Appendix A

Existing Conditions Analysis and Maps

Appendix A provides an assessment of the study corridor's existing conditions, including demographics, land use, travel patterns, transit network, bicycle/pedestrian network, traffic and transit operations, crash analysis, and equity areas. The existing conditions analysis guided the project team, and stakeholders to shortlist BRT concepts and develop corridor alternatives.

A complete set of existing conditions maps are attached to this appendix for reference.

Data and Analysis Methodology

The population and commute patterns data were obtained from the United States Census Bureau (Census) 2019 American Community Survey (5-Year Estimates). This was the most recent census data available when the analysis was performed. Commuting times and destinations were taken from the Census Longitudinal Employer-Household Dynamics (LEHD) dataset. Land use data are from the Montgomery County Planning Department.

Population-level data at the census block group level, was used to understand subtle demographic differences along the study corridor. Typically, the data were sorted into five categories from very low to very high. The range of each category was set so each class represents 20 percent of the census block groups within Washington D.C., Montgomery County, and Prince George's County to provide an understanding of the population relative to the region.

Analysis of existing traffic operations utilized data provided by the Maryland State Highway Administration (SHA) and the Maryland Department of Transportation (MCDOT) as well as traffic data especially collected for this Study. Turning movement counts were collected during peak periods on weekdays in December 2021 and January 2022. Data was used in a VISSIM microsimulation model developed for a portion of the study corridor between Sheridan Street and Heartfields Drive, just north of Columbia Pike (US 29) to perform a Highway Capacity Manual (HCM) analysis of each signalized intersection.

Detailed transit operations data was provided by the Washington Metropolitan Area Transit Authority (WMATA) for Metrobus routes and by MCDOT for Ride On routes. Scheduling data from transit providers was used from 2012 – 2016, while ridership counts were used from 2024. This data was utilized to evaluate travel time and ridership by various time periods.

Demographics

New Hampshire Avenue (MD 650) is a key corridor connecting diverse communities in eastern Montgomery County, Prince George's County and Washington D.C. Demographic analysis helped to identify patterns in population, employment, and communities with a high

concentration of residents who may rely on transit for daily transportation needs along the study corridor. An overview of demographic findings is presented below.

People and Jobs

Population Density:
Population density decreases along the corridor from the south to the north. The corridor is most densely populated south of the Capital Beltway (I-495), particularly in communities such as Adelphi, Langley Park, Takoma Park, and Washington D.C. For example, the density around the Takoma Langley Transit Center is more than 17,000 people per square mile (shown in **Figure 1**).

North of the Capital Beltway, population density is generally lower, with some exception such as White Oak and Colesville.[1] The population density in areas predominantly developed with single-family housing (primarily located between the US Food and Drug Administration (FDA) campus and US 29) is typically less than 3,000 people per square mile. Refer to **Figure 1** for a map of Population Density.

Job Locations:
There are several job centers within the study area, including Takoma Park, Langley Park, and White Oak. The census block groups with the White Oak Medical Center have more than 3,500 jobs per square mile, as do those around the Takoma Langley Transit Center and just south of the Maryland-Washington D.C. line. There is less job density north of US 29, with some census block groups along the corridor having less than 200 jobs per square mile.

Many of these jobs are considered low-wage jobs, defined by the U.S. Department of Health and Human Services (HHS) as paying $15,000 or less per year. These low-wage jobs are typically concentrated around major intersections such as New Hampshire Avenue and US 29 (White Oak) and New Hampshire Avenue and University Boulevard (Langley Park). White Oak has 141 low-wage jobs per square mile, and Langley Park has 336 low-wage jobs per square mile. In both locations, there are shopping plazas with retail land use that includes grocery stores, pharmacies, and fast-food restaurants that might account for these jobs.

1 Both are unincorporated census-designated places.

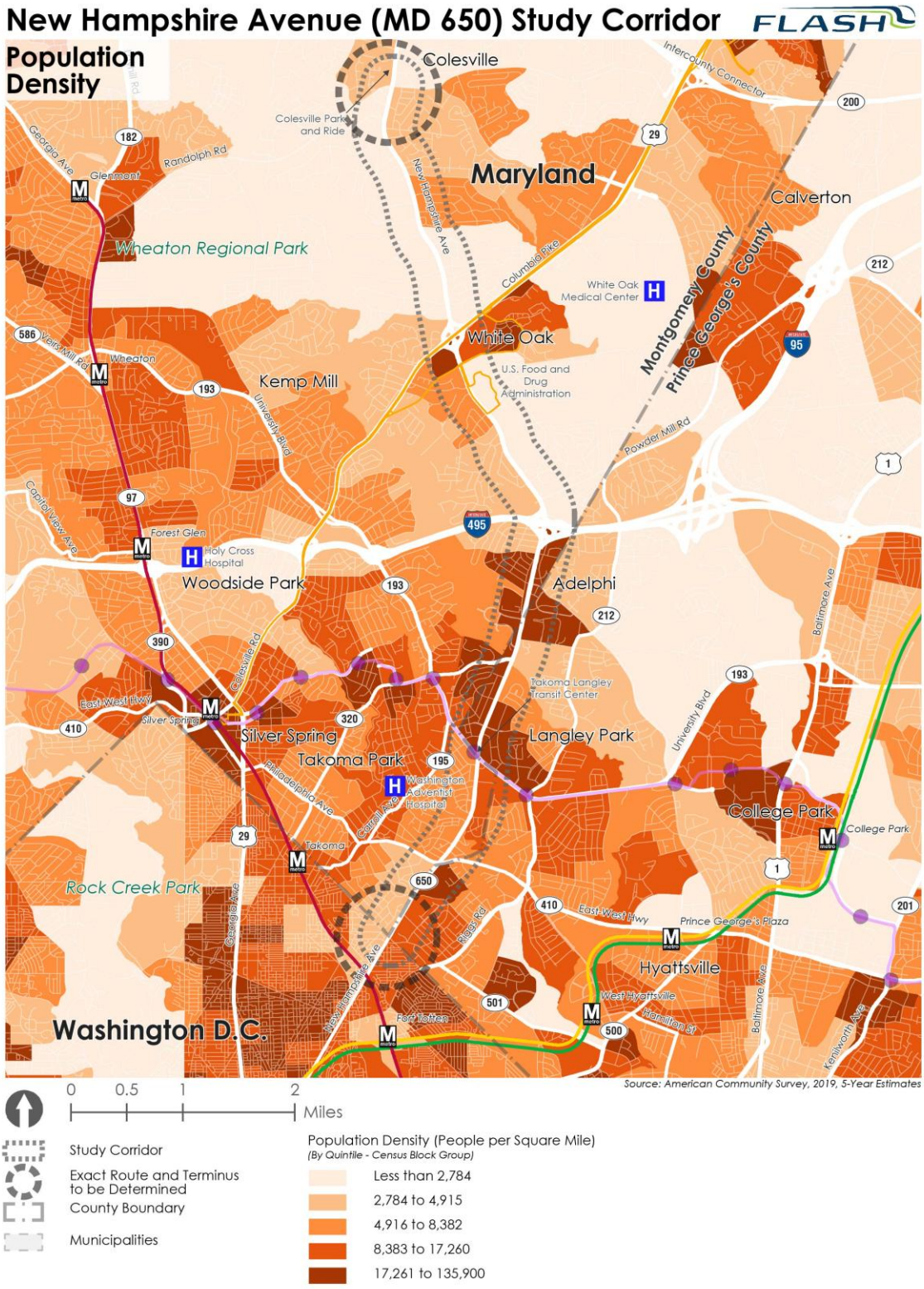


Figure 1: Population Density

Income and Poverty

Median annual household income is highest north of US 29, with annual household incomes typically ranging from $100,000 to $250,000. South of US 29, annual household incomes are typically between $12,000 and $86,000.

Poverty is more prevalent in the area south of US 29, with the exception of the area north of the US 29 intersection with Randolph Road in Colesville. Within the study corridor, poverty is highest near White Oak, Adelphi, Langley Park, and the Maryland-Washington D.C. line, which are the same areas with the greatest number of low-wage jobs.

Race, Ethnicity, Language, and Age

The area south of the Capital Beltway has a higher concentration of racial and ethnic minority populations compared to areas north of the Capital Beltway. Several census block groups along the corridor south of the Capital Beltway have populations that are 96 percent to 100 percent Black, Indigenous, and People of Color (BIPOC). Census block groups with higher shares of African American/Black population are concentrated near the southern end of the study corridor near the Maryland-Washington D.C. line. Hispanic/Latino communities are concentrated south of the Capital Beltway, between University Boulevard and the Capital Beltway, near Adelphi and Langley Park.

Census block groups with a high share (more than 11 percent) of households speaking limited English are concentrated near White Oak, Adelphi, Langley Park, and the Maryland-Washington D.C. line. Within these communities, there is a large concentration of Spanish speakers. The Census has recently changed the process for collecting language data, which limits information on specific languages outside of English and Spanish. Other planning studies conducted by the Montgomery County Planning Department such as the White Oak Science Gateway Master Plan and area stakeholders note that Spanish, Vietnamese, and Amharic are the dominate non-English languages spoken in the study area.

Older populations are concentrated north of the Capital Beltway, while younger populations are concentrated south of the Capital Beltway. In several census block groups north of the Capital Beltway, more than 20 percent of the population is over 65 years old. Conversely, near Langley Park and Adelphi, there are a high population under 18 years old.

Vehicle Ownership

Most households within the study corridor have at least one vehicle. Census block groups near Langley Park and White Oak have more zero-vehicle households. North of US 29 more than 95 percent of households have at least one vehicle. However, south of the Capital Beltway, more than 40 percent of households have access to only one or no vehicles. Areas with the highest share of zero-vehicle households are near existing transit hubs at University Boulevard and White Oak. In the Takoma Langley area, more than 80 percent of households have access to one or fewer vehicles.

Internet Access

Neighborhoods in and around White Oak, Langley Park, and the Maryland-Washington D.C. line have the highest shares of households without internet access, smartphone, or a computer. Between the Capital Beltway and US 29, 10 percent to 16 percent of households do not have access to the internet and 6 percent to 10 percent of households do not have a smartphone or a computer. In the Takoma Langley area, those proportions are 16 percent to 49 percent and 10 percent to 39 percent, respectively.

Equity Analysis

Approximately 70 percent of the study corridor by area falls within an equity area as identified by the Montgomery County Planning Department and MWCOG. Many corridor residents are minorities, use a primary language other than English, or live in low-income households.

Montgomery County has designated Equity Focus Areas to "apply a holistic equity lens to planning practices to address existing inequities and prevent the creation of new inequities."[2] These areas are characterized by three main factors, including household income; race and ethnicity; and the ability to speak English. The County's Equity Focus Area tool also considers access to resources and opportunities.

The MWCOG similarly designates a series of Equity Emphasis Areas with a similar goal of prioritizing equity in the planning process to inform growth and decision making. These Equity Emphasis Areas track "high concentrations of low-income individuals and/or racial and ethnic minorities."[3]

While the County's Equity Focus Areas typically overlap with MWCOG's Equity Emphasis Areas, as shown in purple in **Figure 2**, there are some differences in how the two agencies are mapping these important areas. One important distinction is that the County's tool considers limited English speaking while MWCOG's tool does not. This is especially relevant along the New Hampshire Avenue corridor, where there are a significant number of non-English speaking residents. The County's tool also does not apply to the small portion of the study area within Prince George's County. See below a map of Equity Areas along the corridor.

[2] Equity Focus Areas Analysis (montgomeryplanning.org)

[3] Equity Emphasis Areas (mwcog.org)

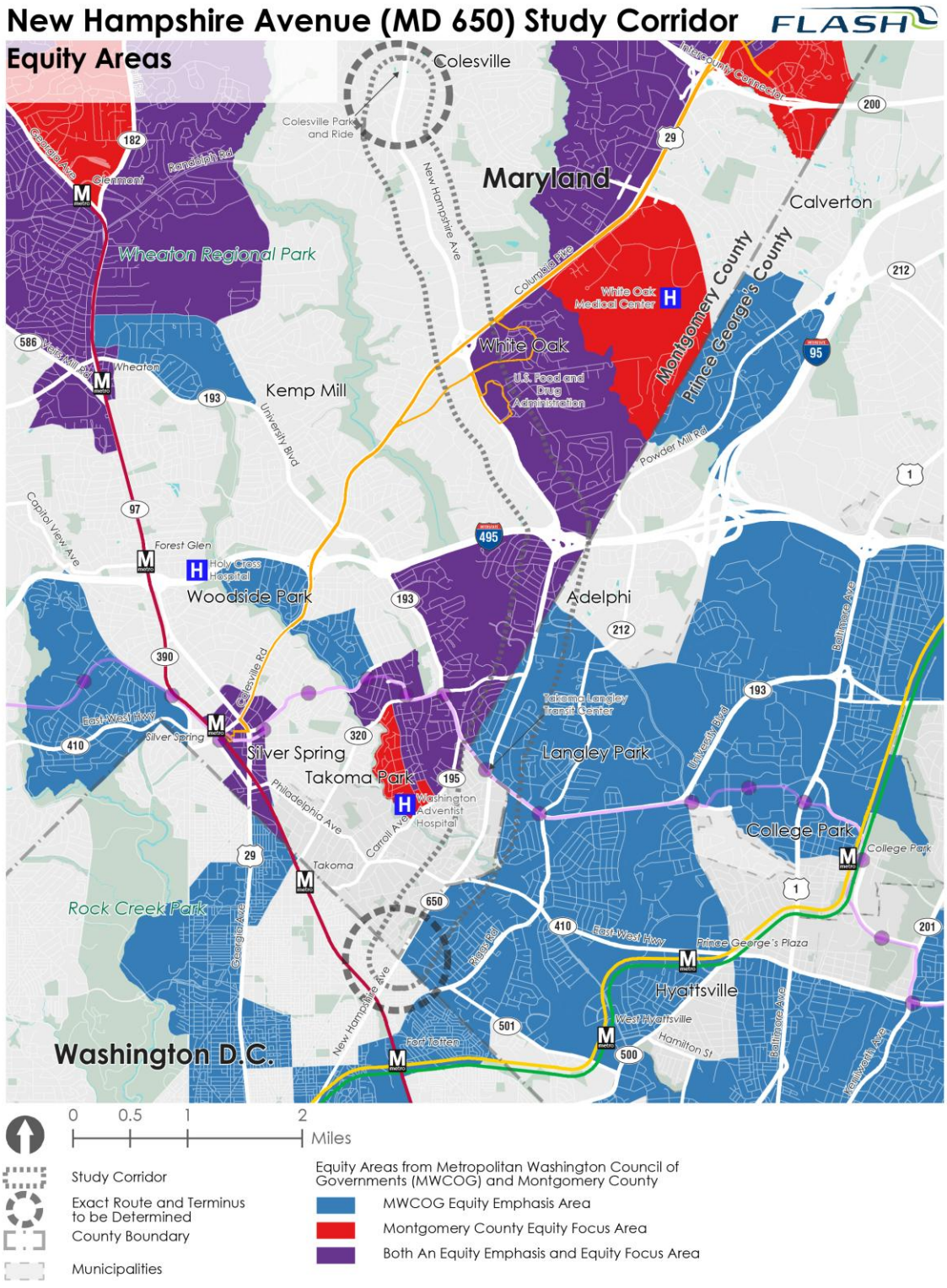


Figure 2: Equity Areas

Land Use

Most of the study corridor is characterized by post-World War II suburban residential development with some apartment complexes. Mixed land use nodes and high-density development are generally concentrated at major intersections along New Hampshire Avenue. Multi-family housing is concentrated in White Oak, Adelphi, Langley Park, and around the Maryland-Washington D.C. line. New Hampshire Avenue and its immediately adjacent service roads provide access to many neighborhoods developed with single-family homes and duplexes.

Retail and commercial activity along the corridor, typically in the form of plazas or shopping centers, is generally concentrated in nodes (see **Figure 3**) at:

- Eastern Avenue (Maryland-Washington D.C. line)
- Ethan Allen Avenue/East-West Highway (MD 410)
- University Boulevard (Takoma Langley Crossroads)
- Powder Mill Road (Hillandale)
- Lockwood Drive (White Oak)
- Randolph Road (Colesville)

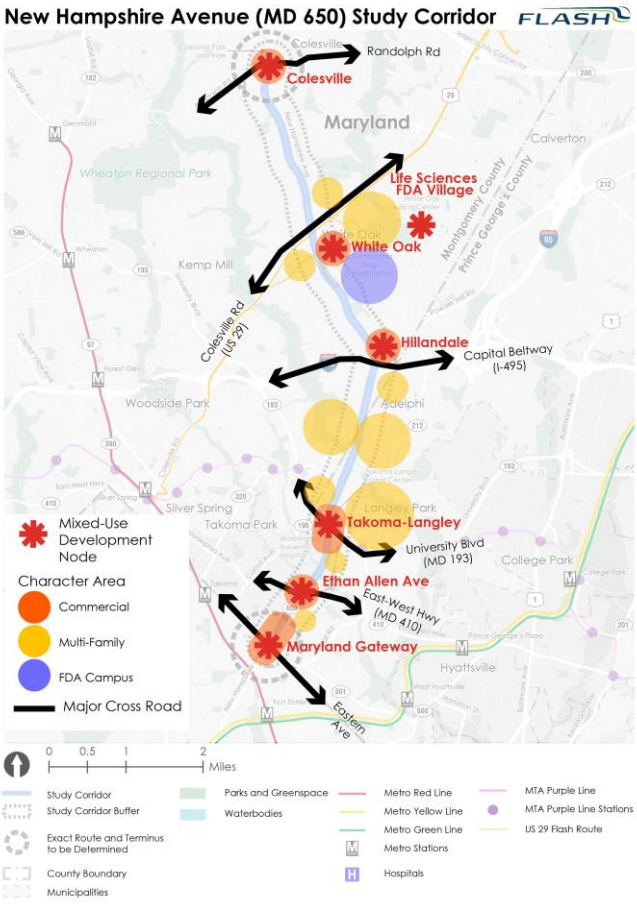


Figure 3: Existing Land Use Nodes

Travel Patterns

New Hampshire Avenue is heavily used for commuting to and from Washington D.C. The following sections summarize how people are traveling to work via New Hampshire Avenue.

