



Maryland Department of Transportation
The Secretary's Office

Larry Hogan
Governor

Boyd K. Rutherford
Lt. Governor

Pete K. Rahn
Secretary

November 30, 2015

The Honorable Edward J. Kasemeyer
Chair
Budget and Taxation Committee
Senate of Maryland
Miller Senate Office Building, 3 West
Annapolis MD 21401

The Honorable Thomas M. Middleton
Chair
Finance Committee
Senate of Maryland
Miller Senate Office Building, 3 East
Annapolis MD 21401

The Honorable Maggie McIntosh
Chair
Appropriations Committee
Maryland House of Delegate
House Office Building, Room 121
Annapolis MD 21401

The Honorable Kumar Barve
Chair
Environment and Transportation Committee
Maryland House of Delegates
House Office Building, Room 251
Annapolis MD 21401

Dear Chairs Kasemeyer, Middleton, McIntosh, and Barve:

Pursuant to Transportation Article §7-708, House Bill 300, Chapter 238, Acts of 2015, attached is the utilization study provided to the Maryland Department of Transportation (MDOT) by the Washington Metropolitan Area Transit Authority (WMATA). The language states:

- (a) (1) The Department, in cooperation with the Washington Metropolitan Area Transit Authority (WMATA), shall conduct a study every 5 years of the utilization of bus, rail, and subway transportation services under the jurisdiction of WMATA.*
- (2) In conducting the study, the Department shall:*
- (i) Compile and analyze statistics regarding the starting points and destinations, by jurisdiction, of individuals using WMATA-provided transportation services;*
 - (ii) Determine the modes of transportation individuals use to connect to WMATA-provided transportation services and the modes of transportation used between WMATA-provided transportation services and final destinations, including walking, personal vehicle, bus, and Maryland Area Regional Commuter (MARC) train;*
 - (iii) Compile and analyze data on the number of individuals who use Metrorail, Metrobus, and MetroAccess and the frequency of use; and*
 - (iv) Study and compare the various reasons individuals use WMATA-provided transportation services, including traveling for work, educational, entertainment, recreational, or other purposes.*

My telephone number is 410-865-1000
Toll Free Number 1-888-713-1414 TTY Users Call Via MD Relay
7201 Corporate Center Drive, Hanover, Maryland 21076

The Honorable Edward J. Kasemeyer
The Honorable Thomas M. Middleton
The Honorable Maggie McIntosh
The Honorable Kumar Barve
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(3) (i) *Except as provided in subparagraph (ii) of this paragraph, the information used in the study shall be from data gathered within the previous 5 years.*

(ii) *In conducting the first study, the Department shall compile and analyze the information pertaining to WMATA-provided transportation services listed under paragraph (2) of this subsection that is available at the time.*

(4) (i) *Information used in the study pertaining to Maryland jurisdictions shall be organized:*

1. *Except as provided in subparagraph (ii) of this paragraph, by jurisdiction rather than by region, including separate information for Baltimore County and Baltimore City; or*

2. *By zip code.*

(ii) *Information pertaining to Caroline County, Cecil County, Dorchester County, Kent County, Queen Anne's County, Somerset County, Talbot County, Wicomico County and Worcester County may be compiled and organized under the category "other Maryland."*

(b) *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, the Senate Budget and Taxation Committee, the Senate Finance Committee, the House Appropriations Committee, and the House Environment and Transportation Committee."*

The data summarized in the WMATA 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 comprises over 60,000 completed voluntary responses describing average weekday ridership of around 740,000 rail boardings. 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 percent margin of error at the 95 percent confidence level at the systemwide level, by time period.

The 2014 Metrobus Passenger Survey comprises over 26,000 completed voluntary responses describing an average weekday on Metrobus of around 450,000 bus boardings. Weekend data was also collected.

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 any statistical significance.

The Honorable Edward J. Kasemeyer
The Honorable Thomas M. Middleton
The Honorable Maggie McIntosh
The Honorable Kumar Barve
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If you have any questions or concerns, please contact Ms. Jane Williams, Maryland Department of Transportation Washington Area Transit Office Director, at jwilliams25@mdot.state.md.us or Mr. Charlie Scott, WMATA Senior Government Relations Officer for Maryland, at cscott@wmata.com. Of course, you may always contact me directly.

Sincerely,

A handwritten signature in black ink that reads "Pete K. Rahn". The signature is written in a cursive style with a large, stylized initial "P".

Pete K. Rahn
Secretary

cc: The Honorable Larry Hogan, Governor, State of Maryland
The Honorable Thomas V. "Mike" Miller, Jr., President, Senate of Maryland
The Honorable Michael E. Busch, Speaker, Maryland House of Delegates
Members of the Senate Budget and Taxation Committee
Members of the Senate Finance Committee
Members of the House Appropriations Committee
Members of the Environment and Transportation Committee
Ms. Jane Williams, Director, Washington Area Transit Office, MDOT
Mr. Charlie Scott, Senior Government Relations Officer for Maryland, WMATA

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 16th 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/HB300TotalsPurposeAccessEgress/TotalRidershipbyModeandJurisdictionofResidence?:embed=y&:showTabs=y&:display_count=yes



Metro Systemwide Fact Sheet

Metrorail

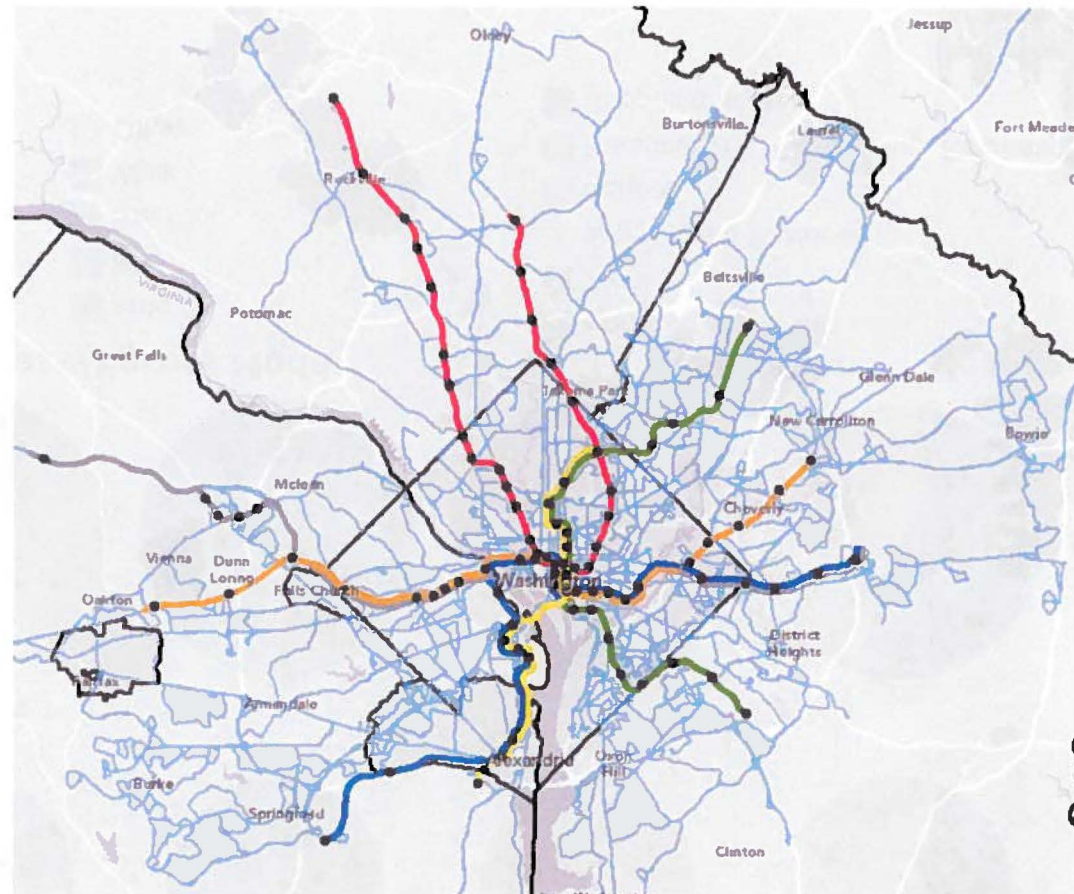
- 118 miles, 91 stations, 6 lines
- Average daily ridership: 740,000
- Average AM peak period ridership: 240,000
- Annual ridership: 274 million
- Rail fleet: 1,150

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

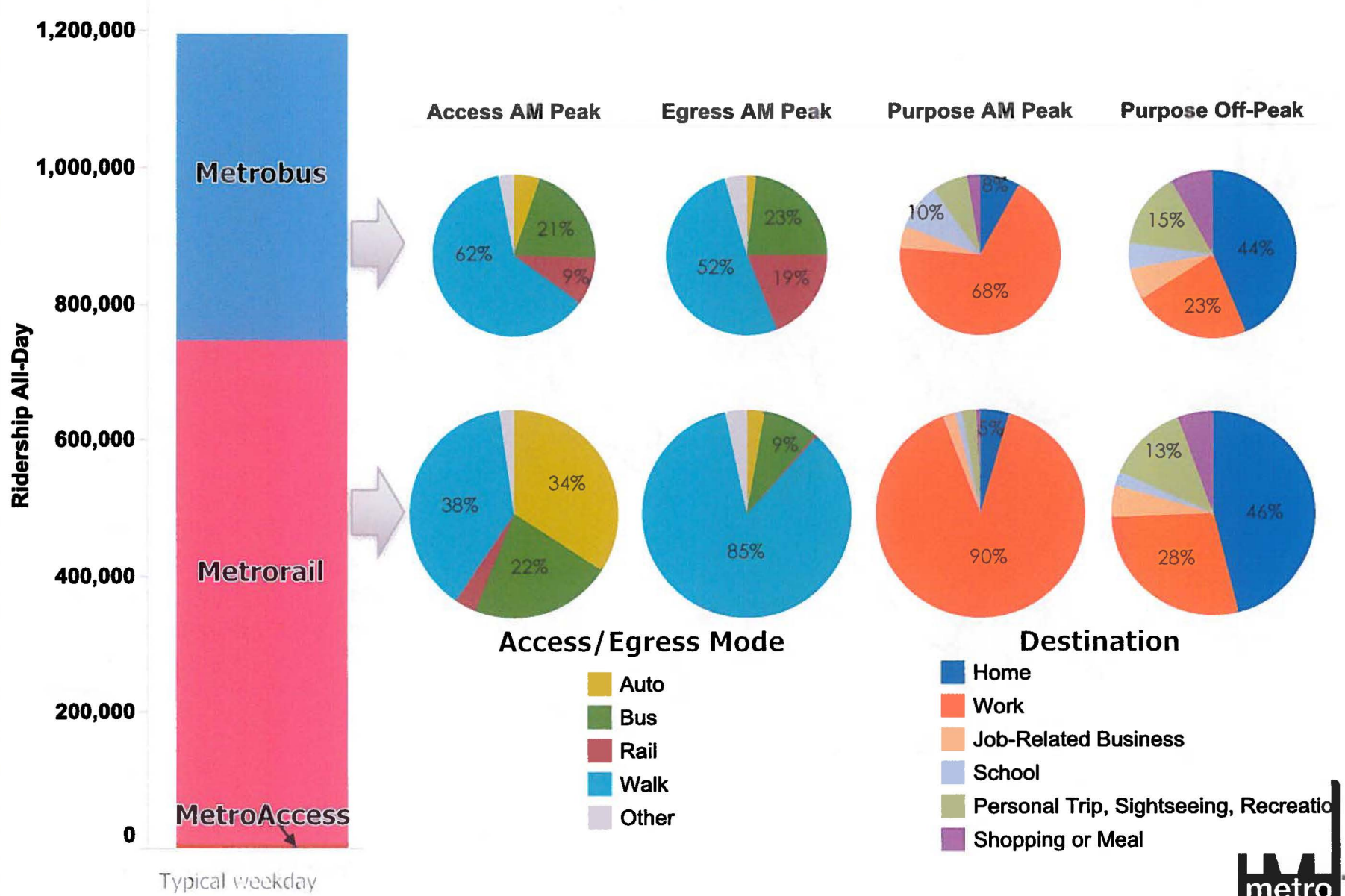
- Average daily ridership: 7,000
- Annual ridership: 102,000
- Vehicle fleet: 550



