

# Washington Metropolitan Area Transit Authority Services Utilization Study



Maryland House Bill 300

December 2015

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# Executive Summary

The Washington Metropolitan Area Transit Authority (WMATA or Metro) opened in 1976 by interstate compact as a tri-jurisdictional organization comprised of the State of Maryland, Commonwealth of Virginia, and the District of Columbia. Today, Metrorail operates on 118 miles of track to 91 stations on six lines. Metrobus operates 300 bus routes over 175 lines, of which a 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 truly a multimodal, regional system that Maryland residents from Montgomery, Prince George's, Frederick, Charles, Calvert, Howard, Anne Arundel, and Baltimore Counties and Baltimore City use on a daily basis.



**Metrorail** operates six lines, all of which serve Maryland.

- Of approximately 740,000 trips on Metrorail on a typical weekday, 38% are taken by Maryland residents.
- During the morning commute, 92% of Maryland residents on Metrorail are traveling from Maryland into either the District or Virginia.
- The most common modes of access to Metrorail by Maryland residents are auto (52%), bus (22%), and walking/bicycling (20%).
- The majority of Maryland residents (82%) egress from Metrorail by walking.
- Because of MTA commuter buses, other buses, and MARC, Maryland residents not only make use of Metrorail stations in the state in the morning, but many stations in DC such as Union Station, Fort Totten, and Rhode Island Avenue. In the evening and the rest of the day, Maryland residents use Metrorail stations across the rail network.



**Metrobus** operates 100 bus routes in Maryland.

- Of the system's approximately 450,000 trips on a typical weekday, 33% are taken by Maryland residents.
- The routes most used by Maryland residents are the Greenbelt-Twinbrook, Viers Mill Rd, and Georgia Avenue services, which serve the areas in southern Montgomery County and western Prince George's Counties, including Silver Spring.
- Maryland residents also heavily use bus lines that serve the District of Columbia as well, such as the buses on 16<sup>th</sup> St. NW, Pennsylvania Ave SE, and Wisconsin Ave. NW.



**MetroAccess** provides 7,000 trips on a typical weekday, of which 63% are taken by Maryland residents.

## Notes

- The data summarized in this report was collected from Metro's 2012 Metrorail passenger survey, the 2014 Metrobus passenger survey, and an average day for MetroAccess in April 2015. ***All figures represent a typical weekday.***
- The [2012 Metrorail Passenger Survey](#) is a dataset of over 60,000 completed responses describing average weekday ridership of around 740,000 rail boardings. The survey is designed to capture information about Metrorail riders that the farebox does not – demographics, ultimate destination, trip purpose, and more. Surveys were distributed manually on all station mezzanines and all time periods, and weighted based on faregate counts by mezzanine and time period. Stations and times were re-sampled to achieve a 5% margin of error at the 95% confidence level at the systemwide level, by time period. More technical information [here](#) and [here](#).
- The [2014 Metrobus Passenger Survey](#) is a dataset of over 26,000 completed responses describing an average weekday on Metrobus of around 450,000 bus boardings. (Weekend data was also collected). Similar to rail, the survey captures customer information beyond the fare system. Paper surveys were distributed as an intercept survey in two waves in the spring and fall of 2014. The survey was designed to reach similar levels of statistical accuracy as the rail survey, and the full dataset is available [online](#).
- The Metrorail passenger survey was conducted before the Silver Line opened in July, 2014.
- The rail and bus results represent unlinked trips. Therefore, a respondent who takes Metrobus to Metrorail would be considered as taking two trips.
- The AM peak period is defined as 5am – 9:30am. The PM peak period is defined as 3-7pm. All other times are defined as off-peak.
- In the 2014 Metrobus passenger survey, the origins and destinations requested are a place, business, or building, such as a home, work, or school. These are not necessarily where the respondent boarded or alighted the bus. Therefore, origins and destinations may be in jurisdictions that do not have Metrobus service, but do represent the origin or destination of the respondent.
- Origins and destinations are shown for the AM Peak Period (system opening – 9:30am) only, which represents typical commuting patterns on the Metro system.
- Full data download and interactive versions of charts and graphs contained in this document are available at the links below:
  - [https://public.tableau.com/views/HB300OriginsDestinations/DestinationsAMPeak?:embed=y&:showTabs=y&:display\\_count=yes](https://public.tableau.com/views/HB300OriginsDestinations/DestinationsAMPeak?:embed=y&:showTabs=y&:display_count=yes)
  - [https://public.tableau.com/views/HB300TotalsPurposeAccessEgress/TotalRidershipbyModeandJurisdictionofResidence?:embed=y&:showTabs=y&:display\\_count=yes](https://public.tableau.com/views/HB300TotalsPurposeAccessEgress/TotalRidershipbyModeandJurisdictionofResidence?:embed=y&:showTabs=y&:display_count=yes)

# Metro Systemwide Fact Sheet

## **Metrorail**

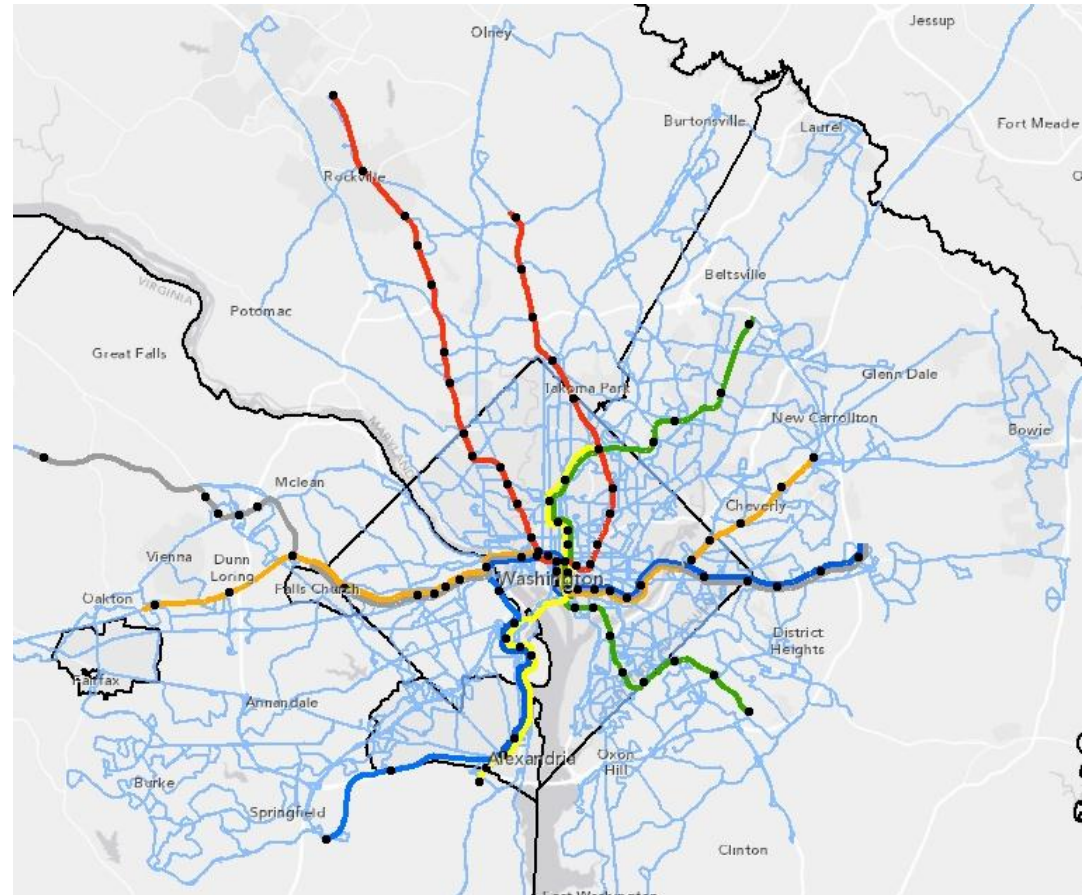
- 118 miles, 91 stations, 6 lines
- Average daily ridership: 740,000
- Average AM peak period ridership: 240,000
- Annual ridership: 274 million
- Rail fleet: 1,150

## **Metrobus**

- 300 routes on 175 lines
- Average daily ridership: 450,000
- Average AM peak period ridership: 145,000
- Annual ridership: 138 million
- Bus fleet: 1,500

