

A Report to the Maryland General Assembly

and

the Governor's Office

regarding

**The Washington Metropolitan Area Transit Authority
Services Utilization Study**

(HB 300, Ch. 238, 2015)

December 2020

MSAR# 10629

Washington Metropolitan Area Transit Authority
Maryland Department of Transportation

This report is written in response to language contained in House Bill 300, Chapter 238 of 2015, which requires:

“On or before December 1, 2015, and every 5 years thereafter, the Department shall submit a report detailing the results of the study conducted under this section to the Governor and, in accordance with § 2-1246 of the State Government Article, to the Senate Budget and Taxation Committee, the Senate Finance Committee, the House Appropriations Committee, and the House Environment and Transportation Committee.”

Introduction

The data summarized in the WMATA report was collected from Metro’s most recent systemwide surveys: the 2016 Metrorail passenger survey, the 2018 Metrobus passenger survey, and an average of MetroAccess in October 2019. All figures represent a typical weekday.

The 2016 Metrorail Passenger Survey comprises over 62,000 completed voluntary responses describing average weekday ridership of around 667,000 rail boardings. Surveys were distributed manually on all station mezzanines and at all time periods and weighted based on faregate counts by mezzanine and time period. Approximately 10% of entries were sampled during data collection to achieve a 4.5% average margin of error by mezzanine. Data collection began in April 2016 and was completed before the start of SafeTrack.

The 2014 Metrobus Passenger Survey comprises over 21,000 completed voluntary responses describing an average weekday on Metrobus of around 334,000 bus boardings. Weekend data was also collected. The data sample achieved a 6% margin of error at the 95% confidence interval at the systemwide level. Surveying was conducted over the course of five months, October 2018 into February 2019.

Also attached is summary information regarding Metrorail ridership in the outlying counties. The sample size for ridership on Metrobus in the outlying counties was considered too small to provide statistical significance.

WMATA Services Utilization Study

Maryland House Bill 300

December 2020

Washington Metropolitan Area Transit Authority

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Background

The Washington Metropolitan Area Transit Authority (WMATA or Metro) was created by an interstate compact in 1967 as a tri-jurisdictional organization comprised of the State of Maryland, Commonwealth of Virginia, and the District of Columbia. Metro began building its rail system in 1969, acquired four regional bus systems to form Metrobus in 1973, and began operating the first phase of Metrorail in 1976.

Today, Metrorail operates on 118 miles of track to 91 stations on six lines. Metrobus operates 255 bus routes over 164 lines, of which one third operate in Maryland. Since 1994, Metro began operating MetroAccess, the region's Americans with Disabilities Act (ADA)-paratransit service for people who are unable to use Metrorail and Metrobus.

Metro is a multimodal, regional system that Maryland residents from all over the state use on a daily basis.

Summary

Metrorail



- All six Metrorail lines operate in Maryland.
- Maryland residents' trips represent 37% of all typical weekday Metrorail trips.
- 89% of Maryland residents on AM Metrorail trips travel into DC or Virginia.
- 34% of Maryland residents access Metrorail during the AM Peak by driving alone, 21% by walking, and 13% by Metrobus.
- 80% of Maryland residents egress from Metrorail during the AM Peak by walking.
- Maryland residents also make use of stations in DC (e.g. Union Station, Friendship Heights and Takoma) for AM trips, and use stations all across the rail network for PM trips.

Metrobus



- 80 Metrobus routes operate in Maryland.
- Maryland residents' trips represent 32% of all typical weekday Metrobus trips.
- Maryland residents' most used lines are the Greenbelt-Twinbrook, New Carrollton-Silver Spring, and Eastover-Addison Road services, which serve the areas in southern Montgomery County and central Prince George's Counties, including Silver Spring.
- Maryland residents also rely on bus lines that serve DC, including buses on Georgia Ave/7th St NW, 16th St. NW, and Bladensburg Rd/Anacostia.
- 62% of weekday Metrobus customers who are Maryland residents get to their destination by walking, 15% by transferring to Metrorail, and 15% by taking another Metrobus.

MetroAccess



- Typically provides 8,000 trips per weekday.
- Maryland residents' trips represent 63% of all typical weekday MetroAccess trips.

For Metrorail the AM Peak is opening-9:30am, for Metrobus it is 6am-9am. Please see the Notes section starting on slide 5 for more information.




Notes

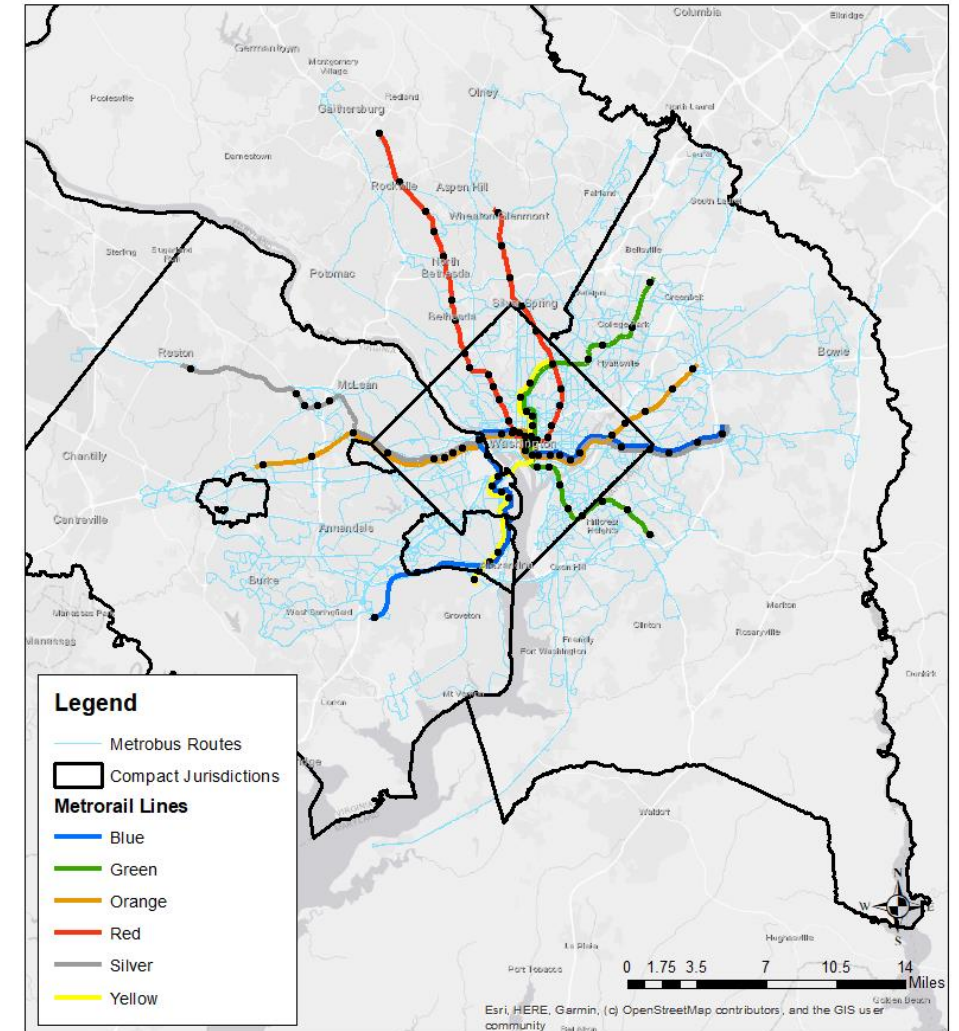
- The data summarized in this report was collected from Metro's most recent systemwide surveys: the 2016 Metrorail Passenger Survey, the 2018 Metrobus Passenger Survey, and operational data from an average day for MetroAccess in October 2019. All data in this report was obtained prior to the start of the COVID-19 pandemic in 2020. *All figures in this report represent a typical weekday.*
- The 2018 Metrobus Passenger Survey is a dataset of over 21,000 completed responses describing an average weekday on Metrobus of around 334,000 bus boardings. (Weekend data was also collected). The survey captures customer's jurisdiction of residence. The data sample achieved a 6% margin of error at the 95% confidence interval at the systemwide level. Surveying was conducted over the course of five months, October 2018 into February 2019.
- The 2016 Metrorail Passenger Survey is a dataset of over 62,000 completed responses describing average weekday ridership of around 667,000 rail boardings. The survey is designed to capture information about Metrorail riders, including jurisdiction of residence. Surveys were distributed manually on all station mezzanines and all time periods and weighted based on faregate counts by mezzanine and time period. Approximately 10% of entries were sampled during data collection to achieve a 4.5% average margin of error by mezzanine. Data collection began in April 2016 and was completed before the start of SafeTrack (June 2016).

Notes (Con't)

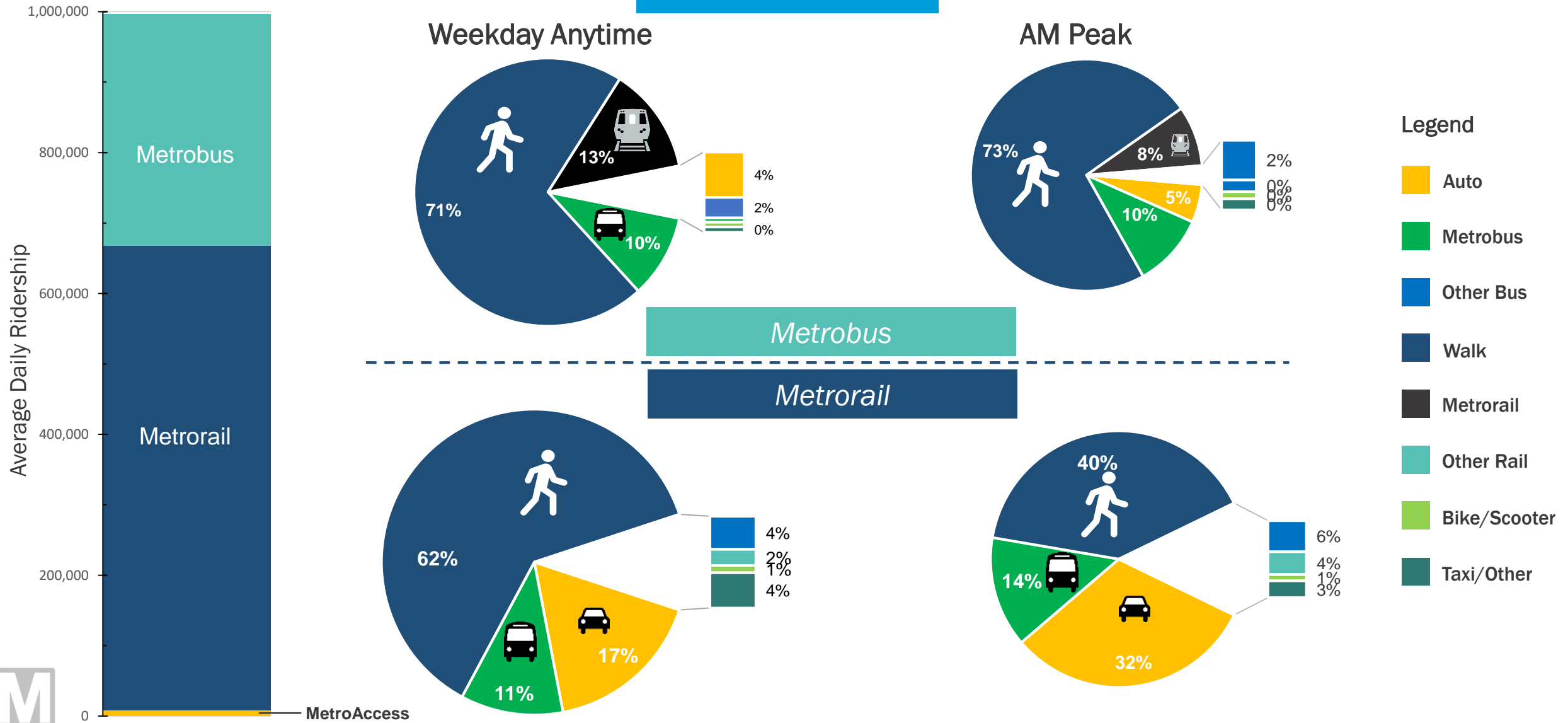
- The rail and bus results represent unlinked trips. Therefore, a respondent who takes Metrobus to Metrorail, or one Metrobus to another Metrobus, would be considered as taking two trips.
- For rail, the AM Peak period is defined as opening – 9:30am. For bus, the AM Peak is 6am – 9am.
- Because the Metrorail and Metrobus surveys did not ask respondents to specify their exact trip origins or destinations, this report used the following methods to describe trip origins and destinations. Both surveys included a question about the respondents' county of residence. The 2016 Metrorail survey asked respondents about their entry and exit stations, so exits were used as the destinations for rail. To determine trip origins for the maps on slides 12 and 28, both surveys included a section where respondents could enter their home addresses, and a portion of these respondents provided this information. Of these, the addresses of respondents who reported that they were traveling *from* home were analyzed. Some trip origins may be in jurisdictions that do not have Metro service because these respondents had to take another mode of transportation from their homes to reach a Metrorail station or Metrobus stop.