Commute by Single Occupancy Vehicles (SOV)

Most people who live in the study corridor commute to work by driving alone. According to the 2019 American Community Survey 5-year estimate, the share of people who drive to work alone increases in areas north of the Capital Beltway and near Colesville, where 84 percent to 100 percent of commuters travel to work by car. White Oak, near the FDA Campus, which offers employee shuttles, is an exception. Areas closer to Washington D.C., south of University Boulevard, have a smaller share of people driving to work (less than 67 percent).

Commute by Transit

Transit use is highest in the southern portion of the corridor, especially in and around Takoma Park. North of University Boulevard, there is a notable decline; the share is more typically less than 21 percent. However, there are a few isolated pockets with modest-to-high transit use, including Adelphi, White Oak, and Colesville.

Commute by Biking

In most census block groups in the study area, less than 1 percent of commuters bike to work. The northern and southern ends of the study corridor have higher bike ridership, but do not exceed more than 6 percent of workers.

Commute by Walking

While most of the study corridor has low rates of walking to work (less than 4 percent of commuters), there are higher concentrations near the Maryland-Washington D.C. line, Langley Park, the west side of New Hampshire Avenue near the Capital Beltway, and near US 29 in White Oak.

Commute Times, Distance, and Direction

People who live south of the Capital Beltway tend to have longer commute times than people who live north of the Capital Beltway. This may be the result of mode choice, as transit usage is higher in these areas. This could also suggest that more people living north of the Capital Beltway may work in nearby suburbs rather than in Washington D.C. According to census data, Colesville and Adelphi have the highest share of people with short commutes: 50 to 100 percent of people spend less than 30 minutes getting to work. Langley Park and the area around the Maryland-Washington D.C. line have the highest share of people with long commutes: less than 30 percent of commuters have a journey shorter than 30 minutes. LEHD data show that corridor residents tend to travel to White Oak, Silver Spring, the MD 355 corridor and Washington D.C. for work. People who work in the study corridor tend to commute from the outer suburbs north and east of the study area. **Figure 4** shows where corridor residents work within the region.

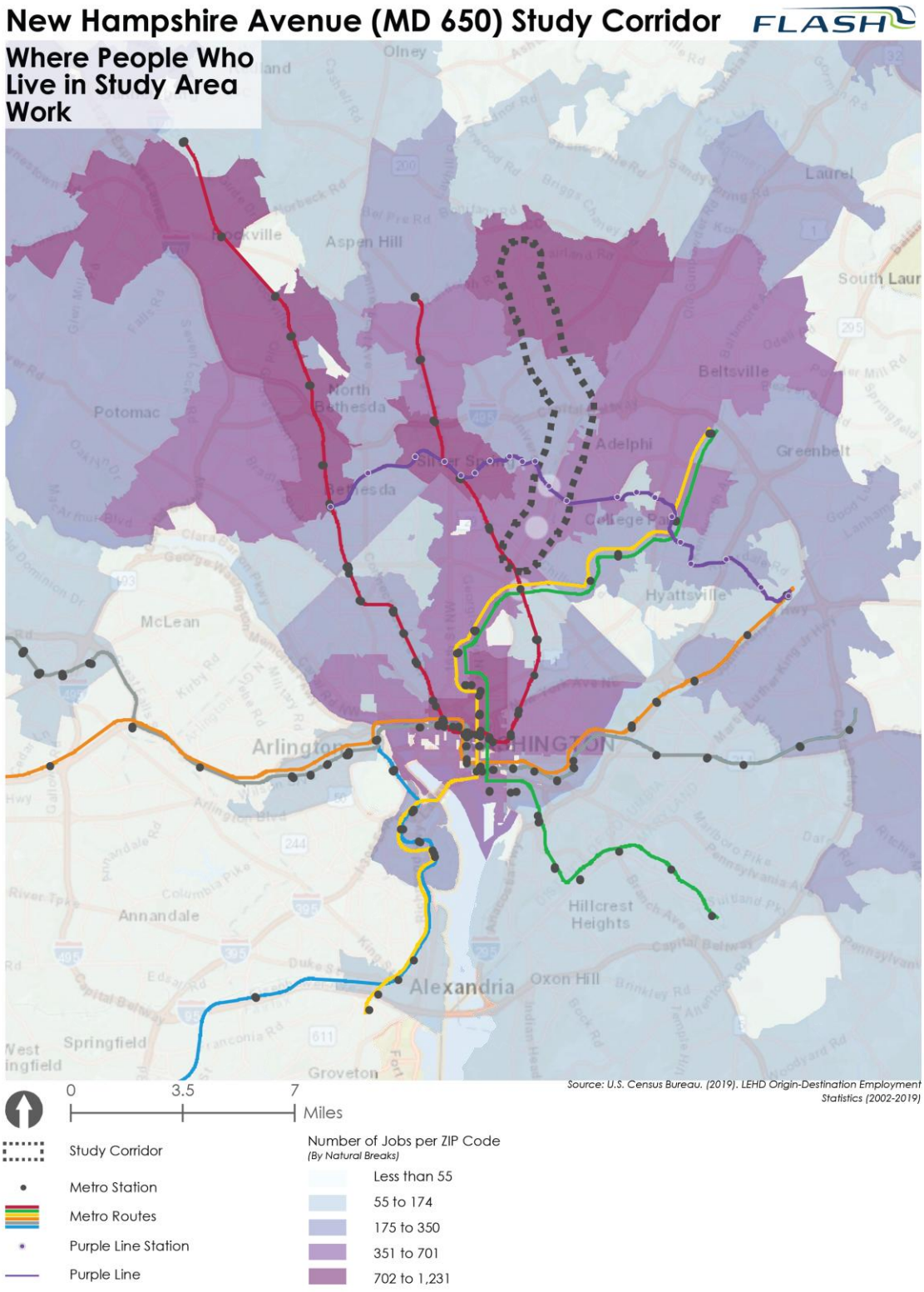


Figure 4: Study Corridor Jobs Distribution

Transportation Network and Infrastructure

New Hampshire Avenue is a state road and is classified as a Principal Arterial road. SHA owns and maintains New Hampshire Avenue (except for service roads). MCDOT operates signals within Montgomery County. New Hampshire Avenue serves as a major roadway in the system of corridors connecting Maryland communities with Washington D.C. New Hampshire Avenue lacks a parallel roadway facility for its full length. There are some generally parallel roadways south of the Capital Beltway, but those facilities do not provide the vehicular capacity of New Hampshire Avenue. Because there are few parallel facilities, the study corridor must serve all travel modes.

New Hampshire Avenue carries high motor vehicle traffic volumes, especially at locations where the corridor is crossed by other major corridors such as US 29, the Capital Beltway, and University Boulevard. There is a robust transit network that serves many local and commuter bus routes as well as bicyclists and pedestrians along the corridor. Many driveways provide access to residential buildings and neighborhoods and large-scale commercial developments.

Topography affects infrastructure along the study corridor. Several streams cross New Hampshire Avenue, creating low and high points in the alignment and restricting sight distance at some intersections, such as at Metzerott Road. The following subsections summarize the existing transportation network and infrastructure along the study corridor.

Road Network and Study Corridor Segments

New Hampshire Avenue is a six-lane arterial road. The typical condition along New Hampshire Avenue includes three vehicular traffic lanes in each direction, divided by a grass or concrete median, and has a center turn lane at intersections or private driveway access points. Several segments along New Hampshire Avenue include a service road providing local access to residential properties as shown in **Figure 5**.

The mainline portion of New Hampshire Avenue is typically about 85 feet to 95 feet wide. Narrow 5' wide sidewalks are present on both sides along most of the roadway, but they are often very close to fast-moving vehicles. Bicycle facilities are largely non-existent in the corridor, except for one 0.7-

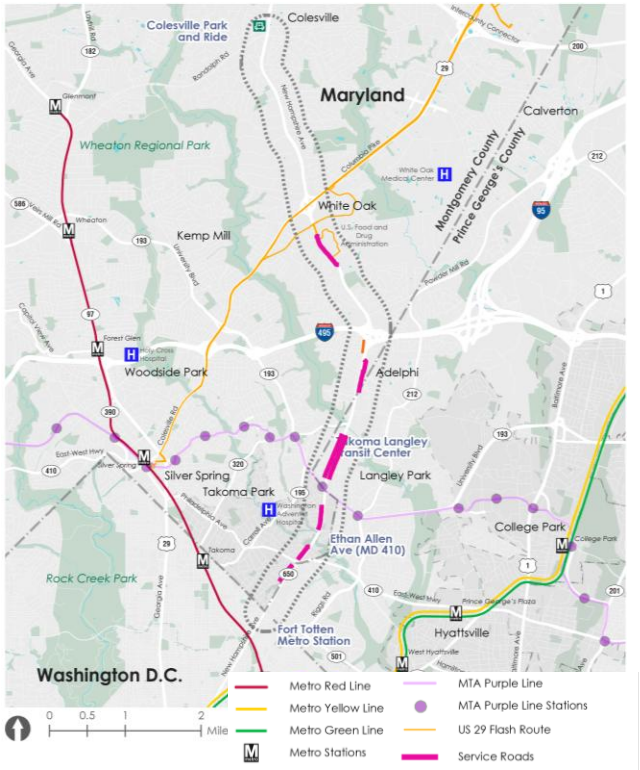


Figure 5: Service Roads on New Hampshire Avenue

mile-long northbound striped bike lane and a shared-use path on the eastern side of the road along the FDA campus.

In some portions of the corridor, there are service roads on the east, west, or both sides of the mainline roadway. These service roads are typically about 18 feet wide, carrying one travel lane in the same direction as the adjacent mainline lanes and one vehicular parking lane. The service roads are typically stop-controlled and many restrict left and/or through movements at the intersections. Service roads are typically divided from the mainline via narrow concrete or grass medians. Where service roads are provided, the width of New Hampshire Avenue can increase from 85 to up to 180 feet.

The public right-of-way (ROW) for New Hampshire Avenue typically varies from 100 to 180 feet, including the service roads, but the roadway is constrained by adjacent land uses. Many of the service roads are lined with single-family houses and residential driveways. Many shopping centers, small businesses, and parking lots are close to the roadway, especially south of University Boulevard.

The conditions and context varies in different parts of the study corridor. To develop context-sensitive BRT concepts and alternatives, the study corridor was divided into five segments based on characteristics including travel demand, land use, and transit frequency. Five segments are shown in **Figure 6** and listed below.

- Segment 1 – Eastern Avenue to University Boulevard (1.85 miles)
- Segment 2 – University Boulevard to Piney Branch Road (0.93 miles)
- Segment 3 – Piney Branch Road to Powder Mill Road (1.49 miles)
- Segment 4 – Powder Mill Road to Lockwood Drive (1.43 miles)
- Segment 5 – Lockwood Drive to Randolph Road (2.64 miles)

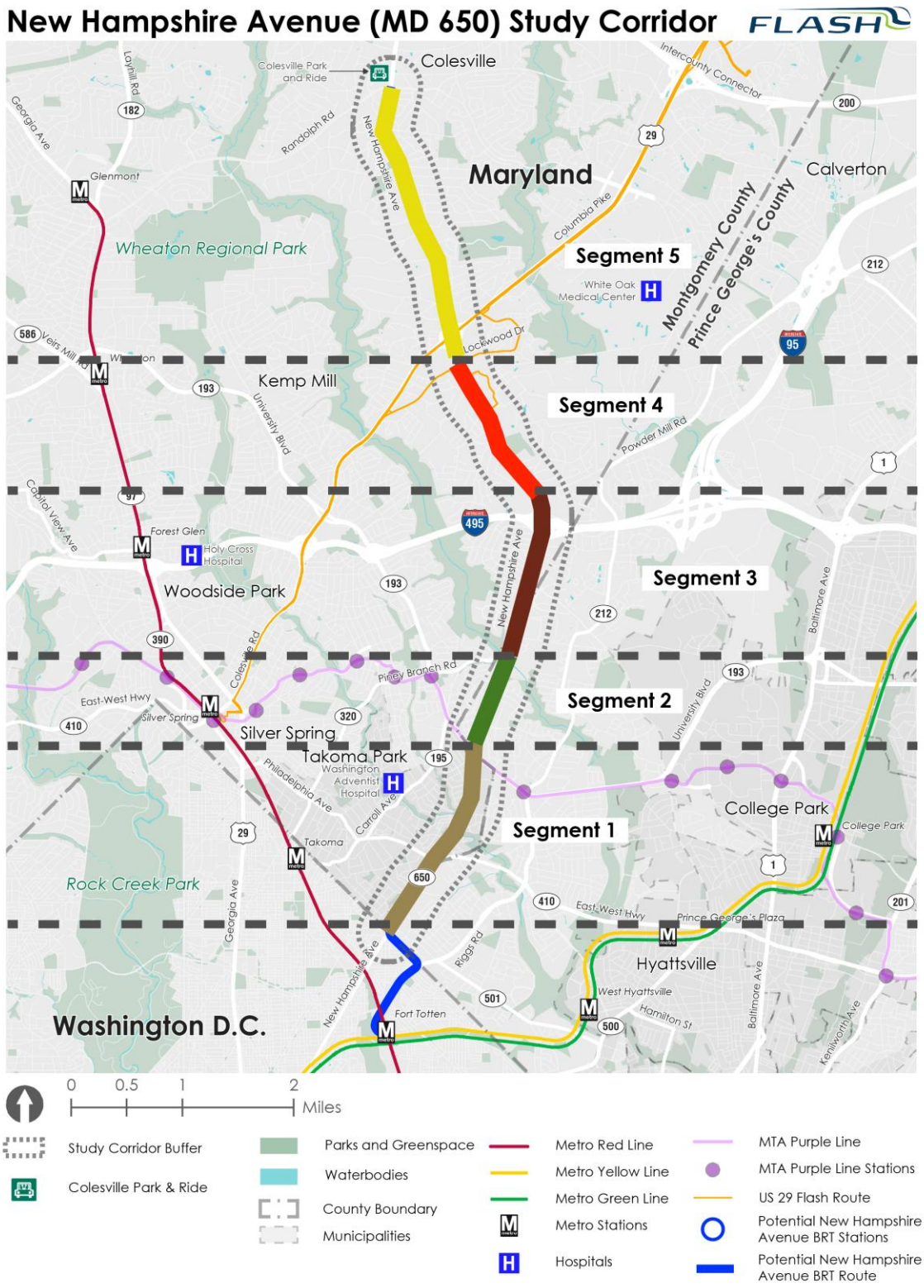


Figure 6: Study Corridor Segments

Segment 1 – Eastern Avenue to University Boulevard (1.85 miles):
Segment 1 is the southernmost portion of the corridor, spanning the Maryland-Washington D.C. line at Eastern Avenue to University Boulevard. This segment is largely in the City of Takoma Park. Land uses between Eastern Avenue and East-West Highway are mostly suburban commercial and retail, with a few multi-family residential buildings. Land uses between East-West Highway and University Boulevard are mostly suburban single-family residential, with a few multi-family residential buildings and suburban commercial and retail uses closer to University Boulevard. Destinations include the Takoma Park Shopping Center, Sligo Creek Trail, the Takoma Park Recreation Center, La Union Center Mall, Langley Park Plaza, and Takoma Langley Transit Center. According to SHA, the 2019 average traffic volume in this segment was slightly more than 39,500 vehicles per day.

Segment 1 has two typical cross sections. The southern end, from Eastern Avenue to Glenside Drive (**Figure 7**), has an approximately 102-foot-wide ROW. Three travel lanes in each direction are 11 feet wide, and there is a 19-foot-wide landscaped median. Sidewalks on both sides of the roadway are seven feet wide.

Figure 7: Segment 1 Existing Typical Section (southern end)

The northern end of Segment 1, from Glenside Drive to University Boulevard (**Figure 8**), serves major destinations including Langley Park Plaza and the Anacostia Tributary Trail System's Sligo Creek Trail, as well as multi-family and single-family housing. The ROW widens to 133 feet. In this portion of the corridor, three 11-foot-wide travel lanes in each direction are supplemented by a 16-foot-wide one-way service road on the southbound side. There are two medians: a 21-foot-wide landscaped median between the travel lanes and an 11.5-foot-wide concrete median separating the service road from the main roadway. Six-foot-wide sidewalks are present on both sides of the roadway, and there is a buffer between the sidewalk and the service road.

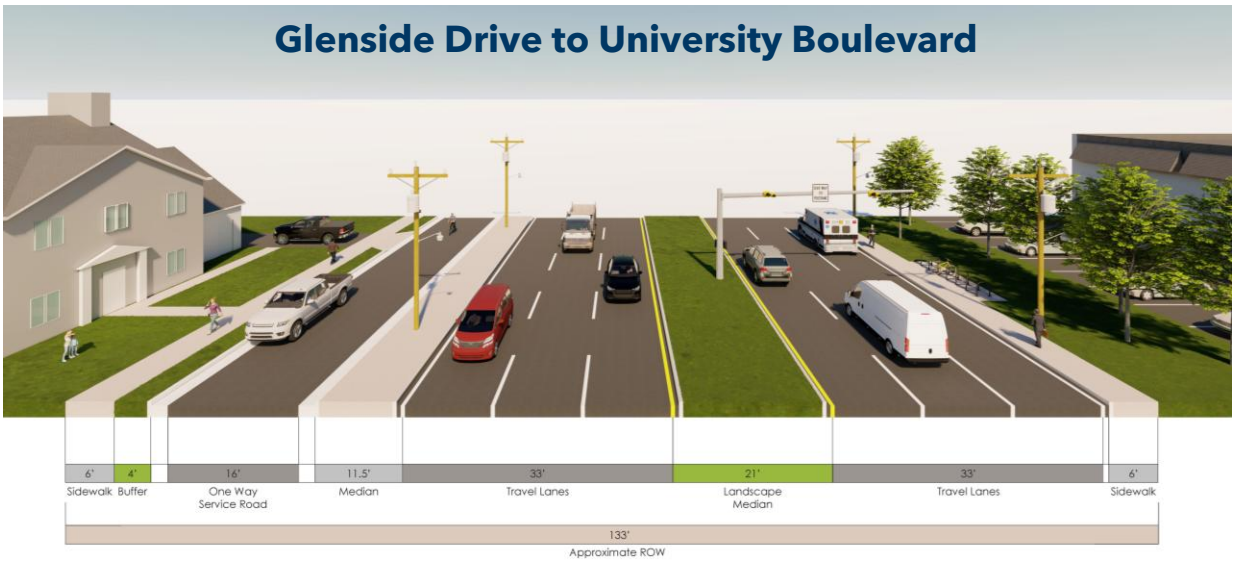


Figure 8: Segment 1 Existing Typical Section (northern end)

Segment 2 – University Boulevard to Piney Branch Road (0.93 mile):
Segment 2 spans from University Boulevard to Piney Branch Road. This whole segment is in Prince George's County (**Figure 9**). Like the northern part of Segment 1, Segment 2 provides access to the Anacostia Tributary Trail System via the Northwest Branch Trail as well as multi-family and single-family housing.