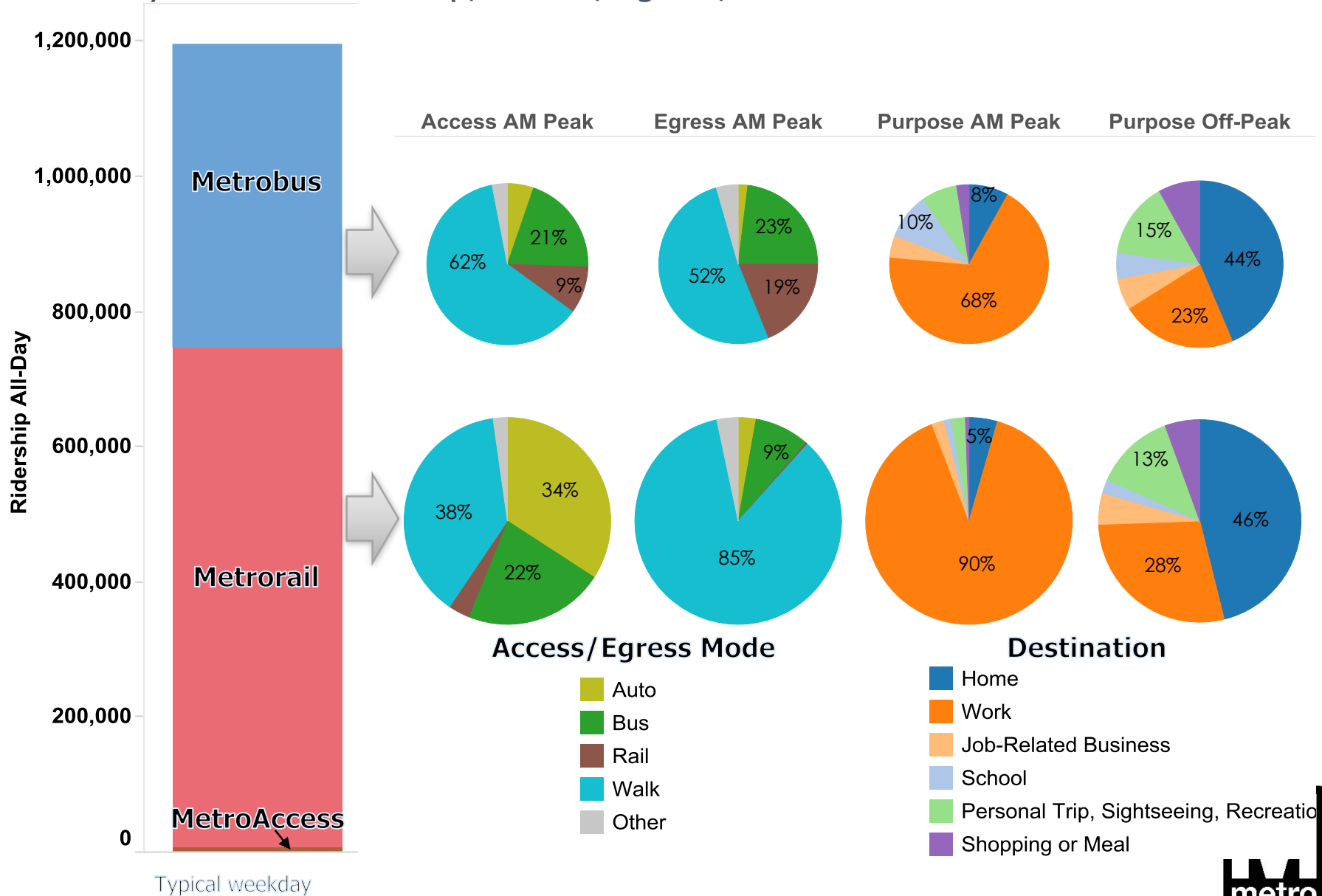
## **MetroAccess**

- Average daily ridership: 7,000
- Annual ridership: 102,000
- Vehicle fleet: 550