Metro Systemwide Fact Sheet

	Metrorail 	Metrobus 	MetroAccess 
System Size	<ul style="list-style-type: none"> • 118 Miles • 91 Stations • 6 Lines 	<ul style="list-style-type: none"> • 250 Routes • 164 Lines 	N/A
Average Daily Ridership	667,000	334,000	8,000
Average AM Peak Period Ridership	226,000	82,000	N/A
Annual Ridership	173 Million	111 Million	2.4 Million
Fleet Size	>1,200 Railcars	>1,500 Buses	>750 Vehicles

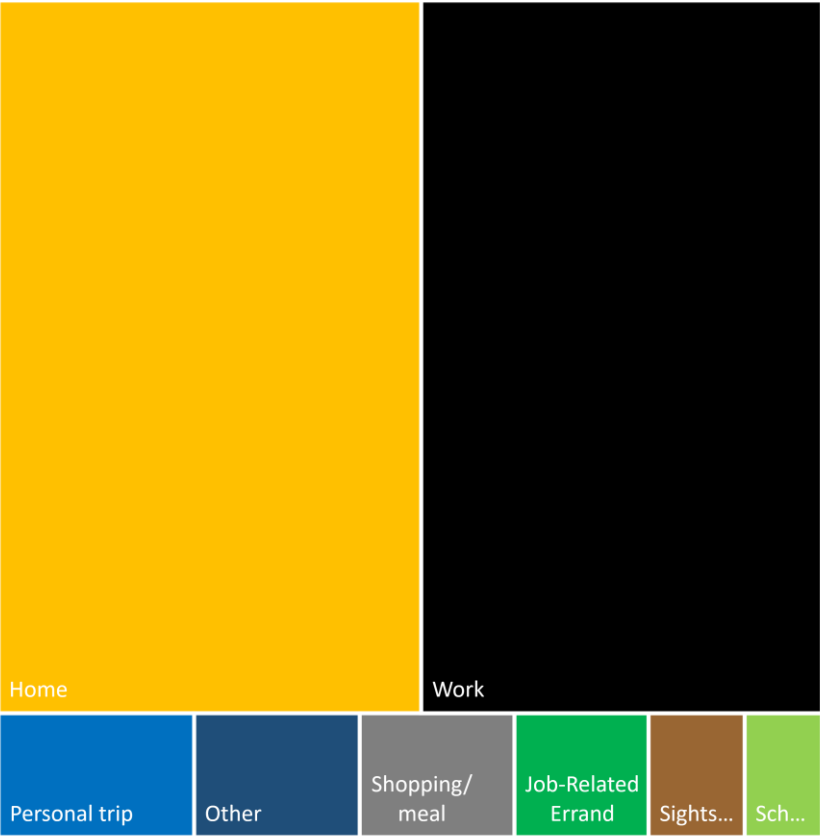


Systemwide Weekday Ridership + Mode of Access

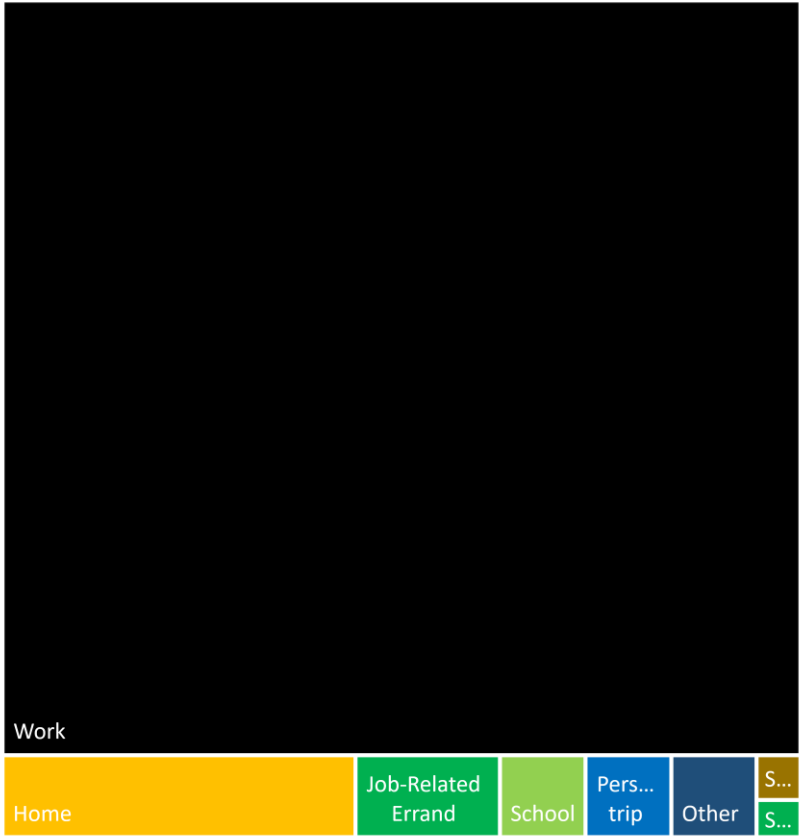


Weekday Trip Purpose/Destination (All Customers)

Metrorail



Weekday Anytime



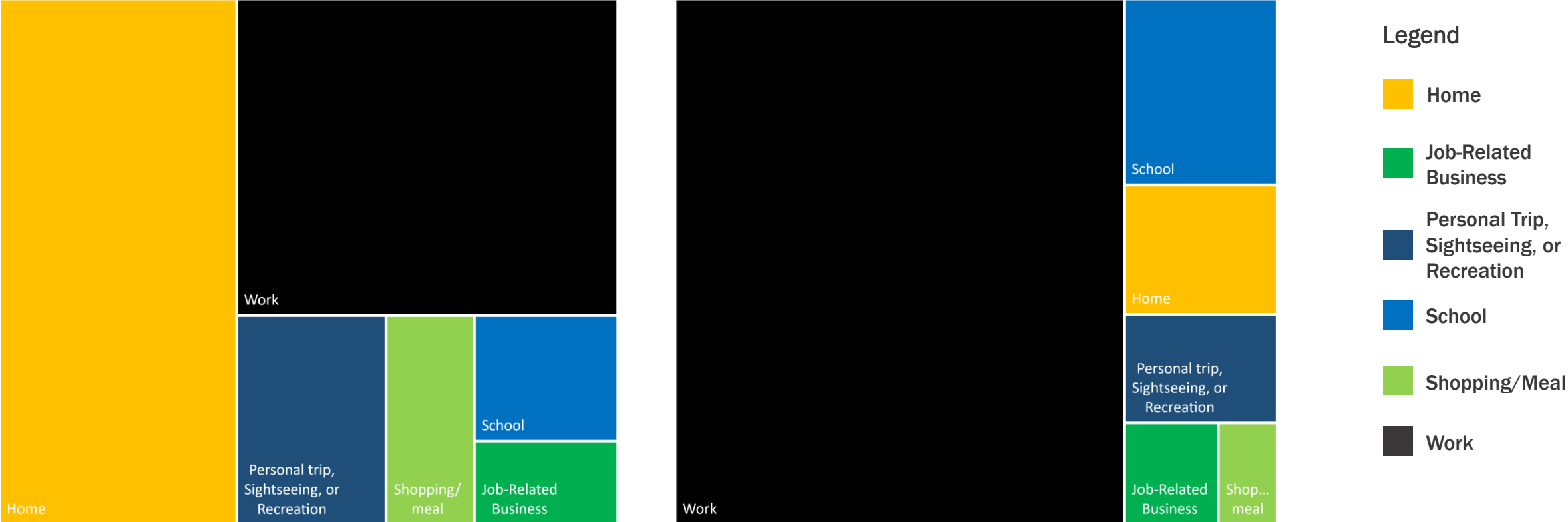
AM Peak

- Legend
- Home
 - Job-Related Errand
 - Other
 - Personal Trip
 - School
 - Shopping/Meal
 - Sightseeing
 - Work



Weekday Trip Purpose/Destination (All Customers)

Metrobus



Weekday Anytime

AM Peak

- Legend
- Home
 - Job-Related Business
 - Personal Trip, Sightseeing, or Recreation
 - School
 - Shopping/Meal
 - Work



Maryland Residents – Ridership By Mode

Metrorail

Metrobus

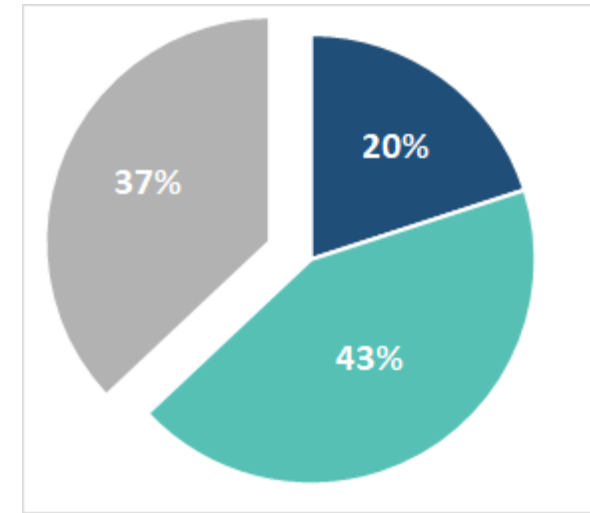
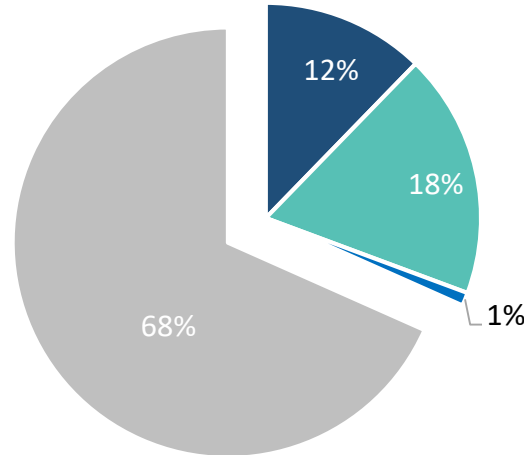
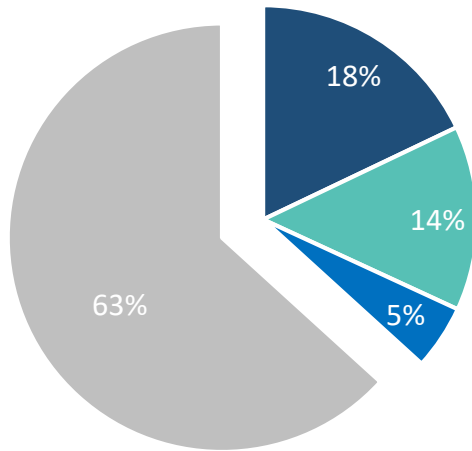
MetroAccess

Montgomery County

Prince George's County

Other Maryland

Outside Maryland



Daily Ridership

667,000

334,000

8,000

From Maryland Residents

246,000 (37%)

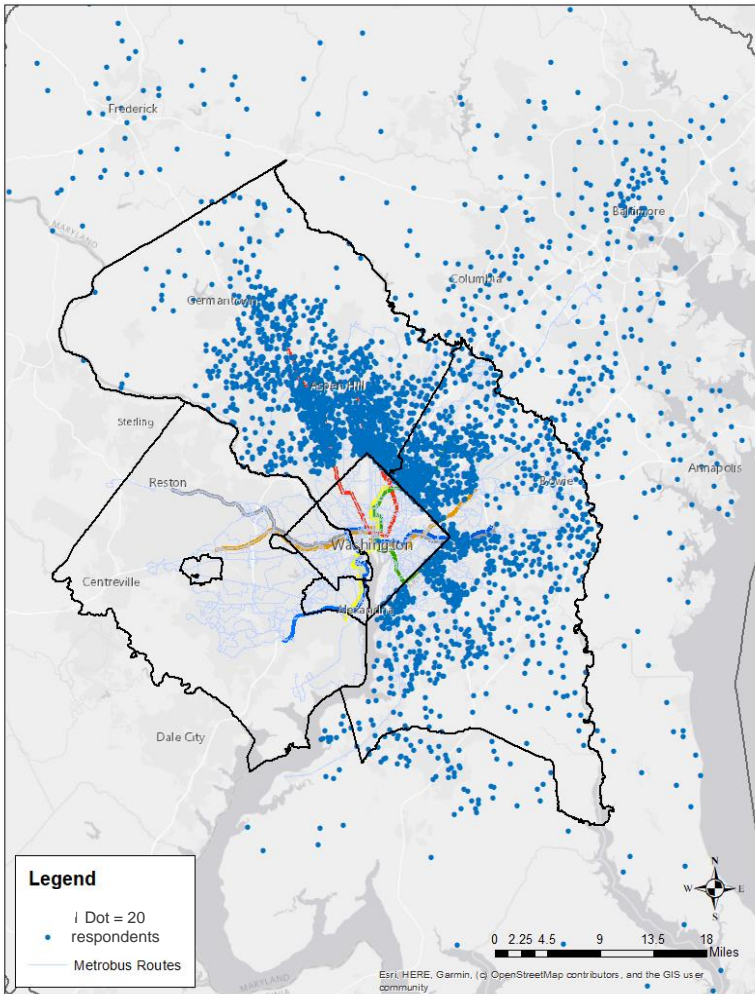
106,000 (32%)

5,100 (63%)

