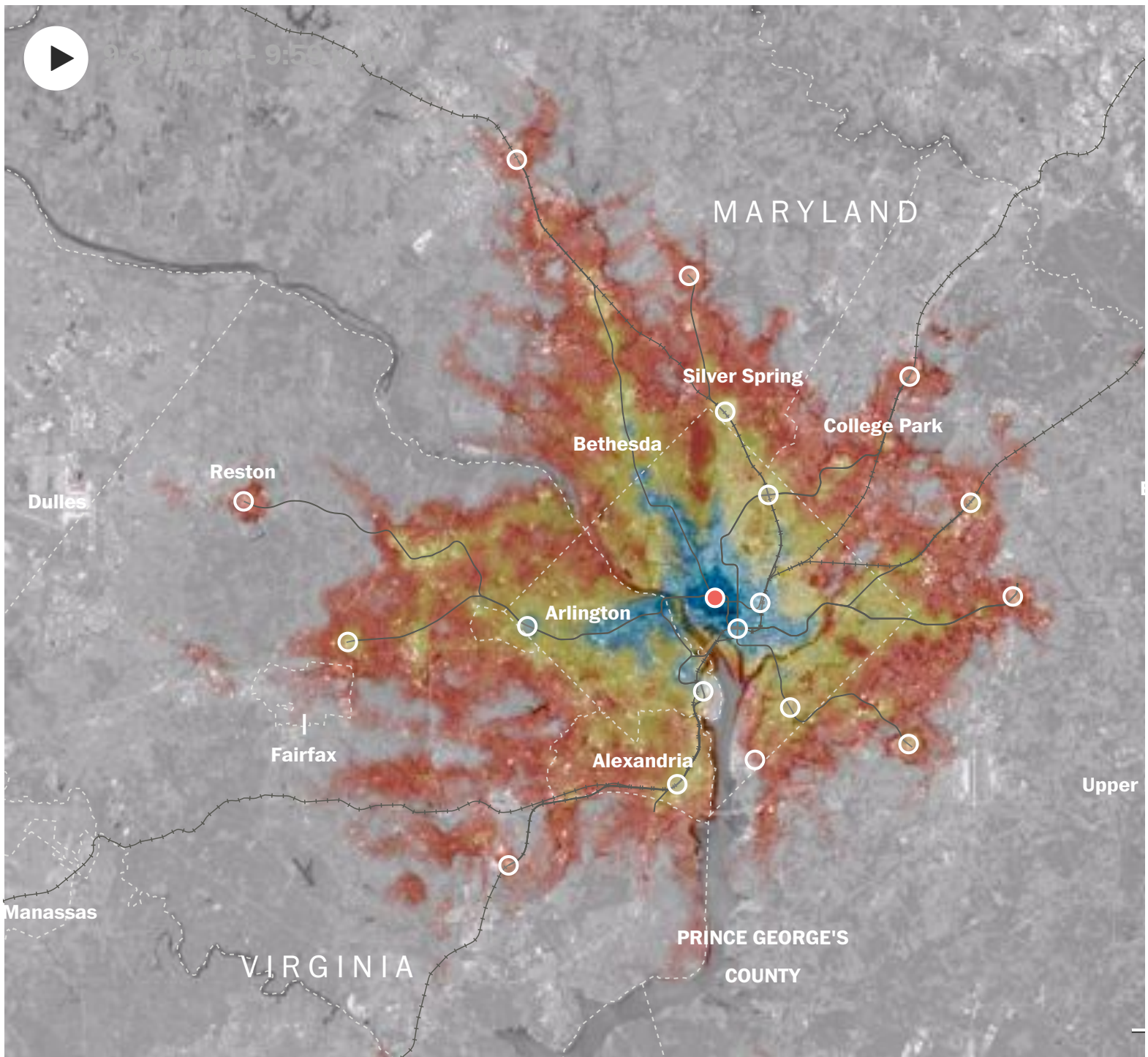


Here's where D.C. public transit can take you — and who gets left behind

Explore commute times and see how late-night schedule changes could affect low-income neighborhoods.