Map of all Metrorail and Metrobus Lines

# Metro Systemwide Ridership, Access, Egress, and Reason for Travel

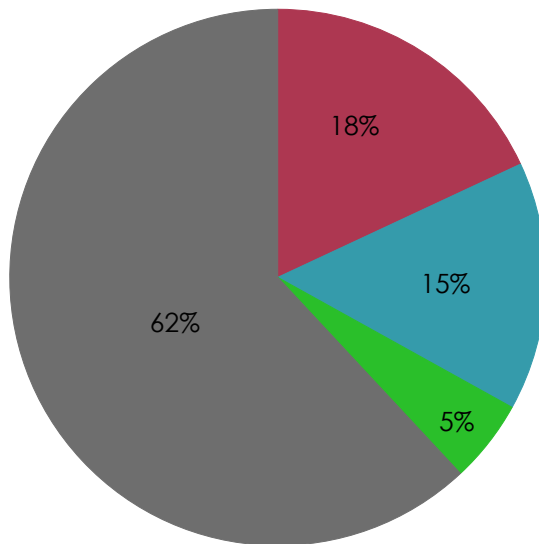


# Maryland Residents – Ridership by Mode

## Jurisdiction of Residence

- Montgomery Co.
- Prince George's Co.
- Other Maryland
- Outside Maryland

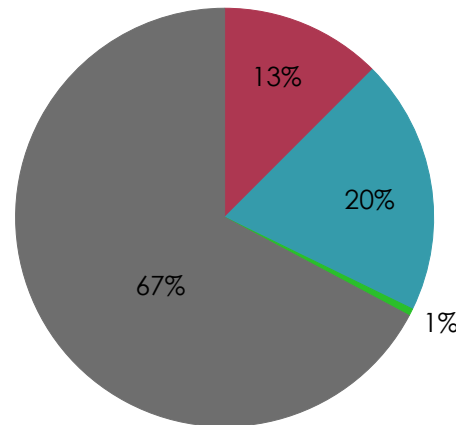
### Metrorail



**Daily Ridership: 740,000**

**From Maryland residents: 282,000 (38%)**

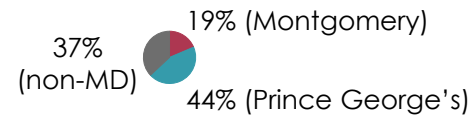
### Metrobus



**450,000**

**148,000 (33%)**

### MetroAccess

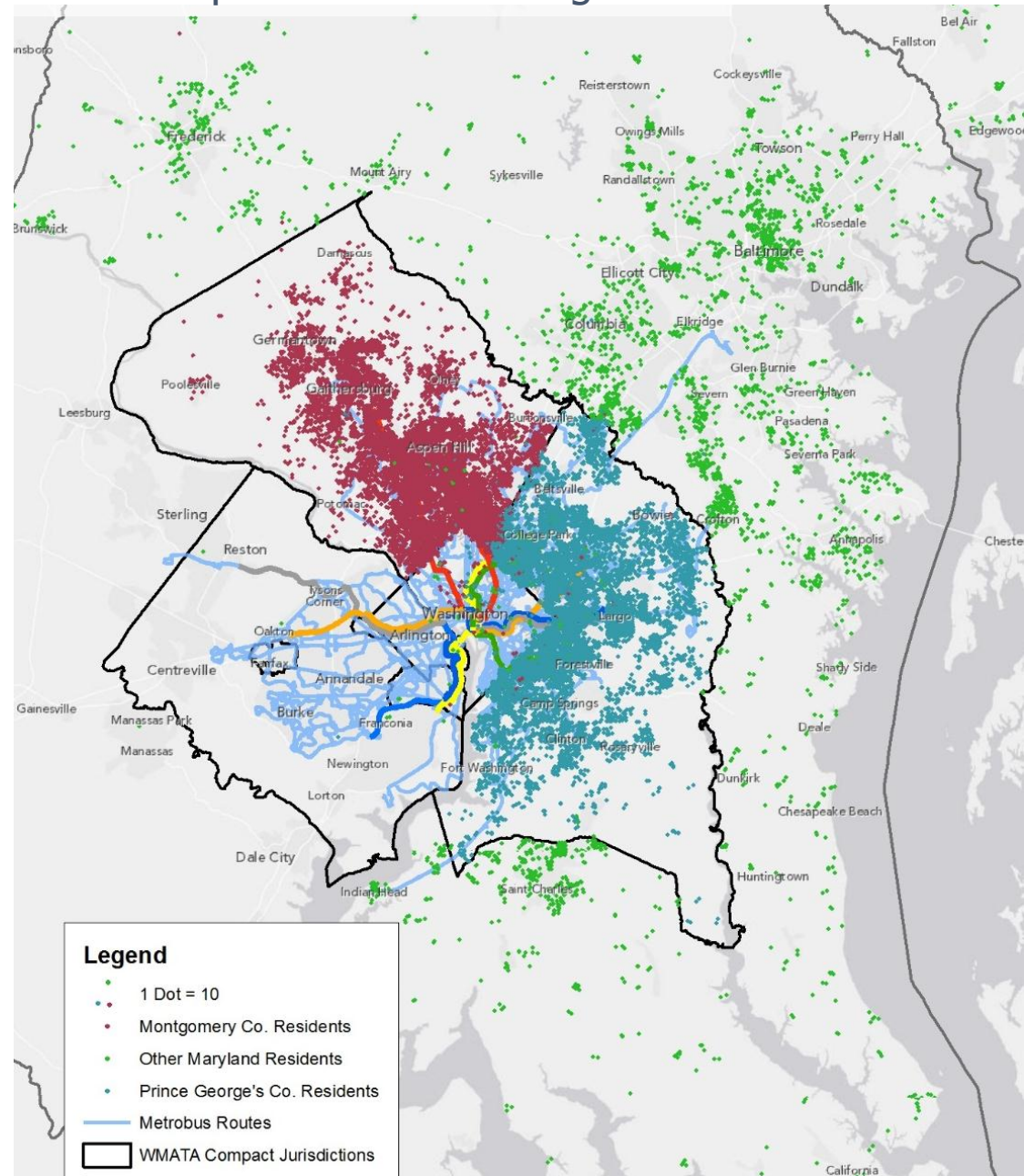


**7,000**

**4,400 (63%)**



# Maryland Residents – Where Do Trips on Metrorail Originate



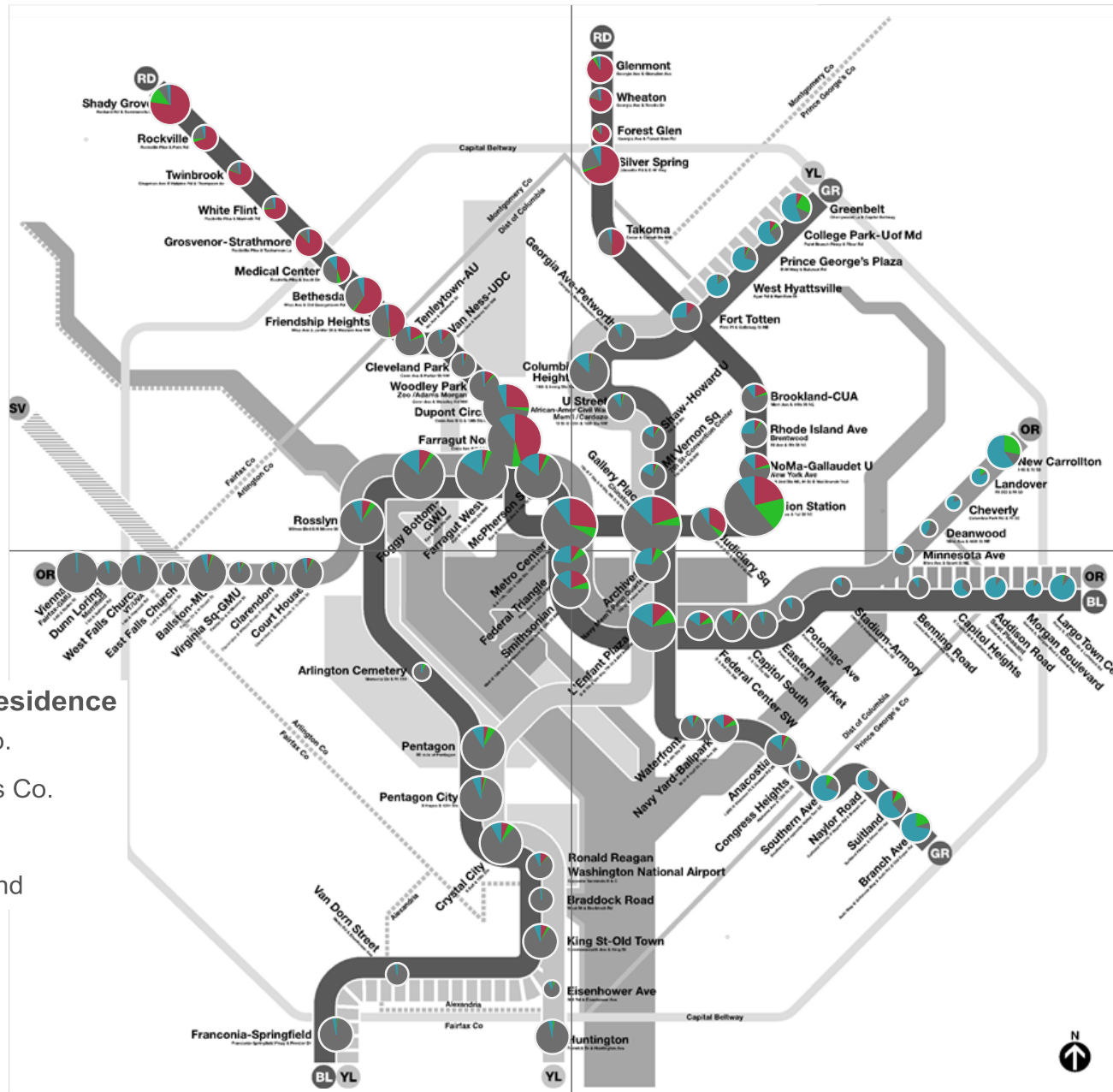


# Daily Metrorail Ridership by Jurisdiction of Residence

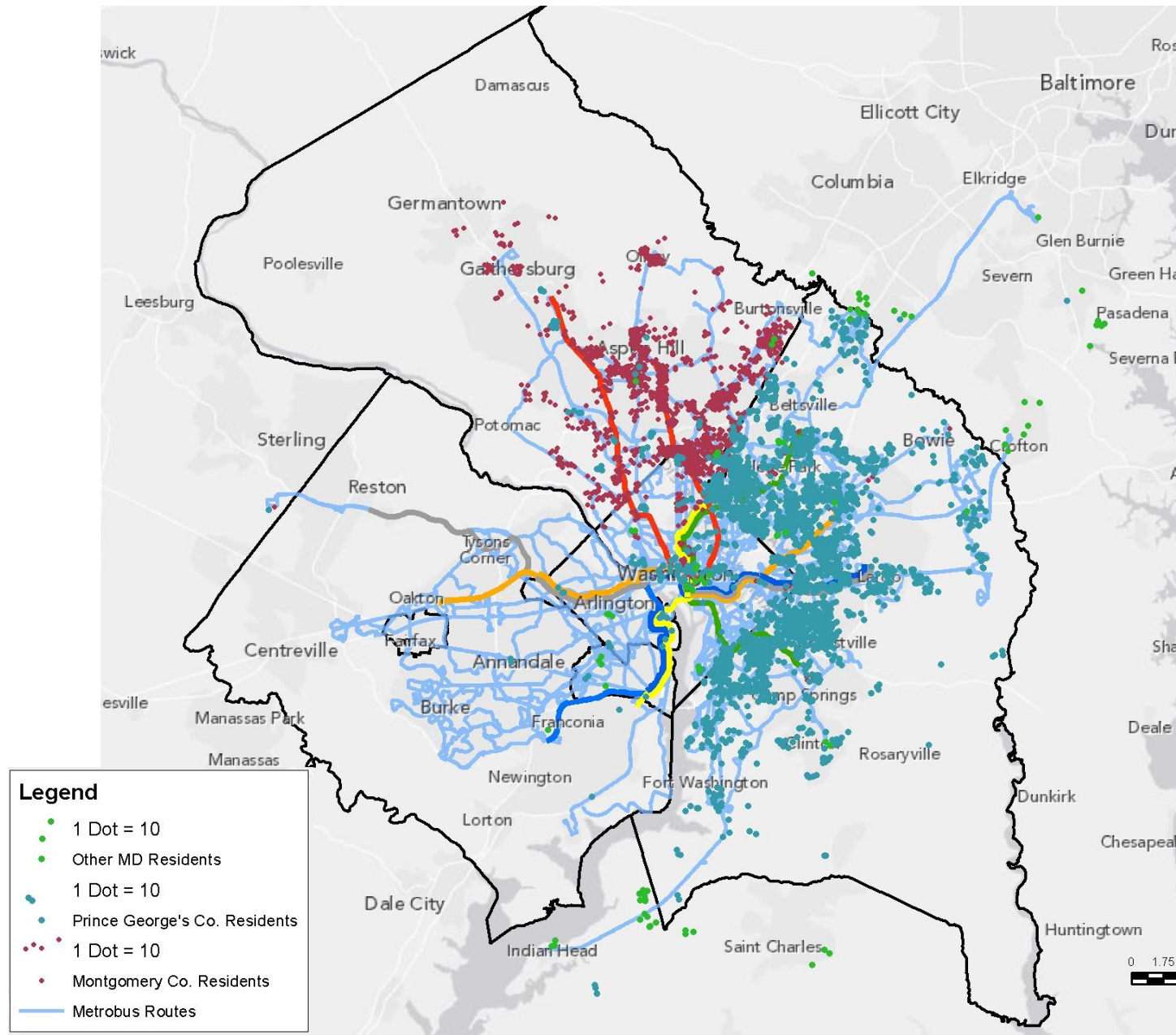
## Jurisdiction of Residence

- Montgomery Co.
- Prince George's Co.
- Other Maryland
- Outside Maryland

Typical weekday



# Maryland Residents – Where Do Trips on Metrobus Originate



## Montgomery County – Highlights

- Montgomery County residents make 16% of all trips across all Metro services on a typical weekday. Of those trips, 70% are on Metrorail, 29% are on Metrobus, and 1% are on MetroAccess.

### **Metrorail**

- 82% of trips by Montgomery County residents are destined for Washington DC in the morning on a typical weekday
- 90% of trips in the AM peak period made by Montgomery County residents on Metrorail are for work purposes.
- 19% of trips in the off-peak by Montgomery County residents on Metrorail are for non-work and non-home purposes.

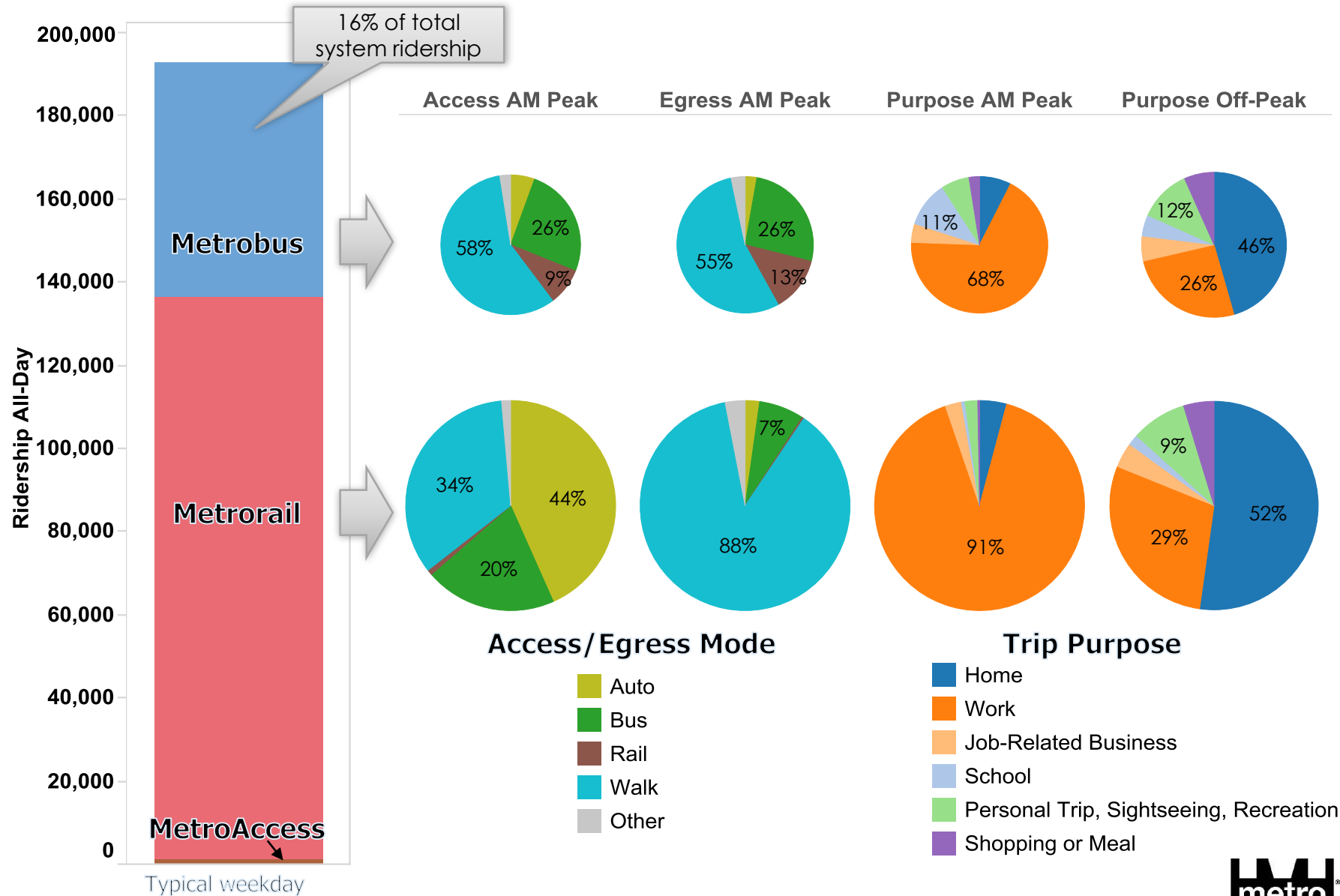
### **Metrobus**

- Of Montgomery County residents who use Metrobus, a greater number originate on the eastern half of the county
- The destinations are concentrated in downtown Washington DC, as well as at the major job centers in Montgomery County such as Silver Spring, Bethesda, and Rockville.
- 68% of trips in the AM peak period made by Montgomery County residents on Metrobus are for work purposes on a typical weekday
- 28% of trips in the off-peak by Montgomery County residents on Metrobus are for non-work and non-home purposes.