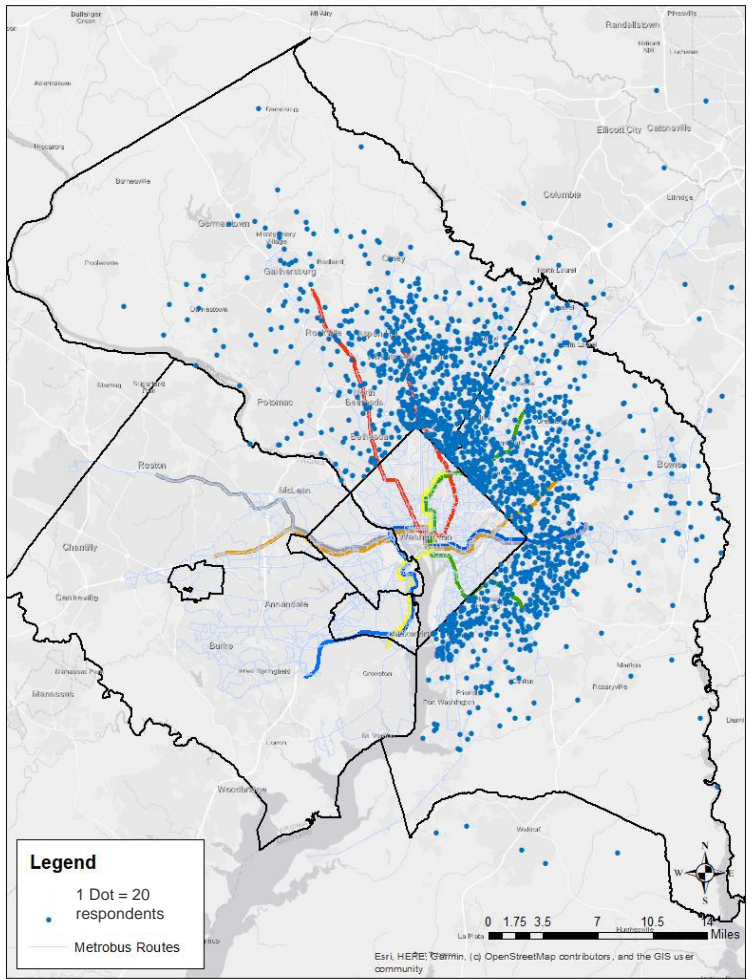


Maryland Residents – Where Do Trips Originate?

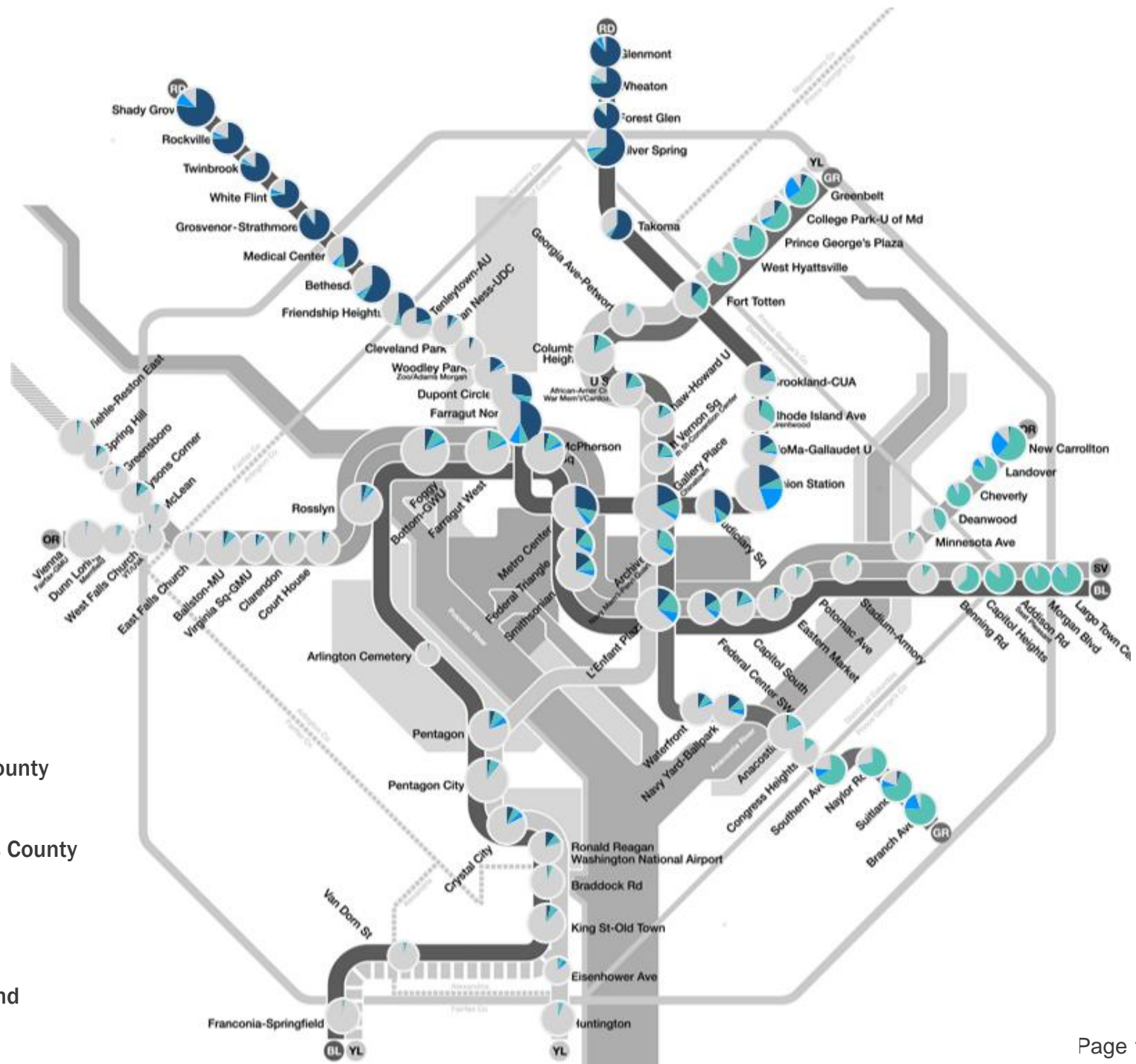
Metrorail



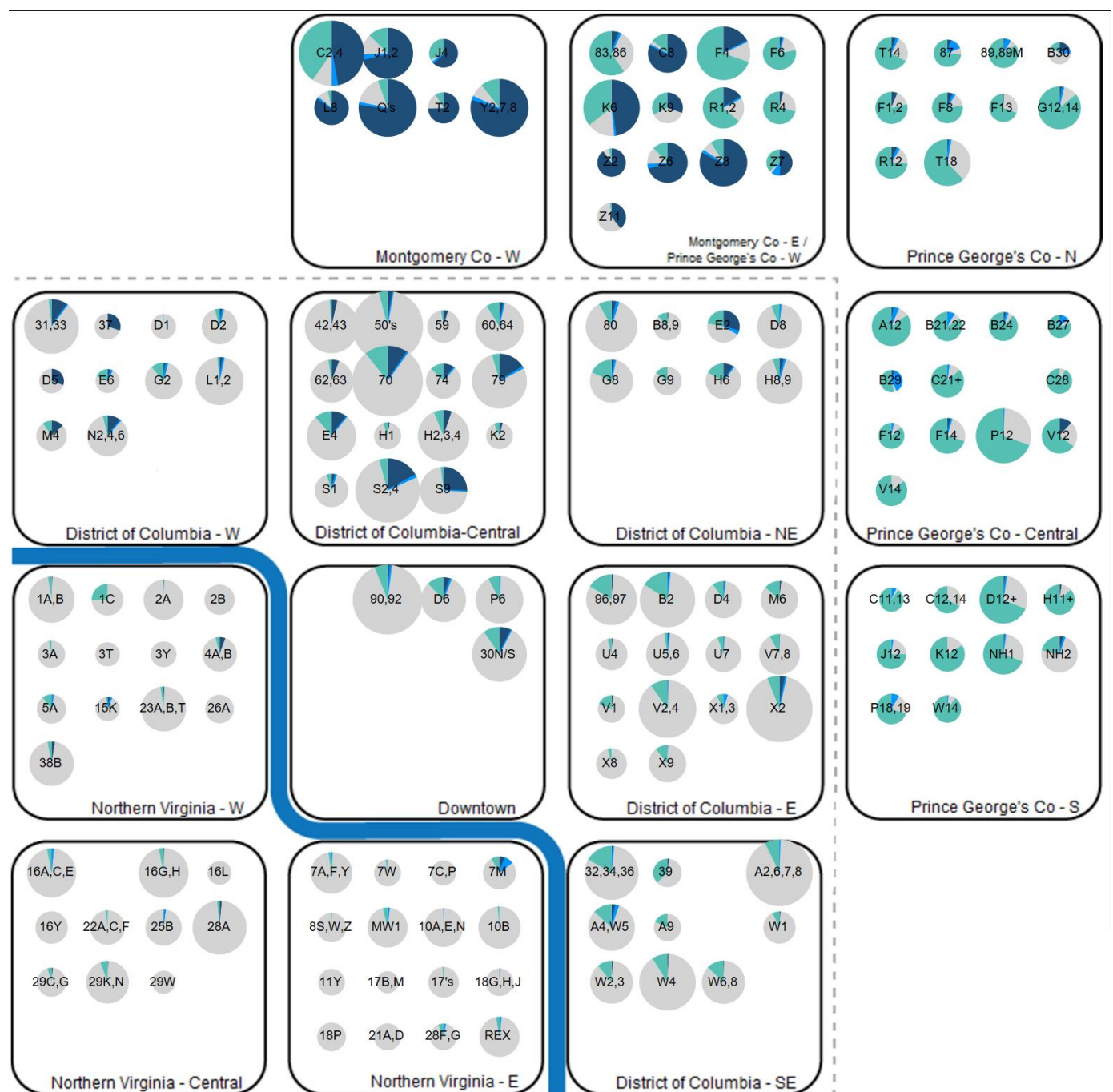
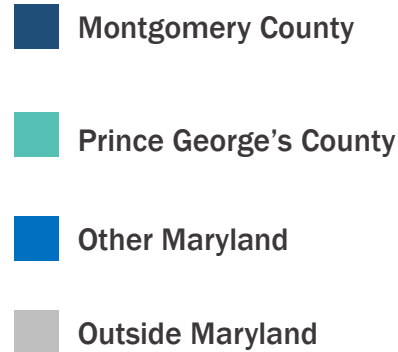
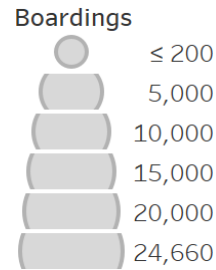
Metrobus



Daily Metrorail Entries by Jurisdiction of Residence



Daily Metrobus Boardings by Jurisdiction of Residence



Montgomery County - Highlights

Metrorail

- **74%** of all Metro trips by Montgomery County residents are on Metrorail
- **81%** of trips are destined for DC on a typical weekday morning
- **93%** of AM Peak period trips are for work purposes
- **15%** of off-peak trips are for non-work and non-home purposes

Metrobus

- **25%** of all Metro trips by Montgomery County residents are on Metrobus
- More trips made by residents of Eastern Montgomery County compared to Western
- The top 3 routes are the J2, C2, and Y7
- **77%** of AM Peak period trips are for work purposes
- **27%** of off-peak trips are for non-work and non-home purposes

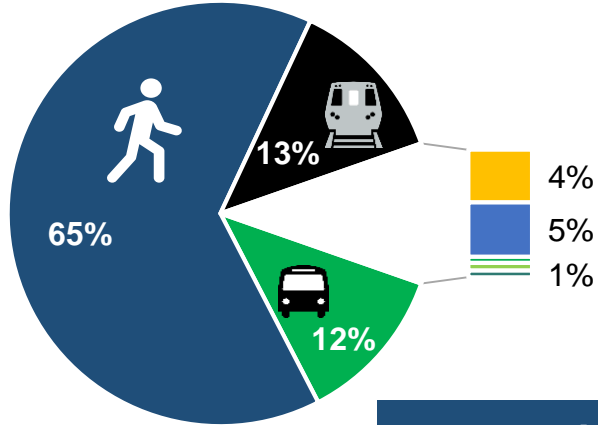
MetroAccess

- **1%** of all Metro trips by Montgomery County residents are on MetroAccess
- **1,591** MetroAccess trips per weekday, about **20%** of all MetroAccess trips systemwide

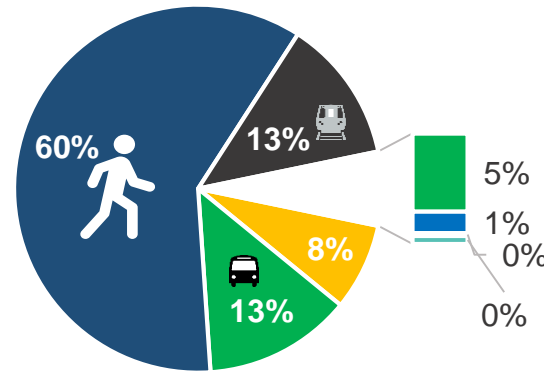
Montgomery County residents make up 16% of all trips across Metro services on a typical weekday