Map of all Metrorail and Metrobus Lines



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

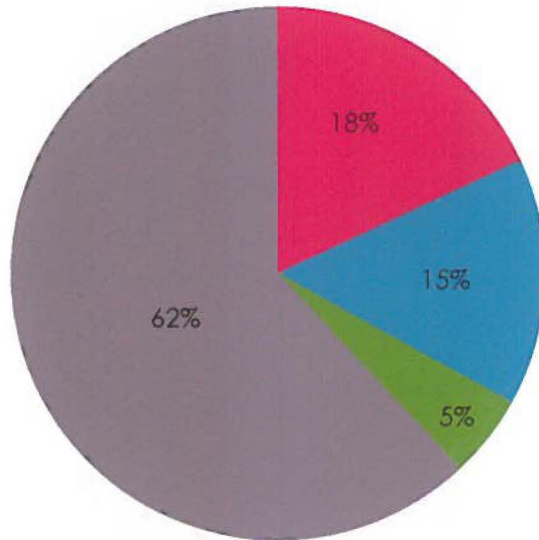


Maryland Residents – Ridership by Mode

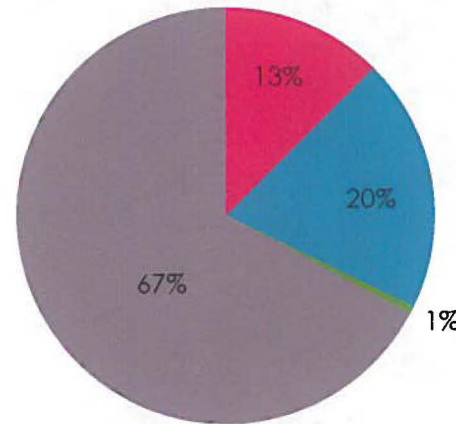
Jurisdiction of Residence

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

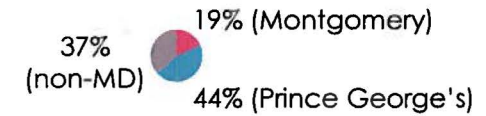
Metrorail



Metrobus



MetroAccess



Daily Ridership: 740,000

450,000

7,000

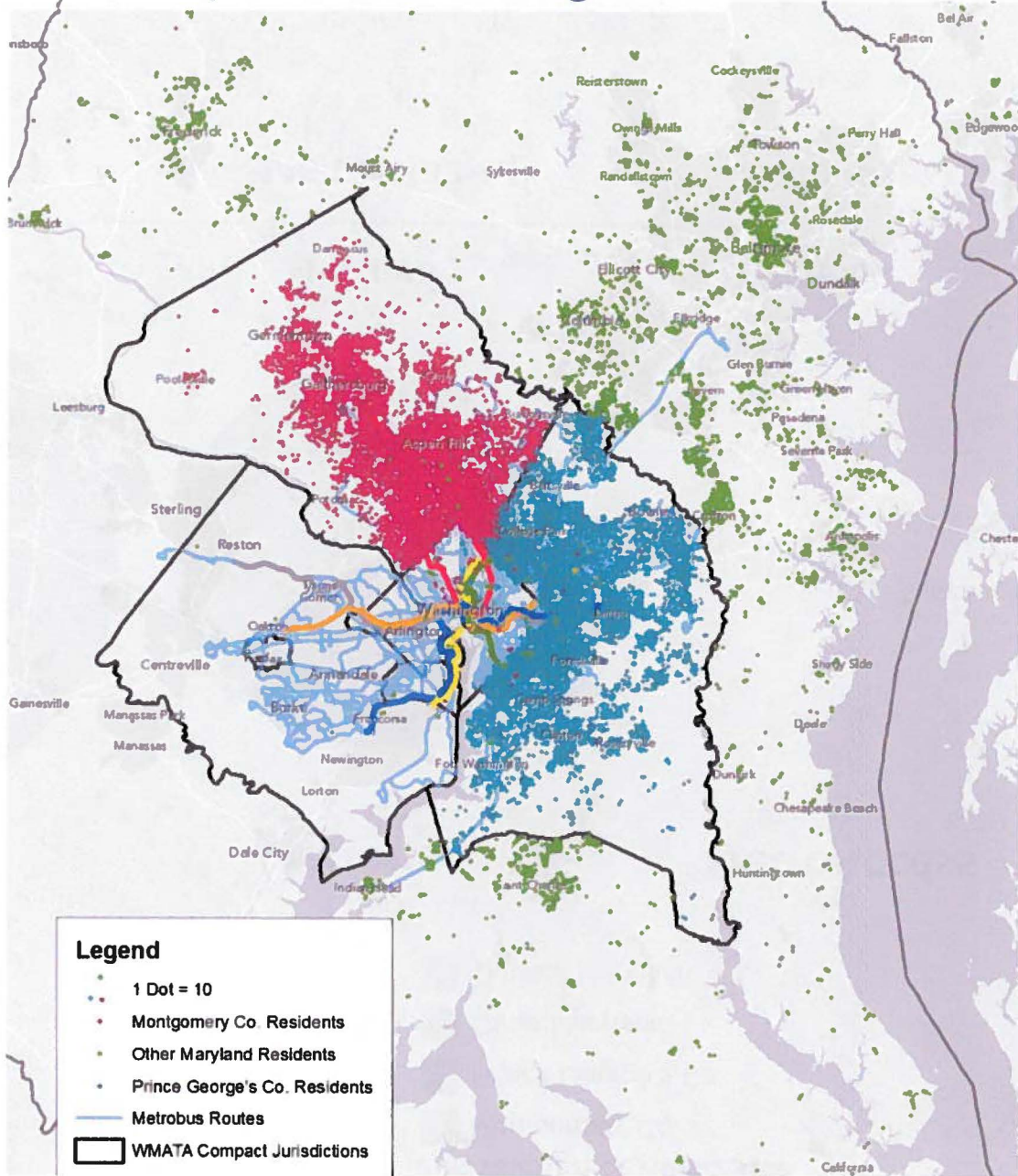
From Maryland residents: 282,000 (38%)

148,000 (33%)

4,400 (63%)