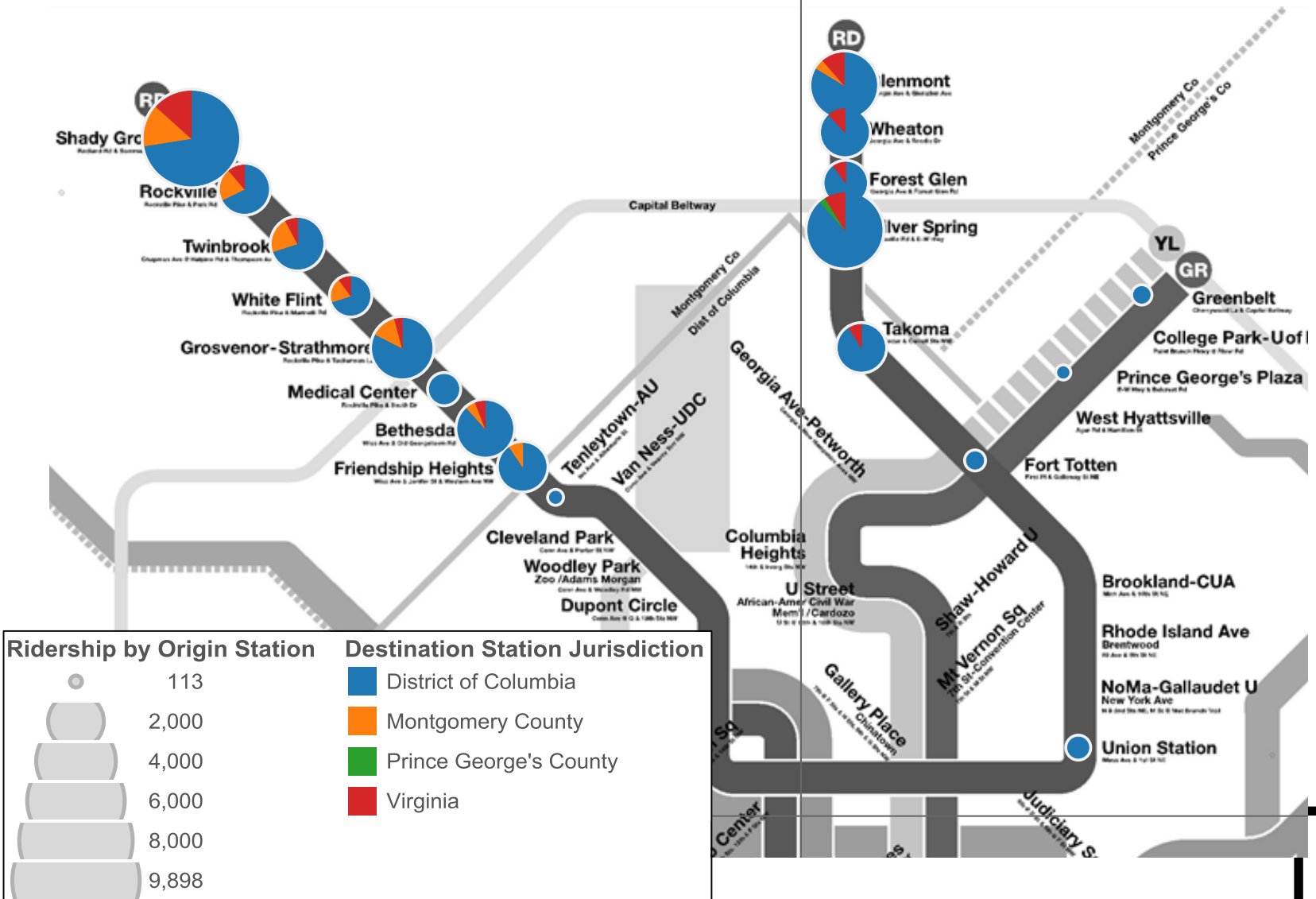
### **MetroAccess**

- Montgomery County residents make 1,300 MetroAccess trips per weekday, which is roughly 19% of the system total.

# Montgomery County Residents – Ridership, Access, Egress, and Purpose



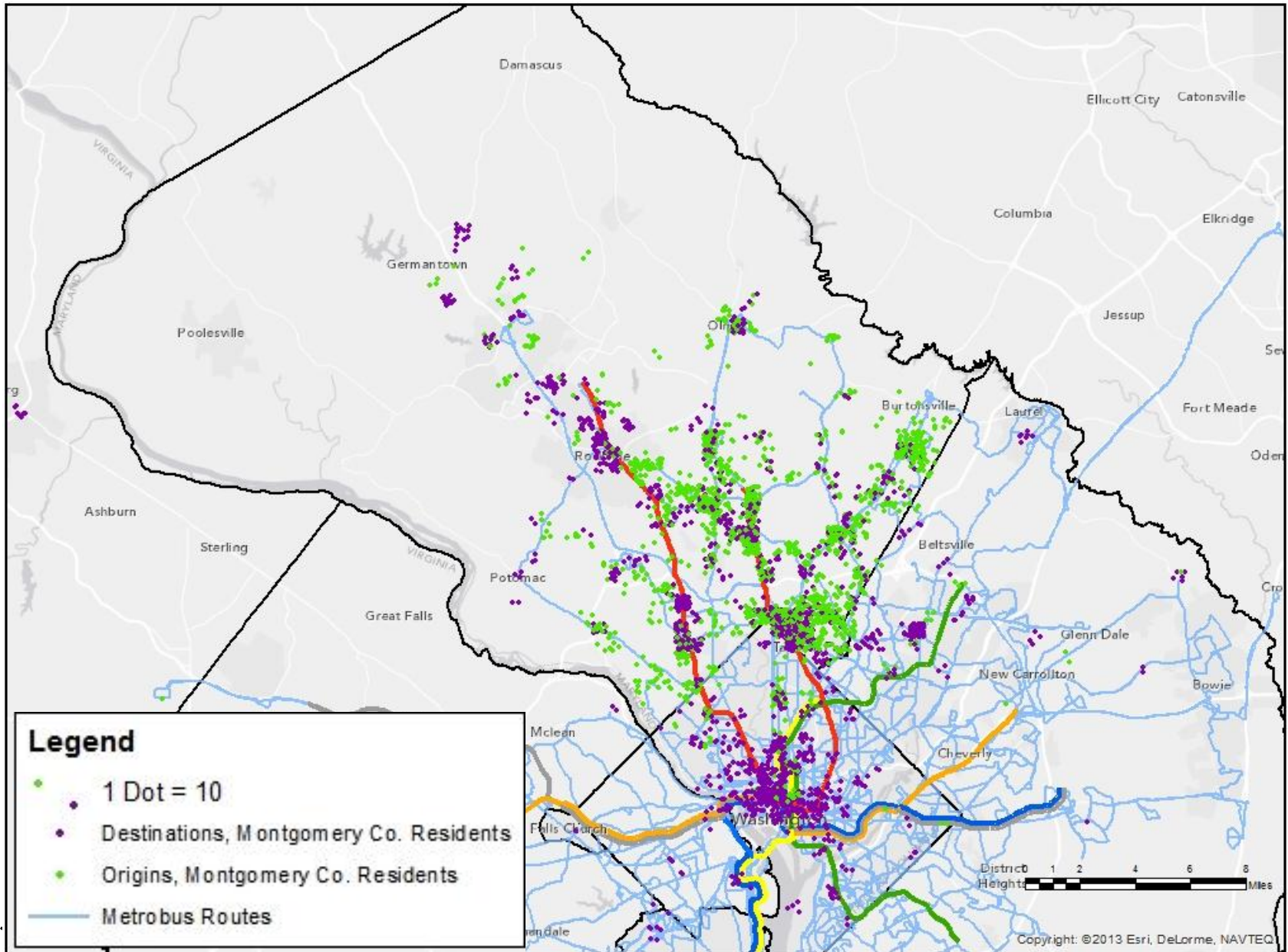
# Montgomery County Residents – Metrorail Origins and Destinations, AM Peak