Starting from **the White House** ▼

access within **15** 30 45 60 minutes



Note: The composite map combines the accessible areas for departure times between 5:30 p.m. and 5:59 p.m. Source: Map: Explorer, Transitland

By John Muyskens, Armand Emamdjomeh and Faiz Siddiqui

April 17, 2017

If you work near the White House, don't have a car, and want to keep your commute under an hour, you could live in Gaithersburg, Md., or Reston, Va., both about 20 miles away.

But you'd have trouble doing the same from just across the Anacostia River in neighborhoods near the southern tip of the District, roughly seven miles away, or from close-in areas of Prince George's County.

Metrorail, buses and regional commuter rail create an elaborate network of transit accessibility for the region. But while several wealthier neighborhoods and suburbs have relatively easy access to job centers, many lower-income neighborhoods on the eastern side of the District and across the border in Maryland are more difficult to reach.

Each of the colored regions on the map above, called isochrones, represent a different range of places you could reach in within a certain amount of time. Starting from the White House, for example, most of downtown Washington is accessible within 15 minutes (the dark-blue area on the map). The next region, in yellow, would take up to 45 minutes to reach, and the red areas would take up to an hour to reach.

The estimated commute times on these maps are based on transit schedules, which represent ideal road and transit conditions, as opposed to actual traffic levels on a given day. For more details on the modes of transit included in this analysis, see the methodology below.

[\[When commuting in the D.C. region, distance doesn't tell the whole story \]](#)

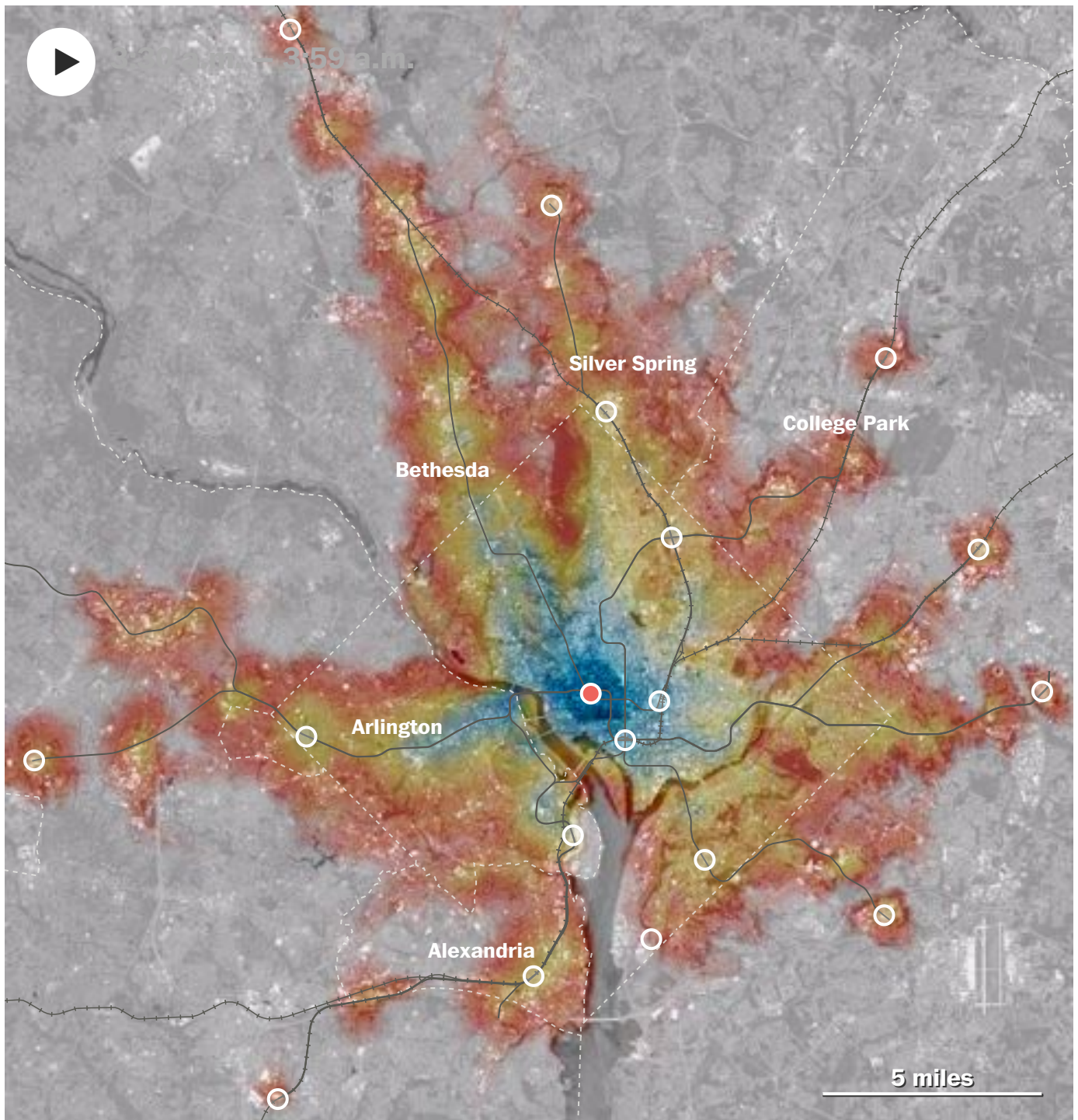
Schedule changes will decrease late-night transit coverage