Maryland Residents – Where Do Trips on Metrorail Originate

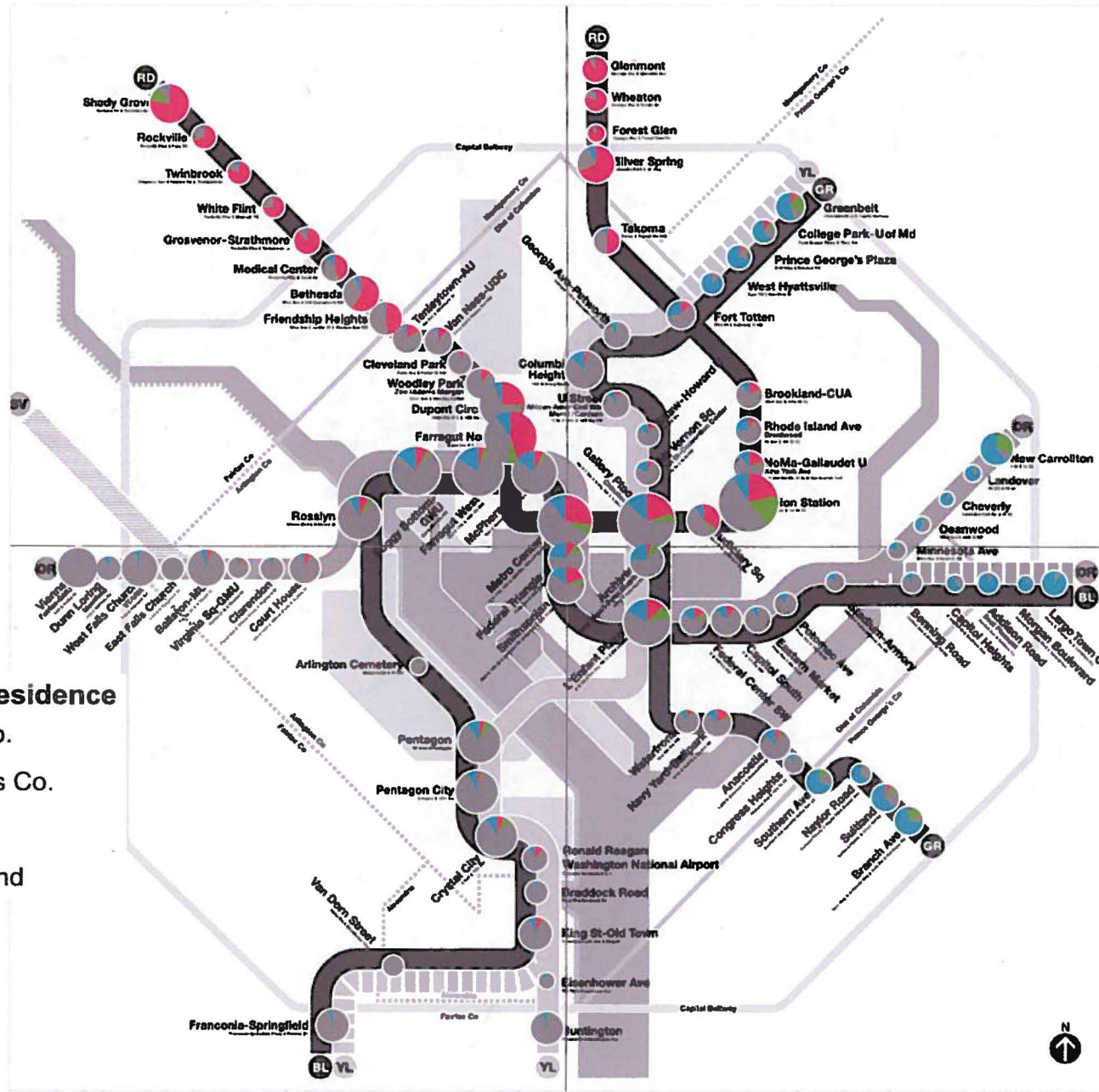


Daily Metrorail Ridership by Jurisdiction of Residence

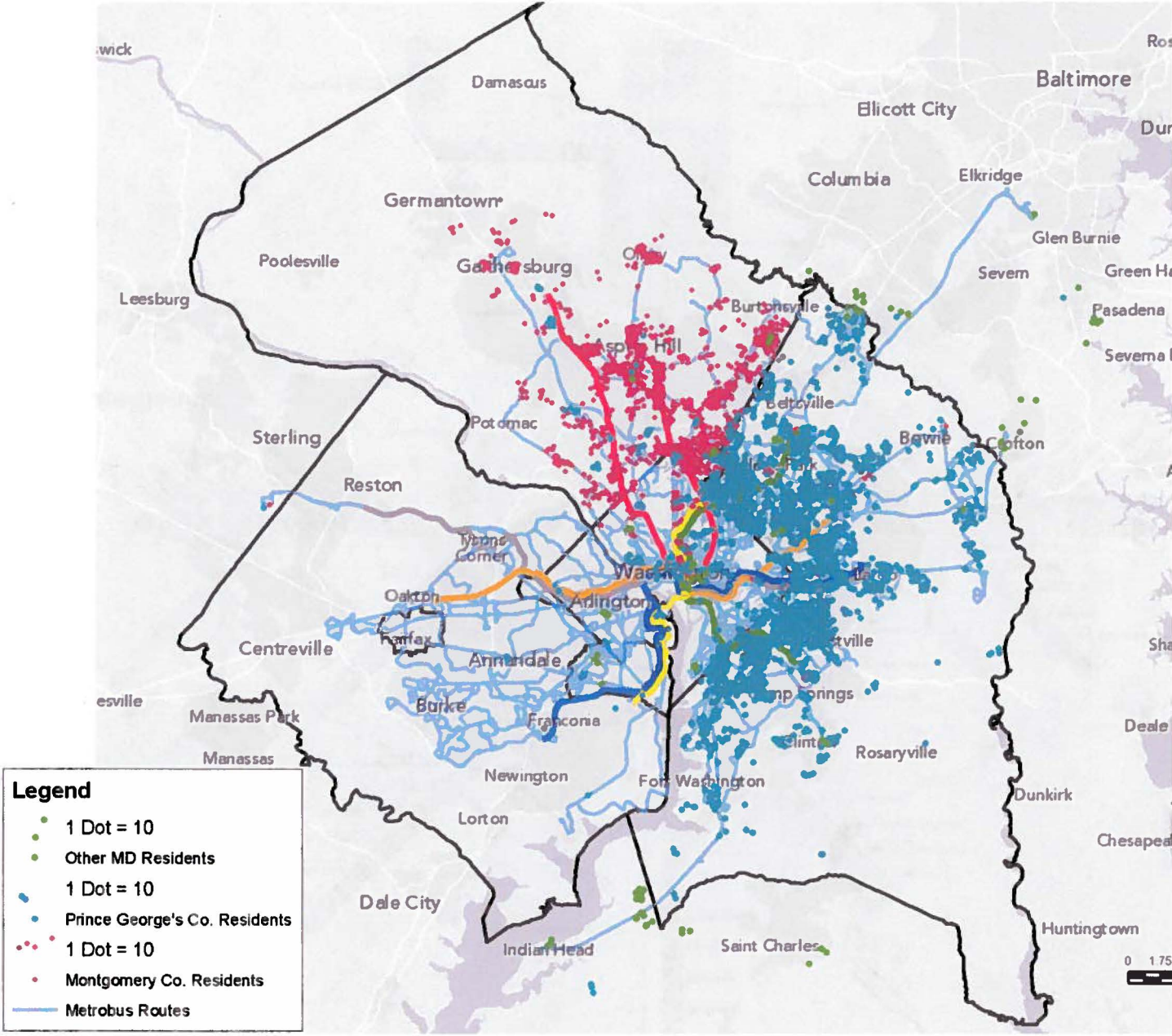
Jurisdiction of Residence

- 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

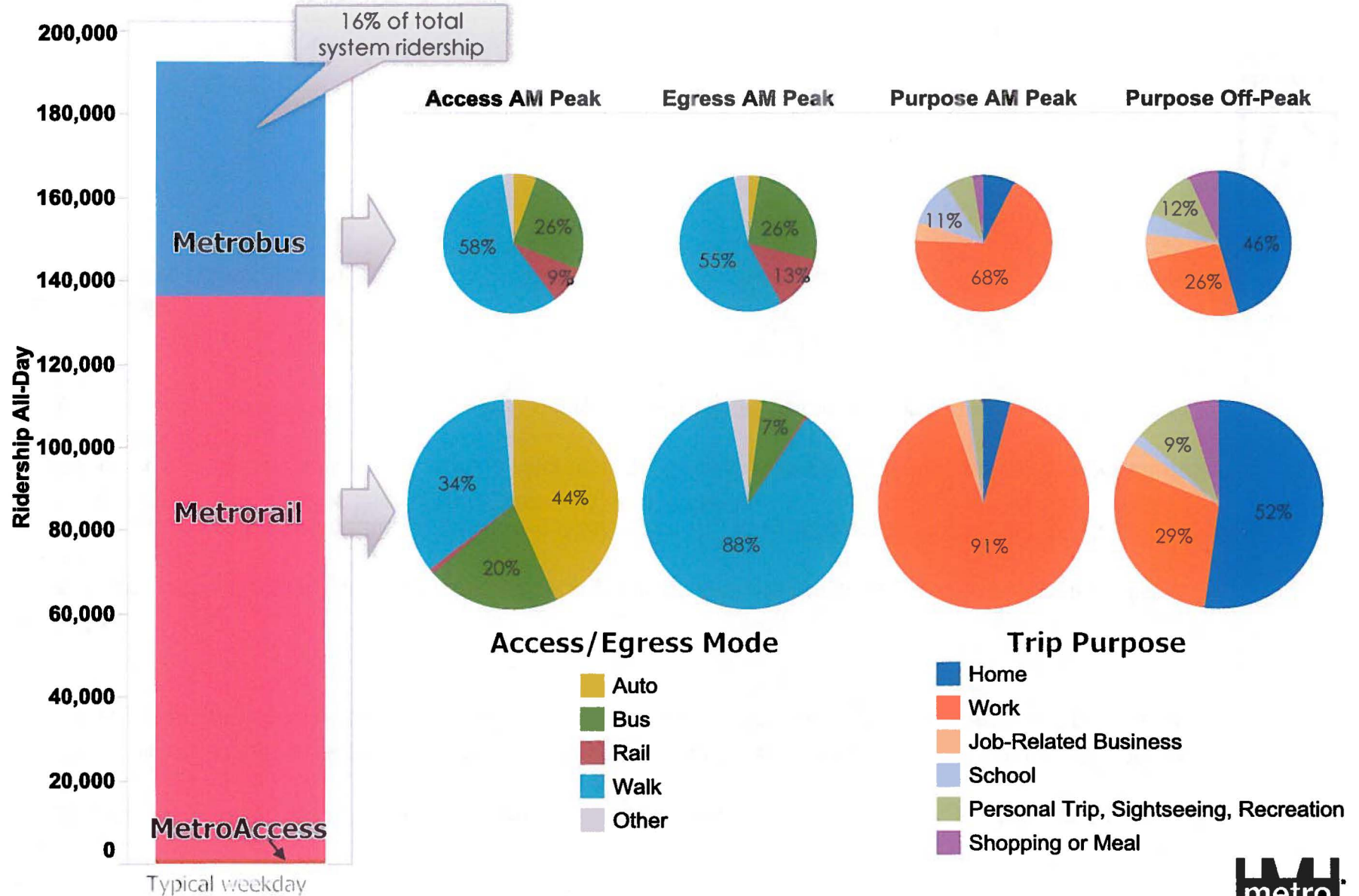
- Of Montgomery County residents who use Metrobus, a greater number originate on the eastern half of the county
- The destinations are concentrated in downtown Washington DC, as well as at the major job centers in Montgomery County such as Silver Spring, Bethesda, and Rockville.
- 68% of trips in the 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

