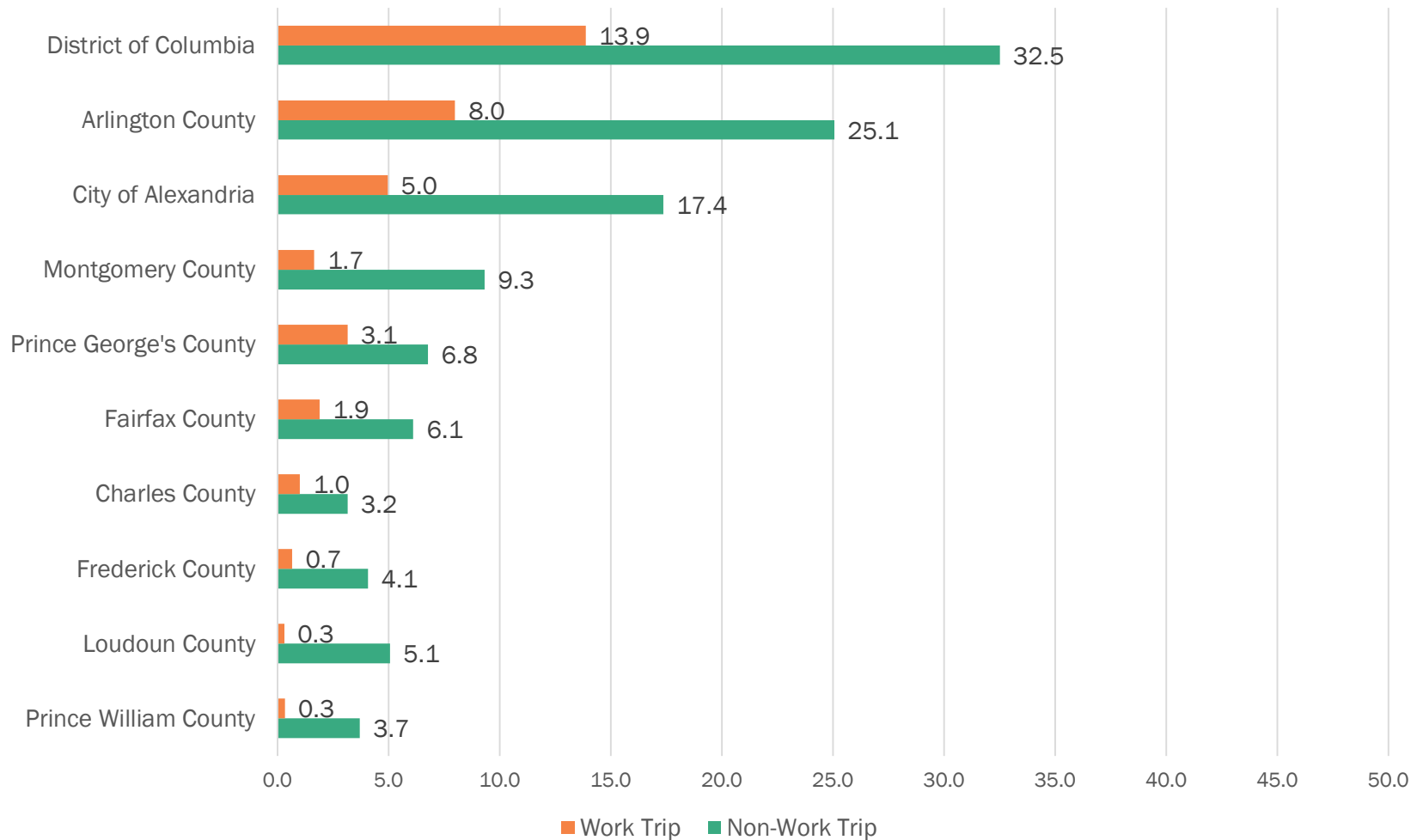
Mode Share of Weekday Trips – Rail



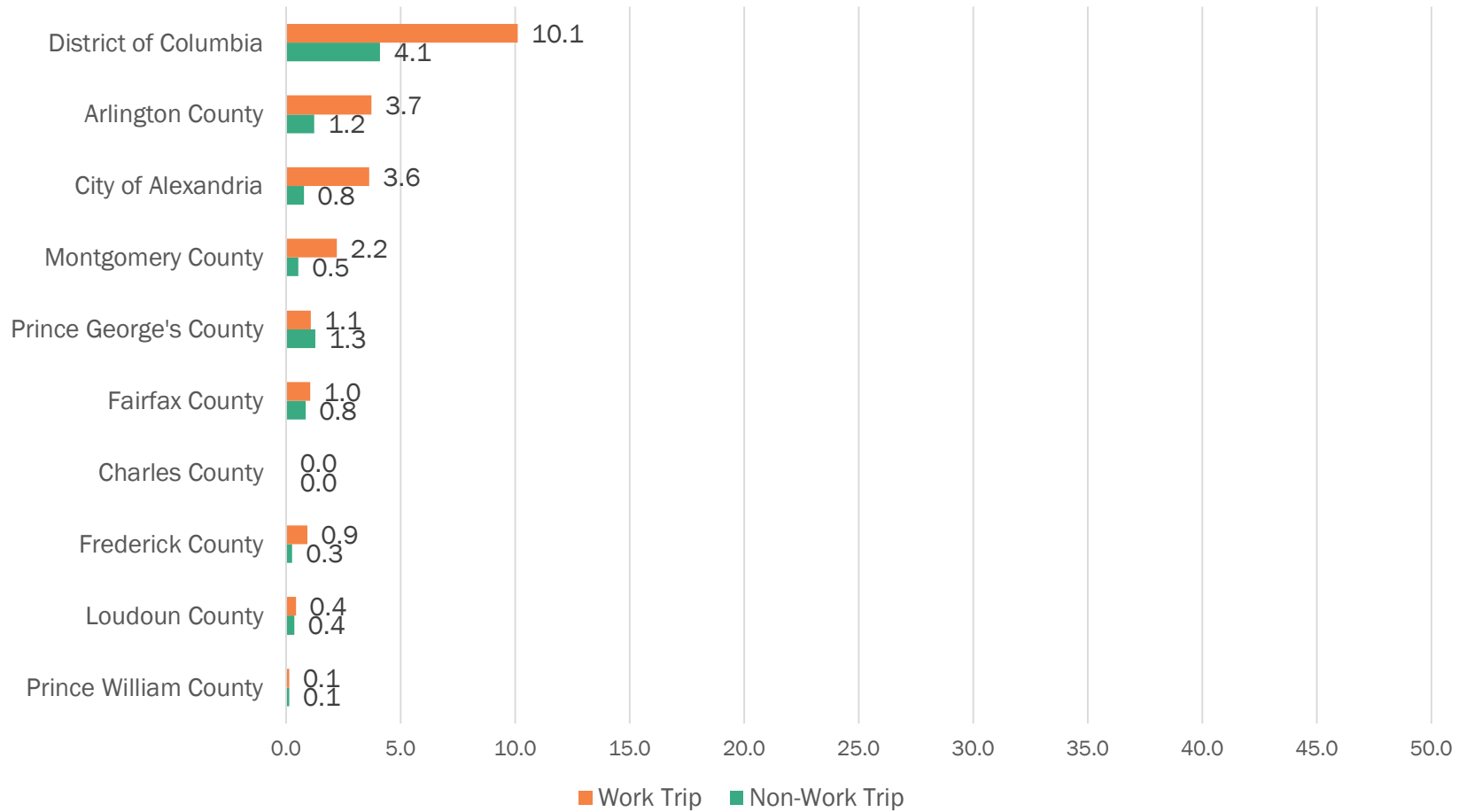
Mode Share of Weekday Trips – Bus



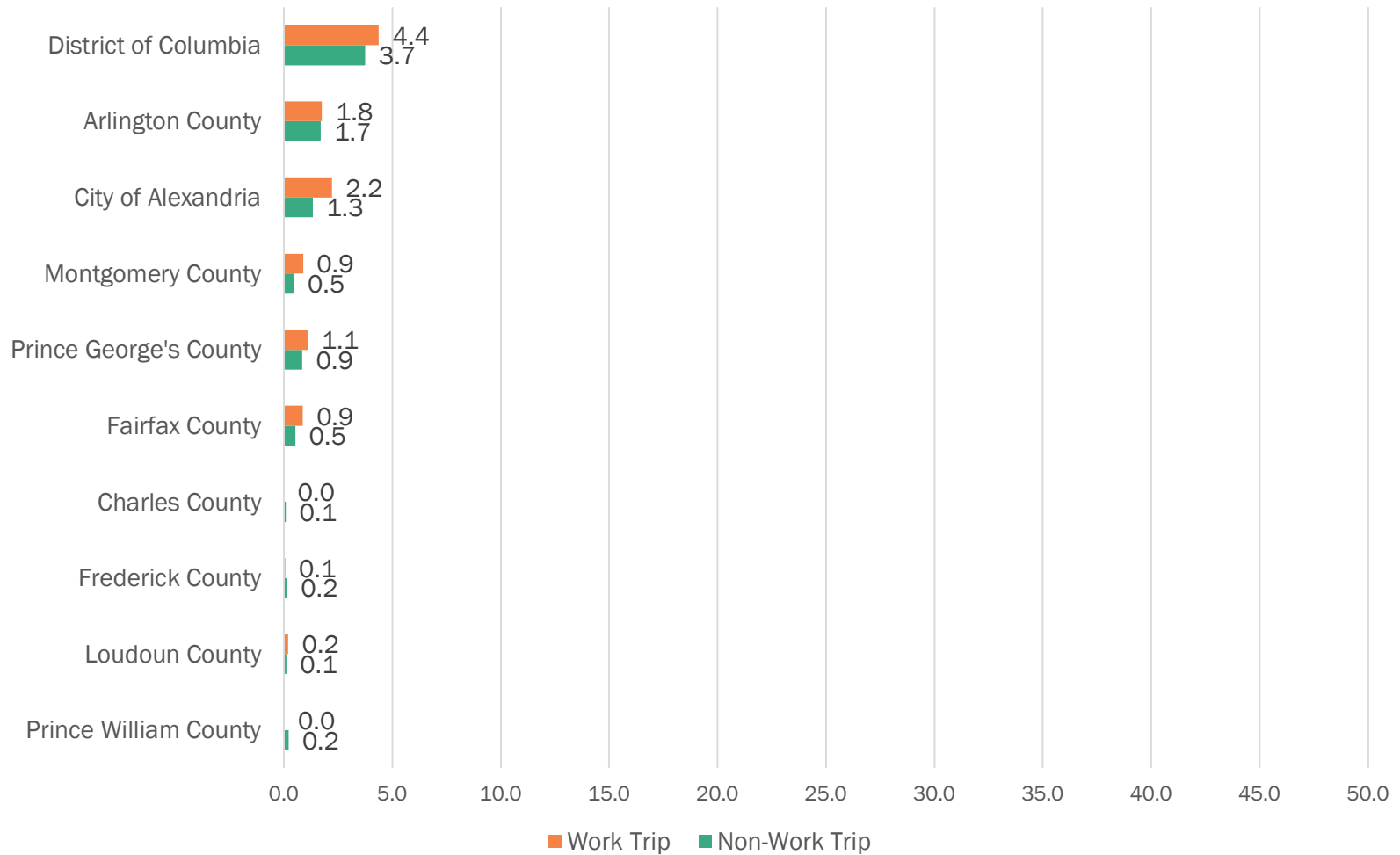
Mode Share of Weekday Trips – Walk



Mode Share of Weekday Trips – Bicycle



Mode Share of Weekday Trips – Taxi/Ride-Hail



Summary of Mode Share of Weekday Trips

- Highest share of bus, rail, walk/bike, and taxi/ride-hail in the core, largest share of auto trips in the outer suburbs