Montgomery County Residents: Weekday Ridership + Mode of Access

Weekday Anytime



AM Peak

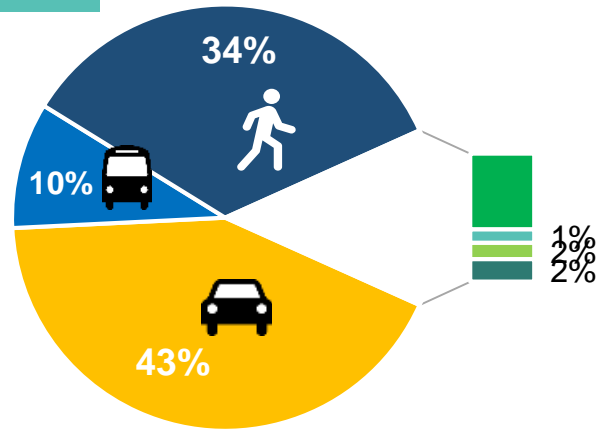
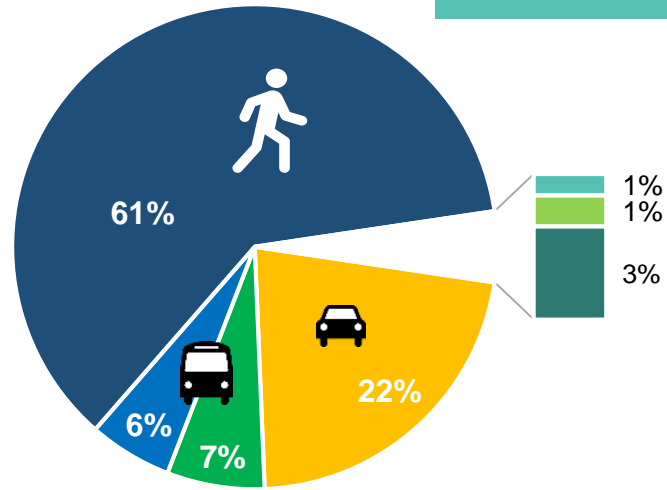


Legend

- Auto
- Metrobus
- Other Bus
- Walk
- Metrorail
- Other Rail
- Bike/Scooter
- Taxi/Other

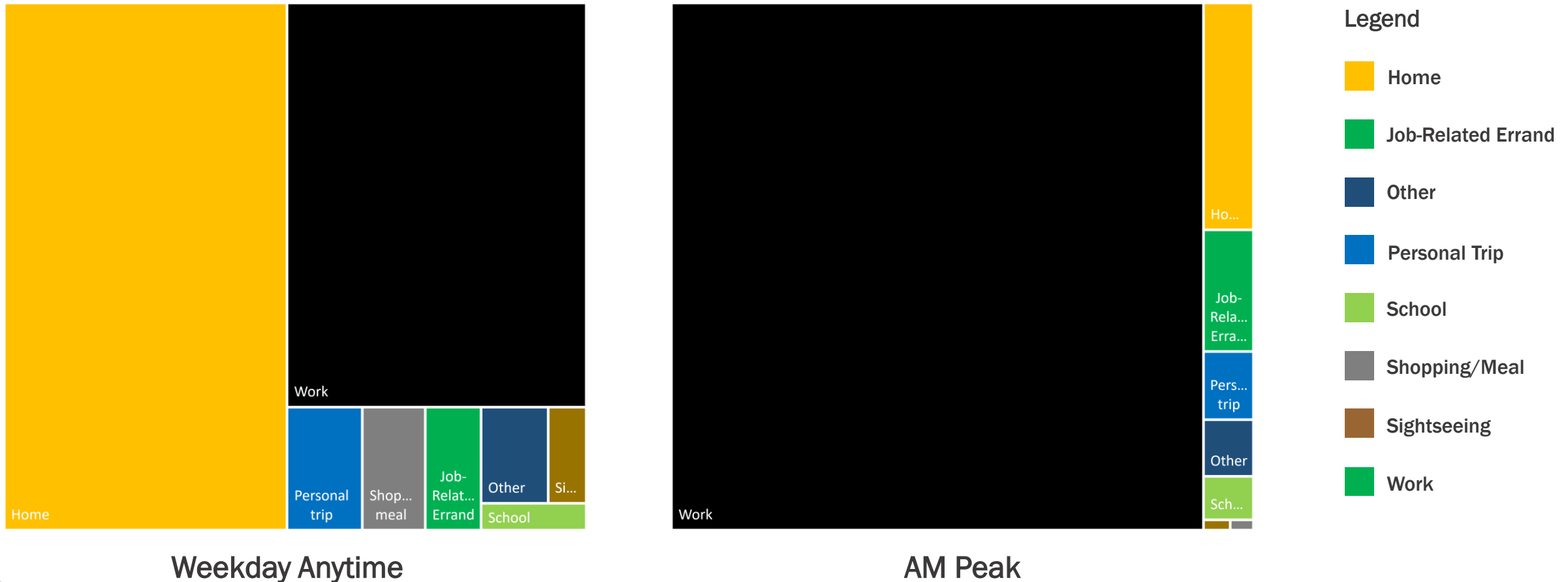
Metrobus

Metrorail



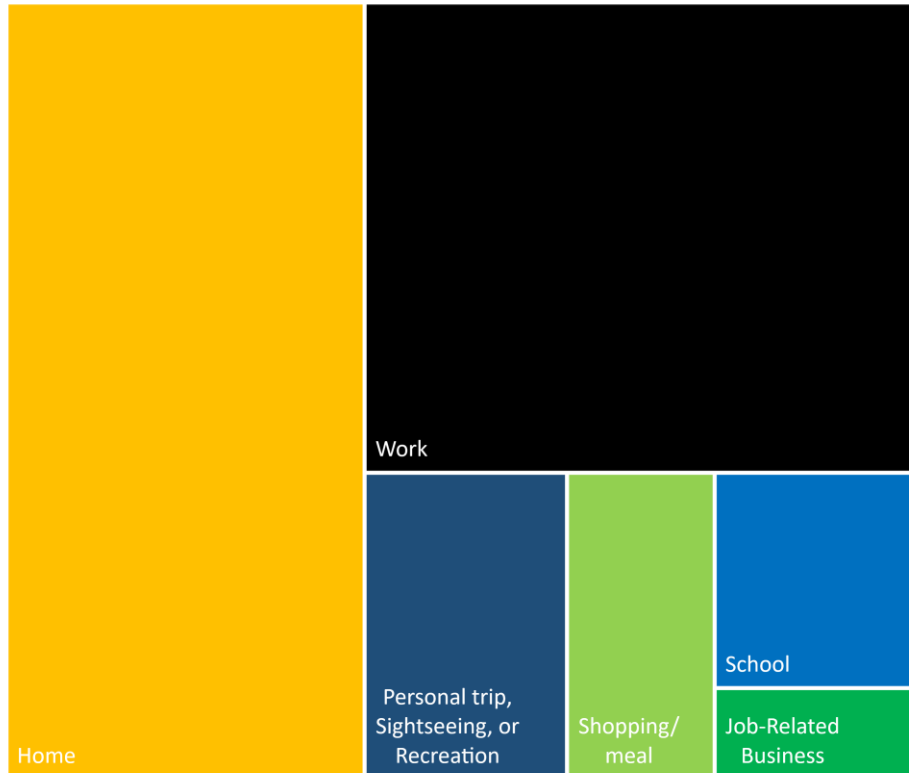
Montgomery County Residents: Weekday Trip Purpose/Destination (All Customers)

Metrorail

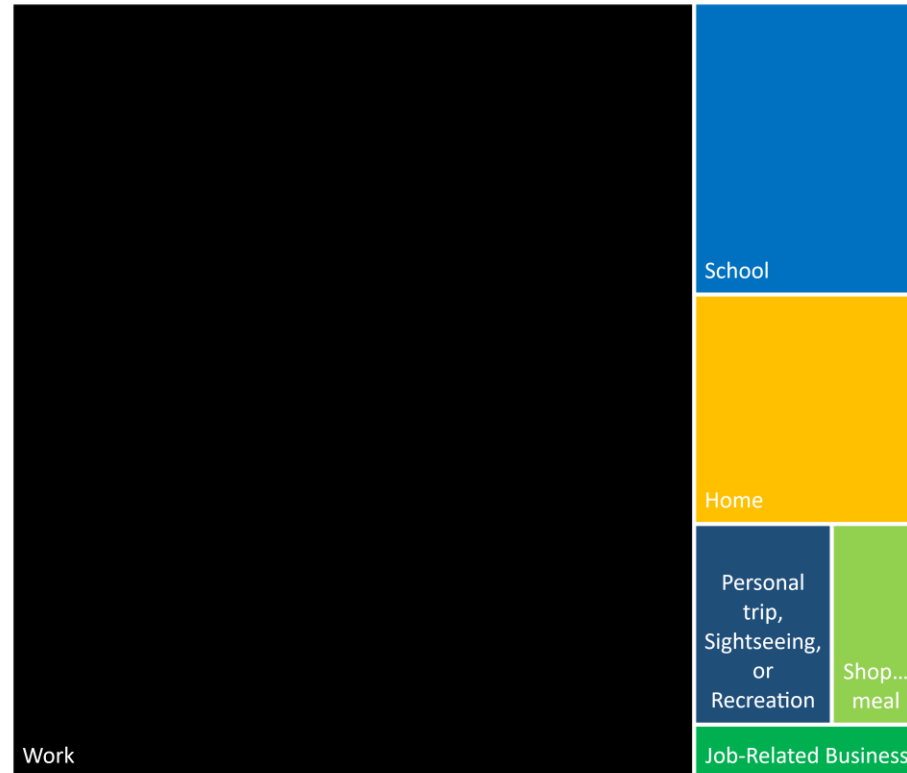


Montgomery County Residents: Weekday Trip Purpose/Destination (All Customers)