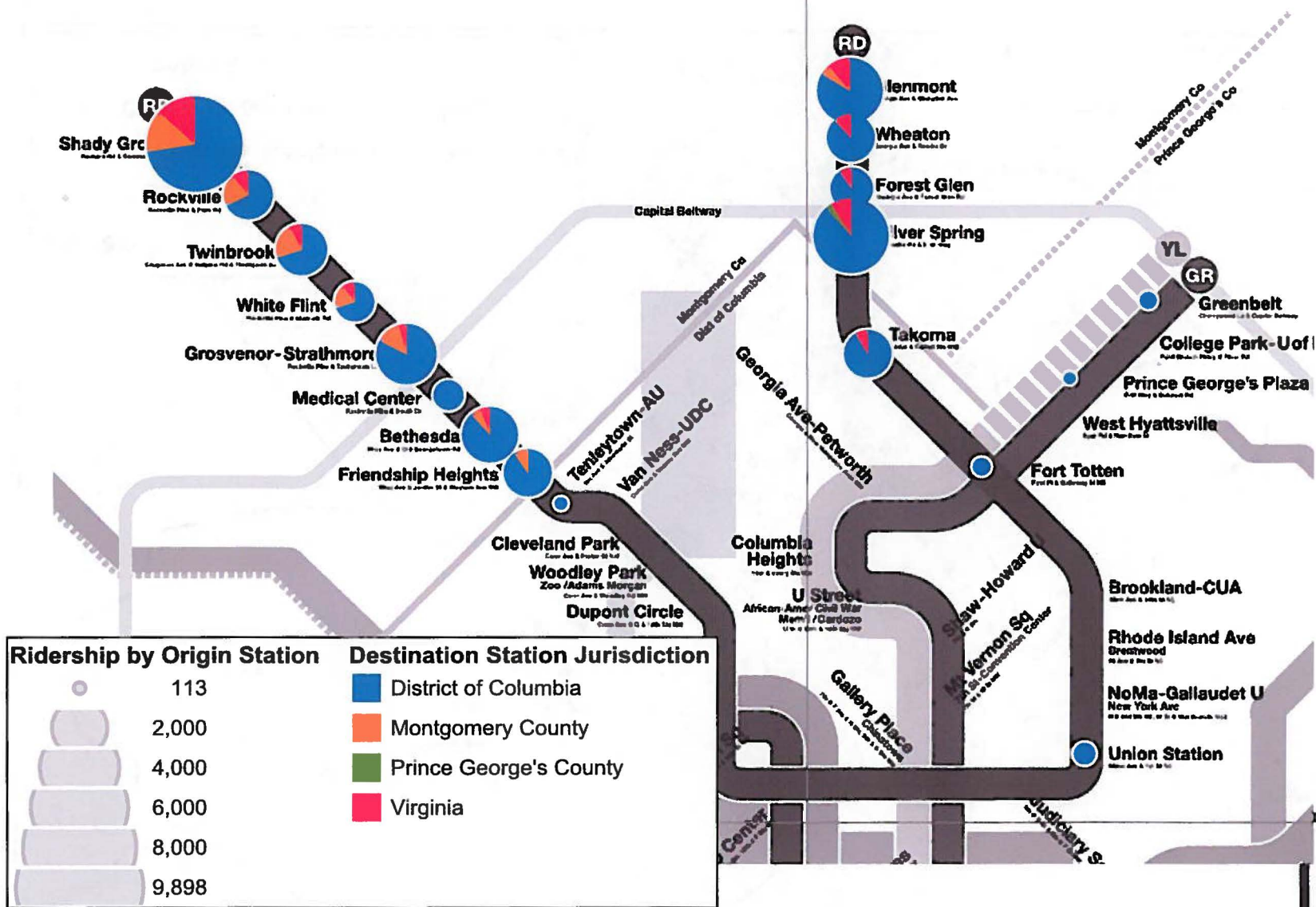
- Montgomery County residents make 1,300 MetroAccess trips per weekday, which is roughly 19% of the system total.



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



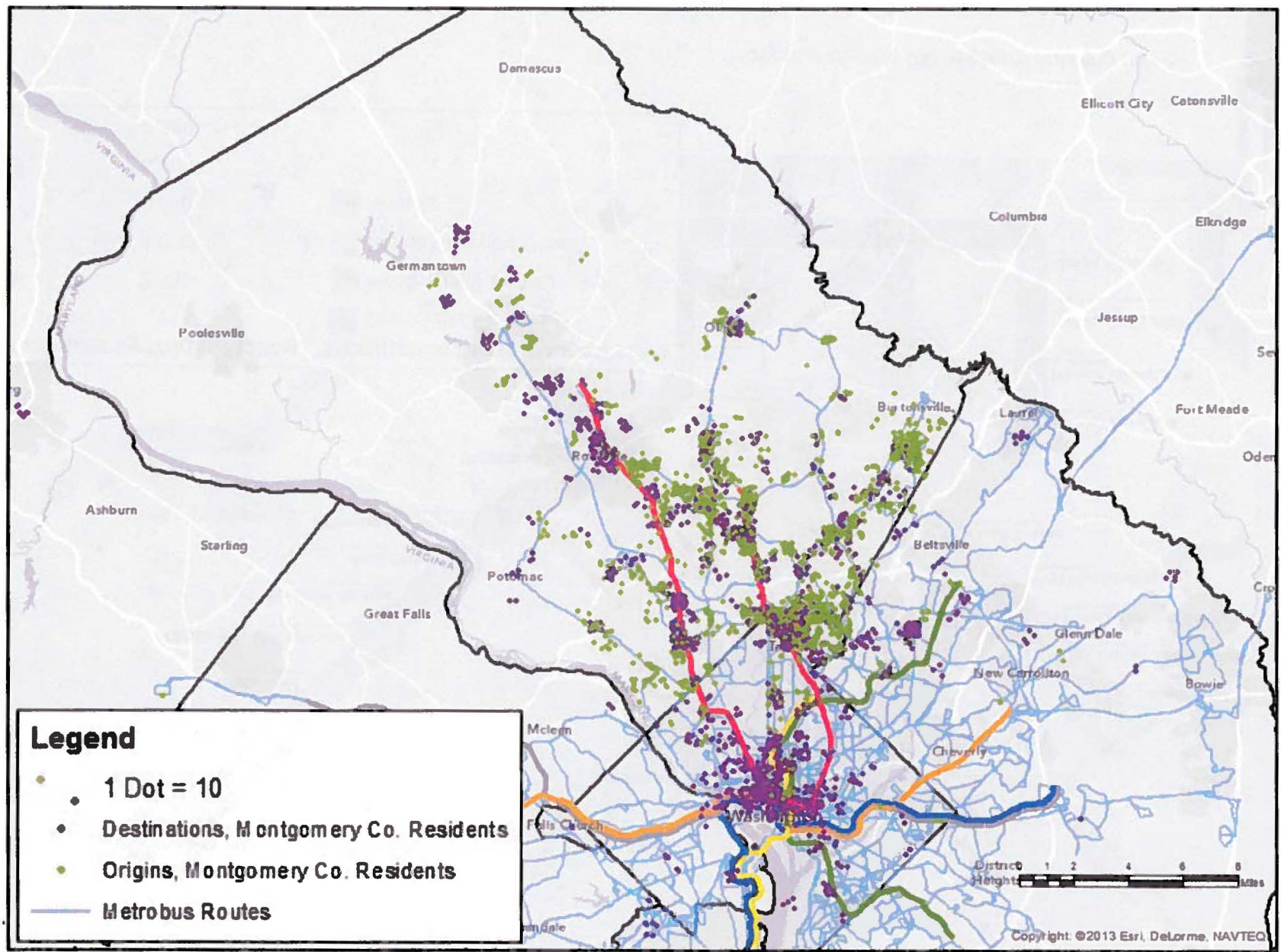
Montgomery County Residents – Metrorail Origins and Destinations, AM Peak



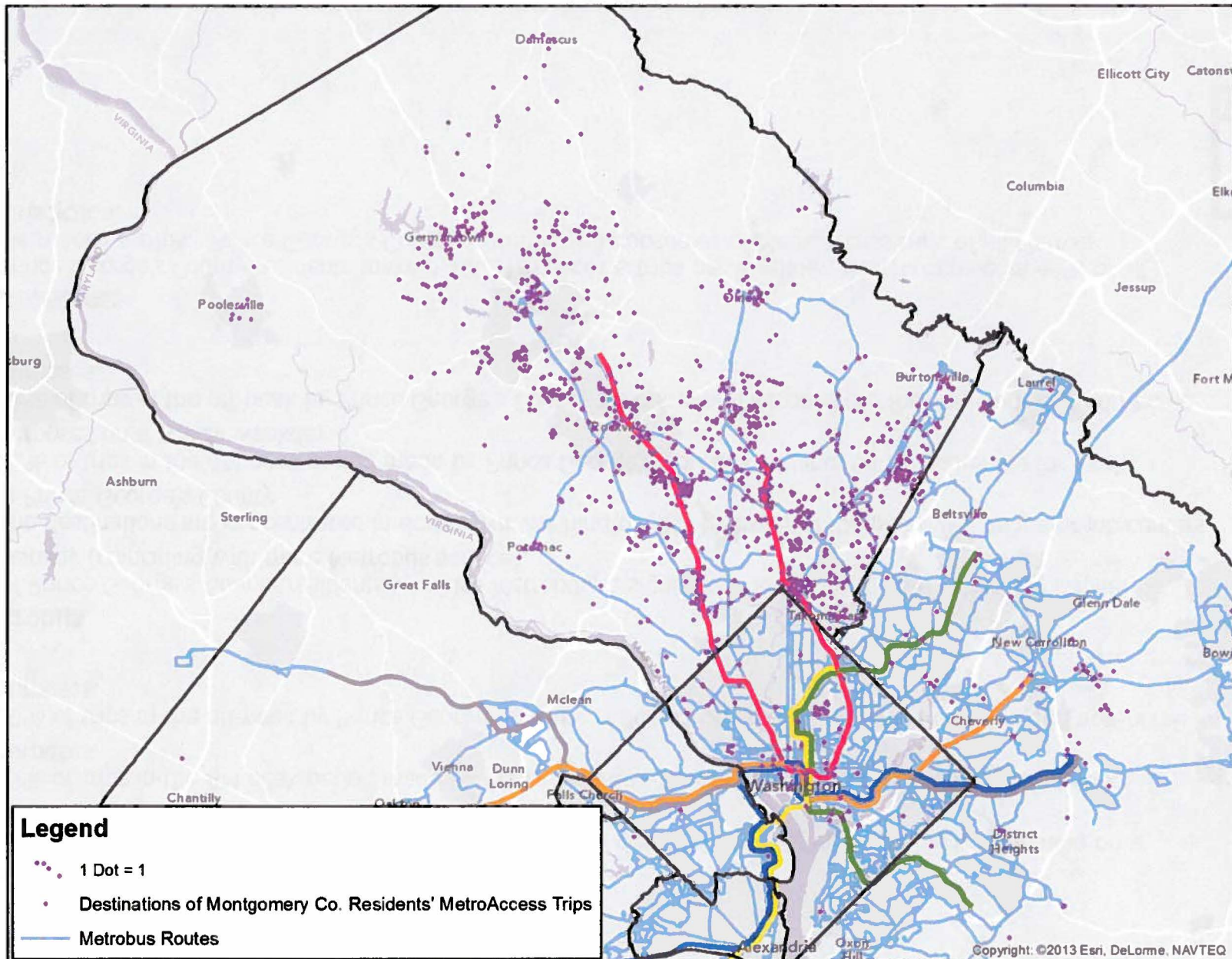
Stations with over 100 residents entering shown