Land uses between University Boulevard and Piney Branch Road are mostly suburban single-family residential, with a few multi-family residential buildings and suburban commercial and retail uses closer to University Boulevard. According to SHA, the 2019 average traffic volume in this segment was slightly less than 37,000 vehicles per day.

The 144-foot-wide ROW includes three 11-foot-wide travel lanes in each direction and 18-foot-wide one-way service roads. Sidewalks on each side are five feet wide with an additional five-foot-wide buffer from the service roads. The median separating the southbound service road from the main roadway is 22 feet wide, while the center median and northbound service road median are each five feet wide.

Figure 9: Segment 2 Existing Typical Section

Segment 3 – Piney Branch Road to Powder Mill Road (1.49 miles):
Segment 3 includes the middle of the corridor and straddles the Montgomery County-Prince George's County line. New Hampshire Avenue from Piney Branch Road to Northampton Drive is in Prince George's County. The study corridor north of Northampton Drive is in Montgomery County.

Land uses between Piney Branch and Powder Mill roads are mostly suburban single-family residential, with a few multi-family residential buildings closer to Piney Branch Road and suburban commercial and retail uses closer to University Boulevard and the Capital Beltway (I-495). There is a suburban commercial and retail node in Hillandale at the intersection with Powder Mill Road. Hillandale Gateway, a new multi-family development, is also under construction at this intersection. This segment has the highest traffic volumes in the study corridor due to its proximity to the Capital Beltway (I-495): according to SHA, the 2019 average traffic volume in this segment was close to 80,000 vehicles per day.

A typical section of this segment (**Figure 10**) has a similar configuration to the northern part of Segment 1, but with the service road on the northbound side. The ROW is approximately 127 feet wide, with 33 feet dedicated to travel lanes in each direction. There is a 19-foot-wide landscaped median dividing the main travel lanes and a smaller landscaped median separating the service road from the main travel lanes. There are five-foot-wide sidewalks on each side of the roadway, and the sidewalk adjacent to the service road has a six-foot-wide buffer.

Figure 10: Segment 3 Existing Typical Section

Segment 4 – Powder Mill Road to Lockwood Drive (1.43 miles):
Segment 4 is north of the Capital Beltway (I-495) between Powder Mill Road and Lockwood Drive. Land uses along this segment are mostly suburban single-family residential, with a few institutional, multi-family residential, and suburban commercial and retail destinations closer to US 29, just north of Lockwood Drive. The FDA Campus is located on this segment. Other destinations include Hillandale Local Park, a fire station, and the Hillandale Shopping Center. According to SHA, the 2019 average traffic volume in this segment was slightly more than 57,000 vehicles per day.

The southern end of Segment 4 has an approximately 104-foot-wide ROW with three 11-foot-wide travel lanes in each direction divided by a 19-foot-wide landscaped center median. Seven-foot-wide sidewalks line each side (**Figure 11**).

Figure 11: Segment 4 Existing Typical Section (southern end)

The northern end of Segment 4 is wider – approximately 177 feet wide (**Figure 12**). There is an additional northbound travel lane as well as a southbound service road. The two medians are landscaped, and the center median is 34 feet wide, while the median separating the southbound service road is 22 feet wide. The western side of the segment has a five-foot-wide sidewalk with a five-foot buffer from the service road. The eastern side of the segment has multimodal facilities, including a five-foot-wide conventional bike lane and a 10-foot-wide shared-use path.

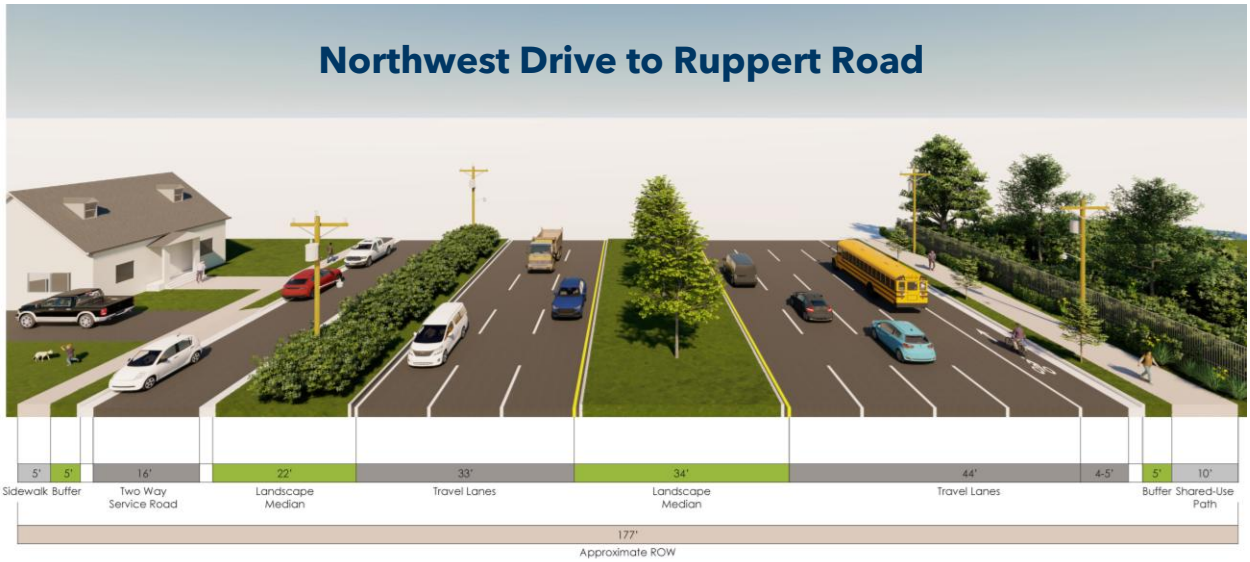


Figure 12: Segment 4 Existing Typical Section (northern end)

Segment 5 – Lockwood Drive to Randolph Road (2.64 miles):
The northernmost corridor segment is characterized by lower-density suburban single-family residential land uses. There is a suburban retail commercial node at the intersection with Randolph Road. This segment serves Martin Luther King, Jr. Park, a library, churches, small businesses, and schools. The 103-foot-wide ROW includes three 11-foot-wide travel lanes in each direction separated by a 19-foot-wide landscaped median (**Figure 13**). Five-foot-wide sidewalks on either side are buffered from the roadway by four-foot-wide planting strips. According to SHA, the 2019 average traffic volume in this segment was slightly more than 44,000 vehicles per day.

Figure 13: Segment 5 Existing Typical Section

Bicycle/Pedestrian Network
Safe and comfortable pedestrian and bicycle access to New Hampshire Avenue from surrounding residential neighborhoods is important for residents to access transit. Many streets connecting surrounding residential neighborhoods to New Hampshire Avenue and internal neighborhood local streets lack sidewalks, crosswalks, and dedicated bicycle facilities. Information provided within this section summarizes the existing bicycle and pedestrian network.

Bicycle Facilities:
The Montgomery County Planning Department has conducted county-wide analysis to map Bicycle Level of Traffic Stress (LTS). Bicycle LTS is a measure of how comfortable and safe a roadway feels for people who are interested but concerned about bicycling, based on factors like traffic speed, volume, and roadway design. Most of New Hampshire Avenue within the study corridor has a Bicycle Level of Traffic Stress (LTS) of 4, which indicates a "high-stress"

cycling facility. This is a result of almost negligible dedicated cycling facilities on the corridor and the high speed and volume of vehicles using the road. Along the 0.7-mile of the study corridor by the FDA Campus, a painted bike lane and shared-use path result in a LTS of Level 1, or "very low stress," for that short segment. LTS is typically low- or very-low-stress on the intersecting neighborhood streets, but high-stress on the major intersecting corridors like Randolph Road, US 29, Piney Branch Road, and University Boulevard.

There are multiple off-street regional trail connections along the corridor. The NW Branch Trail connects with New Hampshire Avenue at Piney Branch Road and the Sligo Creek Trail connects at Sligo Creek Parkway. These two trails are low-stress facilities that connect cyclists to nearby towns and communities. Several Capital Bikeshare stations are located along the corridor, including near Ethan Allen Avenue, at the Takoma Park Recreation Center, near Takoma Langley, and at Fort Totten.

The 2018 Montgomery County Bicycle Master Plan recommends shared-use paths on both sides of New Hampshire Avenue for majority of the study corridor. On-street separated bike lanes are also recommended for a few minor segments. The City of Takoma Park has developed engineering designs for on-street bicycle facilities and shared-use paths along service roads of New Hampshire Avenue between Poplar Avenue to Holton Lane. In addition, MCDOT has established the Montgomery County Bicycle and Pedestrian Priority Area (BiPPA) program to identify focus areas to enhance safe bicycle and pedestrian access that create cohesive neighborhoods, upgrade infrastructure, and to improve long-range connectivity and circulation. The following areas along the study corridor have been identified as BiPPAs:

- Takoma Langley
- Hillandale
- White Oak
- Colesville

Pedestrian Facilities:

Most of the study corridor has sidewalks on both sides. However, many of these sidewalks are narrow, deteriorated, and/or obstructed. Many sidewalks along the corridor are located on the back of roadway curb or offer only a narrow landscape buffer between pedestrians and fast-moving traffic. There are some gaps in sidewalk network, resulting in a non-continuous walking path.

Where service roads exist, the sidewalks are typically located outside of the service road along the frontage of single-family houses. In some cases, where bus stops exist in the medians between service roads and the mainline, there is no pedestrian infrastructure connecting the stop to the sidewalk.

Like LTS analysis, the Montgomery County Planning Department has conducted county-wide analysis to map Pedestrian Level of Comfort (LOC). Pedestrian LOC is a metric that rates how

comfortable walking or rolling feels along sidewalks, paths, and crossings based on roadway characteristics like vehicle speeds, pedestrian facility width and separation, crossing design, and pathway condition. Throughout the study corridor, LOC ranges from Level 3 (somewhat uncomfortable) to Level 4 (uncomfortable). There are also some segments with LOC of Level 5 (undesirable). Many of the streets that intersect with New Hampshire Avenue also have LOC Level of 3. These poor LOC ratings are a result of the minimal and often discontinuous pedestrian infrastructure, long roadway crossings, high speed and volume of adjacent traffic, and minimal separation from vehicle traffic.

Safety/Crash Analysis

Crashes are both frequent and severe on the New Hampshire Avenue corridor, especially between the Capital Beltway and University Boulevard.

Two portions of the study corridor - New Hampshire Avenue from Randolph Road to Eldrid Drive and New Hampshire Avenue from the Capital Beltway to University Boulevard - are located on the High Injury Network (HIN), as defined by Montgomery County and Prince George's County. The HIN highlights roadway segments with the highest serious and fatal crash rates. Both counties' Vision Zero programs suggest prioritizing safety modifications at these locations.

On March 29, 2022, a road safety audit was conducted by MCDOT as part of a separate effort for a 1.2-mile segment of New Hampshire Avenue, identified as part of the High Injury Network (HIN), from Piney Branch Road to the Capital Beltway. It made recommendations such as constructing sidewalks, restriping crosswalks, modifying signals, improving signage, and repairing the roadway.

Similarly, pedestrian and other data-driven safety improvements are being advanced by SHA on a 2.5-mile portion of the corridor from University Boulevard to Powder Mill Road as the first project in the state's Pedestrian Safety Action Plan.

There were six fatal bicycle and pedestrian crashes recorded at or near the following New Hampshire Avenue intersections between 2015 and 2019:

- Oakview Drive
- Metzerott Road (2 fatal crashes)
- Merrimac Drive
- University Boulevard
- Larch Avenue

There were also 68 injury crashes involving bicyclists and/or pedestrians throughout the corridor between 2015 and 2019.

Between 2015 and 2019, there were eight total fatal crashes, 759 total injury crashes, and 1,477 total property damage-only crashes on the study corridor. Most of those crashes took place

between Powder Mill Road and the portion of the corridor just south of University Boulevard. Total crashes were also high in the Hillandale area and around Lockwood Drive and US 29. The portions of the corridor with the fewest crashes were south of Holton Lane and north of Heartfields Drive.

Transit Network

One of the key assets of the New Hampshire Avenue corridor is its robust network of existing transit services. Multiple bus routes from Ride On, the Montgomery County bus service, WMATA, and one route of Prince George's County's 'The Bus' serve the New Hampshire Avenue corridor (**Figure 15**). Existing bus service provides robust service to existing and planned rail transit.

WMATA Metrobus route K6 (now M60) has the highest ridership of all the routes that serve the corridor, while route K9 (now M6X) offers limited-stop service during peak hours. Routes K6 and K9 serve much of the corridor, from the White Oak area to Fort Totten Station.[4]

Bus routes that serve smaller portions of the corridor connect to a variety of areas by circulating to New Hampshire Avenue from WMATA Metrorail stations in Silver Spring or Takoma Park. Many of these routes, such as Ride On routes 16, 20, and 22, serve the central and southern portions of the corridor. Other routes cross the corridor and provide transfer opportunities. Riders can reach destinations such as Fort Totten, Silver Spring, and Takoma Park without a transfer or with a single transfer.

Bus ridership (**Figure 14**) is highest in the southern segment of the study corridor, between Eastern Avenue and University Boulevard, especially at Takoma-Langley Transit Center. High bus ridership was also recorded at Powder Mill Road (Hillandale) and Lockwood Drive (White Oak).

There is no rail transit service running along or parallel to the corridor. The Purple Line light rail project is under construction on University Boulevard that intersects the study corridor near Takoma Langley. The Purple Line will have a center island station on University Boulevard adjacent to the Takoma Langley Transit Center. The connection will provide east-west travel between Bethesda, Silver Spring, College Park, and New Carrollton.

[4] Analyses of bus routes and route names contained in this report do not fully reflect changes made as part of Metrobus Better Bus Initiative and MCDOT Ride On Reimagined (launched on June 29, 2025).

Figure 14: Average Weekday Bus Ridership

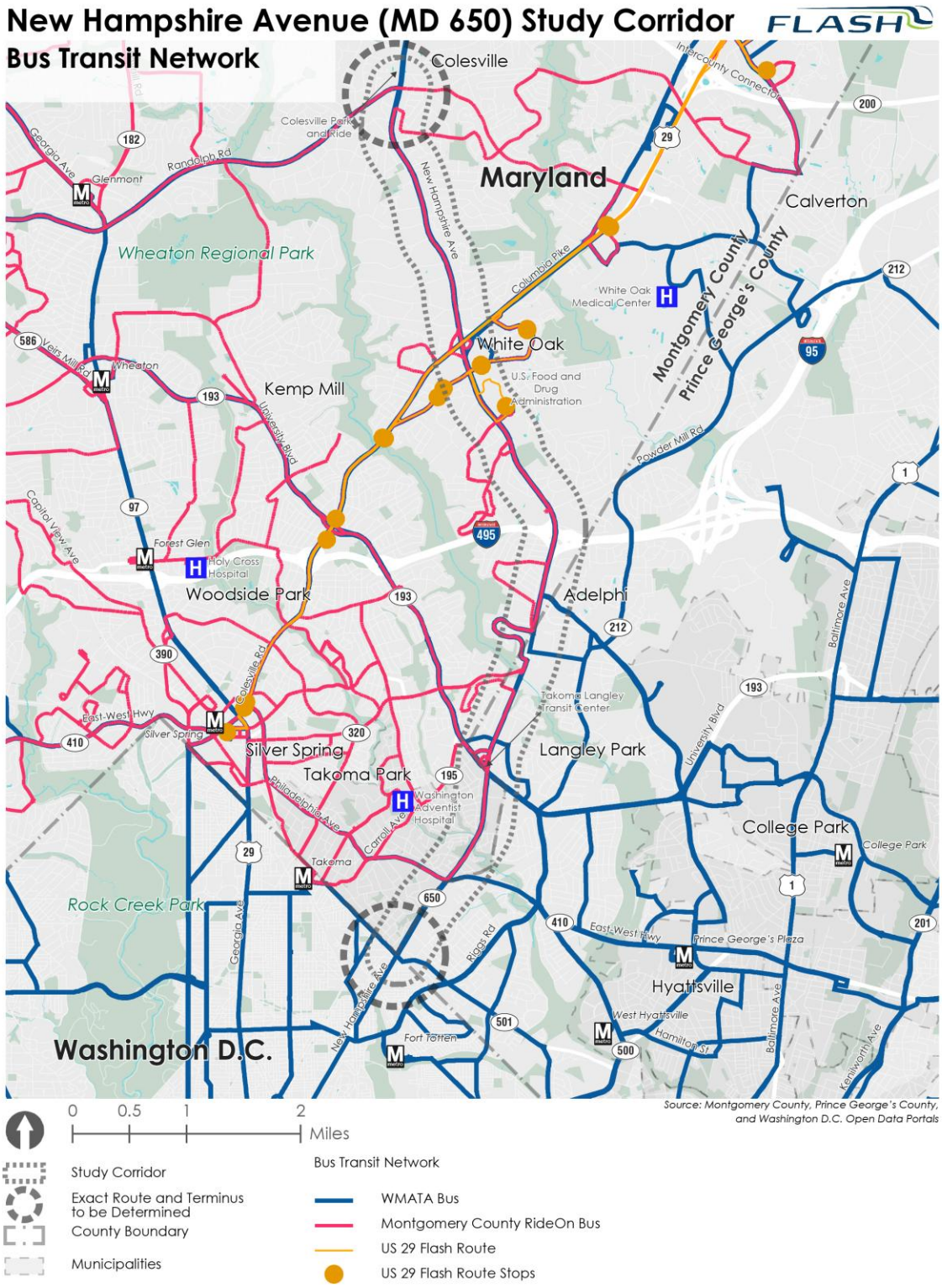


Figure 15: Bus Transit Network

Transit Analysis[5]

Current transit operations were evaluated to assess network connections, ridership, bus frequency, and bus travel times. The analysis identifies the geography of transit demand as well as where current operations experience relatively slow or unreliable bus times.