Metrobus



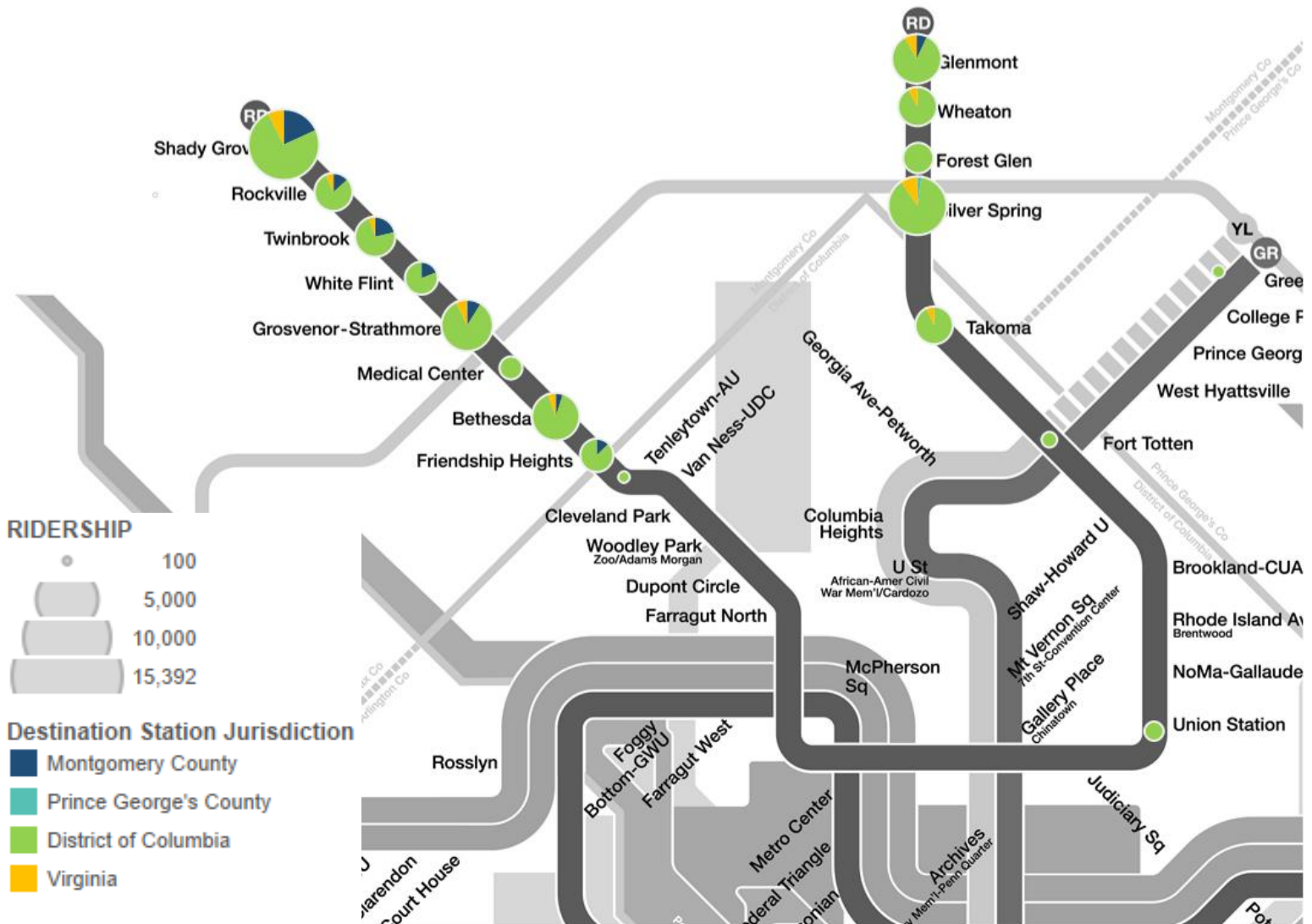
Weekday Anytime



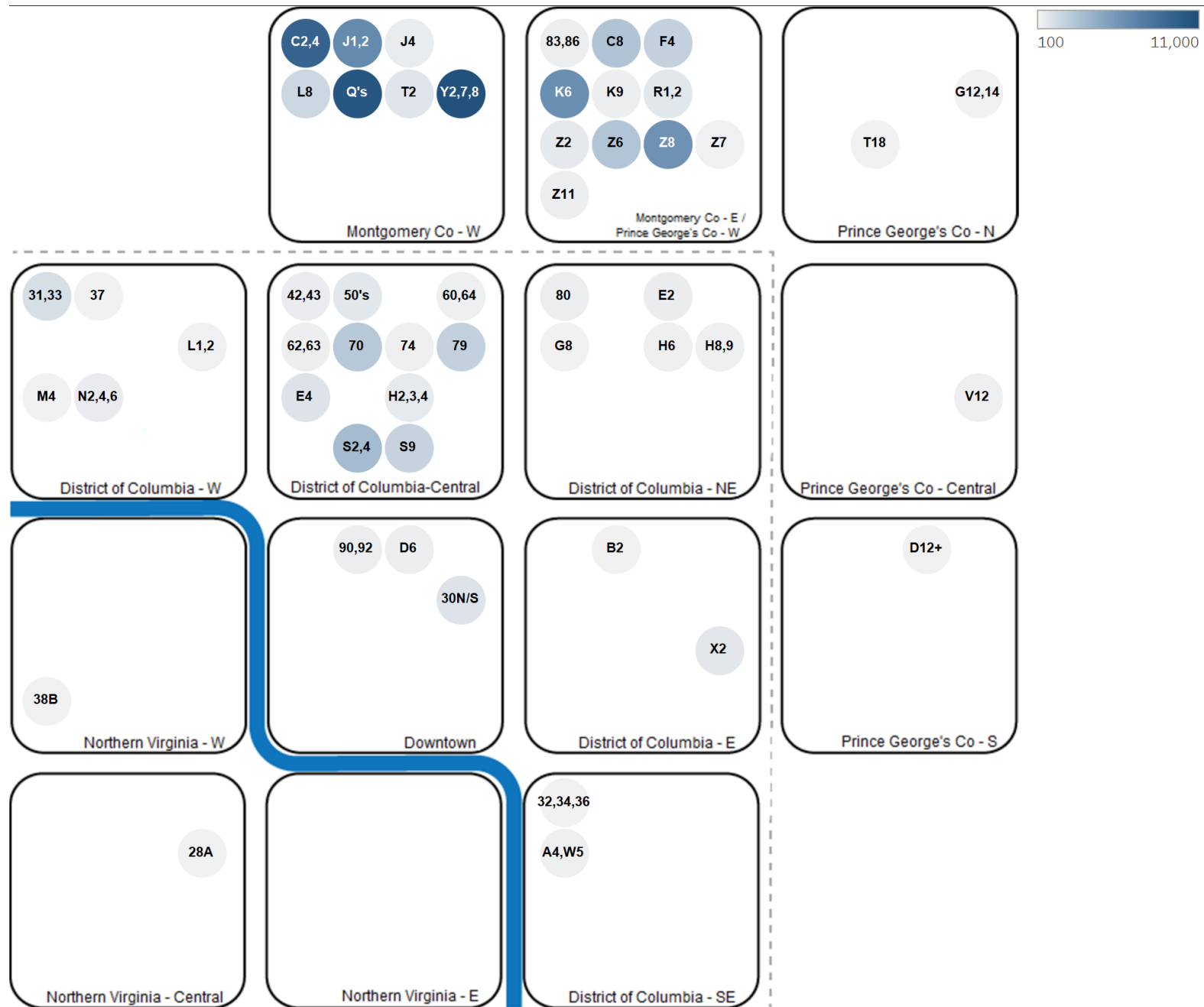
AM Peak

- Legend
- Home
 - Job-Related Business
 - Personal Trip, Sightseeing, or Recreation
 - School
 - Shopping/Meal
 - Work

Montgomery County Residents: Metrorail Origins and Destinations, AM Peak



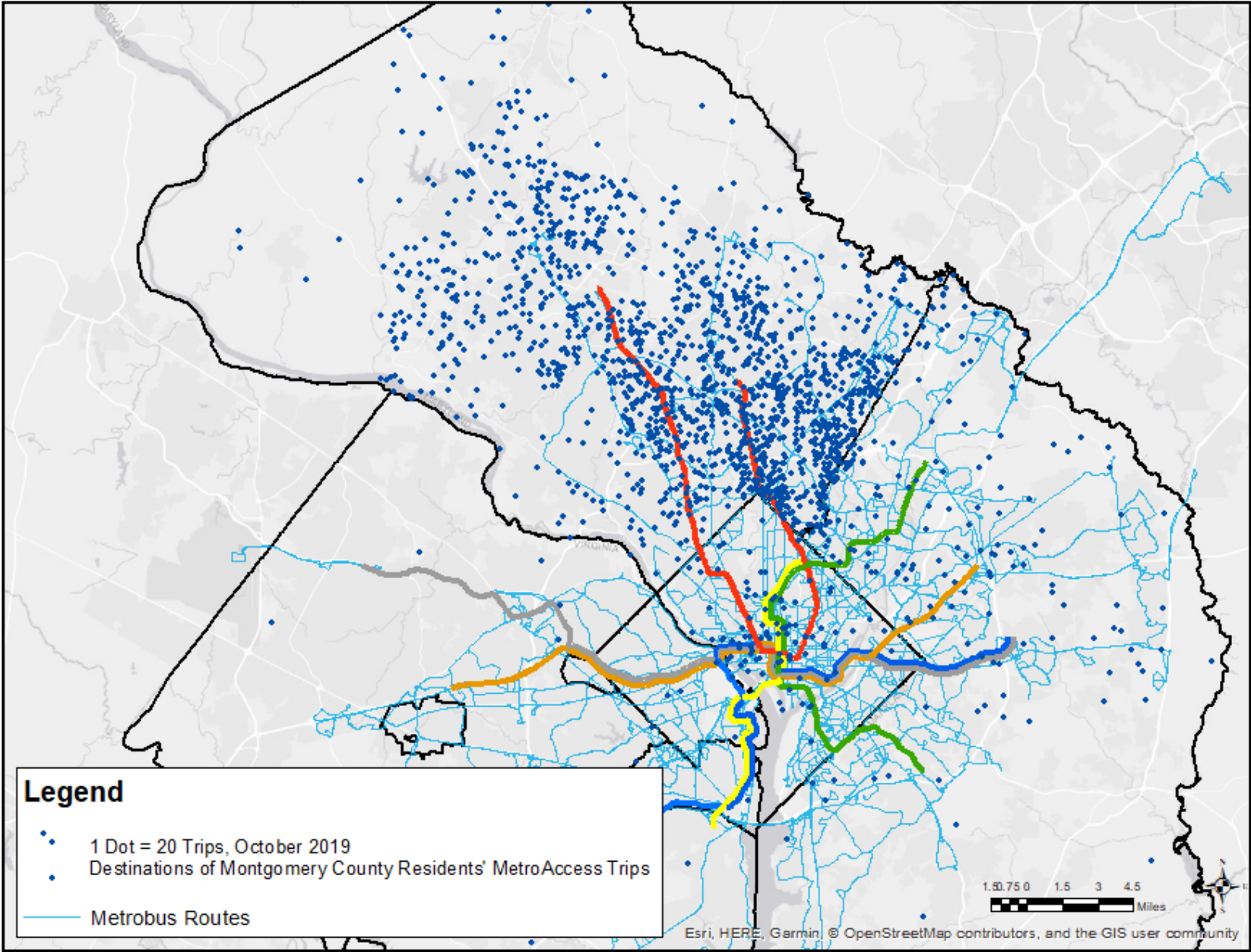
Montgomery County Residents: Metrobus Boardings by Line



Bus lines with less than 100 trips by Montgomery County Residents were not included in this chart



Montgomery County Residents: MetroAccess Destinations



Prince George's County - Highlights

Metrorail

- **59%** of all Metro trips by Prince George's County residents are on Metrorail
- **77%** of trips are destined for DC on a typical weekday morning
- **90%** of AM Peak period trips are for work purposes
- **14%** of off-peak trips are for non-work and non-home purposes

Metrobus

- **39%** of all Metro trips by Prince George's County residents are on Metrobus
- A significant number of trips originate within the Capital Beltway
- The top 3 routes are the P12, F4, C2
- **78%** of AM Peak period trips are for work purposes
- **20%** of off-peak trips are for non-work and non-home purposes

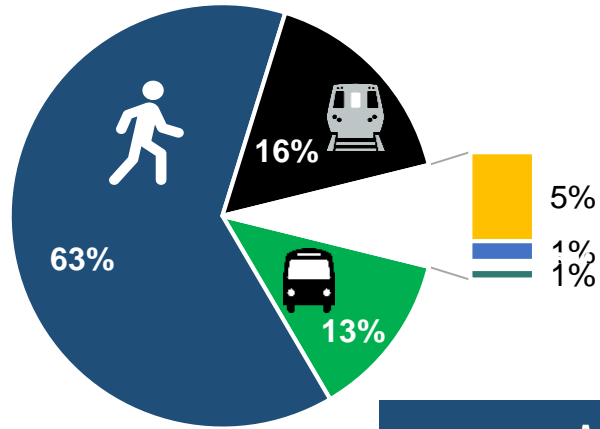
MetroAccess

- **2%** of all Metro trips by Prince George's County residents are on MetroAccess
- **3,506** MetroAccess trips per weekday, about **43%** of all MetroAccess trips systemwide
- Prince George's County is the largest consumer of MetroAccess trips of all jurisdictions

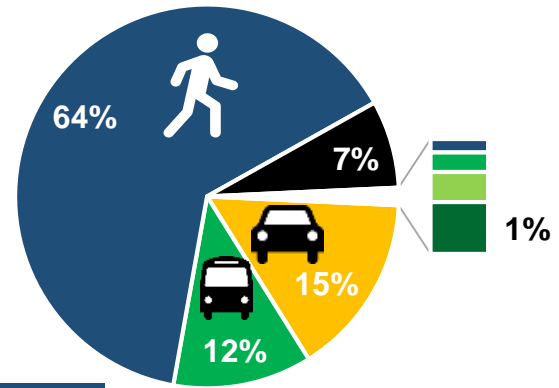
Prince George's County residents make up **16%** of all trips across Metro services on a typical weekday

Prince George's County Residents: Weekday Ridership + Mode of Access

Weekday Anytime

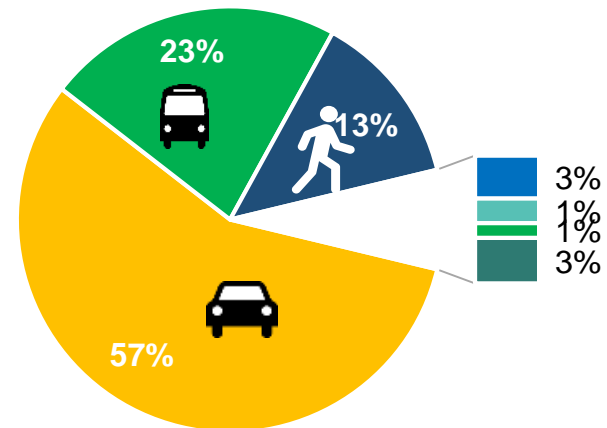
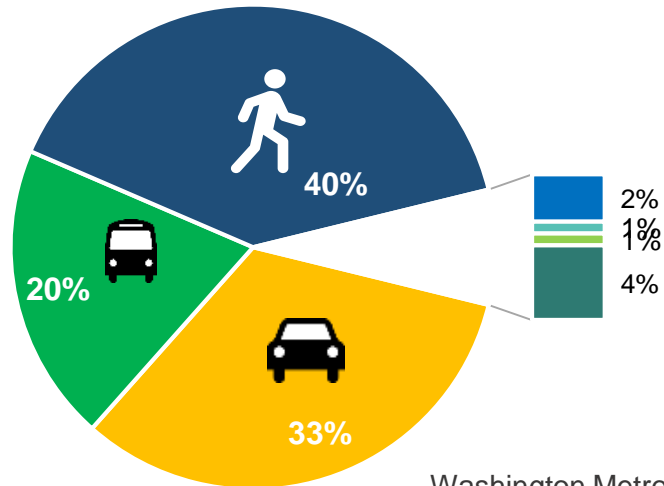