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

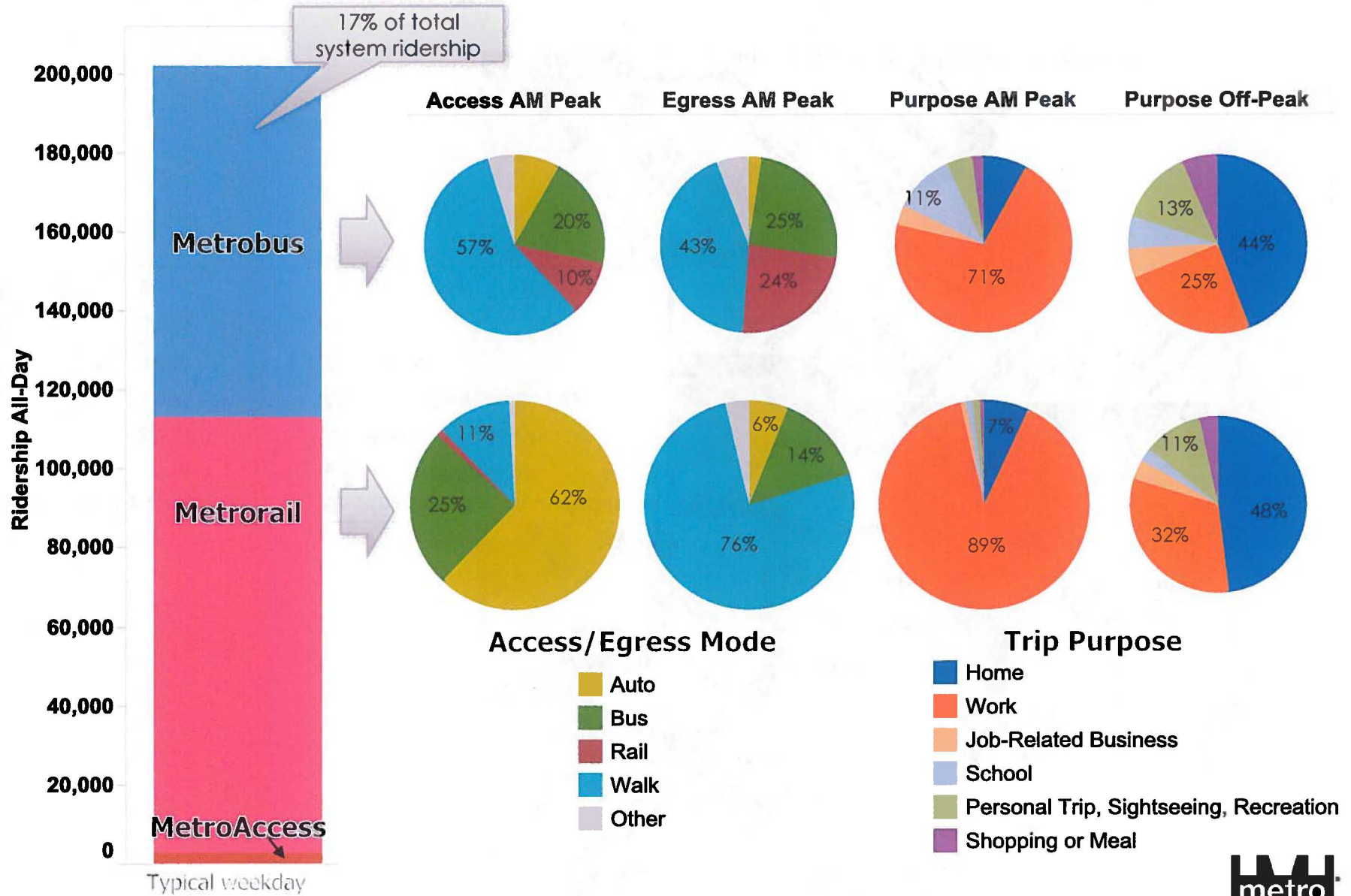
- Of Prince George's County residents who use Metrobus, a significant number originate within the Capital Beltway (coinciding with more Metrobus service),
- The destinations are concentrated in downtown Washington DC, Metrorail stations, as well as major job centers in Prince George's County
- 71% of 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

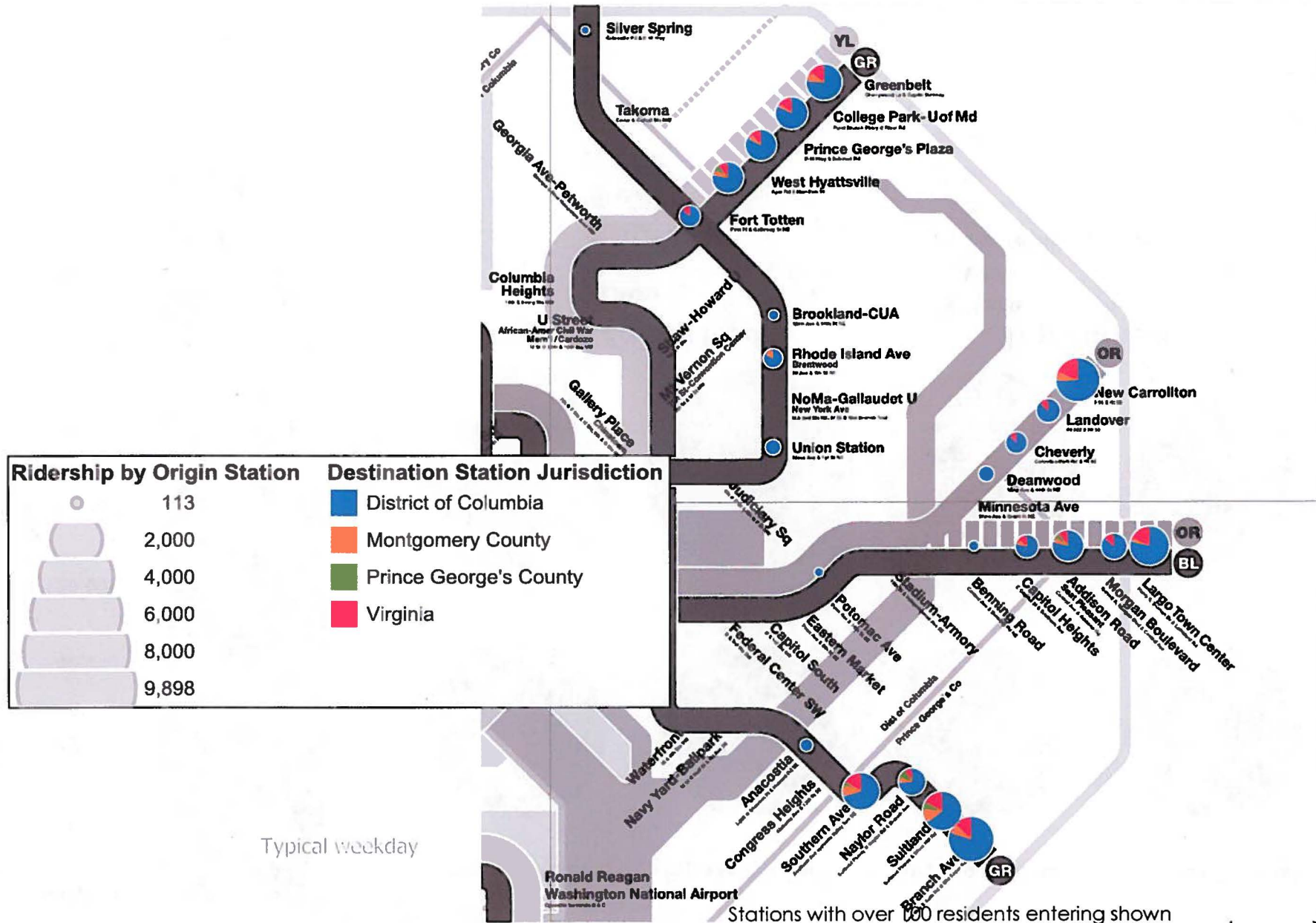
- Prince George's County residents make 3,100 MetroAccess trips per weekday, which represents 44% of all MetroAccess trips. Prince George's County is the largest consumer of MetroAccess trips of all Metro's jurisdiction.



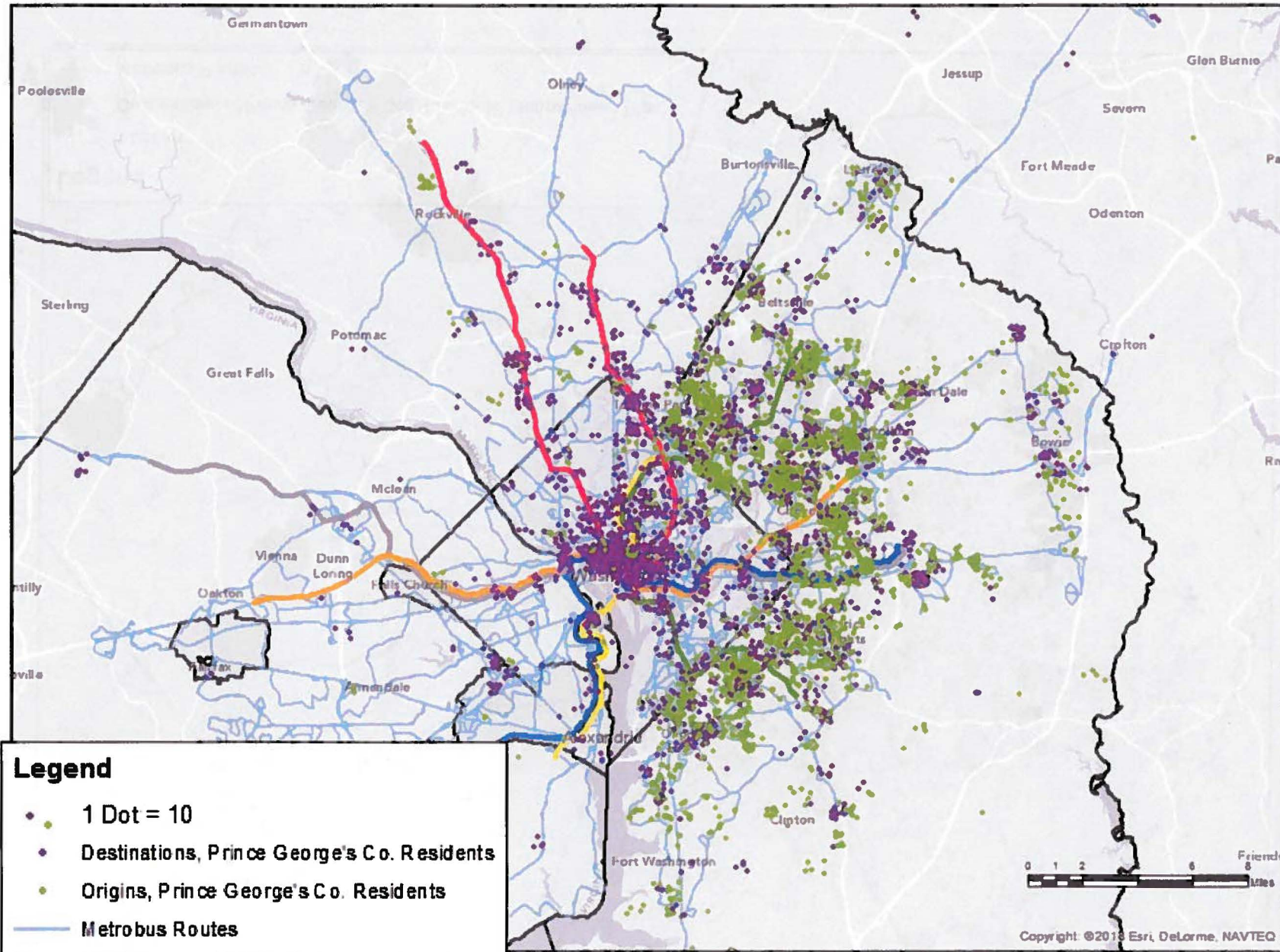
Prince George's County – Ridership, Access, Egress, and Purpose