- Higher share of bus, rail, walk/bike, and taxi/ride-hail in activity centers and equity emphasis areas
- More drive alone and bus/rail trips for work trips; more walk trips for non-work trips
- More than one-third of commute trips in the TPB region are non-SOV (single occupancy vehicle) trips
- Nearly one-quarter of commute trips are bus and rail trips
- Nearly one-fifth of work trips in the core are by walk/bike



Looking Ahead: Next Steps

- Continue analysis of the RTS trip file
- Examine changes in observed travel between 2007/2008 and 2017/2018 for the TPB region
- Prepare technical documentation and the public release version of the RTS data files



Kenneth Joh, Ph.D., AICP

Senior Statistical Survey Analyst
Department of Transportation Planning
202.962.3276
kjoh@mwkog.org

mwkog.org/tpb

Metropolitan Washington Council of Governments
777 North Capitol Street NE, Suite 300
Washington, DC 20002



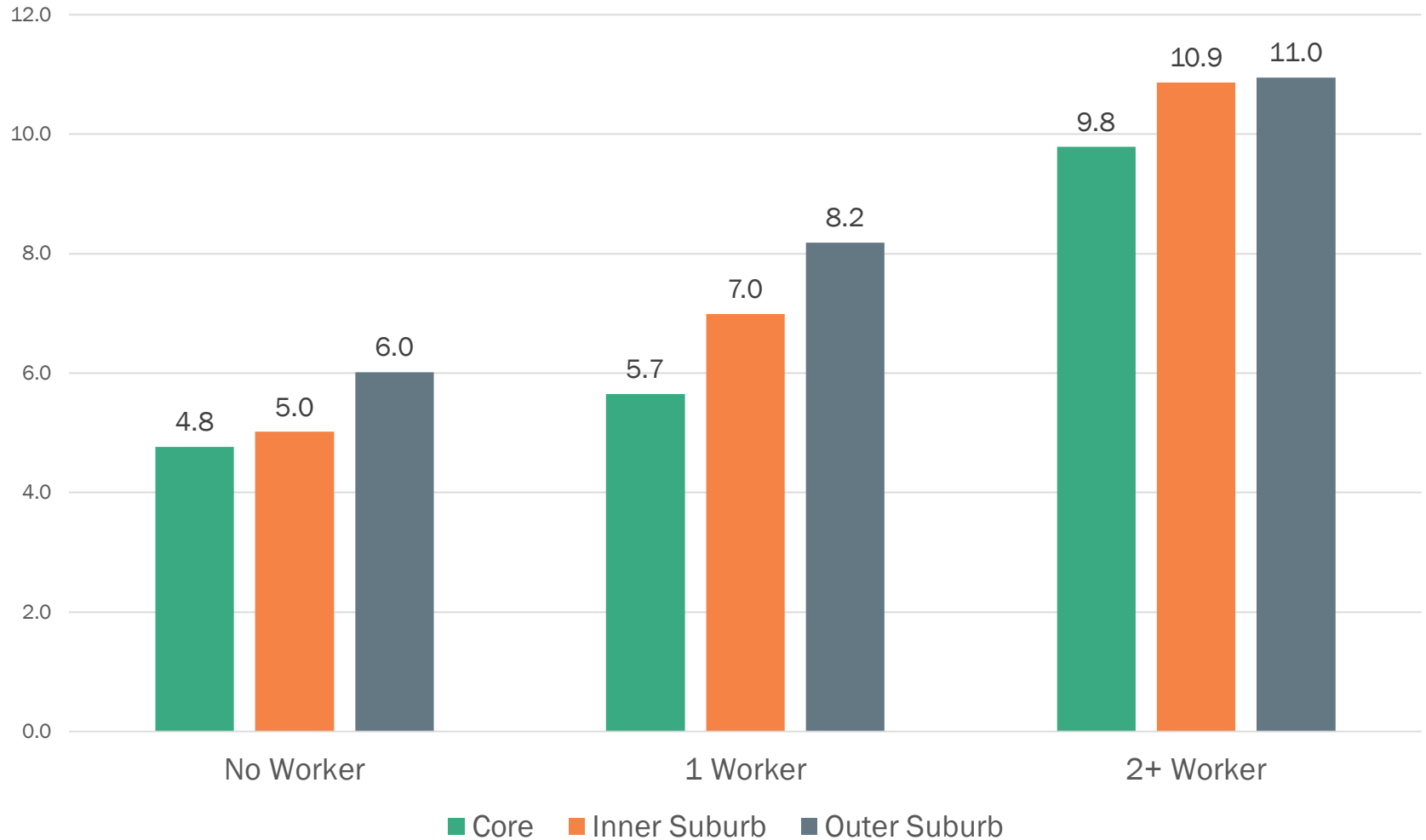
National Capital Region
Transportation Planning Board