Detailed transit operations and automated passenger count (APC) data provided by WMATA, which operates Metrobus, and MCDOT, which operates Ride On, were used as the base of the evaluation. The analysis uses WMATA and Montgomery County September 2024 data and Montgomery County. These time periods reflect the most recently available data for a regular ridership pattern. Ridership is typically evaluated in the Fall or Spring, as travel during these times is less frequently interrupted by holidays or summer travel.

The analysis considers routes that travel along the study corridor or cross it. Specifically, the analysis considers WMATA routes C8, F8, K6, K9, R1, and Z2 and Ride On routes 10, 15, 16, 17, 18, 20, 21, 22, 24, and 25. However, the most detailed analysis is focused on the K6 and K9 routes, which approximate most of the study corridor.

The APC data provided by WMATA and Montgomery County enable an evaluation of ridership and travel time by various time periods. The ridership data comprises counts of boardings and alightings at a stop level for the buses using the corridor. The travel time data describes travel times between stops and along the full bus routes. The analysis focused on weekday performance data, since both ridership and potential conflicts from roadway congestion are highest during the week.

Bus Route Ridership

Average weekday bus ridership illustrates the relative demand on each bus route operating on the corridor.[6] Based on the data collected in September 2024, average weekday bus ridership for bus routes along New Hampshire Avenue is over 25,800 trips per weekday. Although not all bus passengers are boarding or aboard buses within the study corridor, they would benefit from BRT improvements that increase frequency and reliability and reduce overall transit travel time.

Further analysis of existing transit ridership shows that there are about 14,470 weekday bus transit trips in the study corridor. Of these, about 2,100 passengers are aboard buses when they enter New Hampshire Avenue corridor. In addition, there are over 12,300 daily boardings

[5] Analysis of bus routes and route names contained in this report do not reflect changes made as part of Metrobus Better Bus Initiative and MCDOT Ride On Reimagined (launched on June 29, 2025).

[6] Not all riders included in the total ridership board or alight in the New Hampshire corridor or will travel on the corridor during their rides.

within the study corridor, including bus boardings at the Fort Totten Metrorail station bus hub. Weekday ridership for each route using is provided in **Table 1**.

The table shows that:

- The WMATA K6 had the highest ridership overall along the corridor.
- The WMATA K9 had less ridership but only operates in peak periods.
- WMATA Route C8 and Ride On Routes 10, 15, 16, and 20 all had strong ridership.

Table 1: Average Weekday Ridership for Buses Using New Hampshire Avenue Corridor

Bus Service Provider and Route			Daily Weekday Ridership
WMATA	C8	College Park Station – White Flint Station	2,990
	F8	Langley Park – Cheverly Station	1,299
	K6	New Hampshire Ave - Maryland	8,926
	K9	New Hampshire Ave – Maryland Limited	1,064
	R1	Riggs Road	706
	Z2	Colesville – Ashton	374
Ride On	10	Hillandale – Twinbrook	2,551
	15	Takoma Langley Crossroads – Silver Spring	1,978
	16	Takoma – Silver Spring	2,475
	17	Takoma Langley Crossroads – Silver Spring	636
	18	Takoma Langley Crossroads – Silver Spring	391
	20	Silver Spring – Hillandale	1,857
	21	Silver Spring – Briggs Chaney Park & Ride Lot	144
	22	Silver Spring – Hillandale-FRC/FDA	176
	24	Takoma – Hillandale	125
	25	Takoma Langley Crossroads - Takoma	136
TOTAL			**25,828**

Source: WMATA and Ride On September 2024 ridership data

Transit Frequency

Many of the bus routes on the New Hampshire Avenue corridor provide frequent service for local and limited-stop services. The most frequent services, such as the K6, K9, 16, 20, operate at 10-to-15-minute peak-period headways. Other services, such as the C8, offer less frequent service, operating at 30 minutes. Services such as the K9, 21, 22, and 24 operate in peak periods only, often at much lower frequencies, with exception to the K9, which operates at a 15-minute headway.

Due to the overlap of multiple routes on the corridor, sections of the corridor see as many as 20 buses per hour during the peak hour. The highest frequency of bus service is found between Piney Branch Road and Ethan Allen Avenue, where there are 15 to 20 buses per direction per hour. Bus frequency is also relatively high between Lockwood Drive and the Capital Beltway, as well as south of Ethan Allen Avenue, with 10 to 14 buses arriving per direction per hour. **Figure 16** shows the relative frequency of buses travelling in the corridor during the AM and PM peak periods.

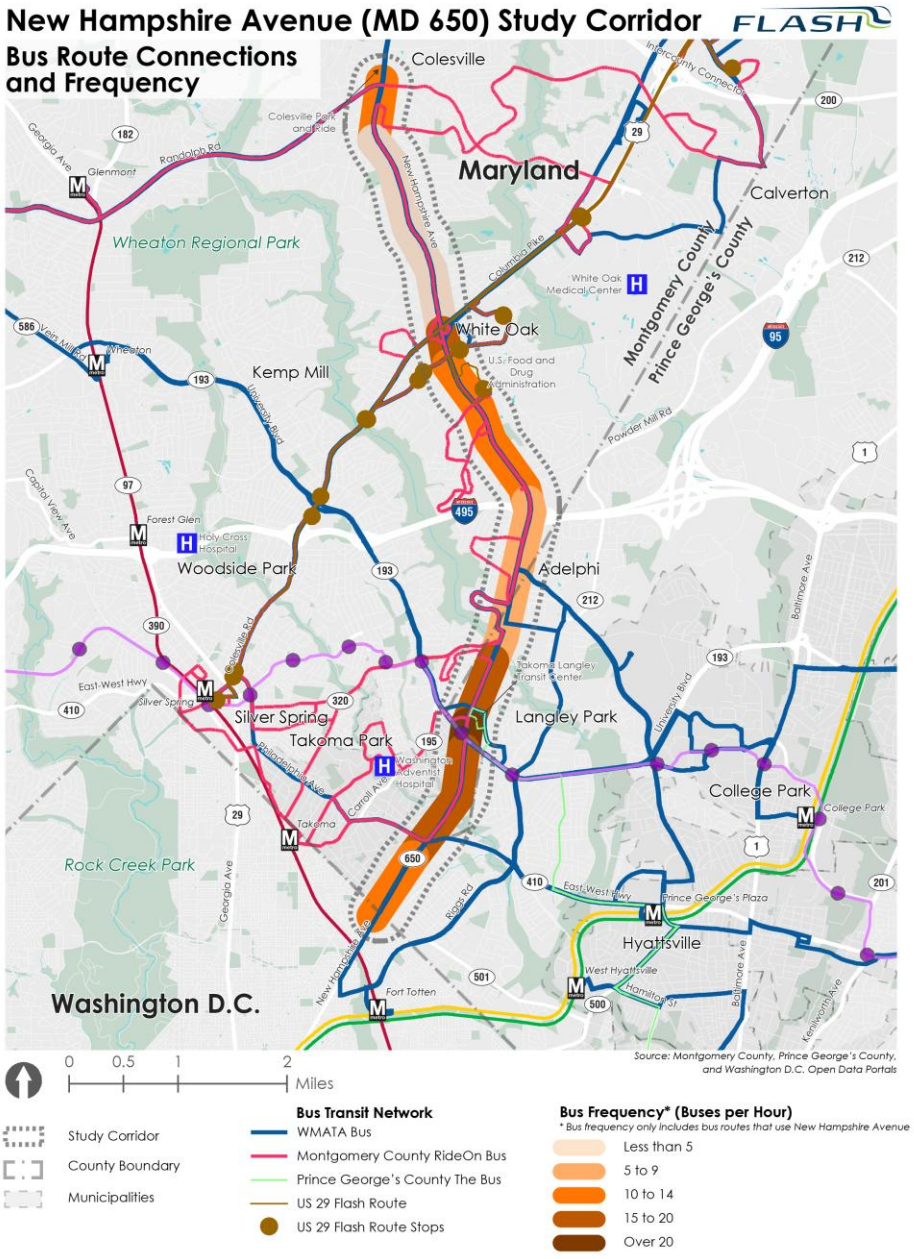


Figure 16: Bus Frequency (per Hour)

Transit Travel Time, Reliability, and Speed

Metrobus Routes K6 and K9 operate along the busiest and most congested portion of the New Hampshire Avenue corridor: from the White Oak area to the Fort Totten Metrorail Station. These two routes were analyzed to identify ridership patterns and understand the operational character of transit on the corridor. The K6 route connecting Fort Totten Station to the White Oak Shopping Center is 7.5 miles long, with 52 stops northbound and 48 stops southbound. The K9 is an express service that follows a similar, but slightly shorter, route (6.5 miles) between Fort Totten Station and Mahan Road (the FDA Campus). The route has 14 stations northbound and 12 stations southbound.

Transit travel time and reliability were evaluated using transit operations data. For this analysis, transit travel time includes time spent boarding and alighting at bus stops along the route. Reliability was measured as the difference between the typical travel times and the 5th percentile travel time. The difference is shown as a "buffer time" and as a travel time ratio. The buffer time metric is used to measure the amount of time a rider would need to plan above the typical travel time to arrive on time 95 percent of the time. The ratio is included to provide a comparison of the slowest trips to typical travel times and allow for comparisons between bus routes or sections of routes with different lengths.

The limited stop K9 is faster than the K6, but the speed difference varies by direction. In the northbound direction, the K9 has two-thirds the travel time of the K6, but in the southbound direction, the K9 is only moderately faster than the K6. PM peak-period travel in the northbound direction is longer than AM peak-period travel northbound, but southbound travel time is nearly identical between AM and PM peak periods. Travel times vary and are inconsistent, except in the PM outbound direction, suggesting that it is virtually always slow in the outbound direction. Results for the northbound and southbound travel are presented in **Table 2** and **Table 3**.

Table 2: Northbound K6 and K9 Travel Time and Reliability

Route	Time Period	Direction	Median (mins)	5th Percentile (mins)	Buffer Time (mins)	5th / median
K6	AM Peak	North	46.3	62.0	15.7	1.34
K9	AM Peak	North	34.3	42.2	7.9	1.23
K6	PM Peak	North	56.7	65.8	9.1	1.16
K9	PM Peak	North	38.1	45.3	7.2	1.19

Table 3: Southbound K6 and K9 Travel Time and Reliability

Route	Time Period	Direction	Median (mins)	5th Percentile (mins)	Buffer Time (mins)	5th / median
K6	AM Peak	South	42.0	56.0	14.0	1.33
K9	AM Peak	South	36.1	46.1	10.0	1.28
K6	PM Peak	South	43.8	55.3	11.5	1.26
K9	PM Peak	South	37.1	47.9	10.8	1.29

Bus speed were calculated for the Metrobus K6 route from stop to stop. PM bus speeds are shown in **Figure 17**. Speed was generally slow at major intersections, specifically at Adelphi Road, University Boulevard, and Ethan Allen Avenue, where bus speeds are below 10 mph. Bus speeds were much faster in the northern portions of the corridor, north of US 29, and in segments of the corridor between major intersections.

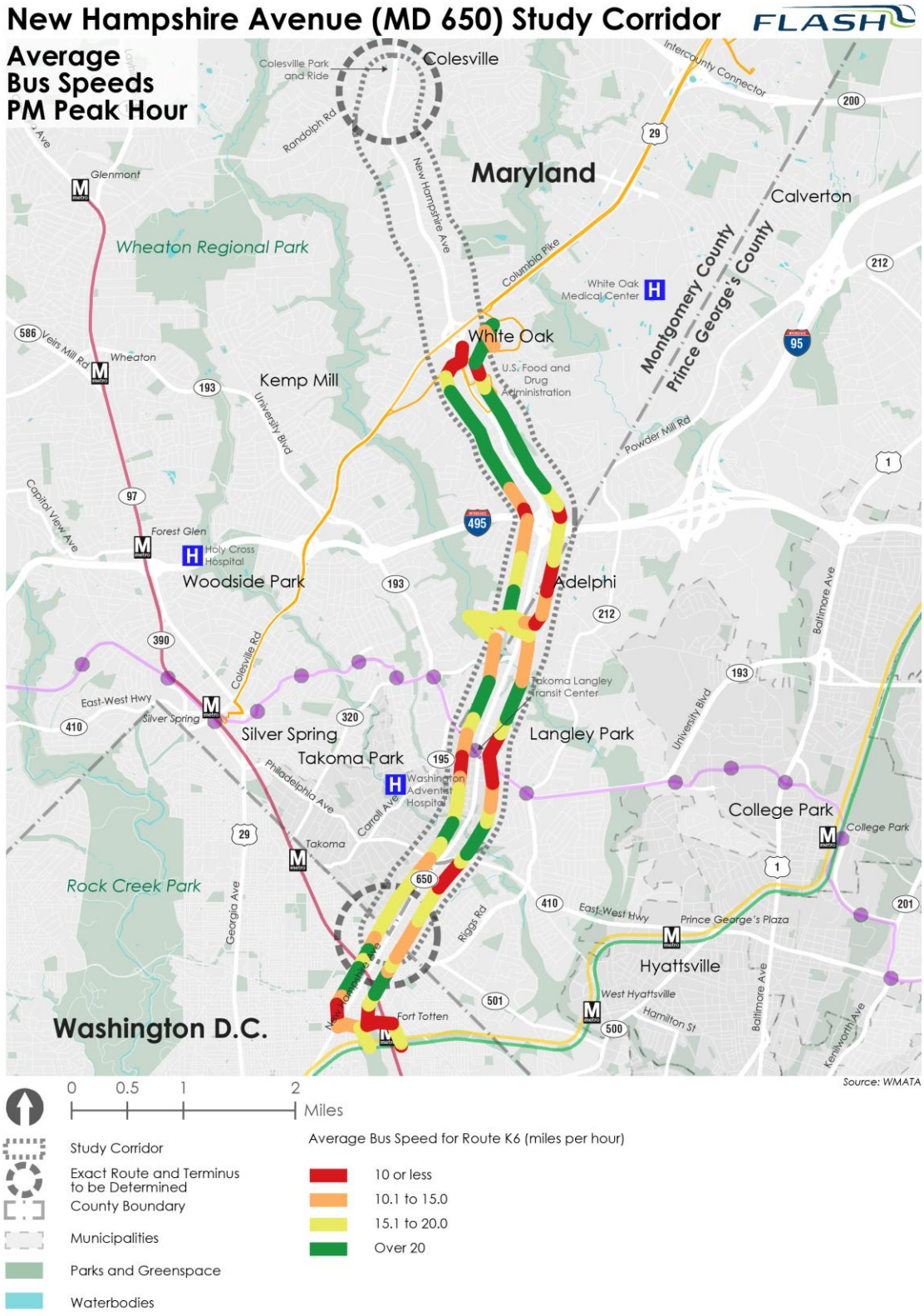


Figure 17: Average Bus Speed for Route K6 (PM Peak Hour)

Synthesis of Findings – Existing Conditions

The following 10 major observations and concerns were identified based on existing conditions analysis. These provided the foundation for discussions with agency and community stakeholders, as well as developing context-sensitive BRT concepts and corridor alternatives.

1. Bus ridership along the study corridor is one of the highest in the region, especially in the many equity communities along the corridor.

2. The study corridor has several bus routes, including frequent routes, but existing bus service is often slow, unreliable, and inaccessible.

3. Land uses along the corridor are largely residential, with community-focused commercial nodes at major intersections.

4. Crashes are frequent and severe between University Boulevard and Powder Mill Road.

5. Service roads provide access for adjacent residents and businesses but create conflicts and inhibit transit access.

6. The corridor's few parallel local roadways and limited street grid force vehicles onto New Hampshire Avenue, even for local trips that could otherwise be accommodated by local roadways, causing delay at major intersections.

7. There are high levels of bus ridership and multiple higher frequency bus routes south of Piney Branch Road.

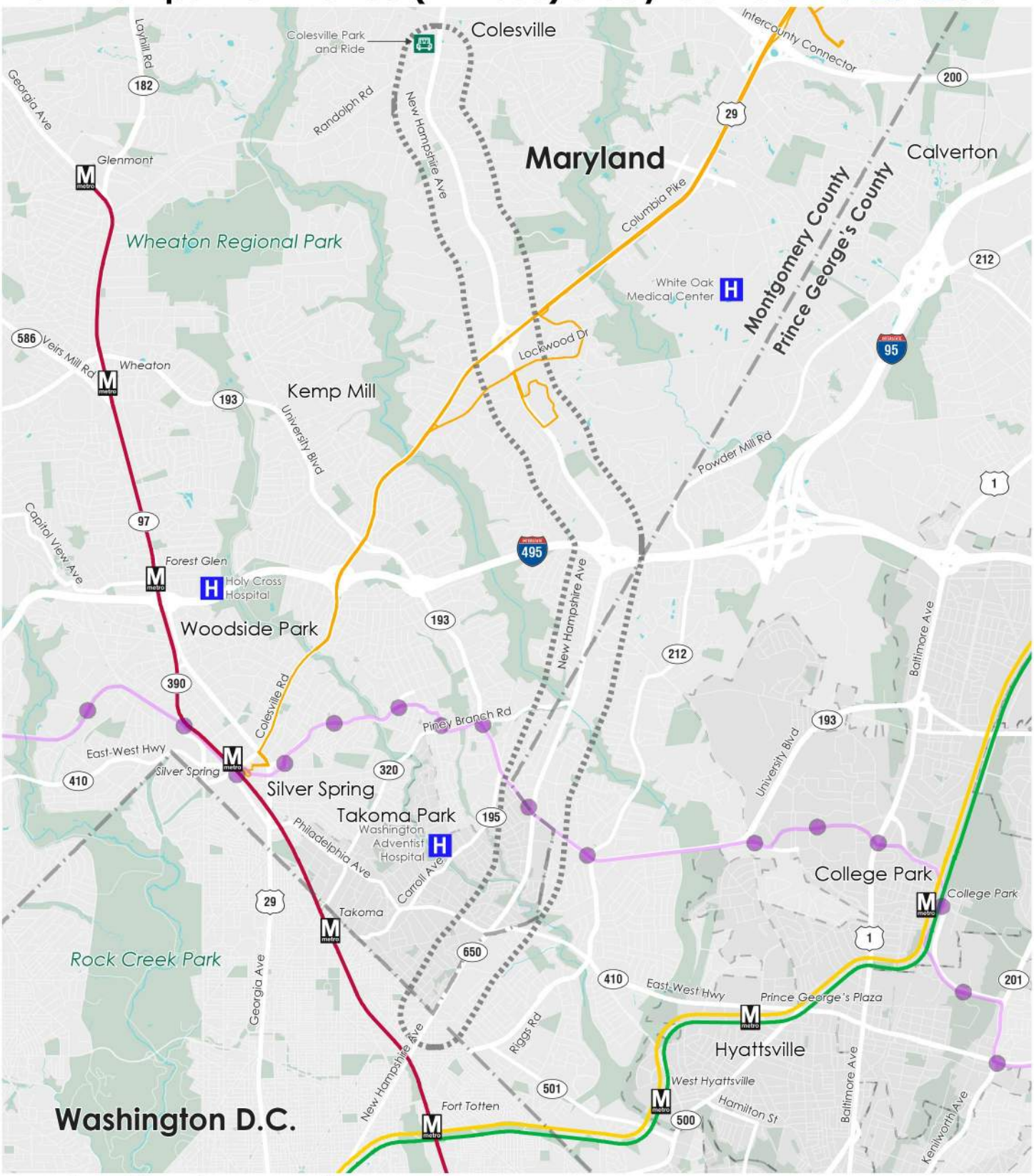
8. Many corridor residents work in locations with long commutes that would be accessible by a faster two-seat transit ride.