AM Peak



Metrobus

Metrorail



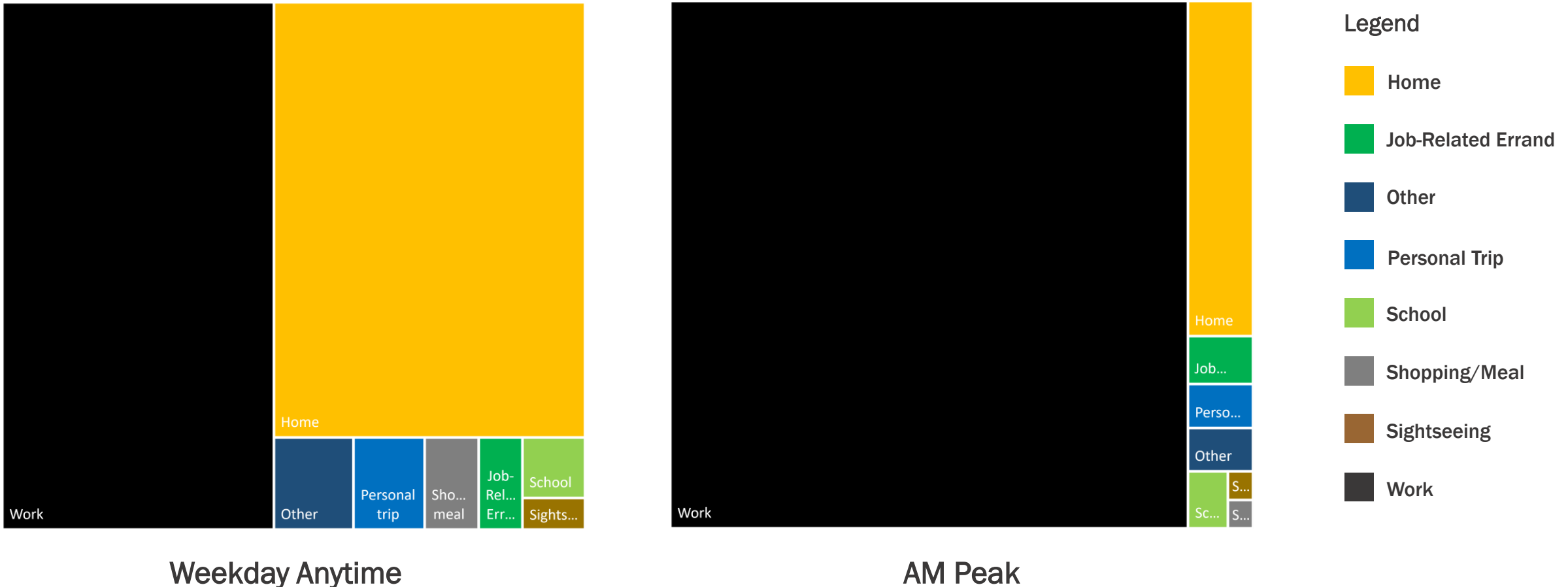
Legend

- Auto
- Metrobus
- Other Bus
- Walk
- Metrorail
- Other Rail
- Bike/Scooter
- Taxi/Other



Prince George's County Residents: Weekday Trip Purpose/Destination (All Customers)

Metrorail



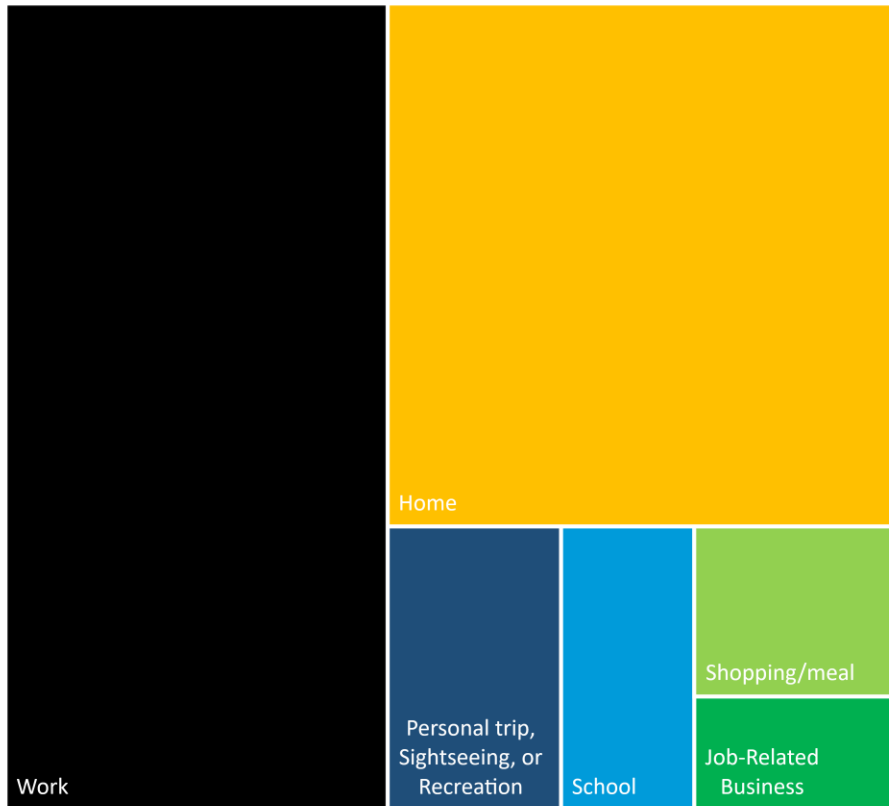
Weekday Anytime

AM Peak

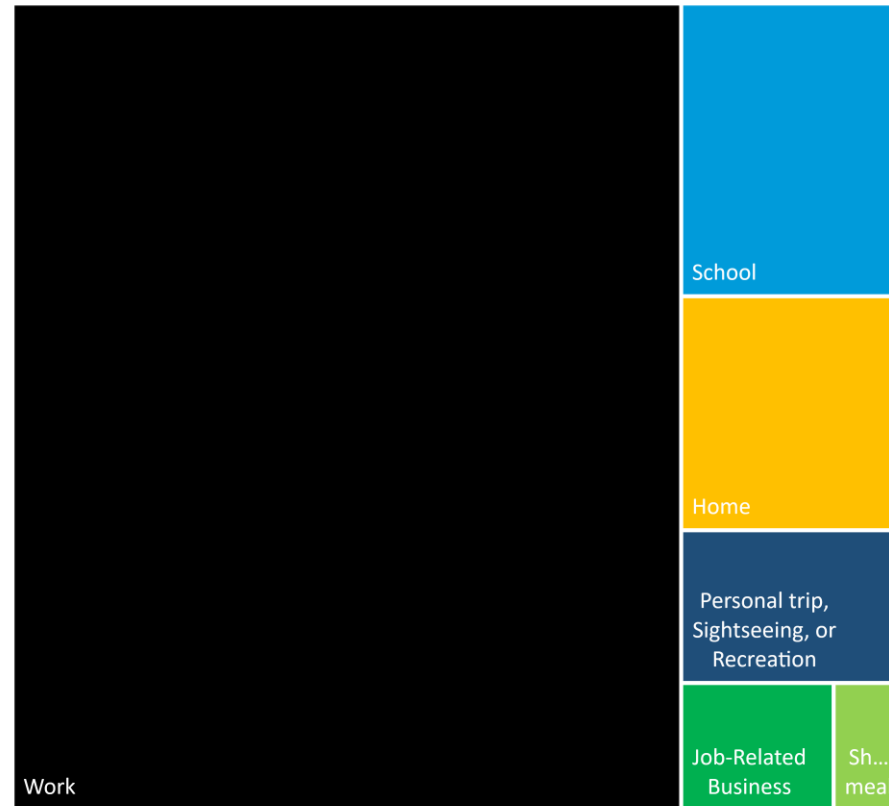


Prince George's County Residents: Weekday Trip Purpose/Destination (All Customers)