After the expected end of the SafeTrack program in June, Metro plans to move closing times for weekday service up half an hour, to 11:30 p.m. This change will significantly impact late-night transit coverage and the average of 2,600 riders who ride Metrorail from 11:30 to midnight on the typical weeknight, according to Metro ridership data.

The map below shows where you could reach if you left each **starting point** at rush hour compared to 11:30 p.m., and 11:30 p.m. service without Metrorail.

within 15 30 45 60 min.

P.M. rush	Late	Late, no Metro
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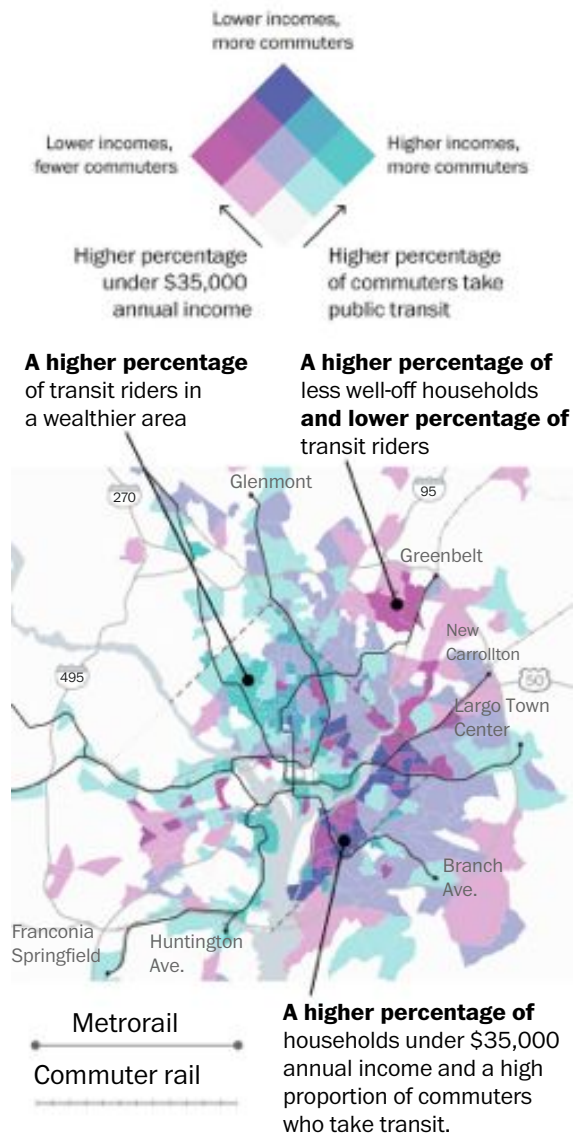
Source: Mapzen Mobility Explorer, Transitland

Late-night cuts will impact low-income, transit-reliant areas

Using U.S. Census data, we compared the percentage of households in the region that commute to work by public transit with the percentage of households with an annual income of less than \$35,000 per year. Census tracts where 20 percent or more of the population take transit to work appear in a **teal shade** , while Census tracts where more than 20 percent of households earn less than \$35,000 a year appear in a **purple** color.