9. Connectivity to Fort Totten Metrorail station maximizes connections and is preferred by stakeholders.

10. Bike and pedestrian infrastructure along and connecting to the corridor is often missing or inadequate.

New Hampshire Avenue (MD 650) Study Corridor

FLASH



0 0.5 1 2 Miles

Study Corridor Buffer

Colesville Park & Ride

Parks and Greenspace

Waterbodies

County Boundary

Municipalities

Metro Red Line

Metro Yellow Line

Metro Green Line

Metro Stations

Hospitals

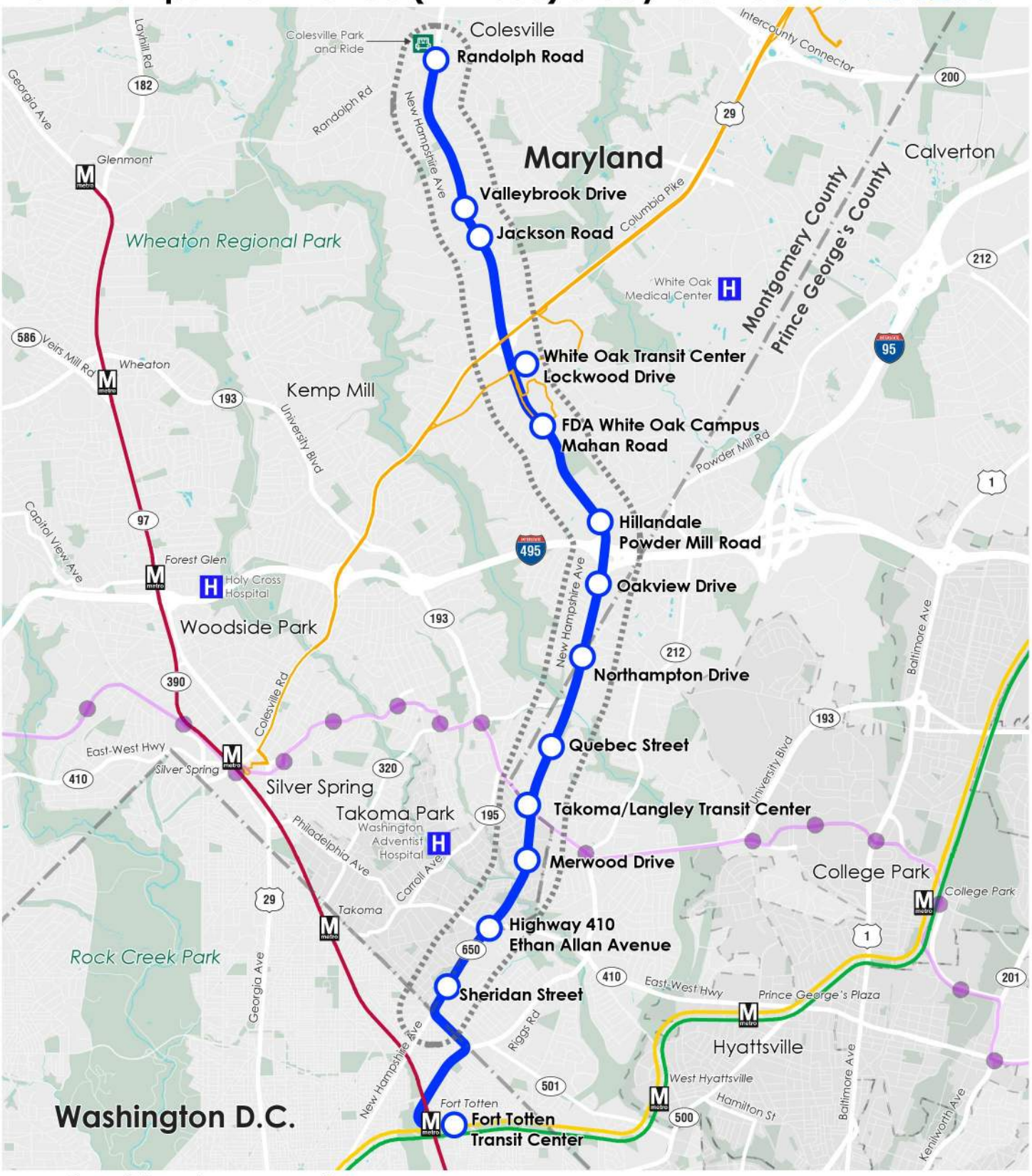
MTA Purple Line

MTA Purple Line Stations

US 29 Flash Route

New Hampshire Avenue (MD 650) Study Corridor

FLASH



0 0.5 1 2 Miles

- Study Corridor Buffer
- Colesville Park & Ride
- Parks and Greenspace
- Waterbodies
- County Boundary
- Municipalities
- Metro Red Line
- Metro Yellow Line
- Metro Green Line
- Metro Stations
- Hospitals
- MTA Purple Line
- MTA Purple Line Stations
- US 29 Flash Route
- Potential New Hampshire Avenue BRT Stations
- Potential New Hampshire Avenue BRT Route

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Existing Land Use

0 0.5 1 2 Miles

Source: Montgomery County, Prince George's County, and Washington D.C. Open Data Portals

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

Municipalities

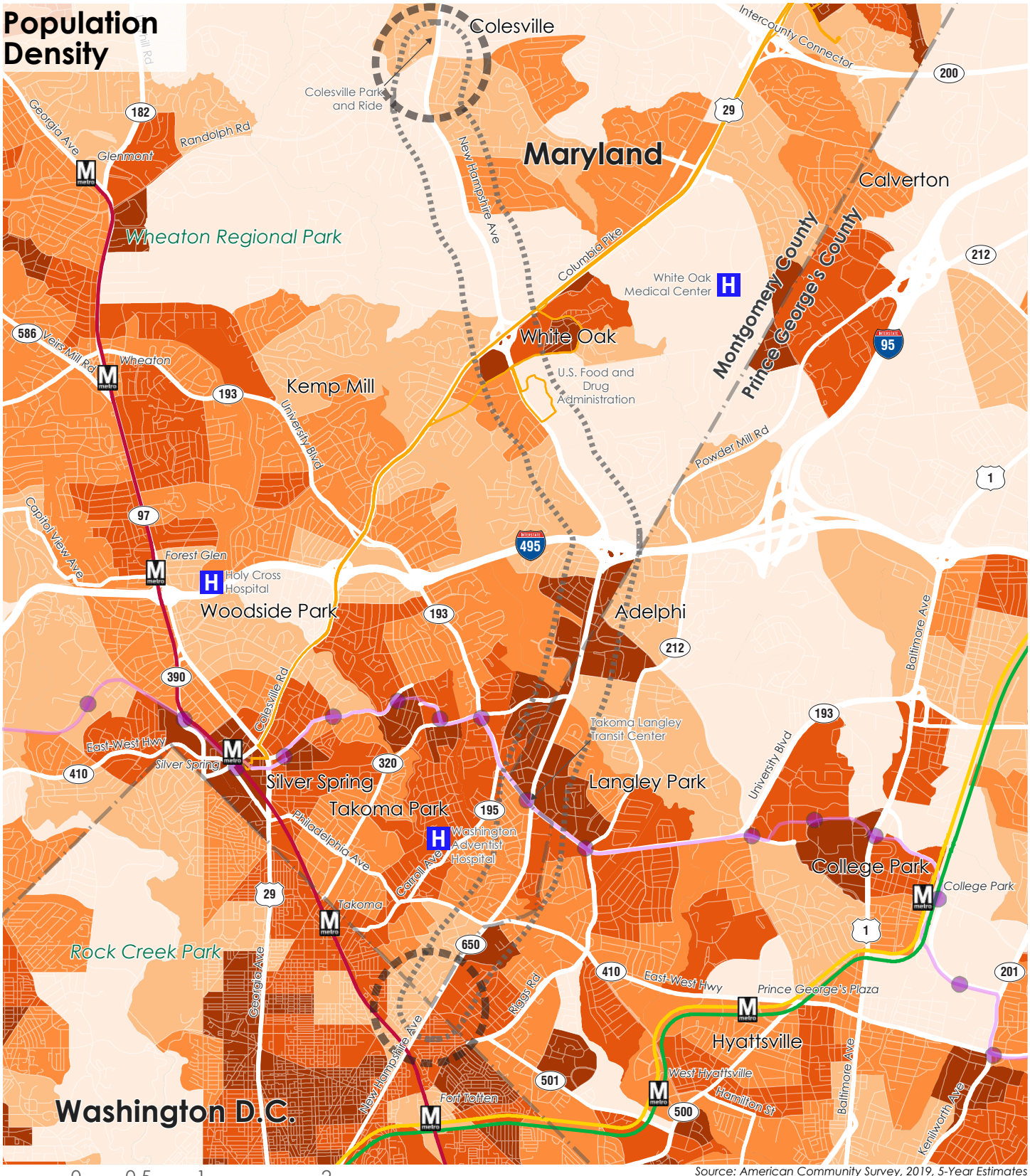
Land Use

- Single Family & Townhomes
- Multi-Family
- Retail & Commercial
- Mixed Use
- Institutional
- Open Space/Agricultural
- Light Industrial
- Heavy Industrial
- Vacant
- Other

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Population Density



Source: American Community Survey, 2019, 5-Year Estimates

0 0.5 1 2 Miles

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

Municipalities

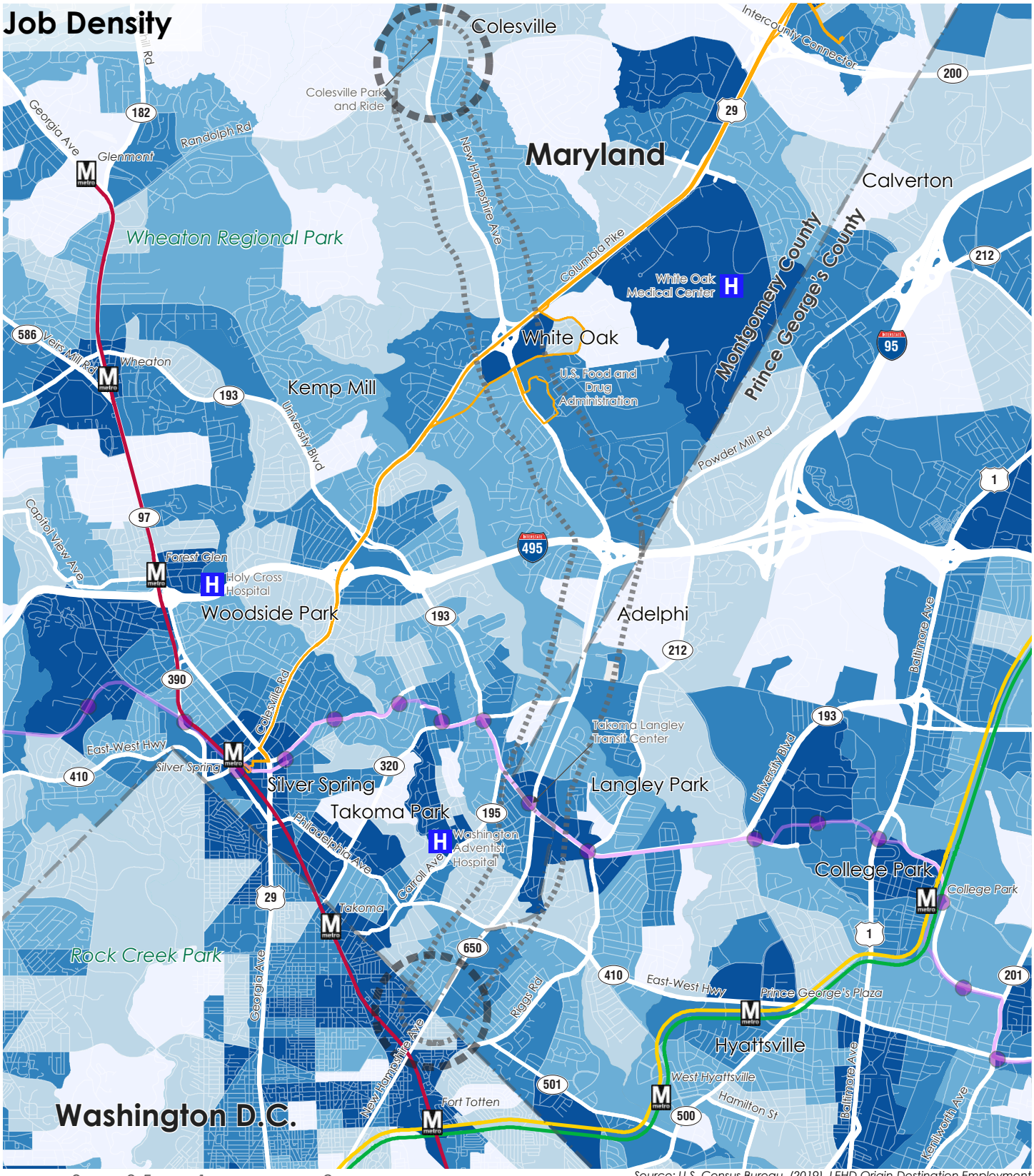
Population Density (People per Square Mile)
(By Quintile - Census Block Group)

- Less than 2,784
- 2,784 to 4,915
- 4,916 to 8,382
- 8,383 to 17,260
- 17,261 to 135,900

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Job Density



0 0.5 1 2 Miles

Source: U.S. Census Bureau. (2019). LEHD Origin-Destination Employment Statistics (2002-2019)

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

Municipalities

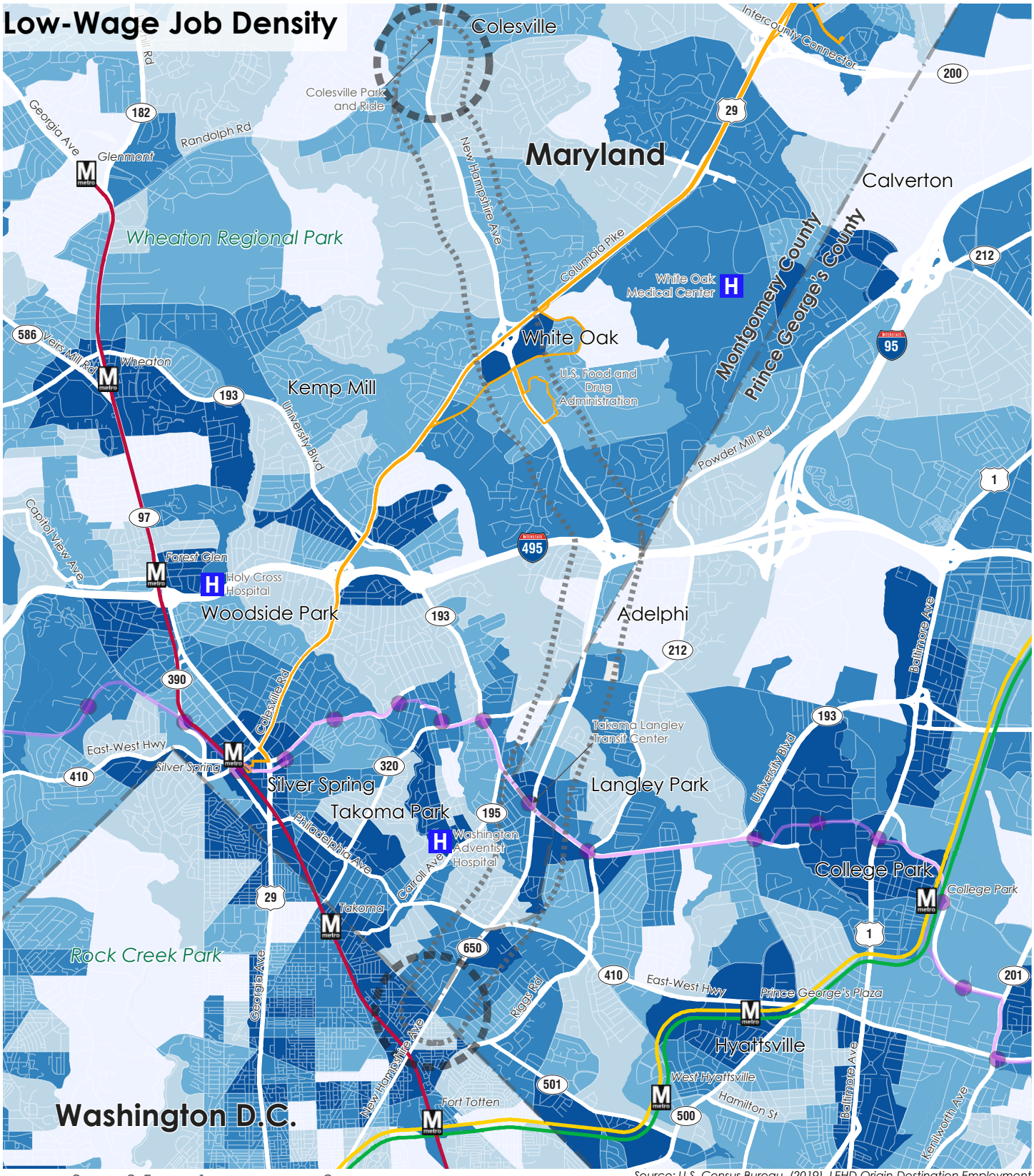
Jobs per Square Mile
(By Quintile - Census Block Group)