REGIONAL
TRAVEL SURVEY



Planning Our Future Together

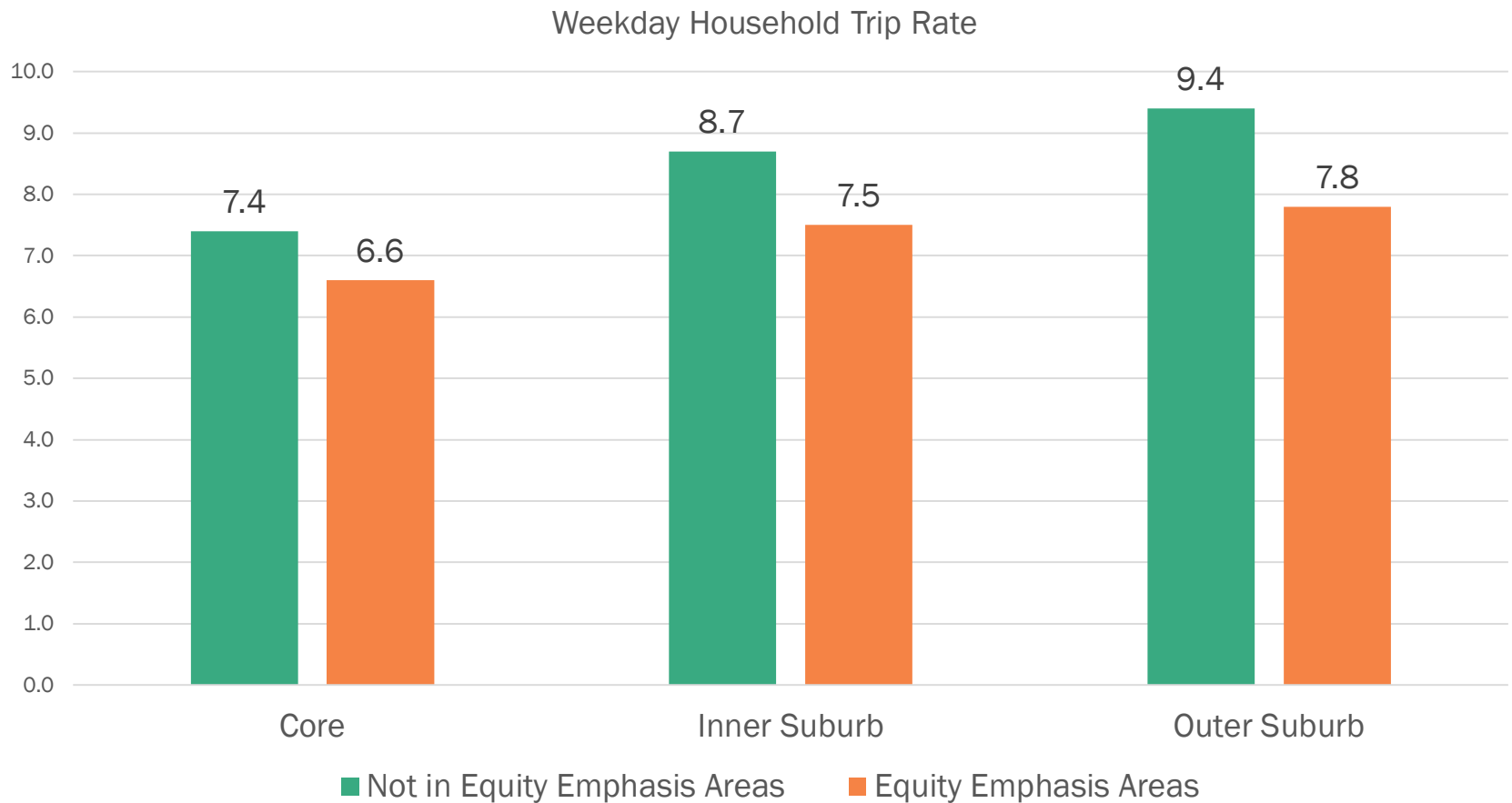
Weekday Household Trip