Stations with over 100 residents entering shown

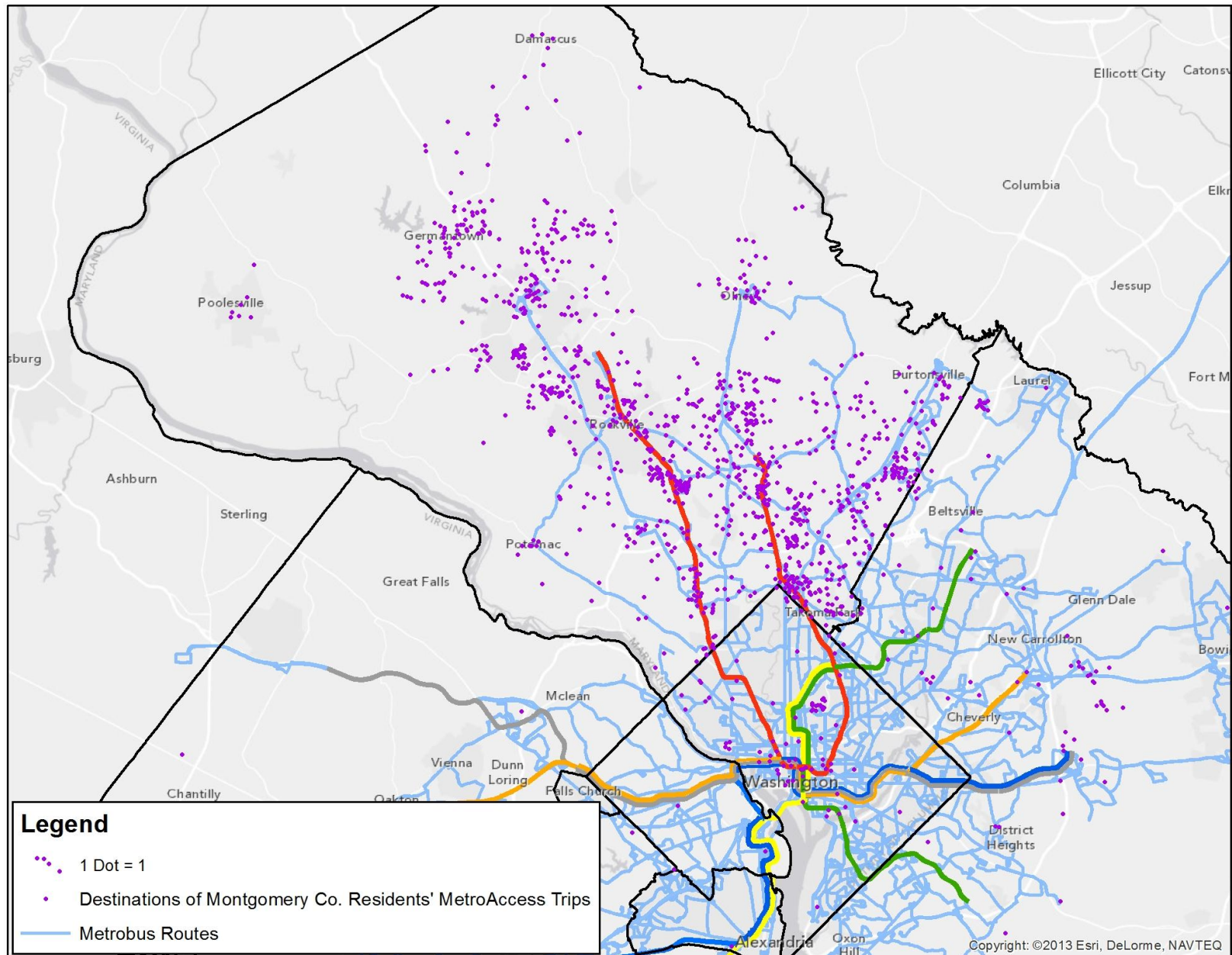


## Montgomery County Residents – Metrobus Origins and Destinations, AM Peak





# Montgomery County Residents – MetroAccess Destinations



## Prince George's County – Summary

- Prince George's County residents make 17% of all trips across all Metro services on a typical weekday. Of those trips, 55% are on Metrorail, 44% are on Metrobus, and 1.5% are on MetroAccess.

### **Metrorail**

- 80% of rail trips by Prince George's County residents are destined for Washington DC in the morning on a typical weekday
- 89% of trips in the AM peak period made by Prince George's County residents on Metrorail are for work purposes.
- 20% of trips in the off-peak by Prince George's County residents on Metrorail are for non-work and non-home purposes.

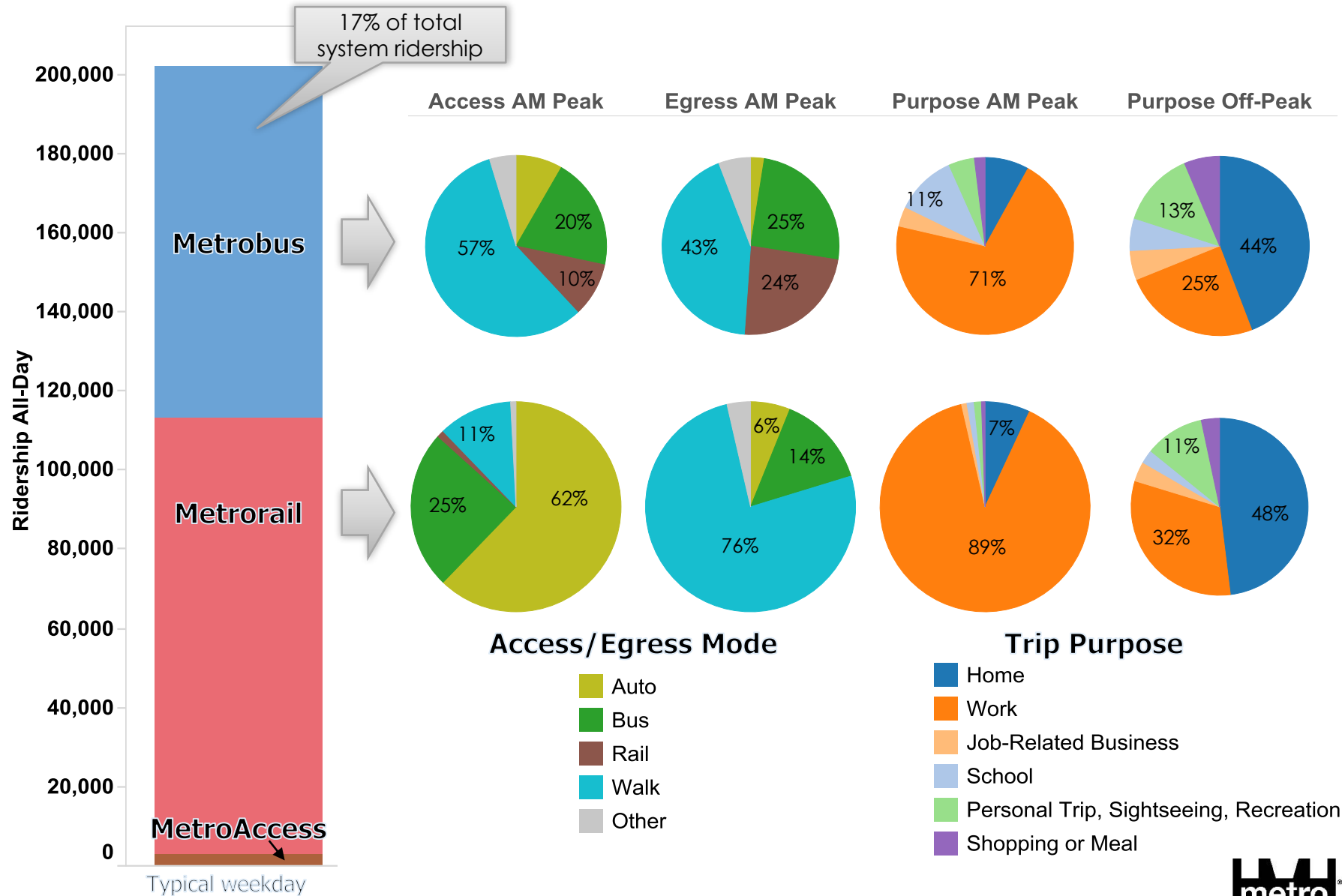
### **Metrobus**

- Of Prince George's County residents who use Metrobus, a significant number originate within the Capital Beltway (coinciding with more Metrobus service),
- The destinations are concentrated in downtown Washington DC, Metrorail stations, as well as major job centers in Prince George's County
- 71% of trips in the AM peak period made by Prince George's County residents on Metrobus are for work purposes on a typical weekday
- 31% of trips in the off-peak by Prince George's County residents on Metrobus are for non-work and non-home purposes.

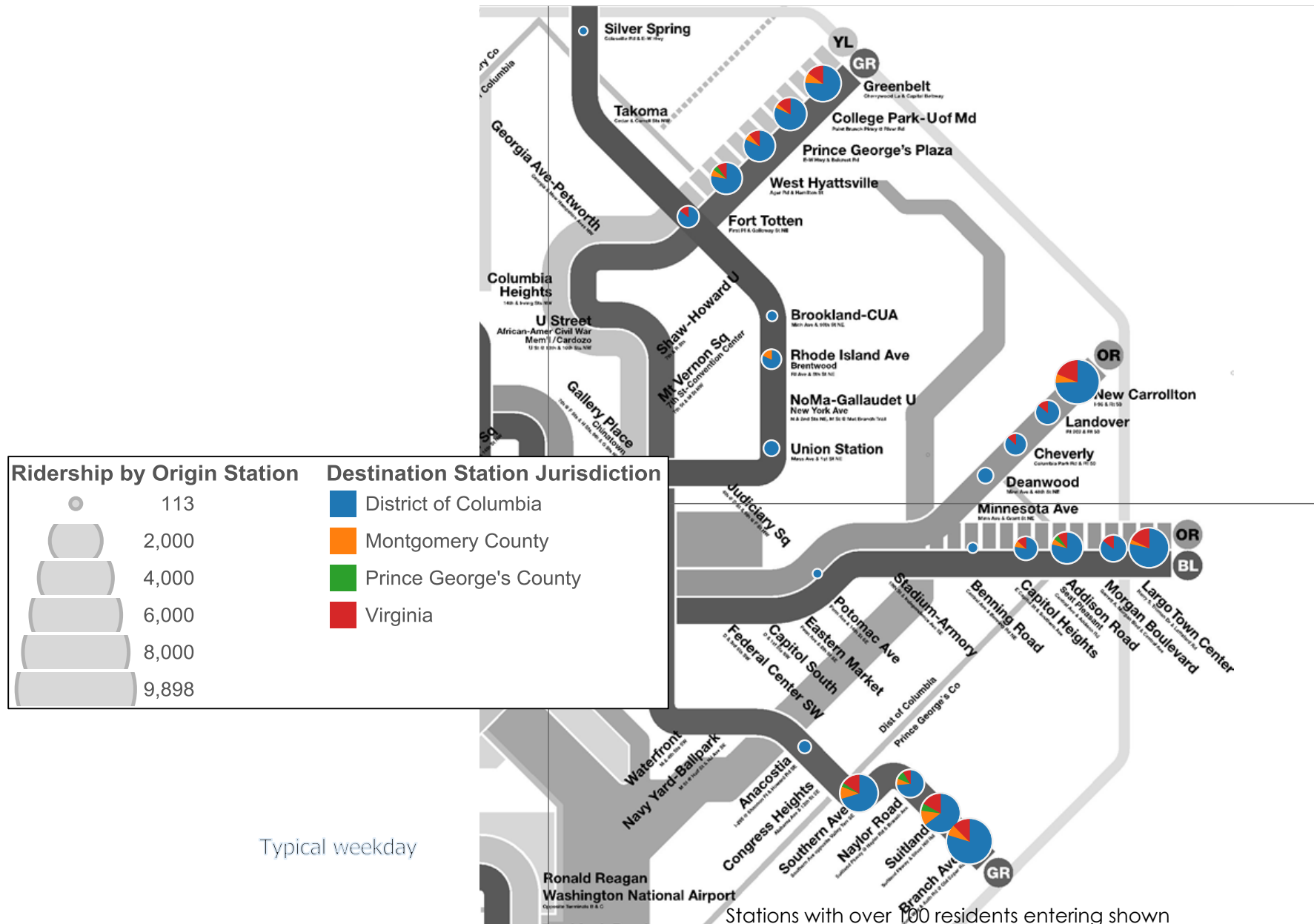
### **MetroAccess**

- Prince George's County residents make 3,100 MetroAccess trips per weekday, which represents 44% of all MetroAccess trips. Prince George's County is the largest consumer of MetroAccess trips of all Metro's jurisdiction.