- 2 to 190
- 191 to 524
- 525 to 1,215
- 1,216 to 3,544
- 3,545 to 327,012

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Low-Wage Job Density



0 0.5 1 2 Miles

Source: U.S. Census Bureau. (2019). LEHD Origin-Destination Employment Statistics (2002-2019)

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

Municipalities

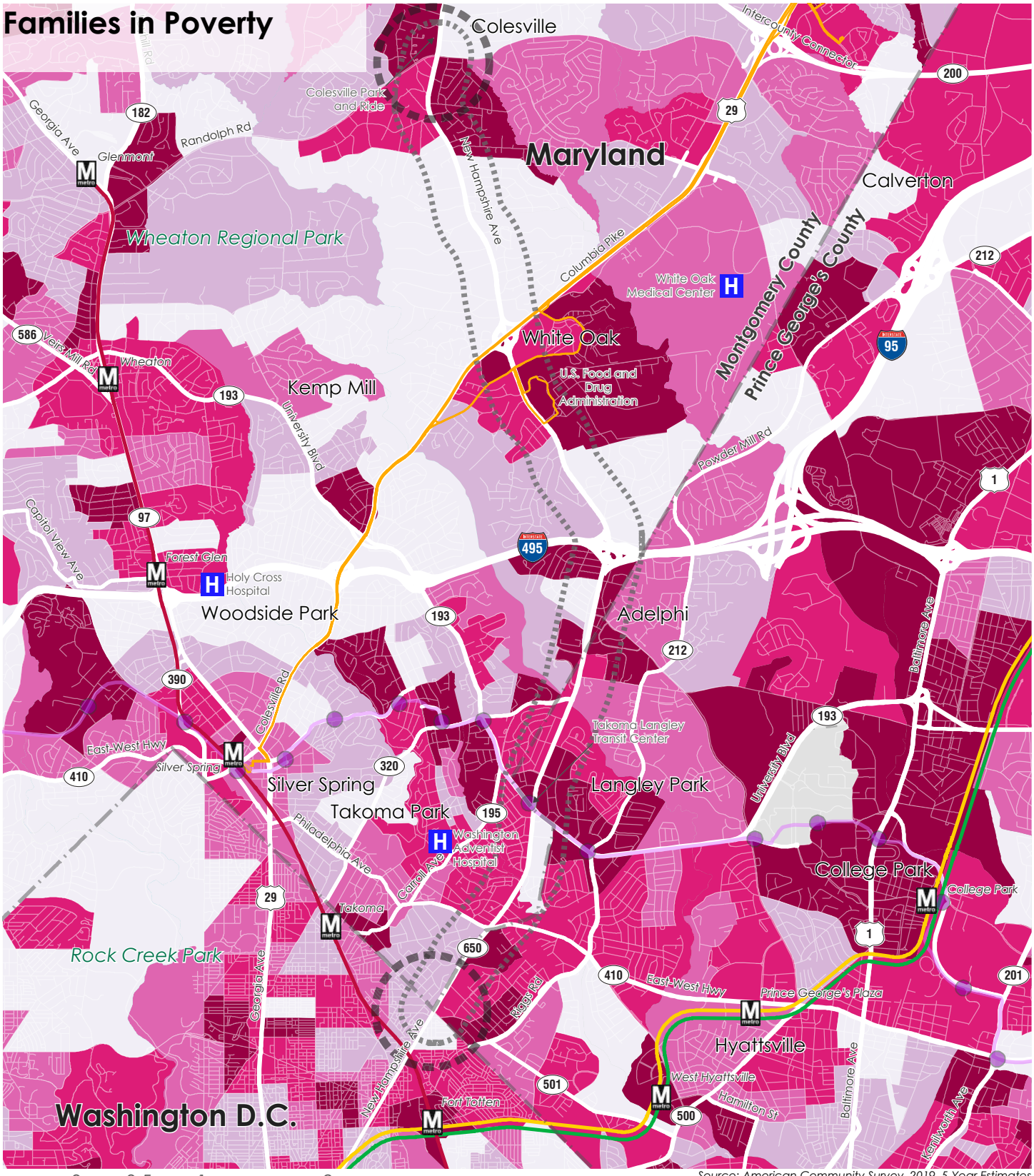
Number of Low-Wage Jobs ($15,000 or less earnings per year) per Square Mile
(By Quintile - Census Block Group)

- 36 or Less
- 37 to 98
- 99 to 228
- 229 to 672
- 673 to 38,861

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Families in Poverty



Source: American Community Survey, 2019, 5-Year Estimates

0 0.5 1 2 Miles

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

Municipalities

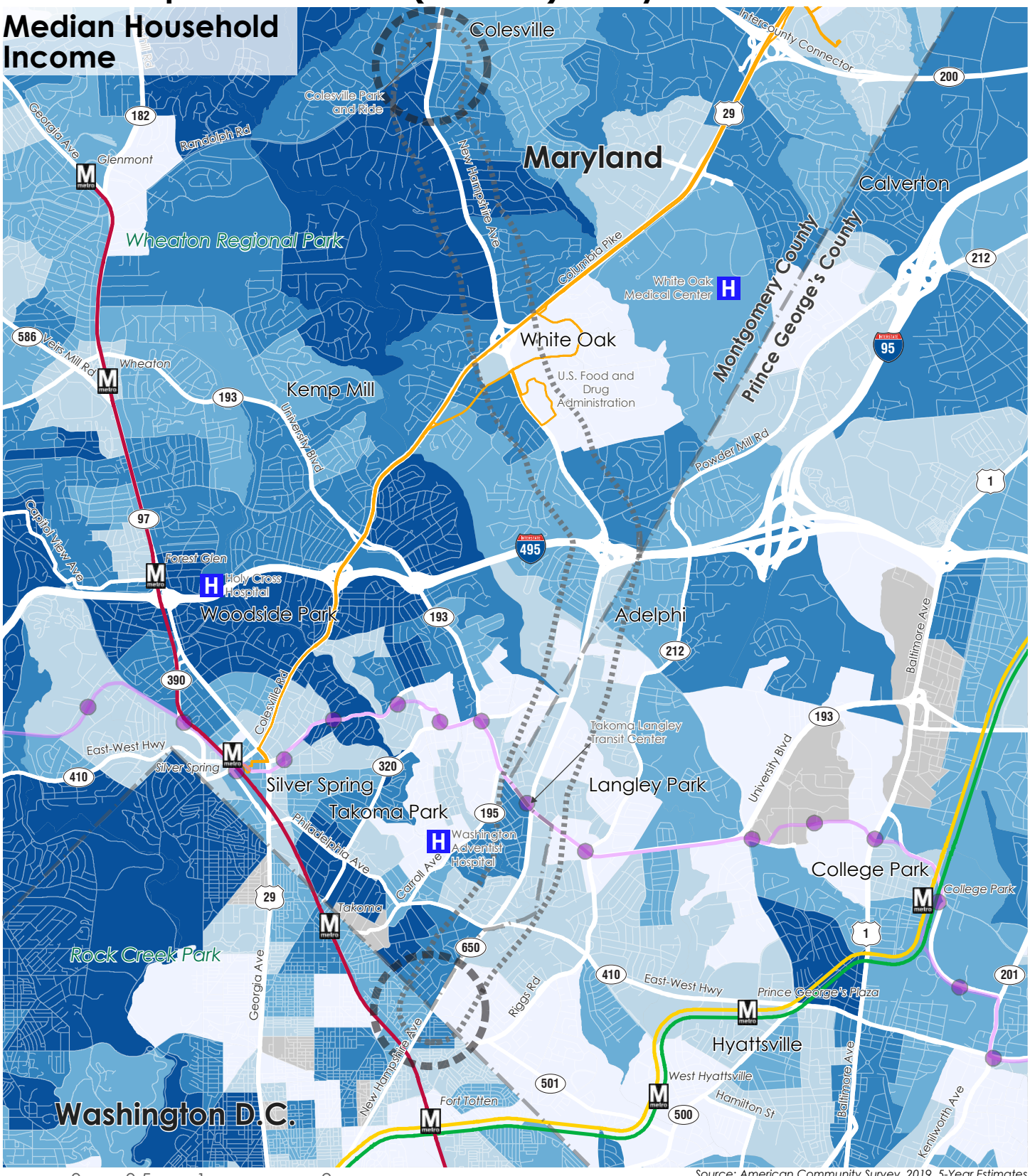
Percent of Families in Poverty
(By Quintile - Census Block Group)

- 0% to 2%
- 2.1% to 4%
- 4.1% to 8%
- 8.1% to 16%
- 16.1% to 89%

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Median Household Income



Source: American Community Survey, 2019, 5-Year Estimates

0 0.5 1 2 Miles

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

Municipalities

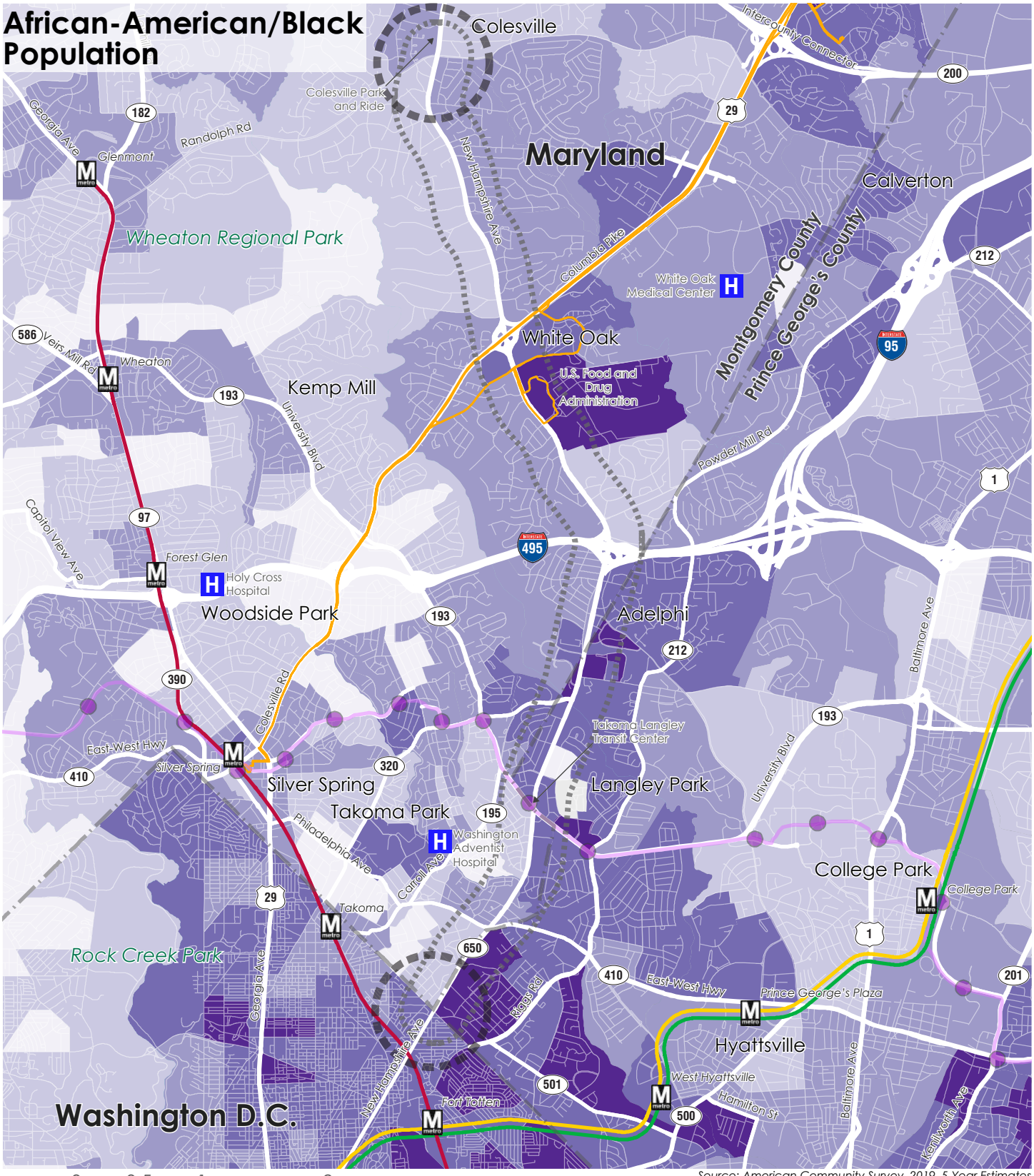
Median Household Income (2019 Dollars)
(By Quintile - Census Block Group)

- $11,950 to $63,203
- $63,204 to $85,575
- $85,576 to $110,066
- $110,067 to $145,476
- $145,477 to $250,001
- No Data Available

New Hampshire Avenue (MD 650) Study Corridor

FLASH

African-American/Black Population



Source: American Community Survey, 2019, 5-Year Estimates

0 0.5 1 2 Miles

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

Municipalities

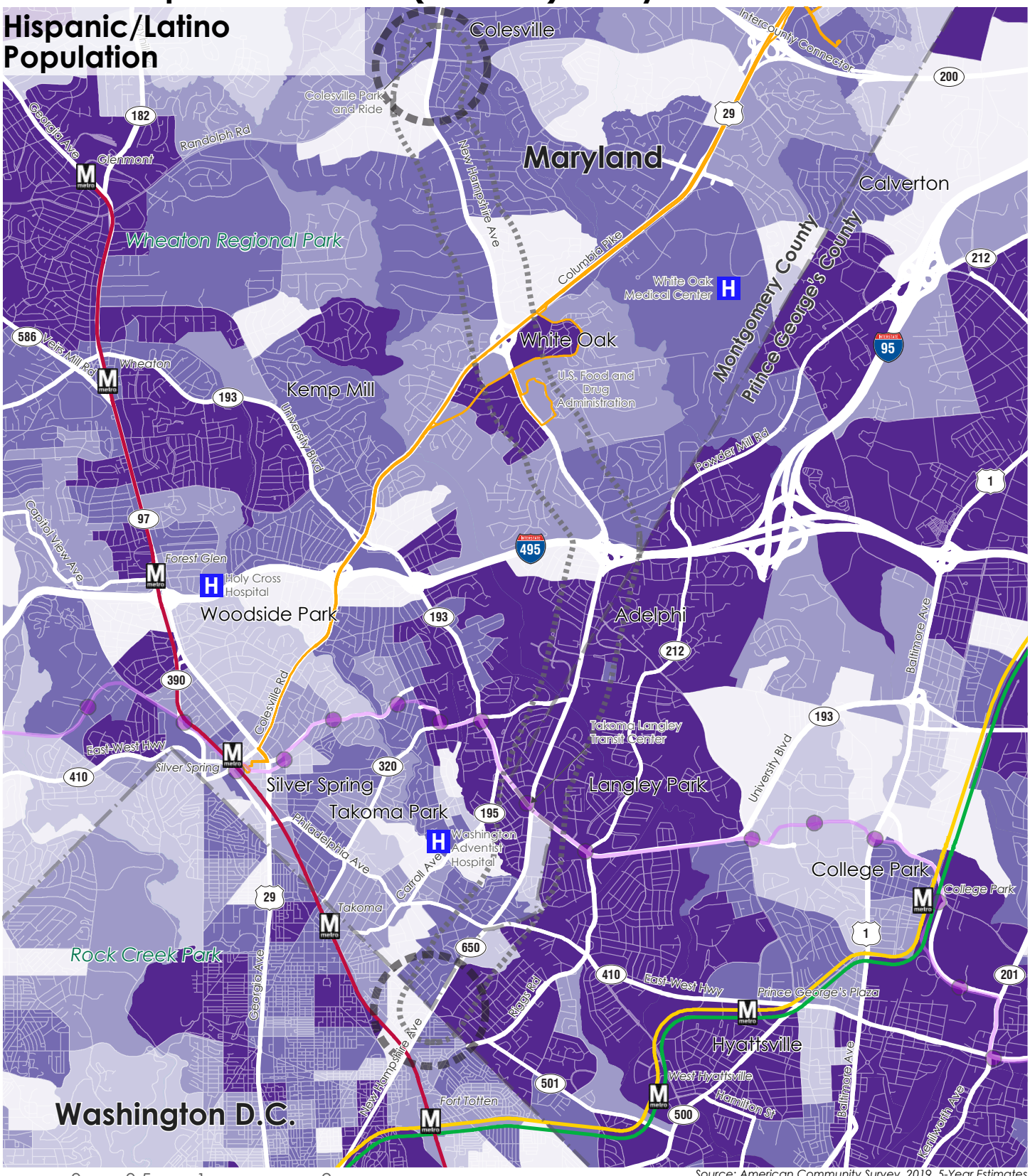
Percent African-American/Black (Non-Hispanic/Latino)
(By Quintile - Census Block Group)