Rate by Workers



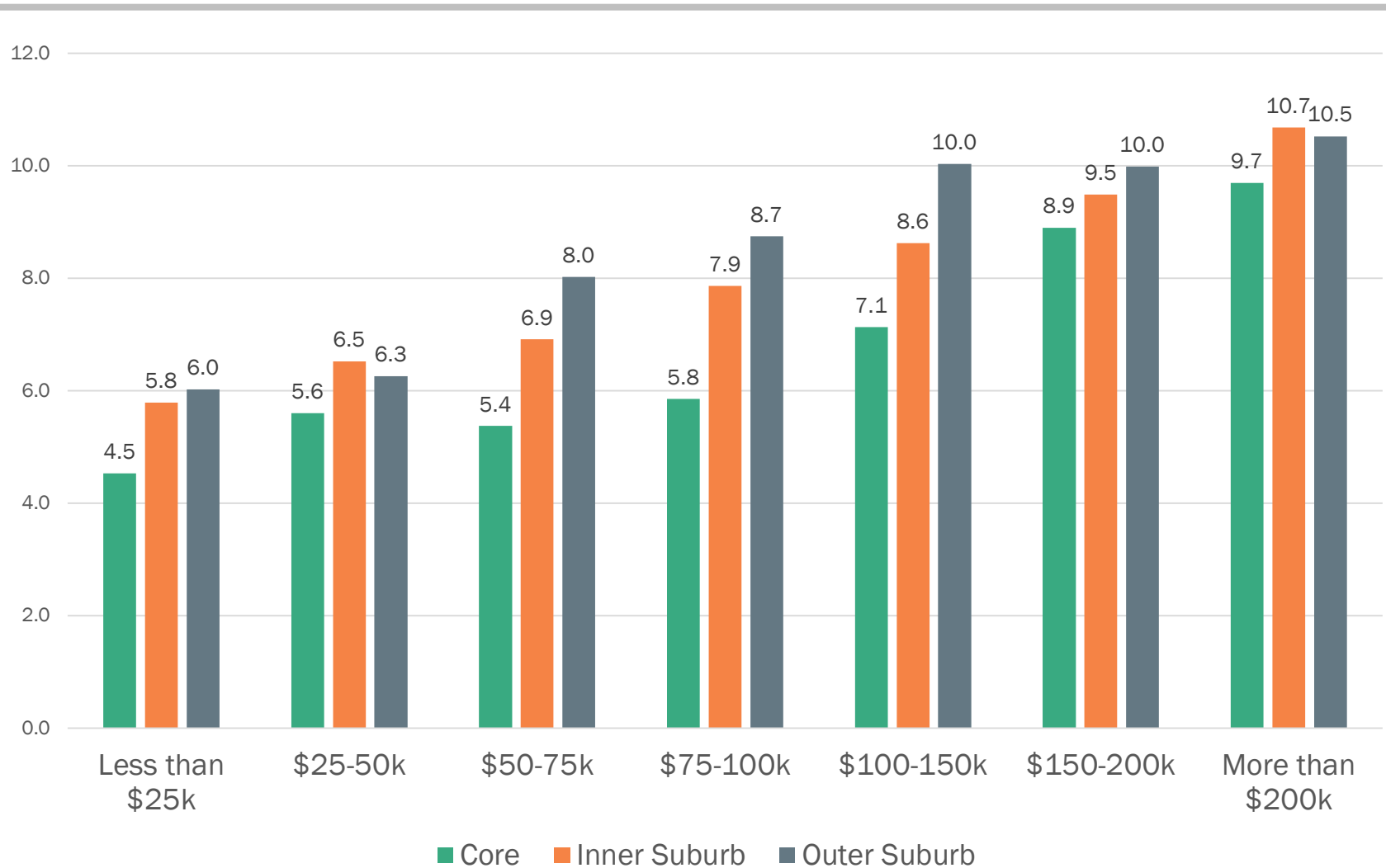
Households in Activity Centers Produce Lower Trip Rates