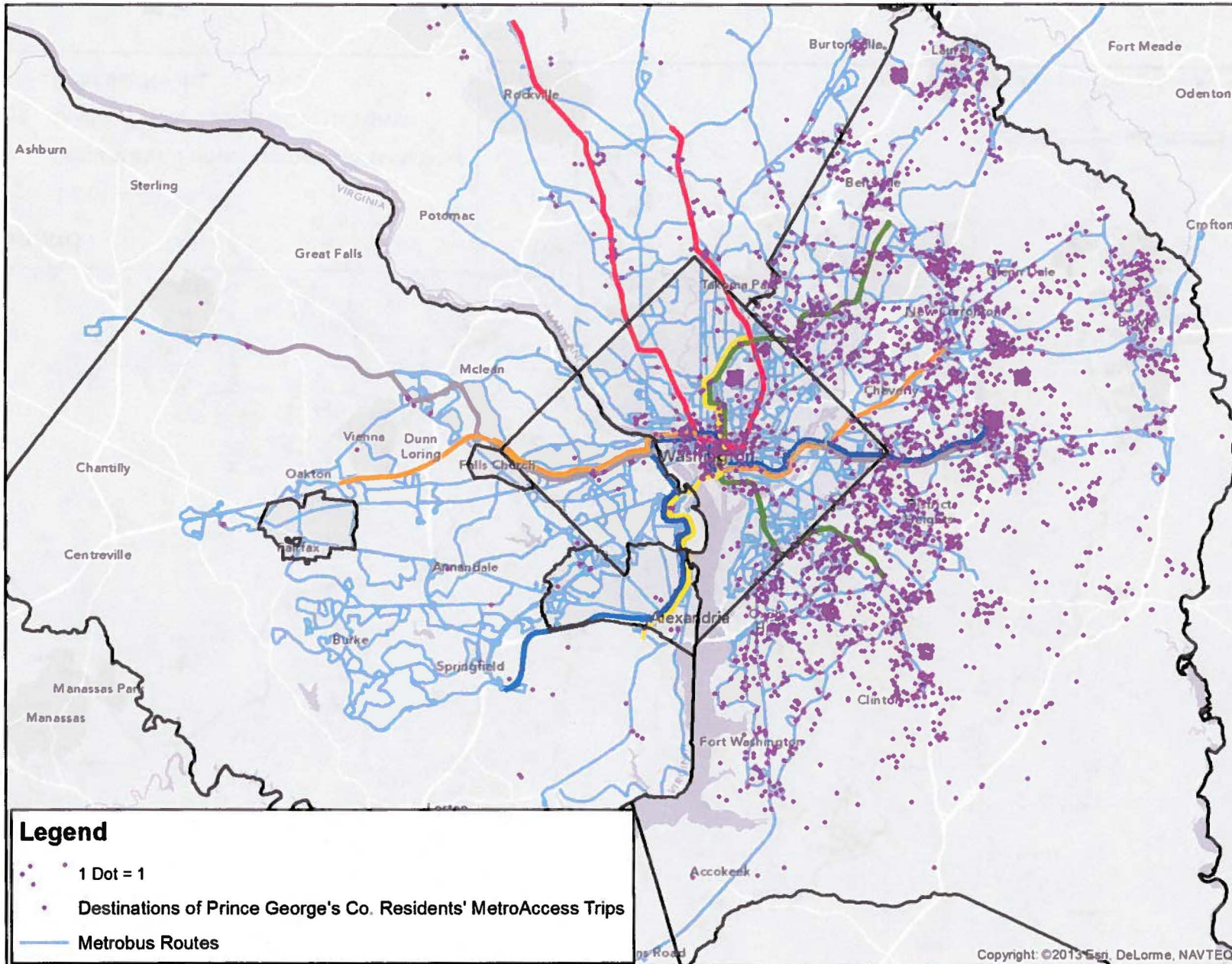
Prince George's County – Metrorail Origins and Destinations, AM Peak



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



Prince George's County – MetroAccess Destinations



Other Maryland Counties – Summary

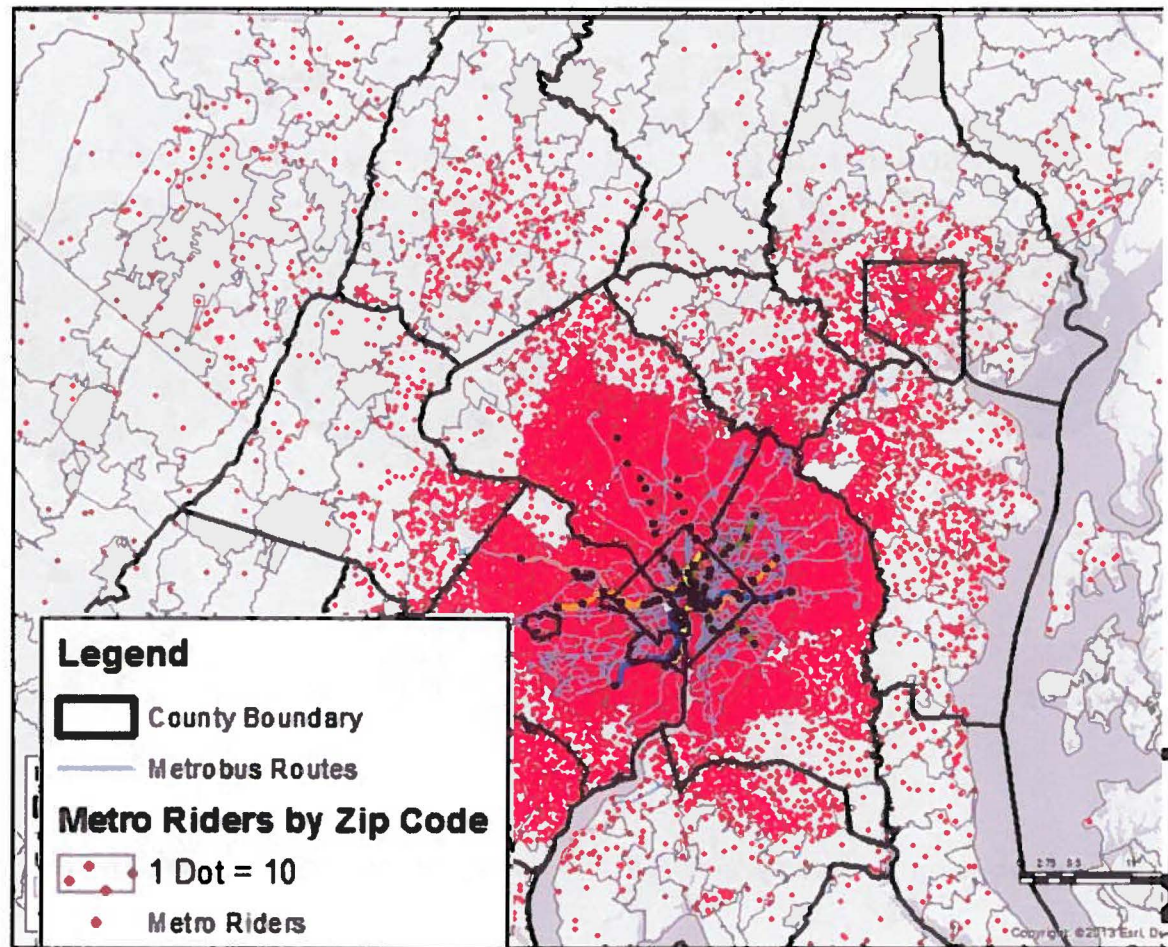
- Residents from Frederick, Charles, Calvert, Howard, Anne Arundel, and Baltimore Counties and Baltimore City and beyond also use Metrorail and Metrobus. They do not use MetroAccess services.
- 3.3% of all trips across all Metro services on a typical weekday are taken by Maryland residents of these counties.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

Metrorail

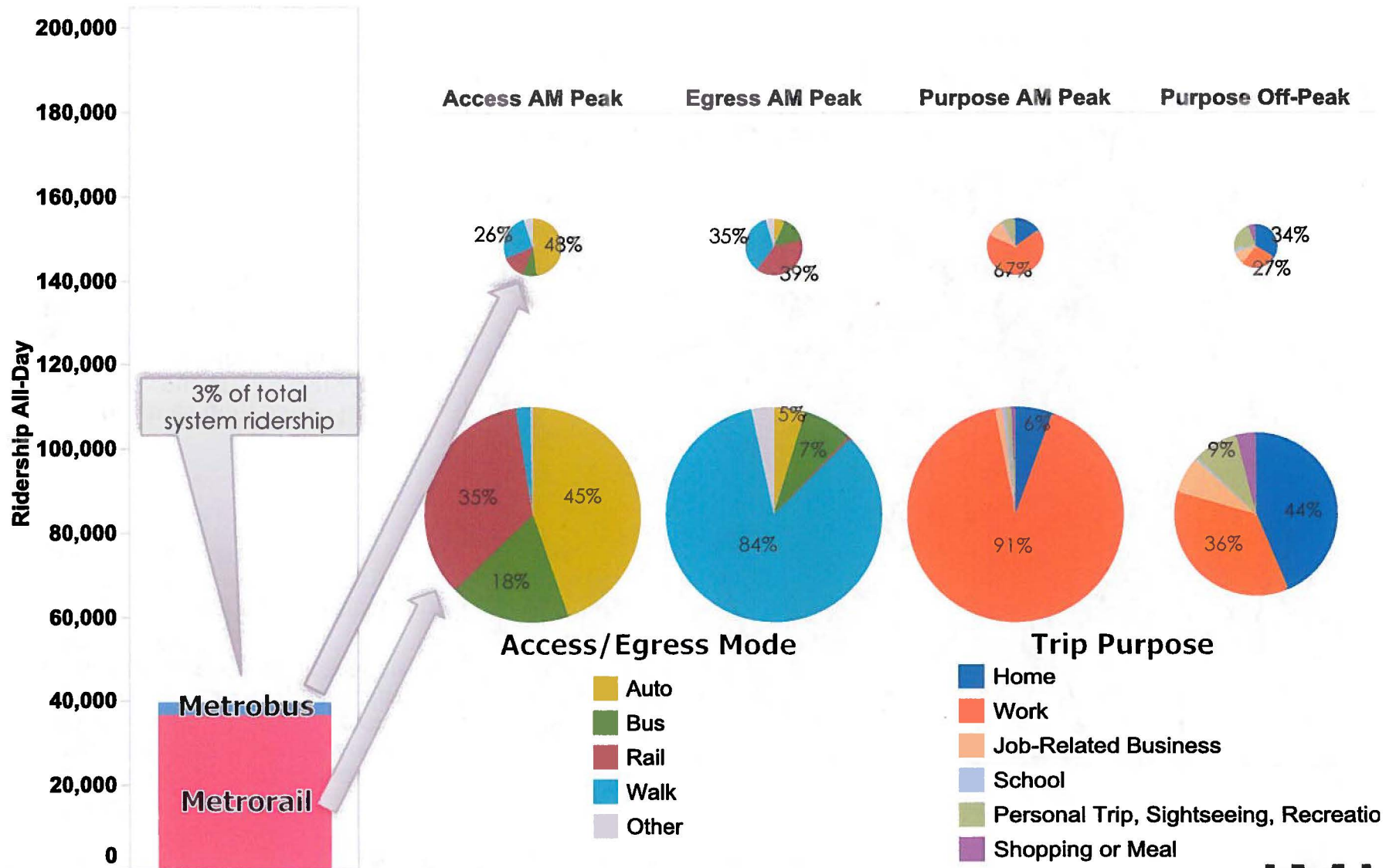
- Most rail trips from Maryland residents beyond Montgomery and Prince George's Counties are on Metrorail, for both long-haul trips from outer stations, to circulation within the core.
- 35% of other Maryland residents on Metrorail access via commuter rail (MARC) and Amtrak