# Prince George's County – Ridership, Access, Egress, and Purpose

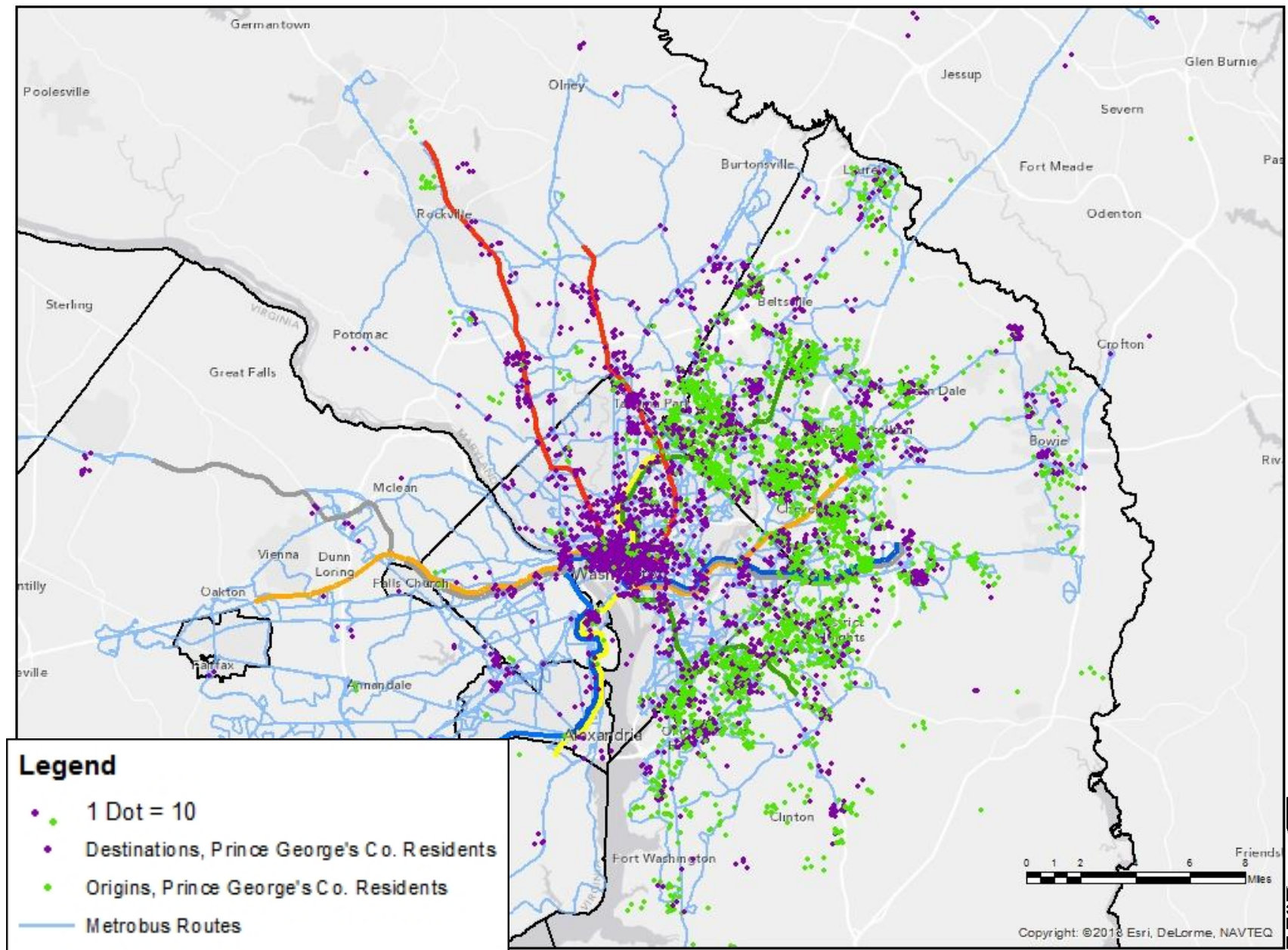


# Prince George's County – Metrorail Origins and Destinations, AM Peak

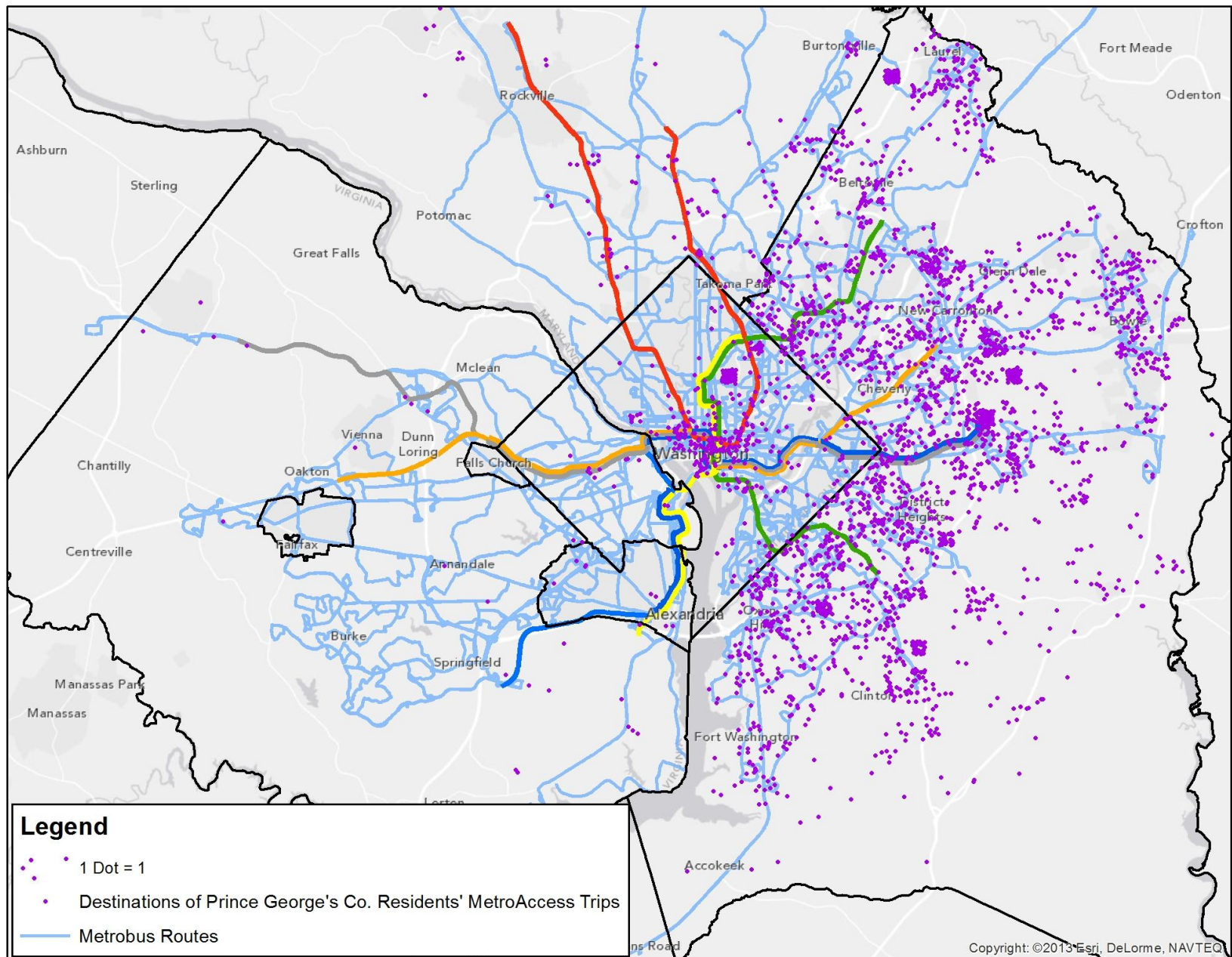




## Prince George's County – Metrobus Origins and Destinations, AM Peak



## Prince George's County – MetroAccess Destinations





## Other Maryland Counties – Summary

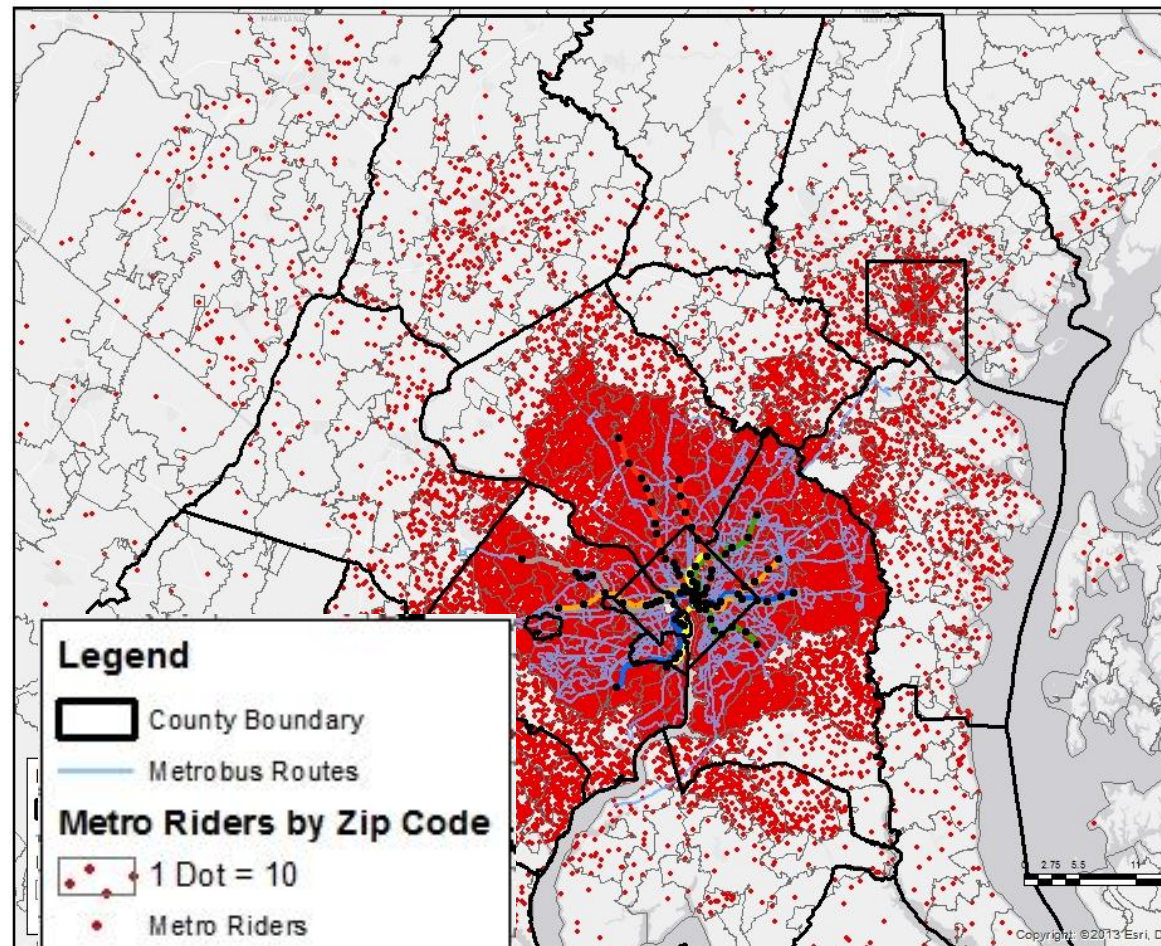
- Residents from Frederick, Charles, Calvert, Howard, Anne Arundel, and Baltimore Counties and Baltimore City and beyond also use Metrorail and Metrobus. They do not use MetroAccess services.