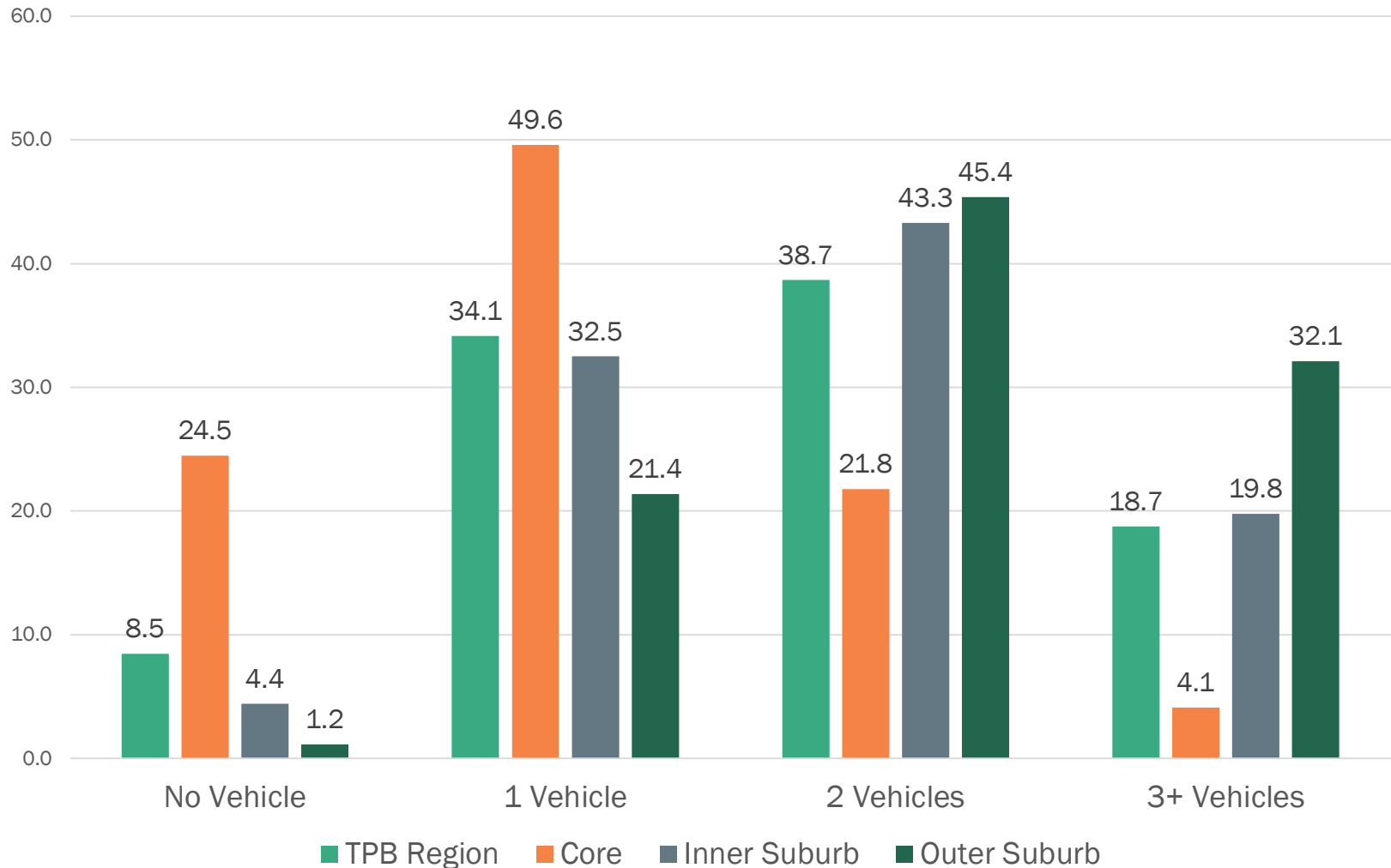
Households in Equity Emphasis Areas Produce Lower Trip Rates



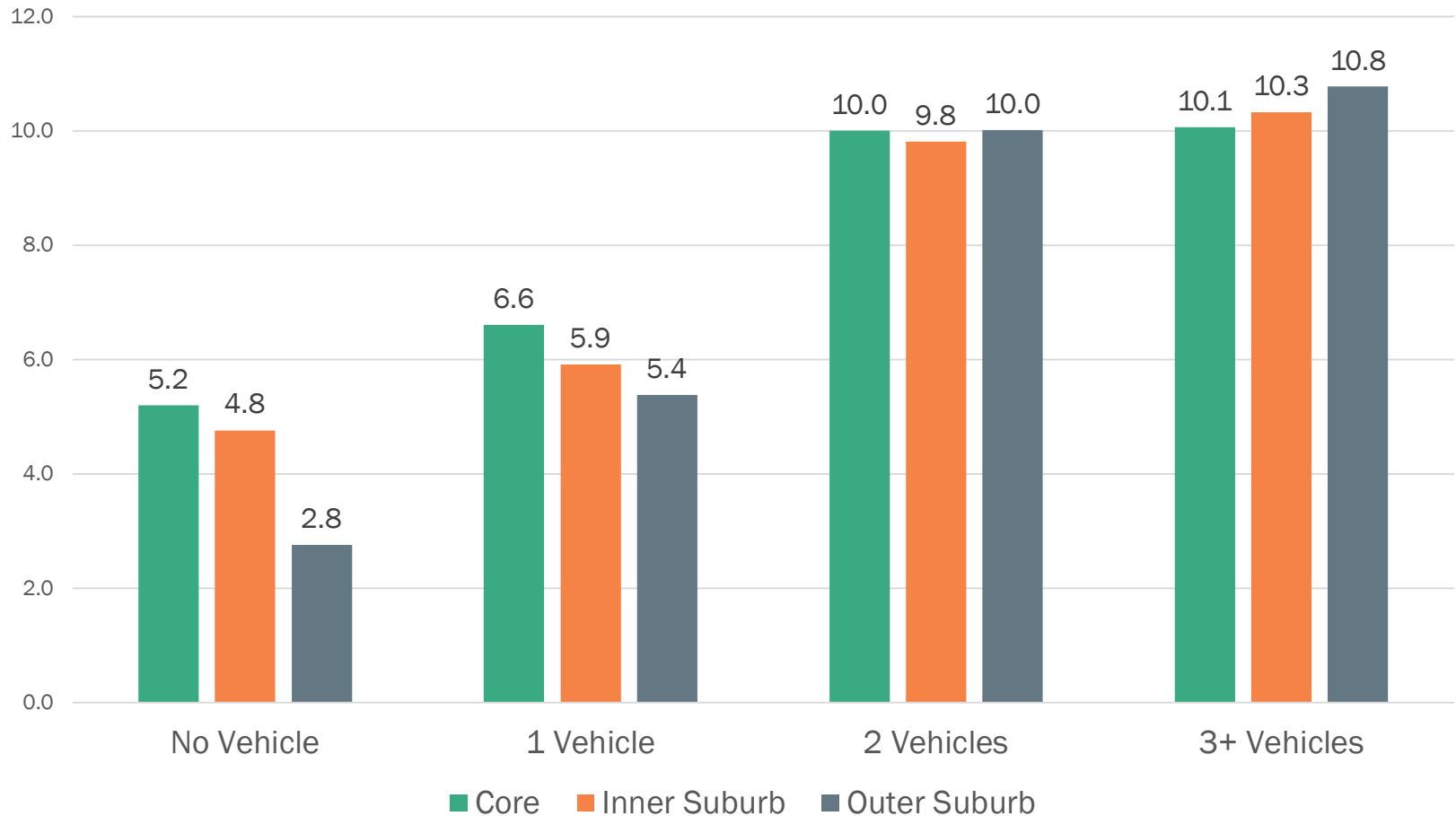
Weekday Household Trip Rate by Household Income