Metrobus

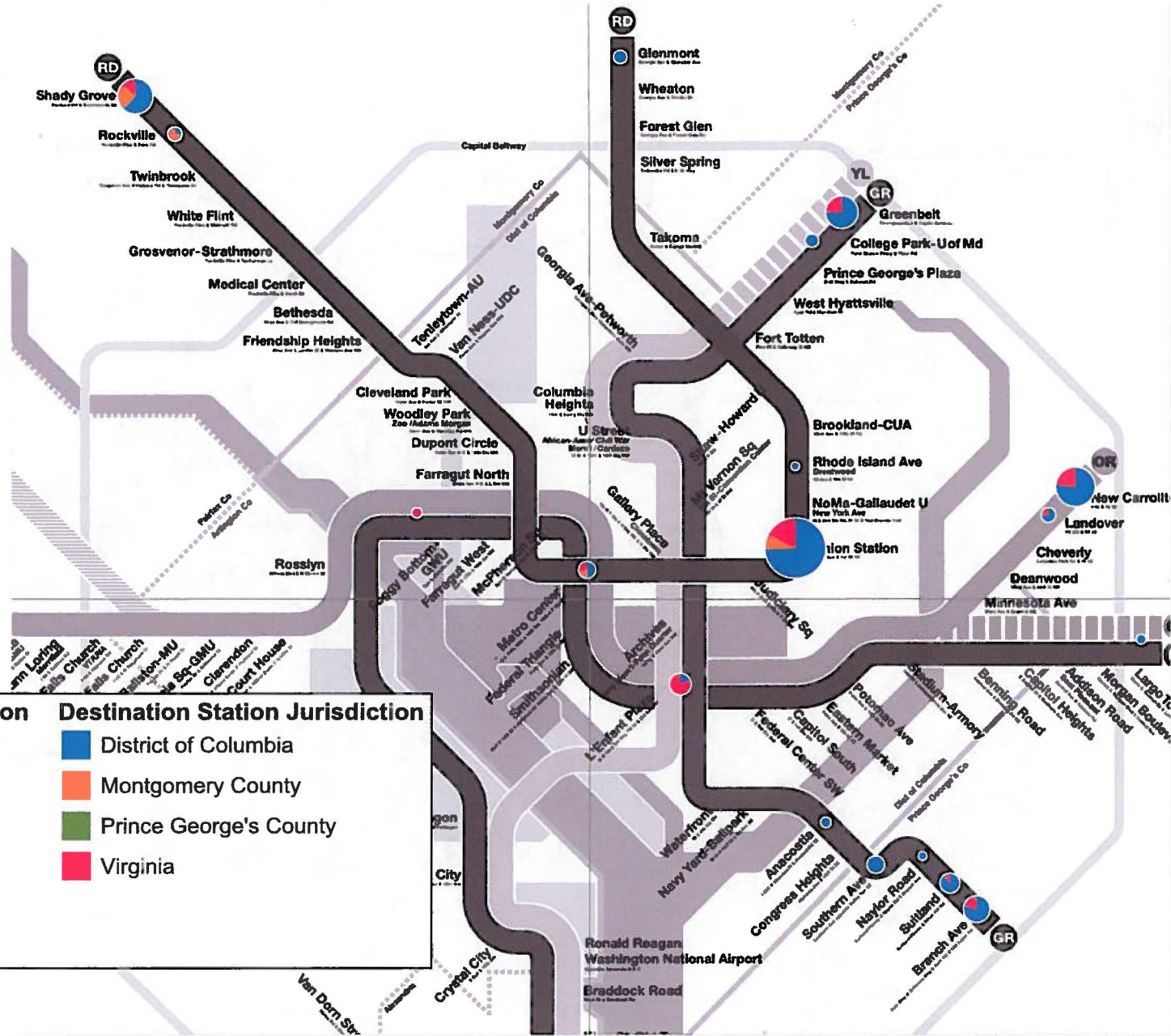
- Most bus trips from other Maryland residents originate from inside Metro's service area, or just near the border, in places such as Crofton, Laurel, and Indian Head



Other Maryland Counties – Trip Origin, Destination, and Purpose



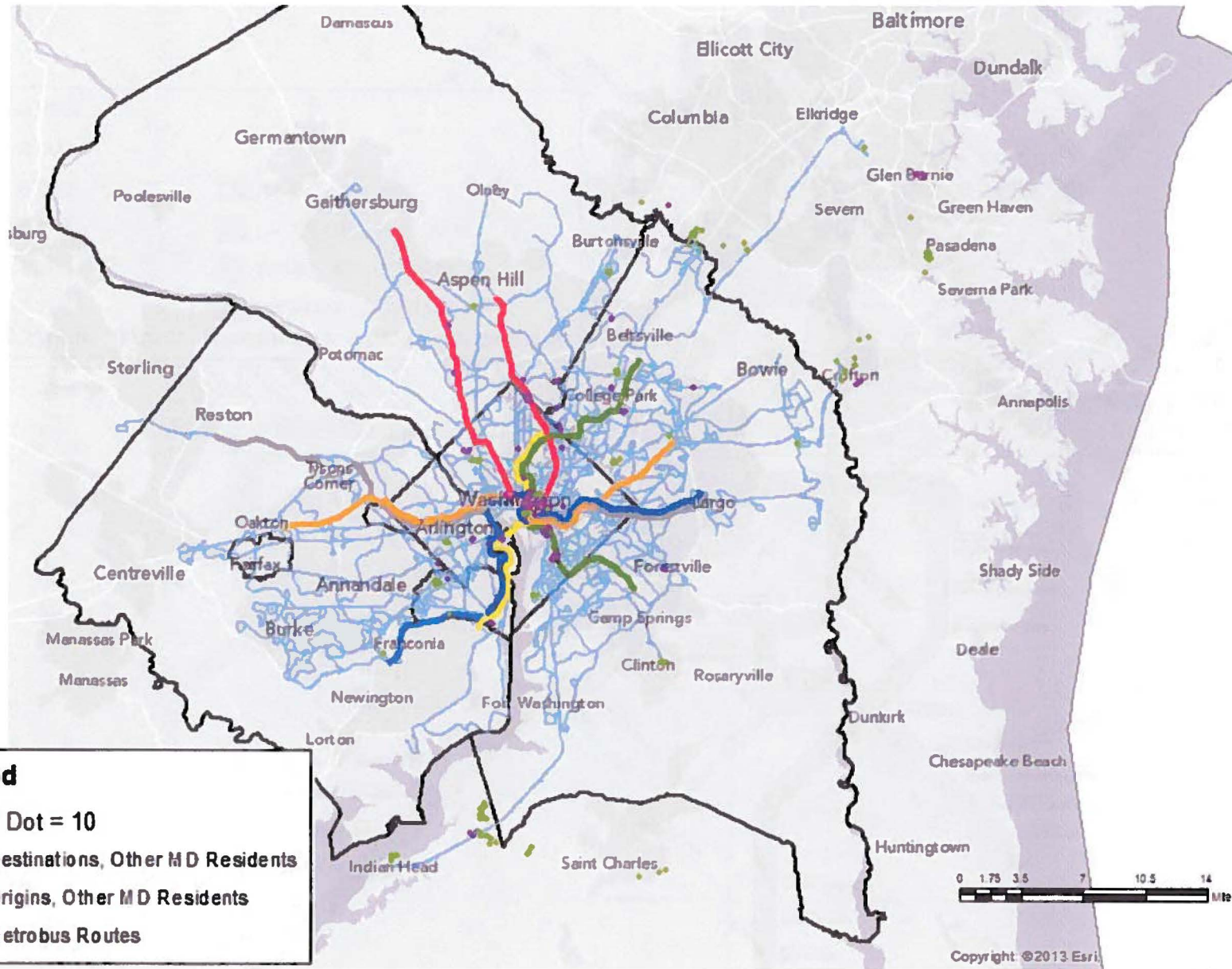
Other Maryland Counties – Metrorail Origins and Destinations, AM Peak



Ridership by Origin Station	Destination Station Jurisdiction
	113
	2,000
	4,000
	6,000
	8,000
	9,898

Destination Station Jurisdiction	
	District of Columbia
	Montgomery County
	Prince George's County
	Virginia