- 3.3% of all trips across all Metro services on a typical weekday are taken by Maryland residents of these counties. Of those trips, 94% are on Metrorail and 6% are on Metrobus.

### **Metrorail**

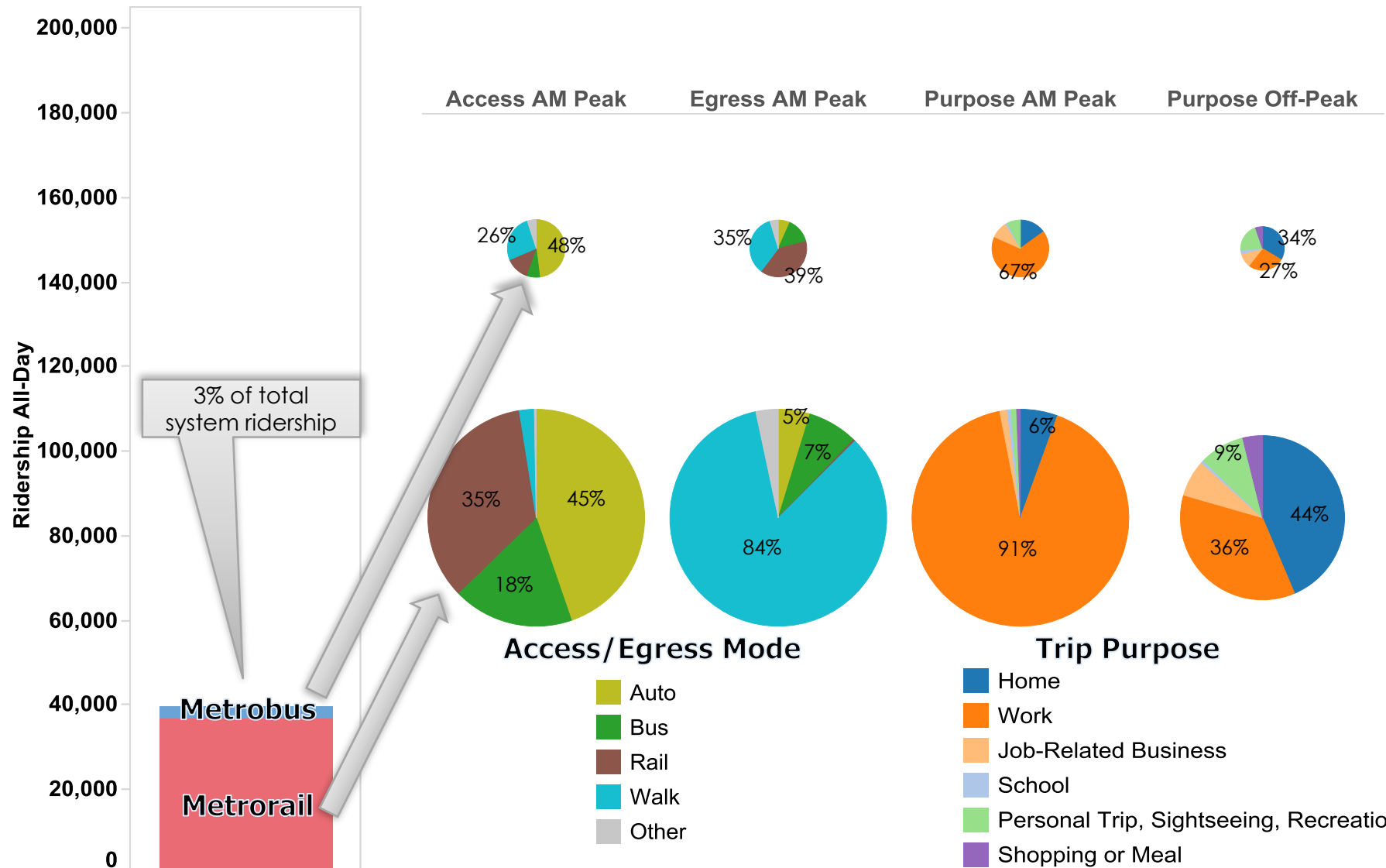
- Most rail trips from Maryland residents beyond Montgomery and Prince George's Counties are on Metrorail, for both long-haul trips from outer stations, to circulation within the core.
- 35% of other Maryland residents on Metrorail access via commuter rail (MARC) and Amtrak

### **Metrobus**

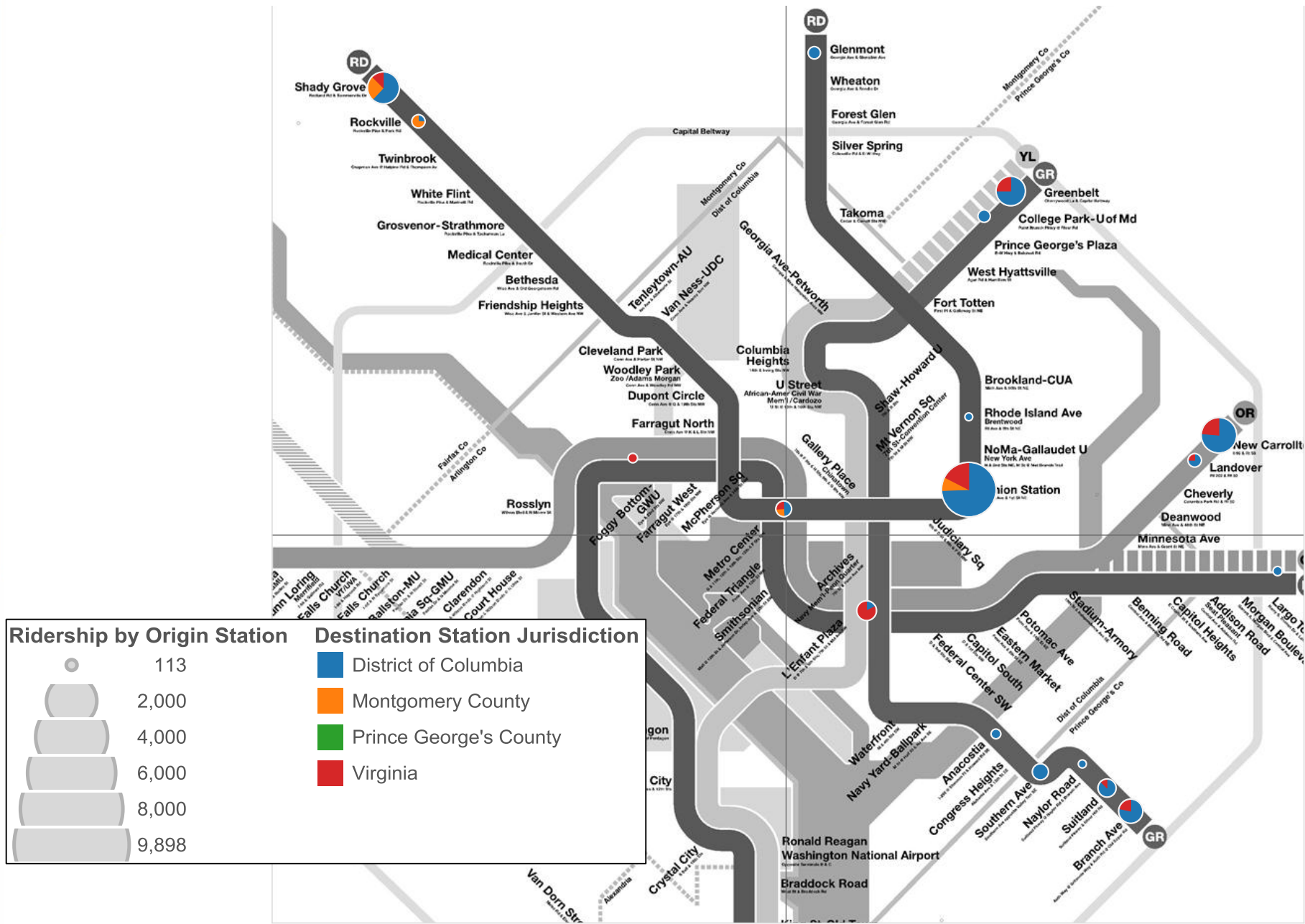
- Most bus trips from other Maryland residents originate from inside Metro's service area, or just near the border, in places such as Crofton, Laurel, and Indian Head