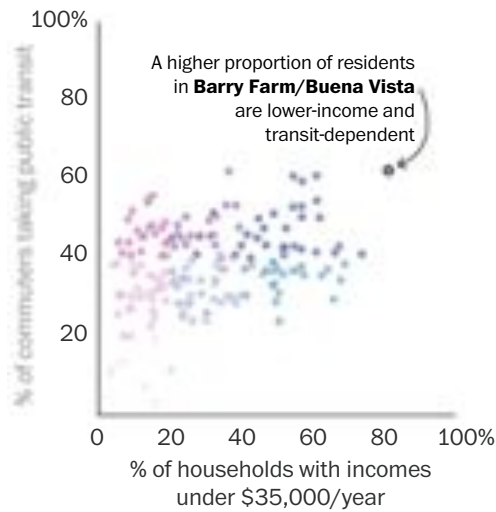
Census tracts where transit-using and lower-income households each represent more than 40 percent of households appear in **dark purple** and tend to be concentrated in the far Northeast and Southeast parts of the District.

More than 200 riders exit nightly at stations on this side of the river in Washington. The Anacostia and Southern Avenue stations, which border Washington, are two of the 10 most-exited stations on average between 11:30 p.m. and midnight on weekdays, according to data provided by Metro.

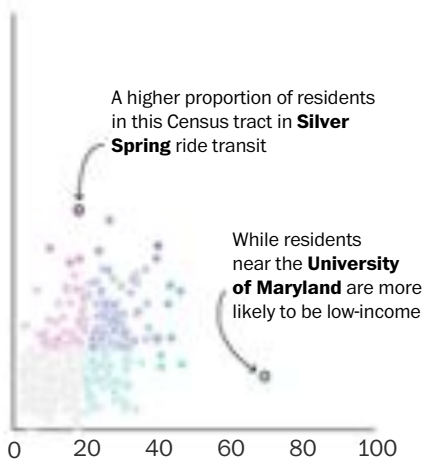


The charts below reinforce what the map tells us — Washington has a higher concentration of low-income, transit-reliant residents than nearby counties in Virginia and Maryland. Many of those Census tracts lie across the Anacostia River.

D.C.



Maryland



Virginia



These census tracts on the east side of the Anacostia River are home to roughly 145,000 residents, almost entirely black, more than half of whom live in households making under \$35,000 a year. Residents of Ward 8, much of which lies in this area, have the longest average commutes in the

District, with trips taking about 46 minutes, according to districtmobility.org, an initiative of the District Department of Transportation.

Methodology

The isochrones used in this project are created using [Mapzen's Mobility Explorer](#), which uses data from [Transitland](#), which aggregates routes, timetables and other data from local and regional transit networks. Because this uses transit timetables and route data, this analysis will differ from actual performance. The isochrones were generated using schedule data for May 15, 2017 and do not reflect temporary reduced Metro service due to the SafeTrack maintenance program.

Schedules from the following transit operators were used: Alexandria Transit Company, Amtrak, Annapolis Transit, Arlington Transit, Calvert County Public Transportation, DC Circulator, Fairfax City-University Energysaver (CUE) Bus System, Fairfax Connector, Maryland Transit Administration, Montgomery County Department of Transportation, Potomac and Rappahannock Transportation Commission, Prince George's County, Queen Anne's County, Regional Transportation Agency of Central Maryland, Virginia Railway Express and Washington Metropolitan Area Transit Authority.

Isochrones were generated for each point of origin minute-by-minute from 5:30 p.m. to 5:59 p.m. for rush hour, and from 11:30 p.m. to 11:59 p.m. for late-night service. The Mobility Explorer allows choosing the mode of transit and filtering out transit routes from use in generating isochrones. The rush-hour and late-night isochrones use buses and trains, as well as walking. A second set of late-night isochrones were created, filtering out Metro service.

Special thanks to Mapzen's Greg Knisely, who was very helpful throughout the development process.

Ridership numbers are based on a Post analysis of WMATA average exit data broken down by half-hour time increments, station and service type for October 2016. Weeknights are Monday through Thursday, as Metrorail will remain open late on Fridays.

Demographic numbers are based on an analysis of U.S. Census Data.

Satellite imagery from Landsat was prepared by Laris Karklis.