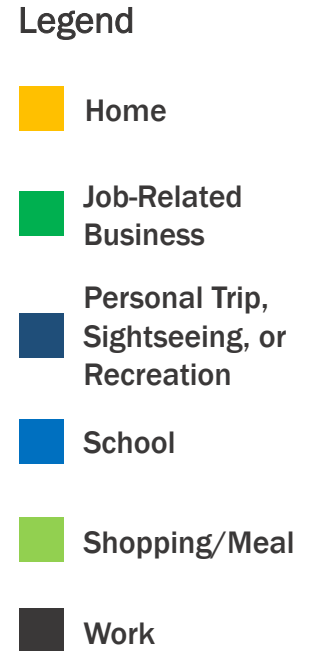
Metrobus



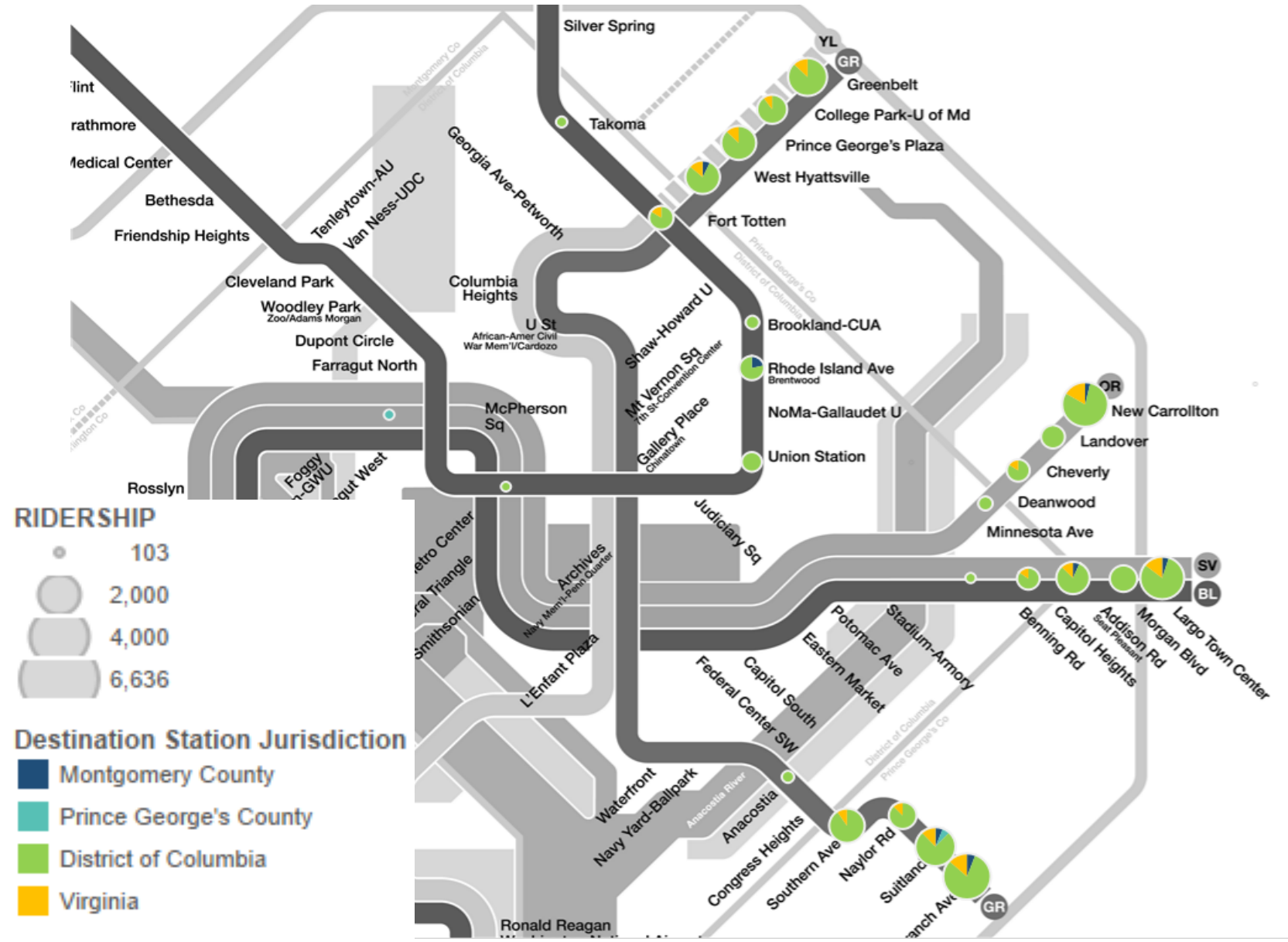
Weekday Anytime



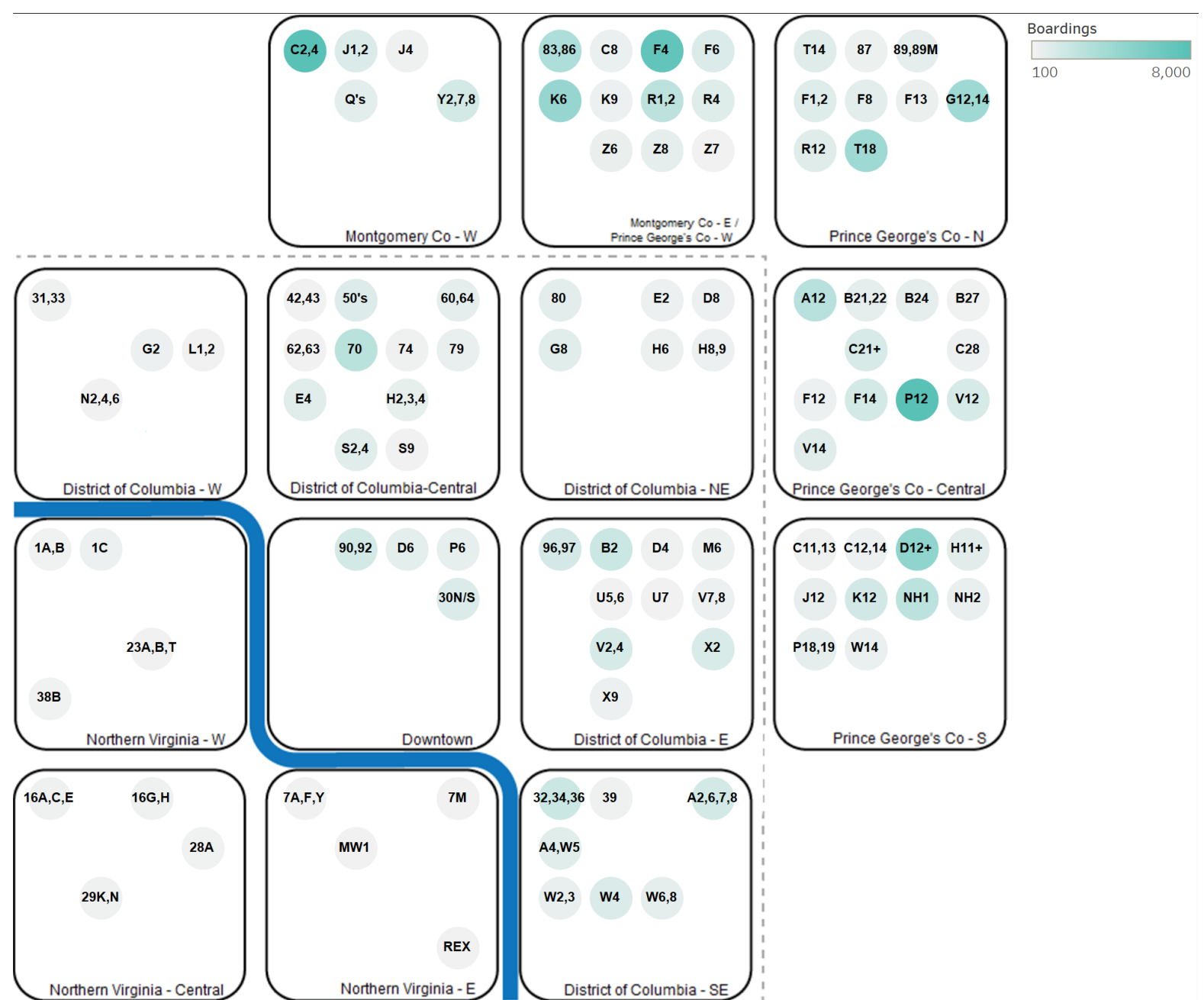
AM Peak



Prince George's County Residents: Metrorail Origins and Destinations, AM Peak



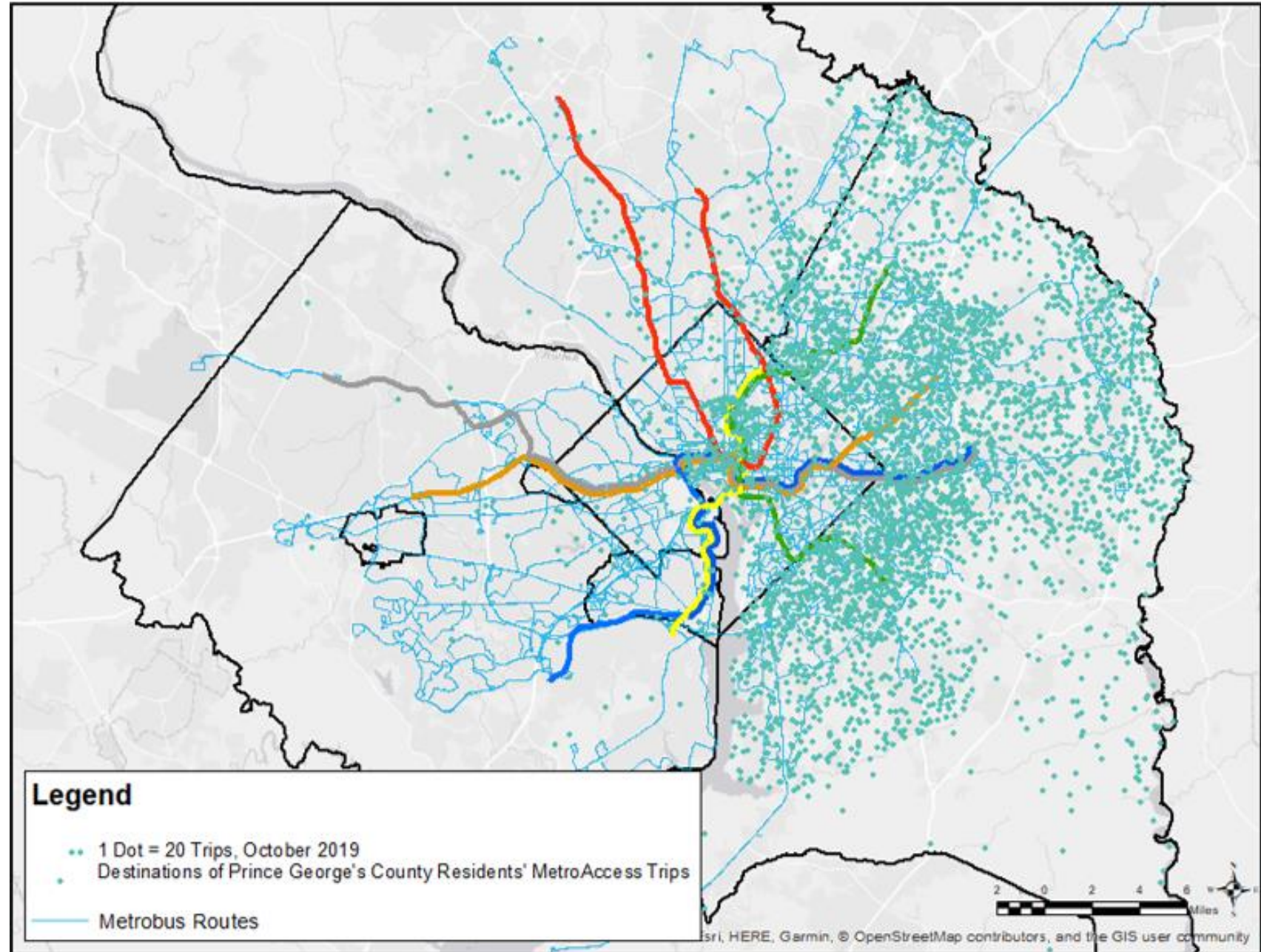
Prince George's County Residents: Metrobus Ridership by Line



Bus lines with less than 100 trips by Prince George's County residents were not included in this chart



Prince George's County Residents: MetroAccess Destinations



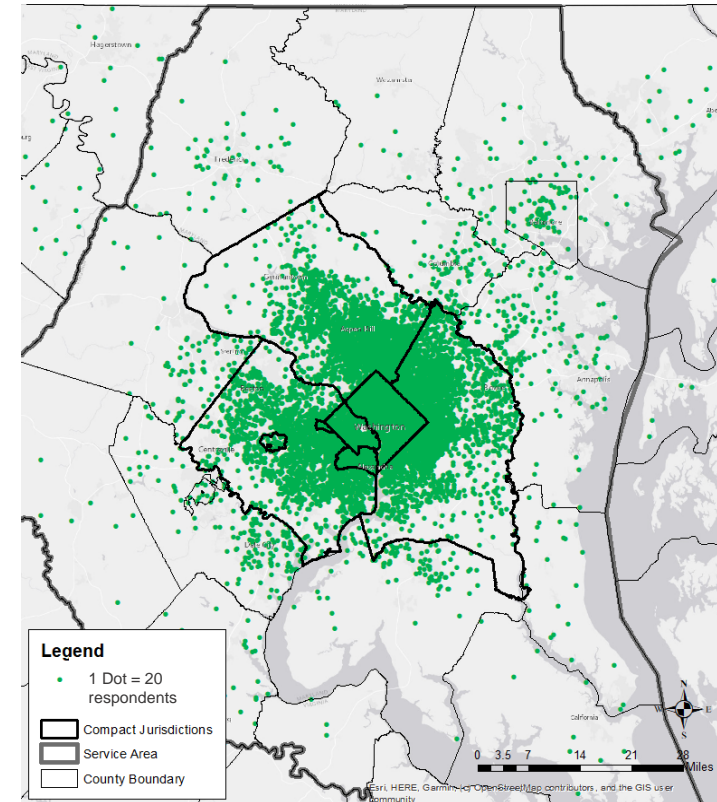
Other Maryland Counties - Summary

Metrorail

- 91% of all trips by residents from Maryland outside of Montgomery and Prince George's County are on Metrorail
- Most rail trips from these residents are on Metrorail, for both long-haul trips from outer stations, to circulation within the core
- 41% of trips by these residents access Metrorail via MARC or Amtrak during the AM Peak

Metrobus

- 9% of all trips by these residents are on Metrobus
- Most bus trips from other Maryland residents originate from just outside Metro's Compact Jurisdictions, in places such as Columbia, Laurel, Baltimore, Crofton, and Waldorf/White Plains



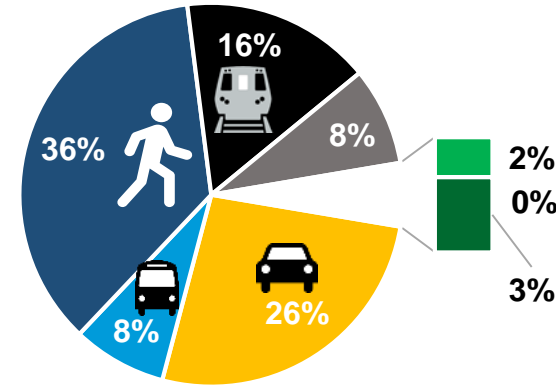
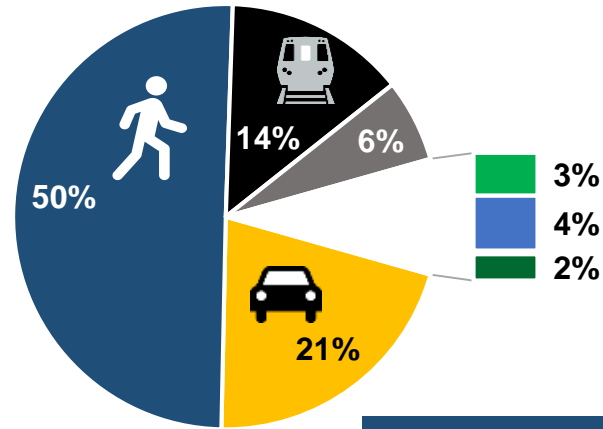
- 4% of all trips across all Metro services on a typical weekday are taken by Maryland residents of these counties.

MetroAccess not available to Maryland residents outside of Montgomery and Prince George's Counties

Other Maryland Residents: Weekday Ridership + Mode of Access

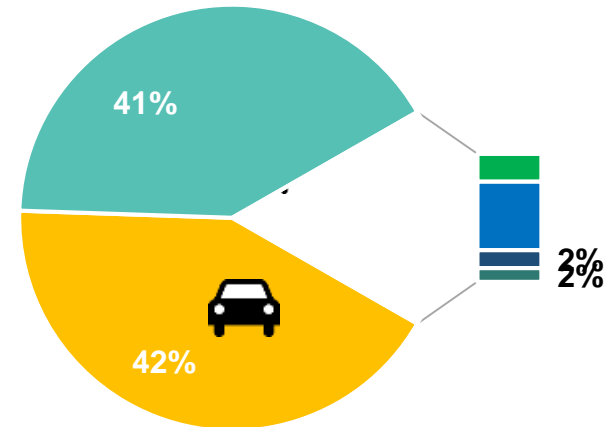
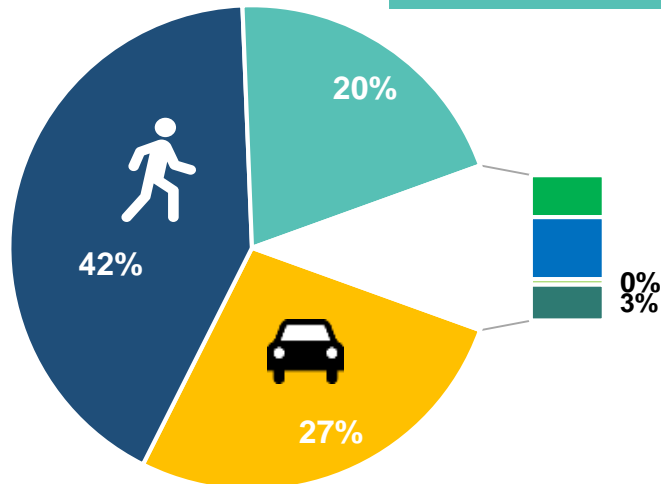
Weekday Anytime