# Other Maryland Counties – Trip Origin, Destination, and Purpose

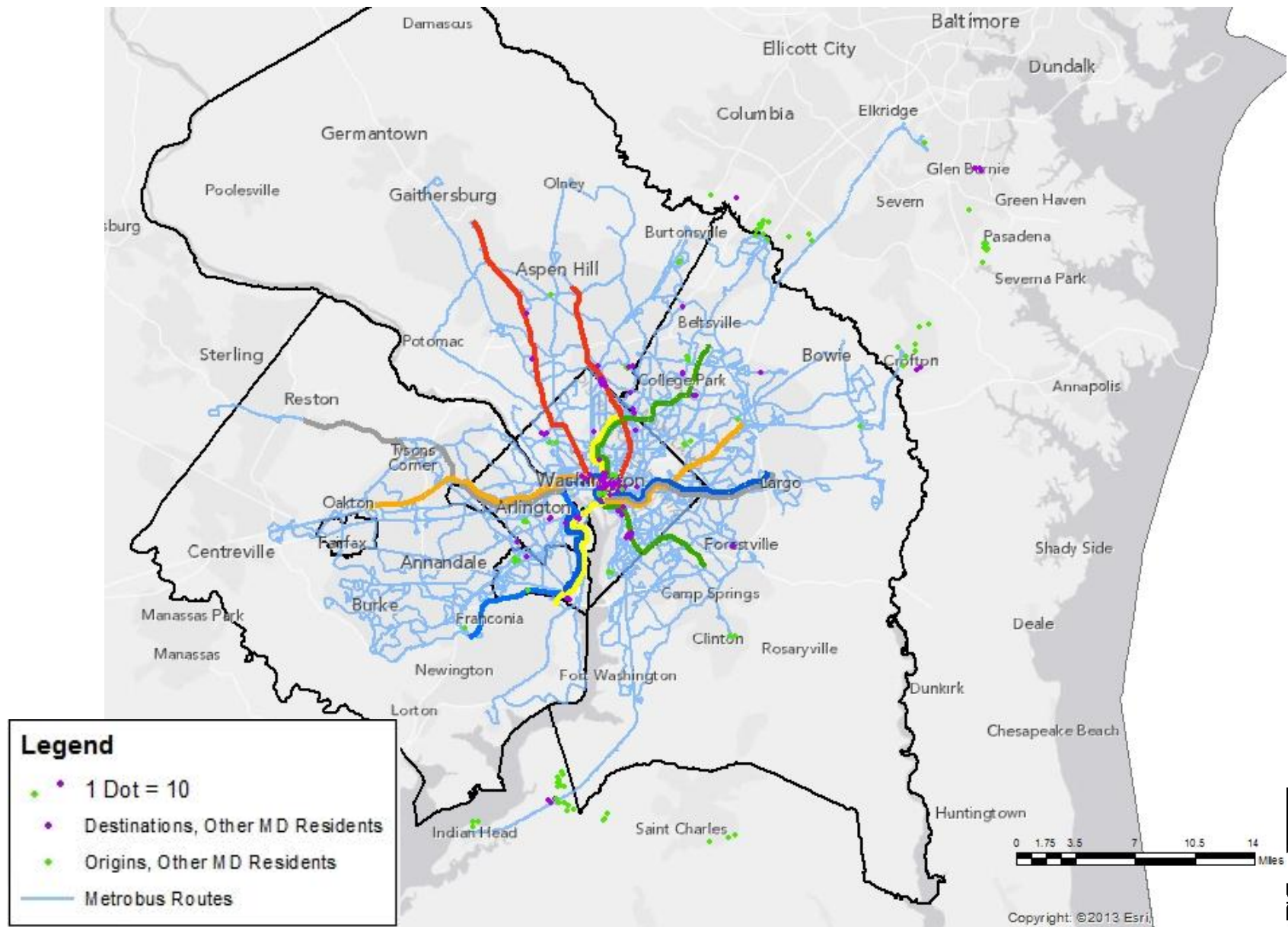


# Other Maryland Counties – Metrorail Origins and Destinations, AM Peak





## Other Maryland Counties – Metrobus Origins and Destinations, AM Peak



## The Reverse Commute – Summary

With many employers adjacent to Maryland's Metrorail stations and Metrobus stops, 17,600 residents of the District and Virginia commute into Maryland on Metro each morning on a typical weekday. This is about 5% of total system ridership.

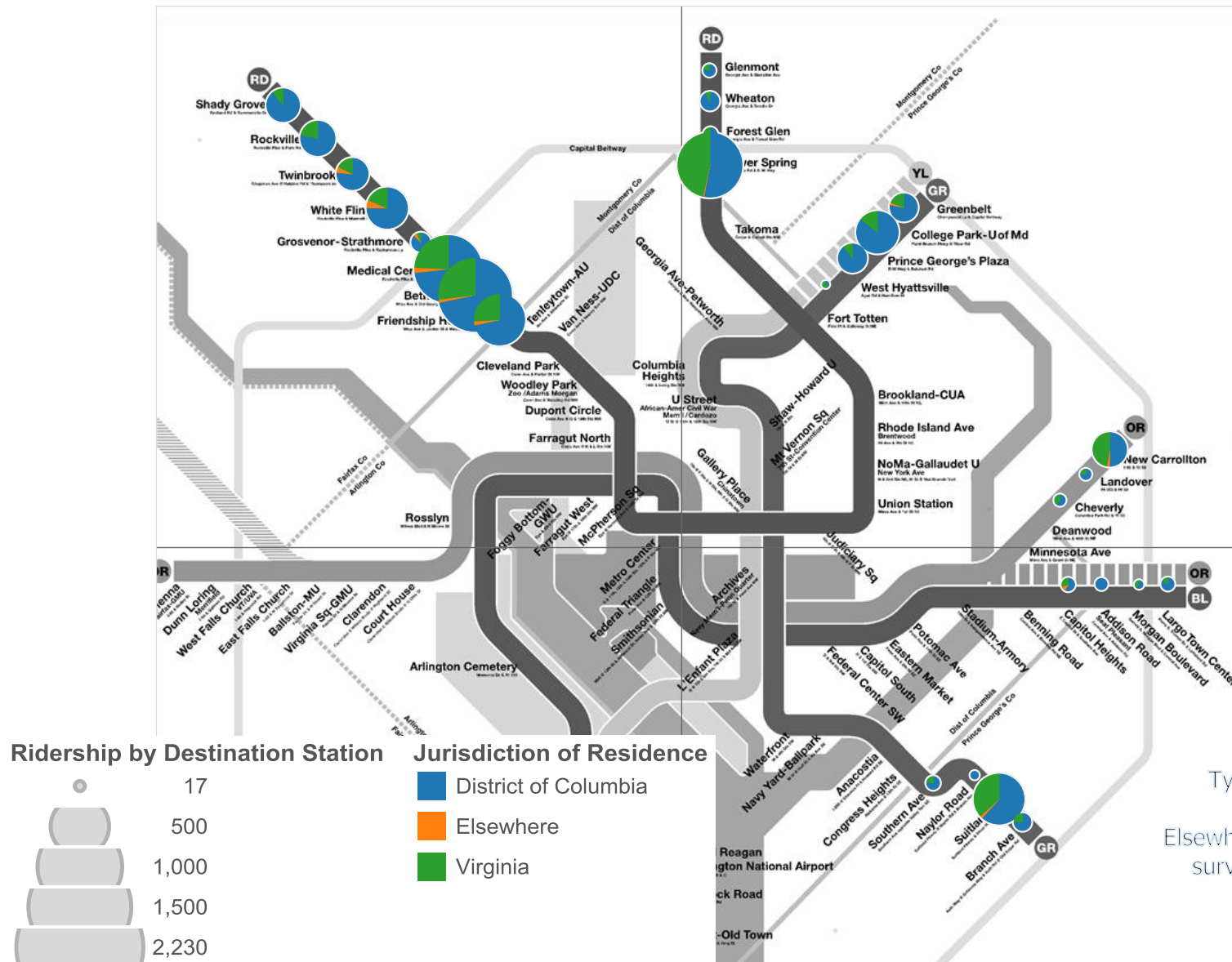
### **Metrorail**

- Around 12,800 people commute into Maryland each morning on Metrorail
- About three-quarters of this group are District residents, and the remainder hails from Virginia (plus a small group from elsewhere, including visitors).
- 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, Prince George's Plaza, Suitland, and New Carrollton stations

### **Metrobus**

- Roughly a quarter (4,900 per typical weekday) of the reverse commuters to Maryland in the morning come via Metrobus
- These commuters originate primarily in the District of Columbia
- Reverse commuters to Maryland via Metrobus are destined for similar locations as Metrorail – Silver Spring, Bethesda, but also to areas not accessible by rail, such as Montgomery Mall, Marlow Heights Shopping Center, and other job centers

# The Reverse Commute – Metrorail Origins and Destinations, AM Peak





## The Reverse Commute – Metrobus Origins and Destinations, AM Peak