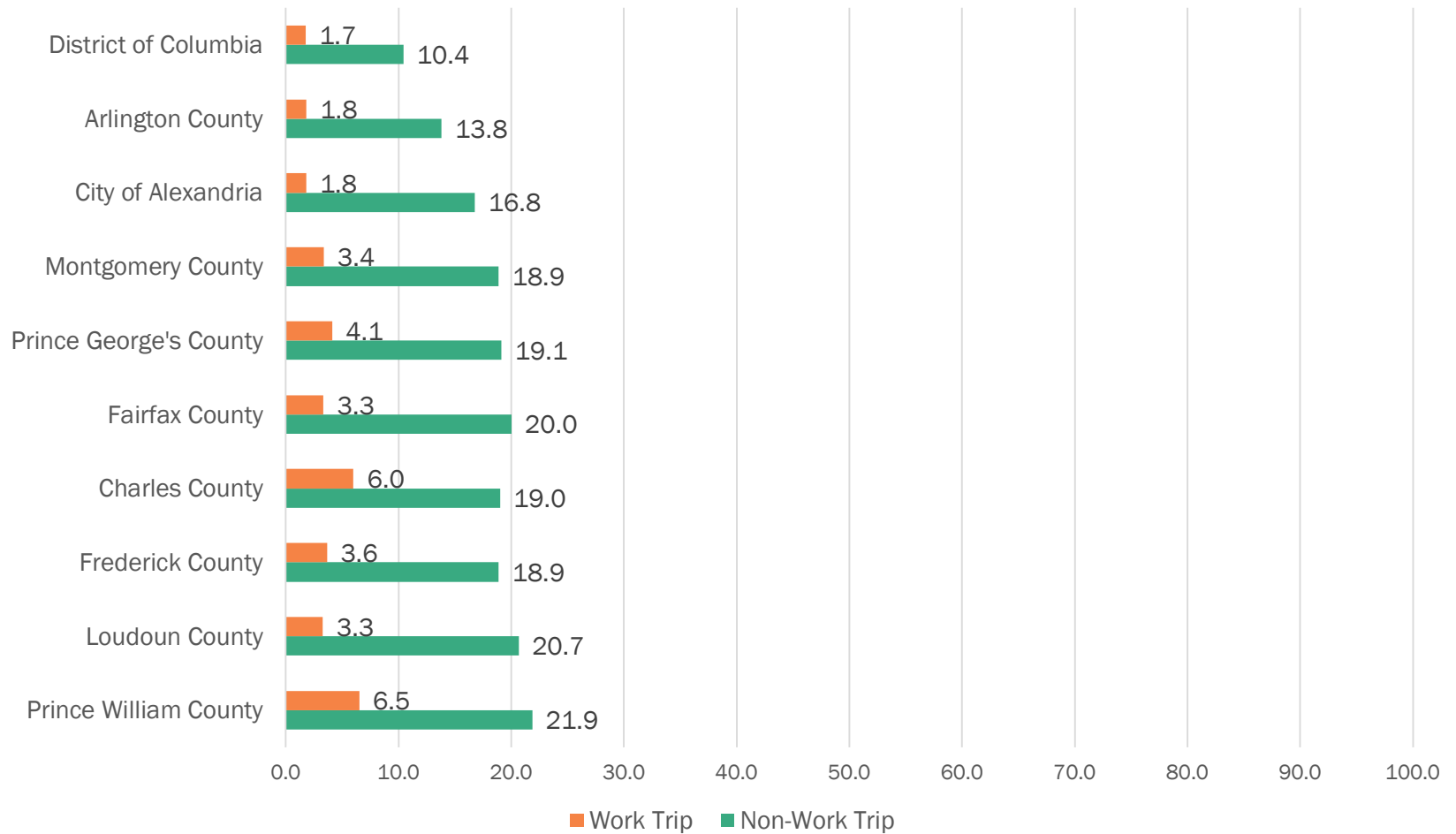
Household Vehicle Distribution by Sub-Area