AM Peak



Metrobus

Metrorail

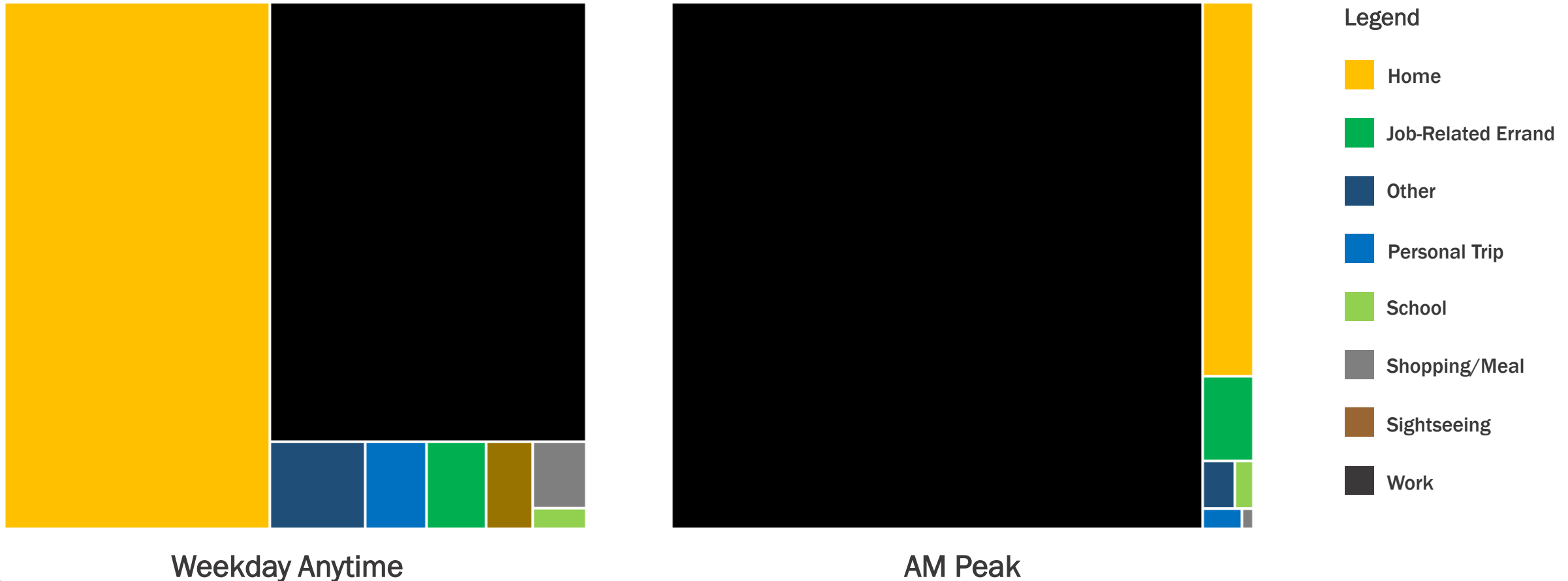


Legend

- Auto
- Metrobus
- Other Bus
- Walk
- Metrorail
- Other Rail
- Bike/Scooter
- Taxi/Other

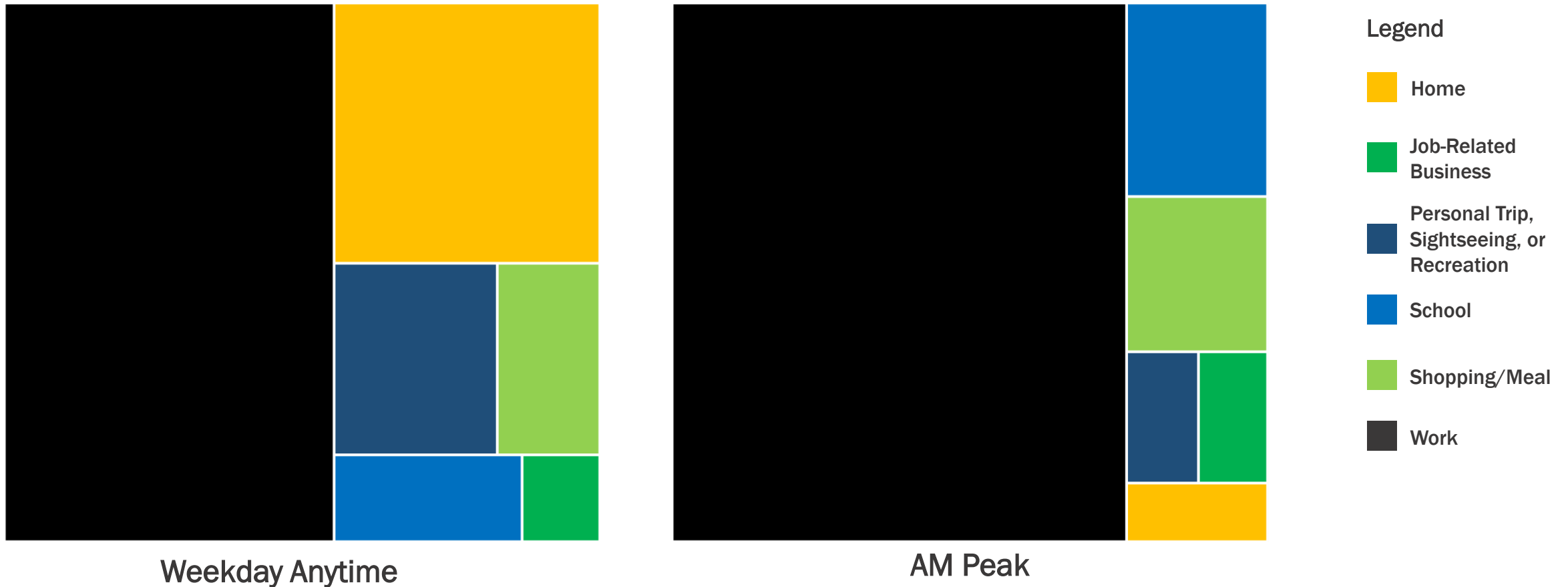
Other Maryland Residents: Weekday Trip Purpose/Destination (All Customers)

Metrorail



Other Maryland Residents: Weekday Trip Purpose/Destination (All Customers)

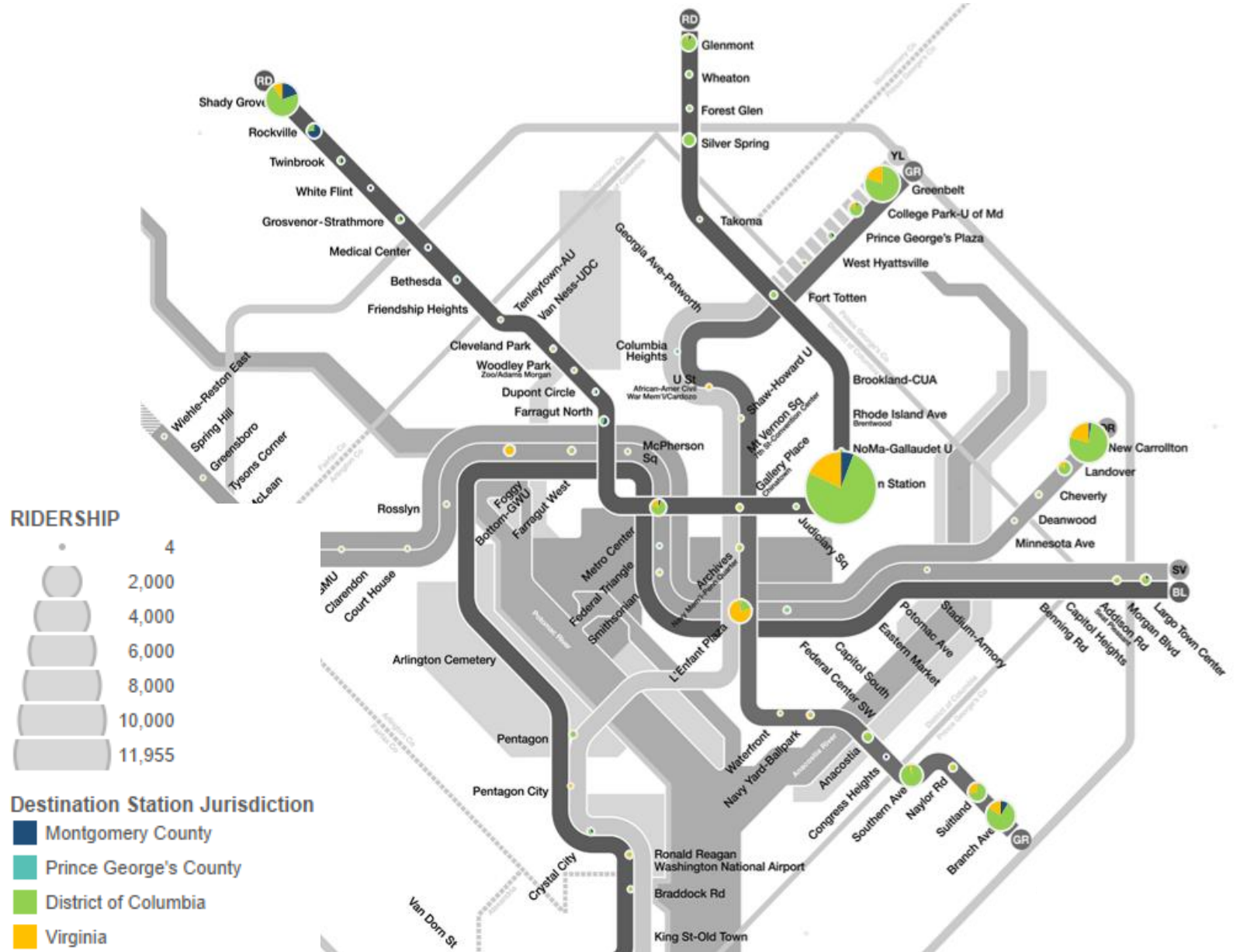
Metrobus



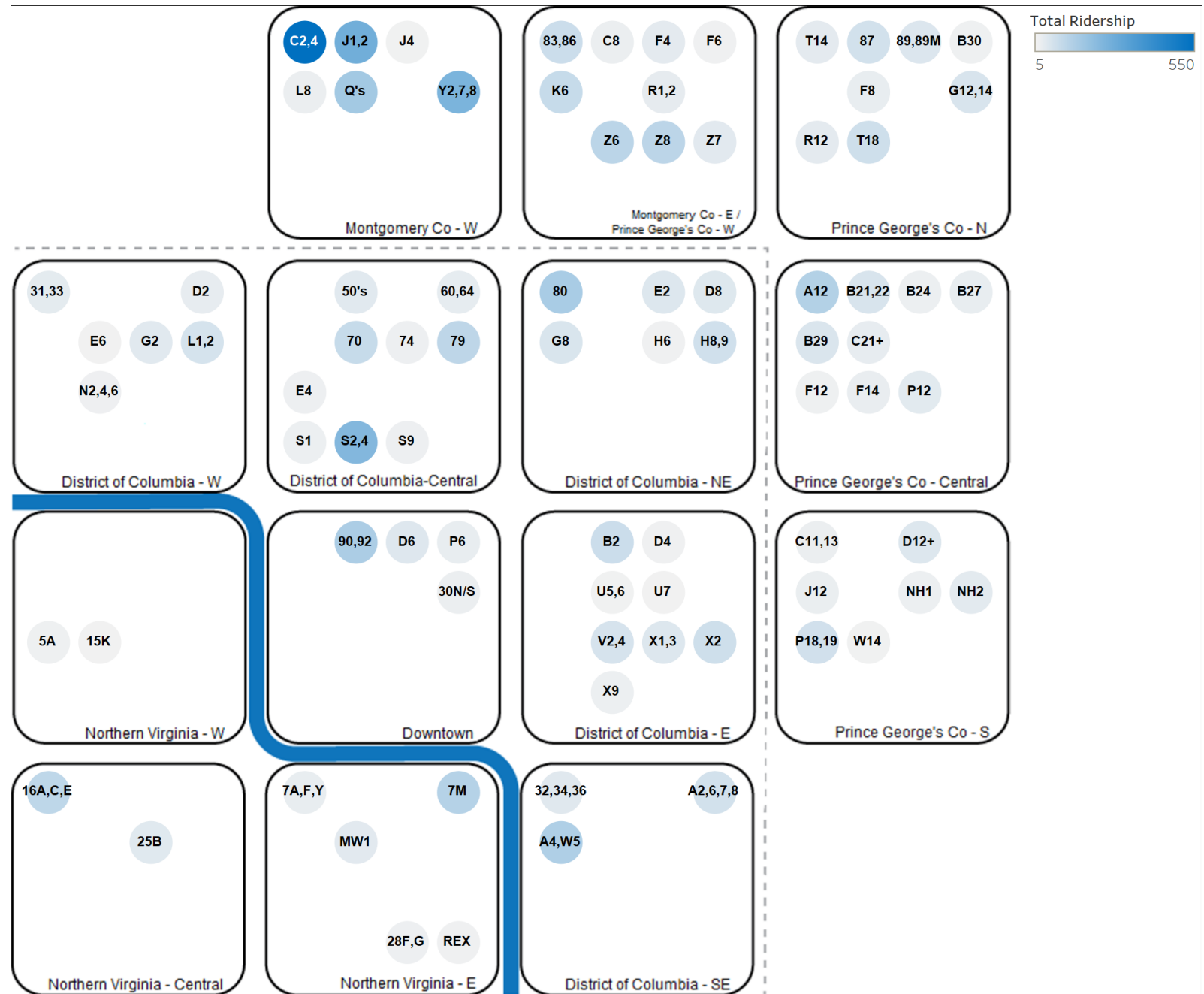
- Legend
- Home
 - Job-Related Business
 - Personal Trip, Sightseeing, or Recreation
 - School
 - Shopping/Meal
 - Work



Other Maryland Residents: Metrorail Origins and Destinations, AM Peak



Other Maryland Residents: Metrobus Ridership by Line



The Reverse Commute: Metrorail Origins and Destinations, AM Peak

- Around 10,600 people travel to Maryland from another state on Metrorail each morning on a typical weekday
- Approximately 75% DC residents, with the rest mostly from Virginia
- These reverse commuters are primarily destined for:
 - Employment centers on the Red Line, particularly Bethesda, Medical Center, and Silver Spring stations
 - Some job sites in Prince George's County, such as College Park-U of MD, Suitland, and New Carrollton stations

AM Peak Exits by Home Jurisdiction from non-Maryland residents