- 0% to 9%
- 9.1% to 27%
- 27.1% to 62%
- 62.1% to 88%
- 88.1% to 100%

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Hispanic/Latino Population



Source: American Community Survey, 2019, 5-Year Estimates

0 0.5 1 2 Miles

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

Municipalities

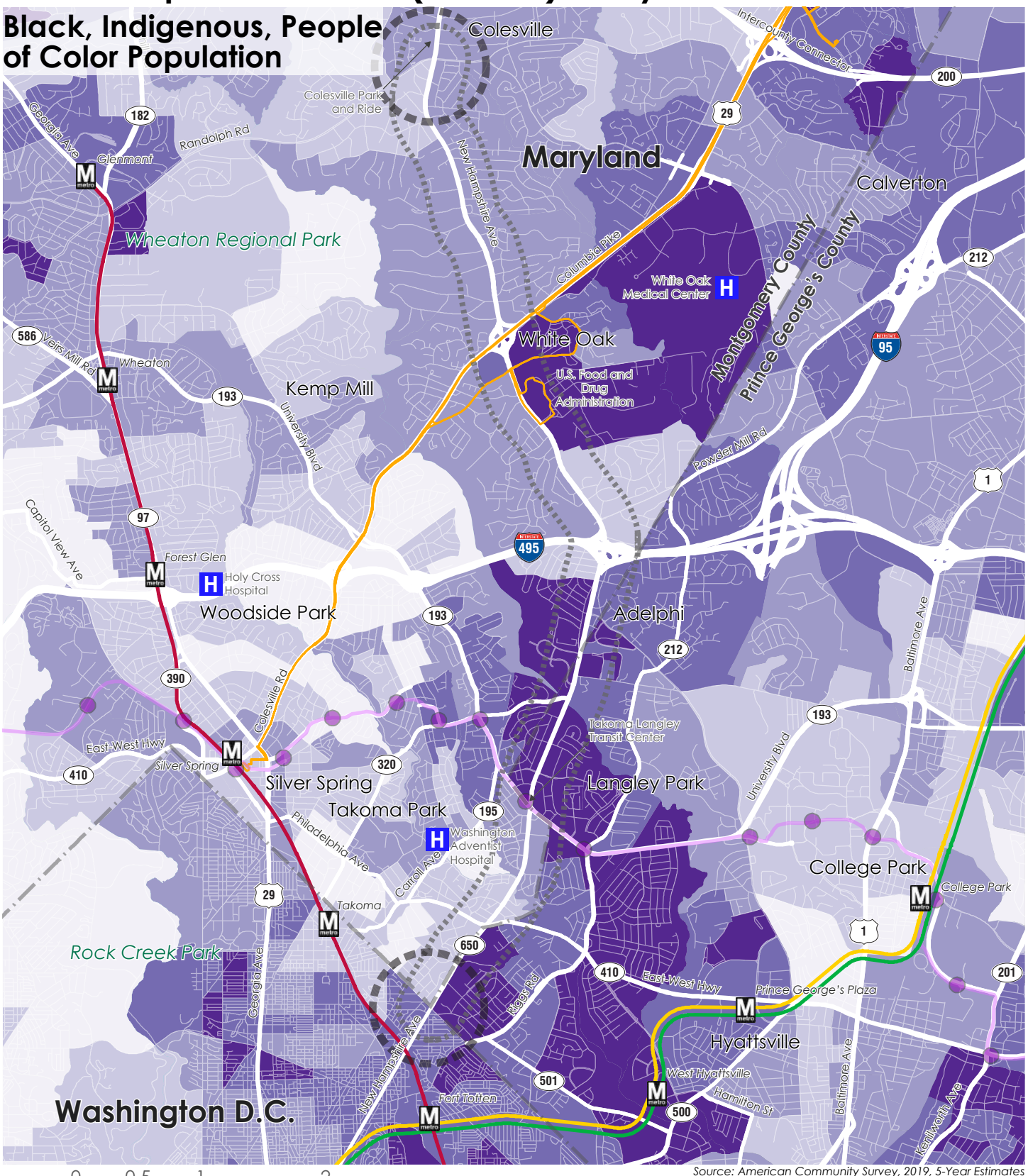
Percent Hispanic/Latino
(By Quintile - Census Block Group)

- 0% to 3%
- 3.1% to 8%
- 8.1% to 13%
- 13.1% to 25%
- 25.1% to 100%

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Black, Indigenous, People of Color Population



Source: American Community Survey, 2019, 5-Year Estimates

0 0.5 1 2 Miles

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

Municipalities

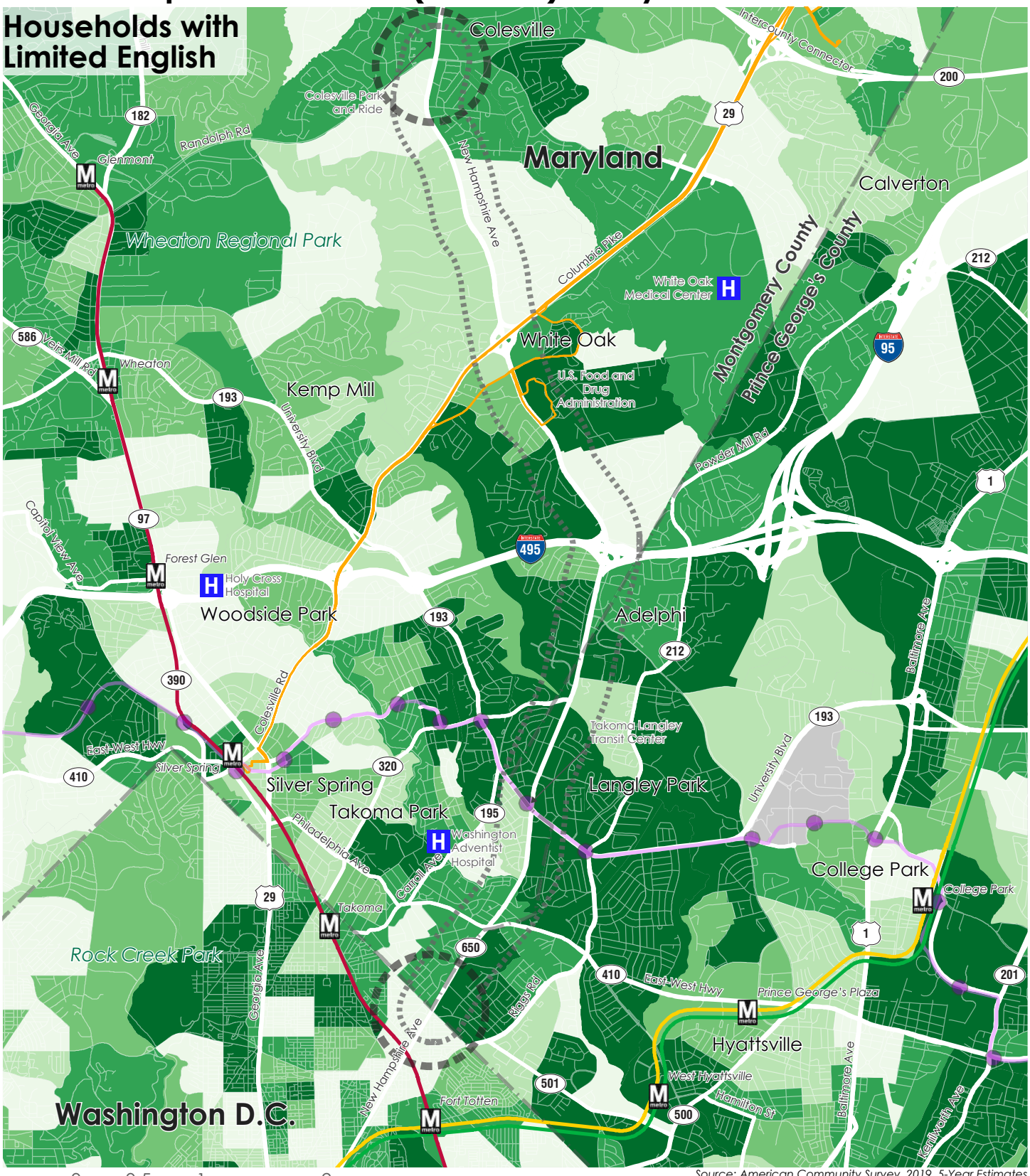
Percent Black, Indigenous, People of Color
(By Quintile - Census Block Group)

- 0% to 36%
- 36.1% to 60%
- 60.1% to 83%
- 83.1% to 96%
- 96.1% to 100%

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Households with Limited English



Source: American Community Survey, 2019, 5-Year Estimates

0 0.5 1 2 Miles

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

Municipalities

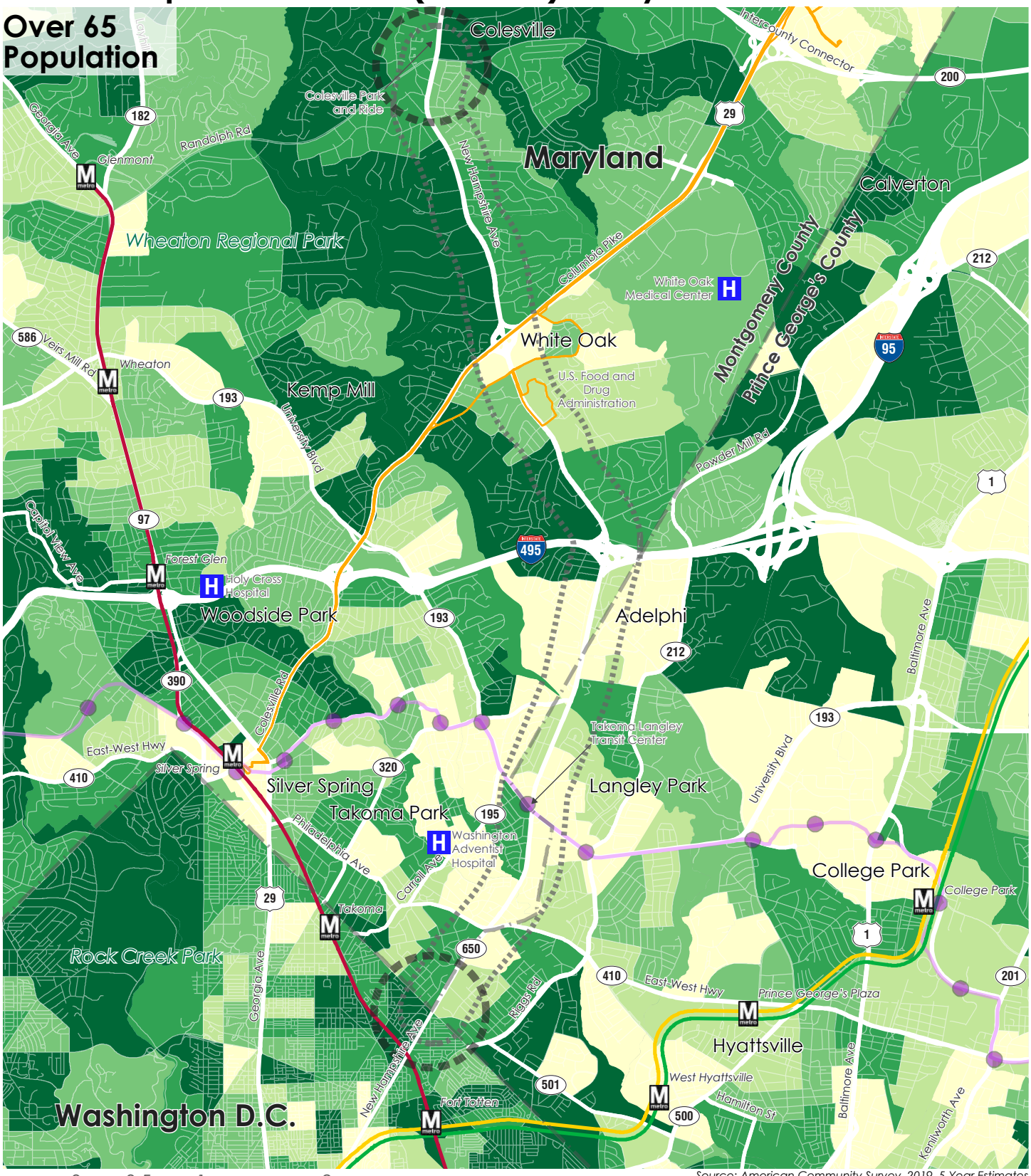
Percent of Households with Limited English
(By Quintile - Census Block Groups)

- Less than 1%
- 1% to 3%
- 3.1% to 6%
- 6.1% to 11%
- 11.1% to 91%
- No Data Available

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Over 65 Population



Source: American Community Survey, 2019, 5-Year Estimates

0 0.5 1 2 Miles

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

Municipalities

Percent Over 65 Years Old
(By Quintile - Census Block Group)

- 0% to 7%
- 7.1% to 11%
- 11.1% to 15%
- 15.1% to 20%
- 20.1% to 99%

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Source: American Community Survey, 2019, 5-Year Estimates

0 0.5 1 2 Miles

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

Municipalities

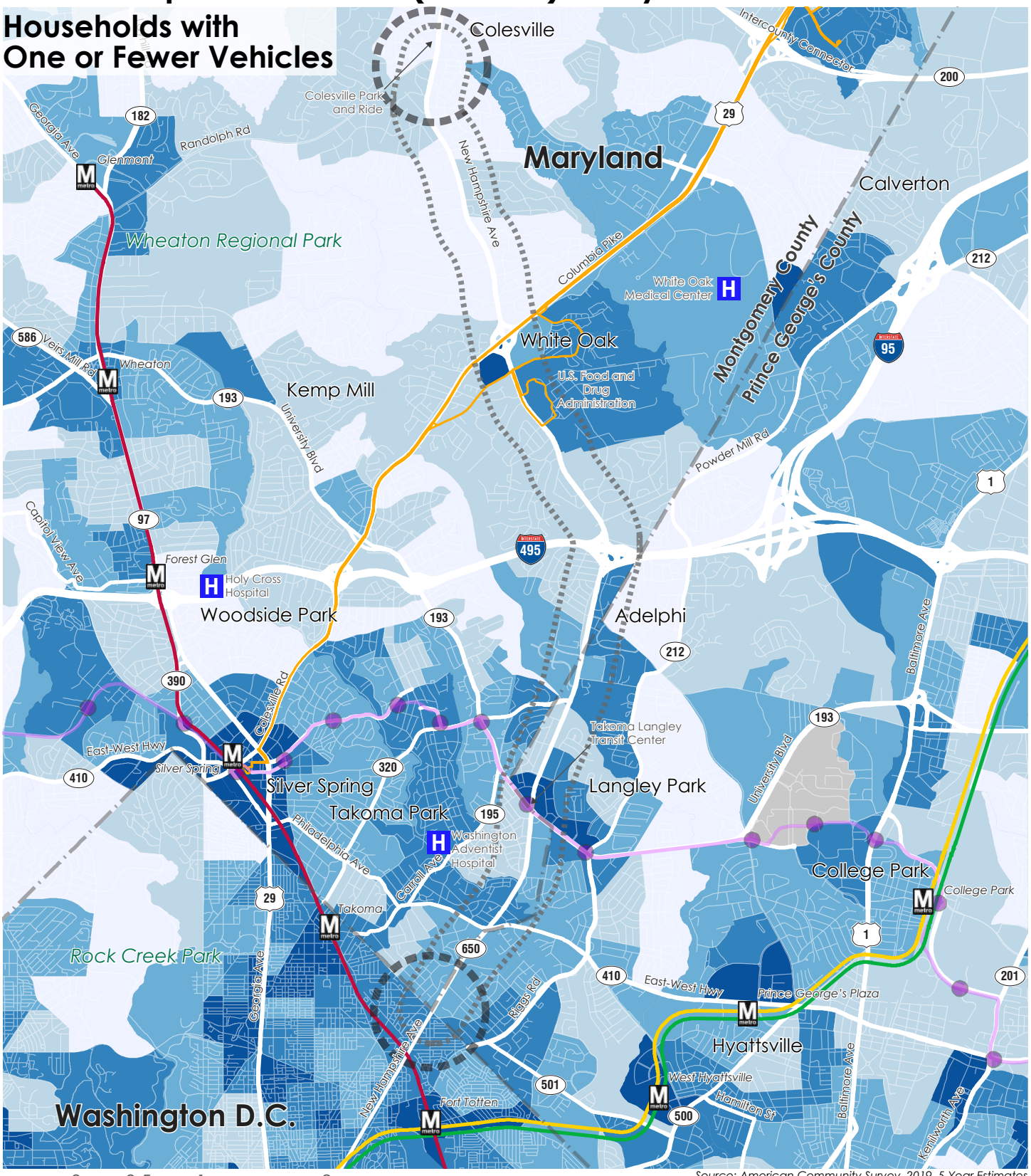
Percent Under 18 Years Old
(By Quintile - Census Block Group)

- 0% to 14%
- 14.1% to 19%
- 19.1% to 23%
- 23.1% to 28%
- 28.1% to 61%

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Households with One or Fewer Vehicles



Source: American Community Survey, 2019, 5-Year Estimates

0 0.5 1 2 Miles

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

Municipalities

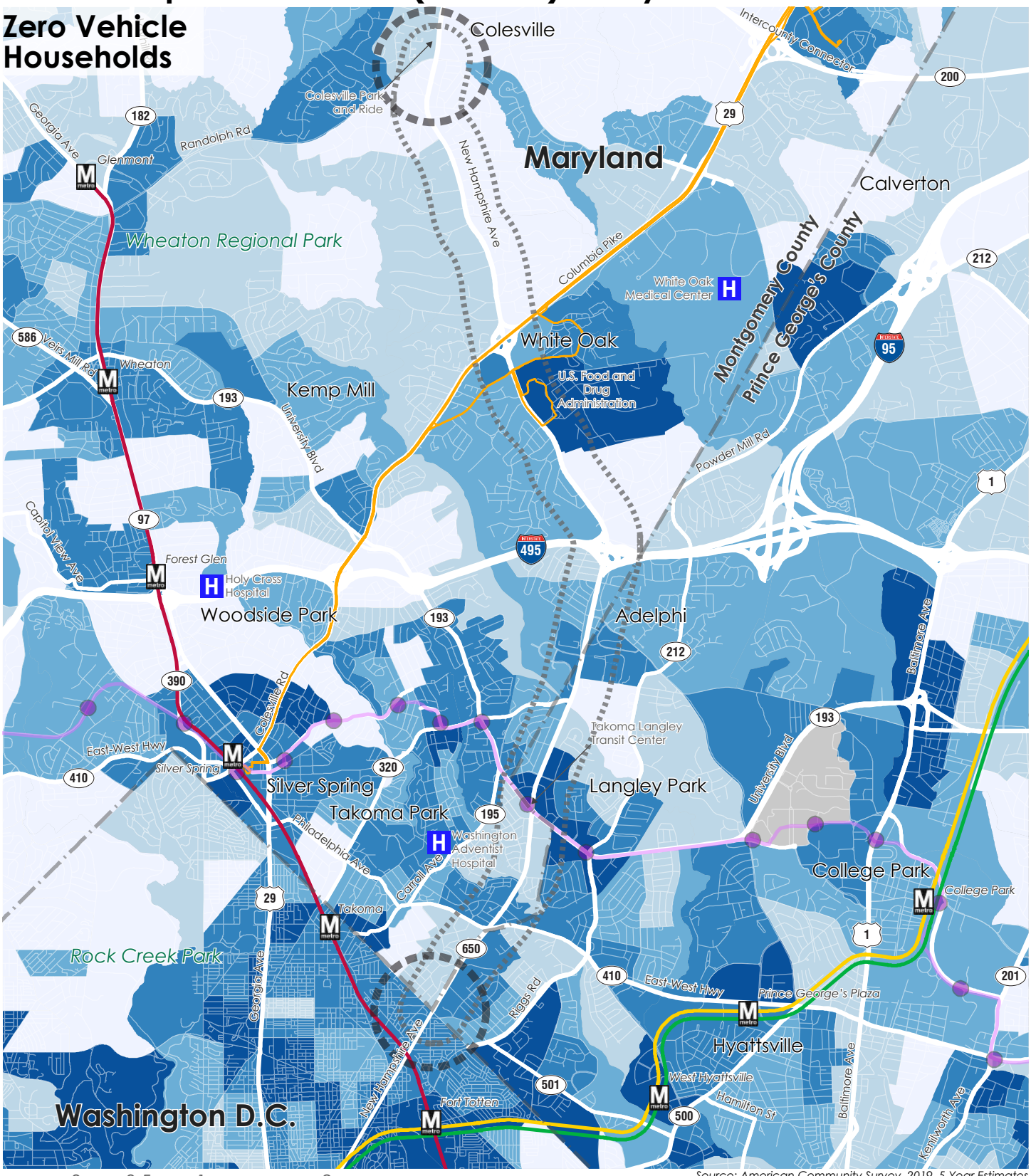
Percent of Households with One or Fewer Vehicles
(By Quintile - Census Block Groups)