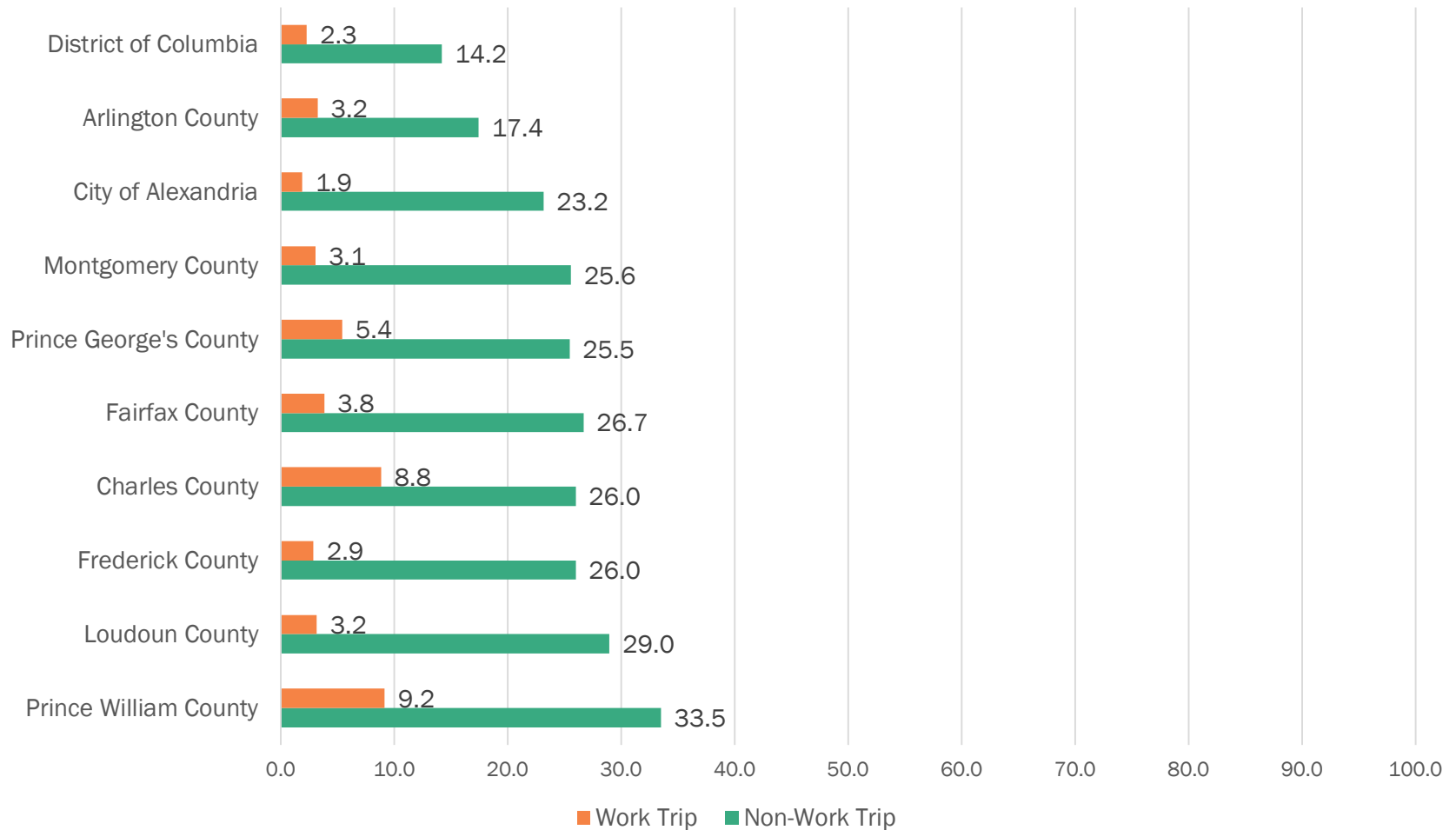
Weekday Household Trip Rate by Household Vehicle



Mode Share of Weekday Trips – Drive Others



Mode Share of Weekday Trips – Auto Passenger



Commute Destinations of Households

Commute Mode	Core to Core	Core to Inner Suburb	Inner Suburb to Core	Inner Suburb to Inner Suburb
Drive Alone	27.5	66.3	44.4	72.0
Drive Others	1.7	1.8	3.5	3.6
Auto Passenger	2.5	2.2	4.0	4.0
Rail	33.2	19.5	42.3	11.5
Bus	10.6	3.6	3.3	4.5
Walk	12.4	1.7	0.4	2.7
Bike	8.4	1.9	1.9	1.4
Taxi/Ride-Hail	3.5	3.0	0.2	0.2