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

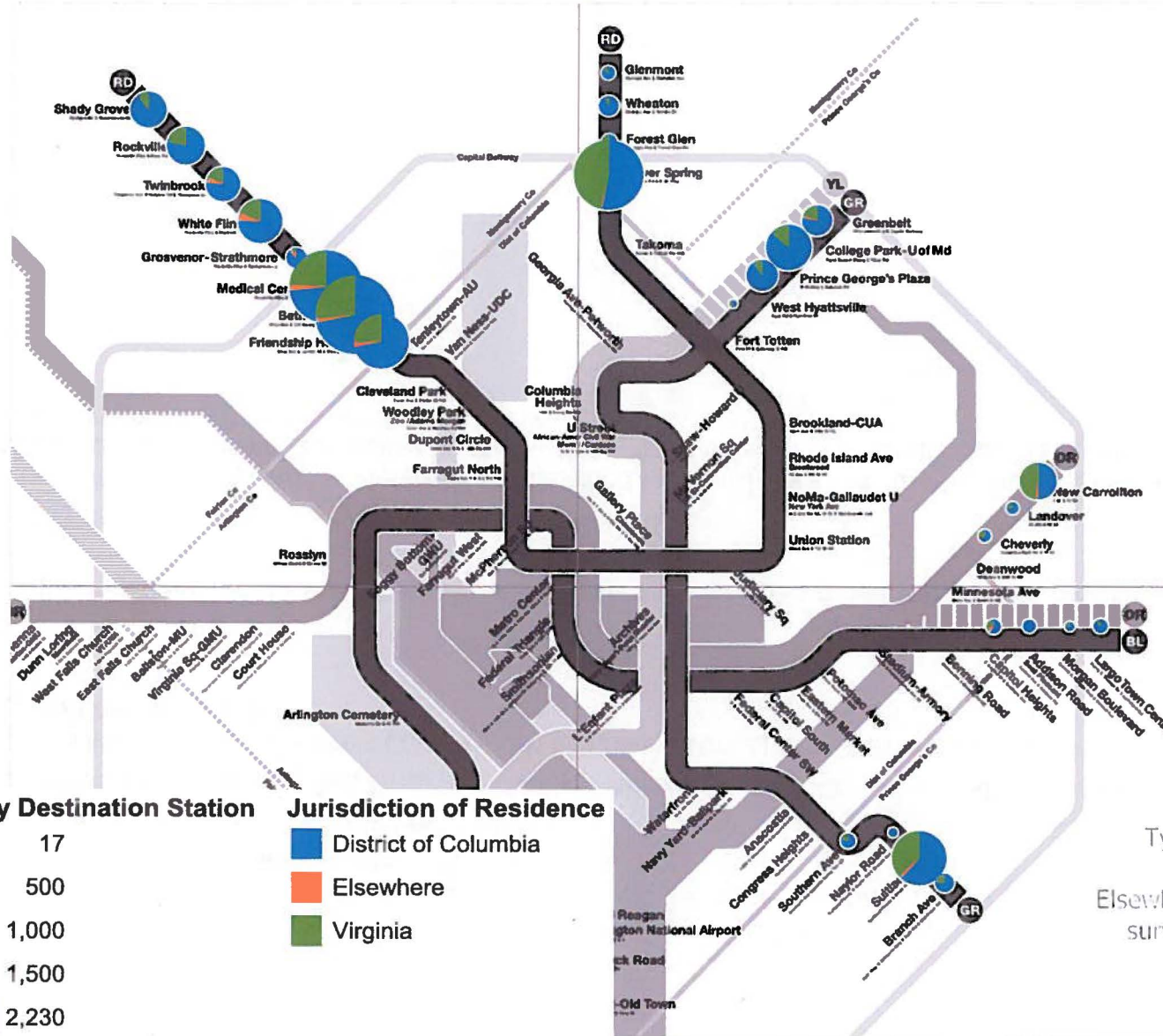
- Around 12,800 people commute into Maryland each morning on Metrorail
- About three-quarters of this group are District residents, and the remainder hails from Virginia (plus a small group from elsewhere, including visitors).
- These reverse commuters are primarily destined for:
 - Employment centers 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

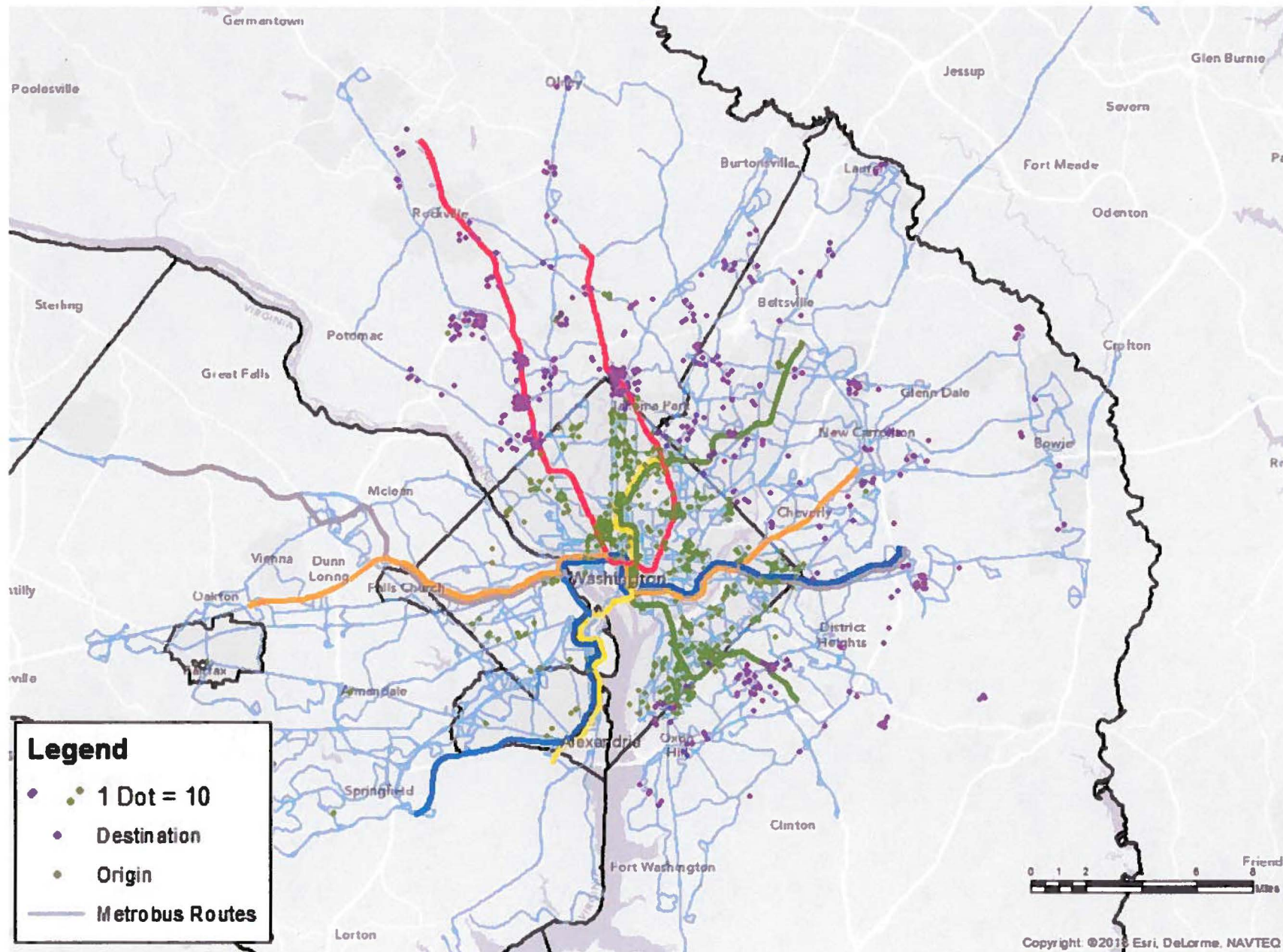
- Roughly a quarter (4,900 per typical weekday) of the reverse commuters to Maryland in the morning come via Metrobus
- These commuters originate primarily in the District of Columbia
- Reverse commuters to Maryland via Metrobus are destined for similar locations as Metrorail – Silver Spring, Bethesda, 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



WMATA Services Utilization Study - Supplementary Tables

The data summarized in the supplementary tables below was collected from Metro's 2012 Metrorail passenger survey. *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.

Table 1: Metrorail Average Weekday Ridership for Maryland Residents Only

County	Estimated Boardings	Survey Responses Collected (n)
Montgomery County	134,951	12,996
Prince George's County	110,340	9,403
Anne Arundel County	10,398	1,000
Baltimore City/Baltimore County*	7,229	654
Charles County	5,315	442
Frederick County	3,881	384
Other Maryland**	10,232	922
Maryland Total	282,346	25,801

Source: WMATA 2012 Metrorail passenger survey

Table 2: Maryland Metrorail AM Peak Access Mode for Maryland Residents Only

	Auto	Bus	Commuter Rail	Other	Unknown	Walk/Bike
Anne Arundel County	54%	9%***	35%	0%	0%	1%***
Baltimore City/Baltimore County*	9%***	1%***	86%	0%	1%***	2%***
Charles County	63%	35%***	0%	0%	1%***	1%***
Frederick County	32%***	41%***	23%***	1%***	0%	3%***
Montgomery County	44%	20%	1%	1%	0%	34%
Prince George's County	62%	25%	1%	1%	1%	11%
Other Maryland**	54%	20%***	21%***	0%	1%***	4%***

Source: WMATA 2012 Metrorail passenger survey

*Estimates for Baltimore City and Baltimore County are represented together because the 2012 Metrorail passenger survey questionnaire only included a single combined checkbox for the two jurisdictions.

** "Other Maryland" refers to all Maryland jurisdictions other than those explicitly listed in the table.

*** Estimates based on less than 100 completed surveys.

Table 3: Metrorail Trip Purpose AM Peak for Maryland Residents Only

	Home	Job-related business	Personal trip	School	Shopping or meal	Sightseeing or recreation	Work
Anne Arundel County	4%***	1%***	0%	0%	0%	0%	94%
Baltimore City/Baltimore County*	7%***	2%***	1%***	0%	0%	0%	89%
Charles County	8%***	0%***	1%***	0%	1%***	0%	90%
Frederick County	6%***	2%***	1%***	1%***	0%	1%***	89%
Montgomery County	4%	2%	2%	1%	0%	0%	91%
Prince George's County	7%	1%	1%	1%	0%	0%	89%
Other Maryland**	5%***	2%***	1%***	1%***	0%	0%	92%

Source: WMATA 2012 Metrorail passenger survey

Table 4: Metrorail AM Peak Destination Station Jurisdiction for Maryland Residents Only

	District of Columbia	Montgomery County	Prince George's County	Virginia
Anne Arundel County	72%	6%***	1%***	21%***
Baltimore City/Baltimore County*	73%	7%***	2%***	19%***
Charles County	65%	5%***	1%***	29%***
Frederick County	61%	25%***	1%***	13%***
Montgomery County	79%	10%	1%	9%
Prince George's County	74%	7%	5%	14%
Other Maryland**	67%	8%***	1%***	24%***

Source: WMATA 2012 Metrorail passenger survey

*Estimates for Baltimore City and Baltimore County are represented together because the 2012 Metrorail passenger survey questionnaire only included a single combined checkbox for the two jurisdictions.

** "Other Maryland" refers to all Maryland jurisdictions other than those explicitly listed in the table.

*** Estimates based on less than 100 completed surveys.