- 0% to 24%
- 24.1% to 40%
- 40.1% to 59%
- 59.1% to 79%
- 79.1% to 100%
- No Data Available

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Zero Vehicle Households



Source: American Community Survey, 2019, 5-Year Estimates

0 0.5 1 2 Miles

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

Municipalities

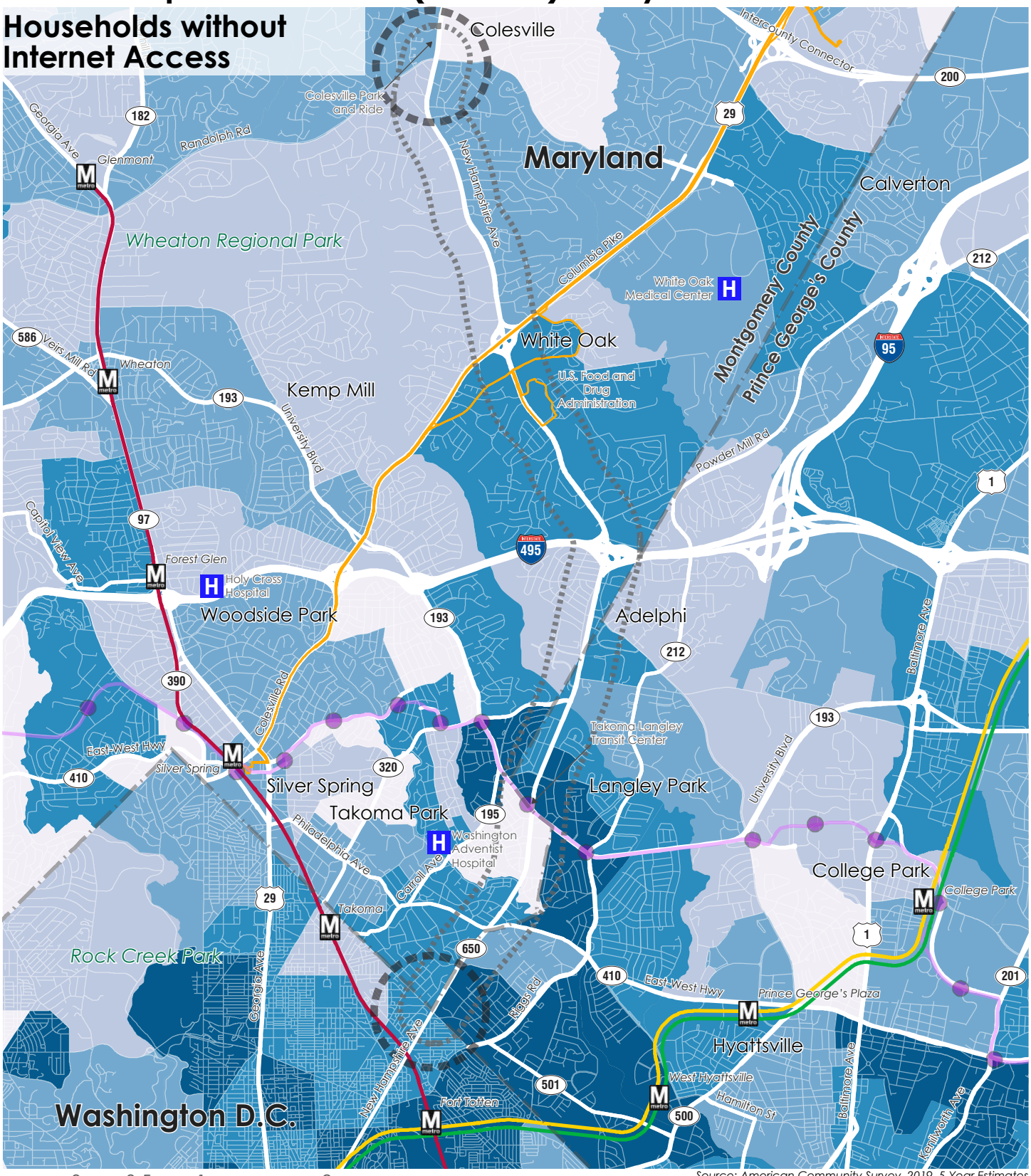
Percent of Zero Vehicle Households
(By Quintile - Census Block Groups)

- Less than 1%
- 1% to 5%
- 5.1% to 12%
- 12.1% to 27%
- 27.1% to 88%
- No Data Available

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Households without Internet Access



Source: American Community Survey, 2019, 5-Year Estimates

0 0.5 1 2 Miles

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

Municipalities

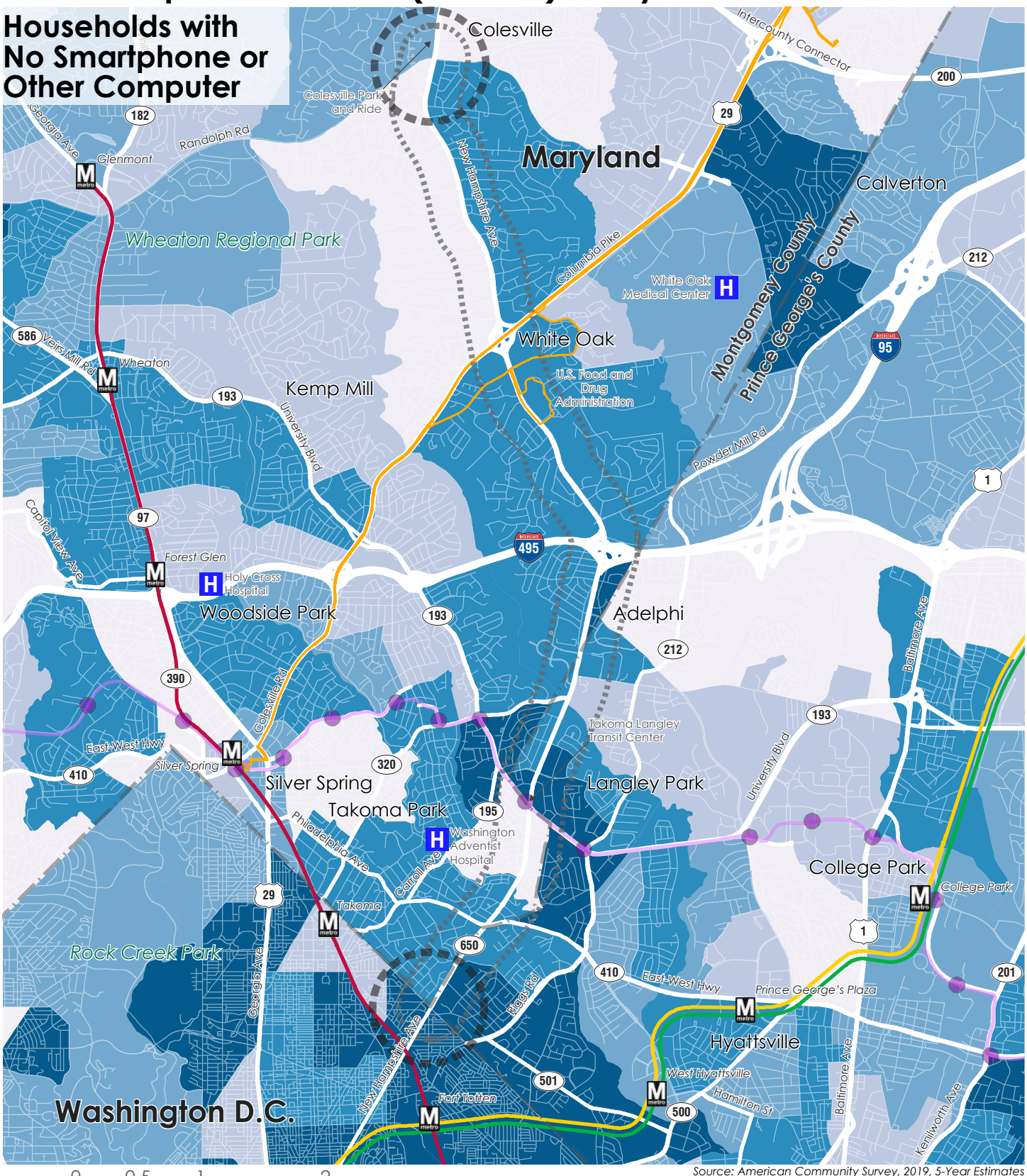
Percent of Households with No Internet Access
(By Quintile - Census Tract)

- 0% to 3%
- 3.1% to 6%
- 6.1% to 10%
- 10.1% to 16%
- 16.1% to 49%

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Households with No Smartphone or Other Computer



Source: American Community Survey, 2019, 5-Year Estimates

0 0.5 1 2 Miles

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

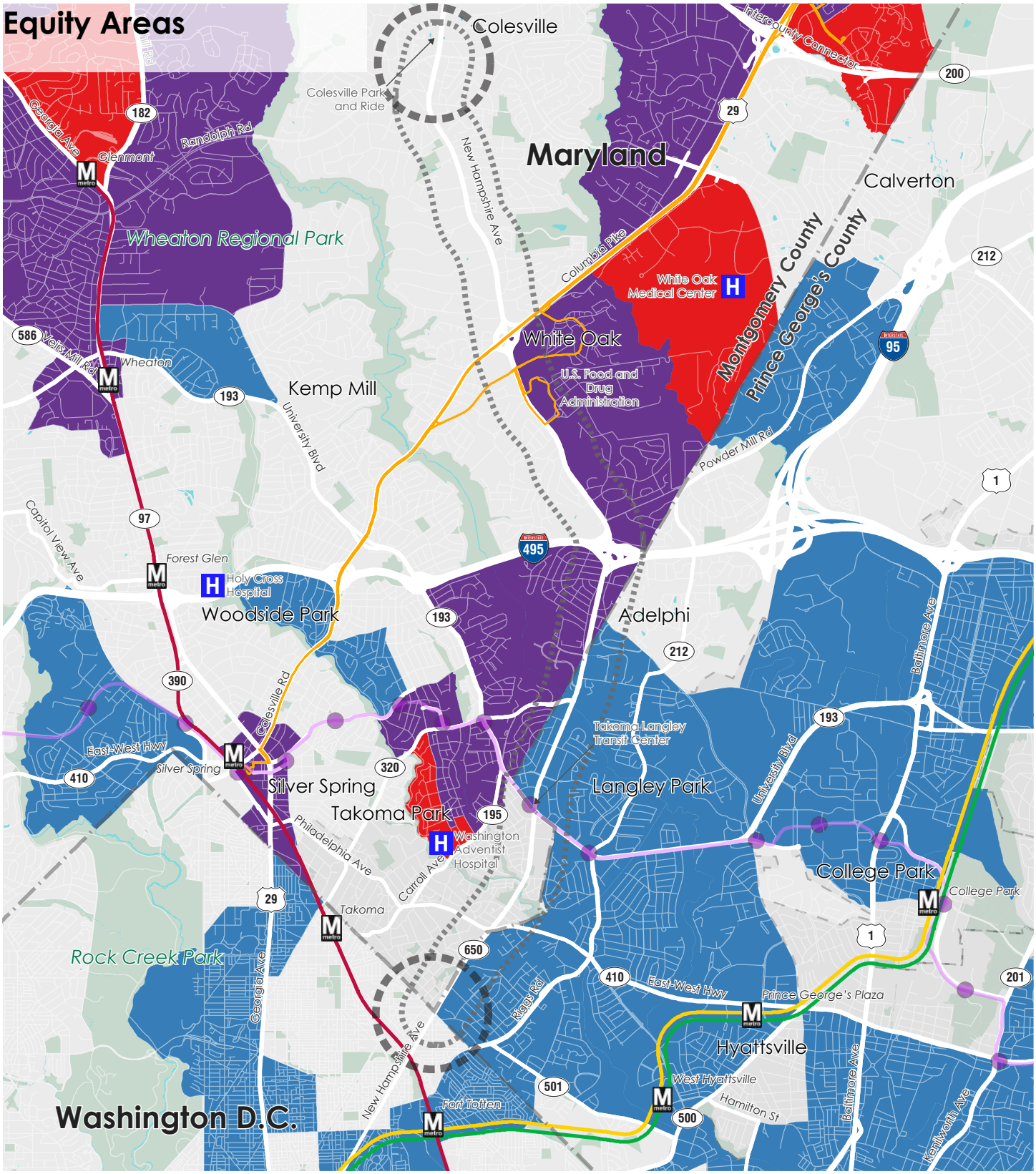
Municipalities

Percent of Households with No Smartphone or Other Computer
(By Quintile - Census Track)

- 0% to 2%
- 2.1% to 4%
- 4.1% to 6%
- 6.1% to 10%
- 10.1% to 39%

New Hampshire Avenue (MD 650) Study Corridor

FLASH



0 0.5 1 2 Miles

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

Municipalities

Equity Areas from Metropolitan Washington Council of Governments (MWCOG) and Montgomery County

MWCOG Equity Emphasis Area

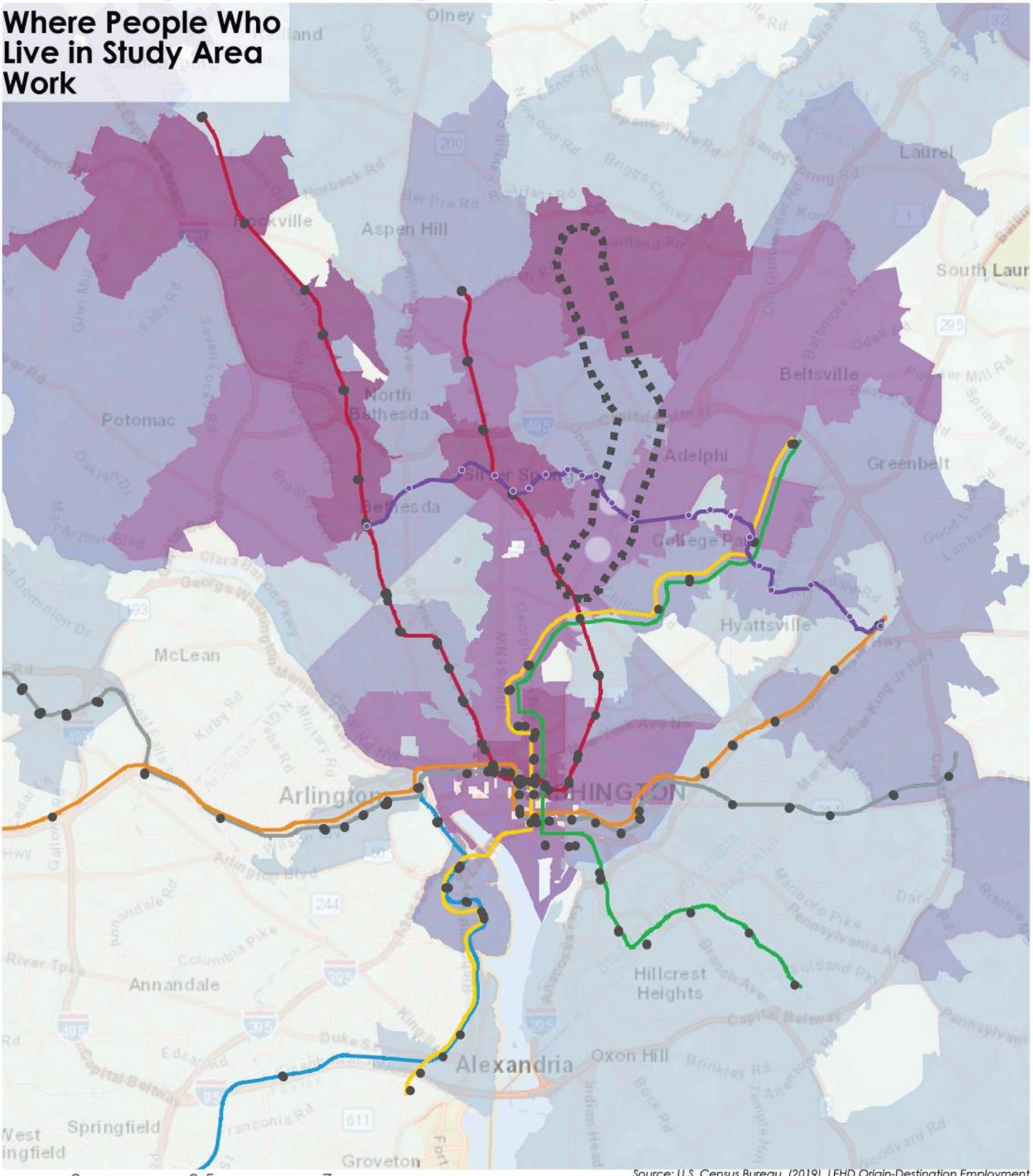
Montgomery County Equity Focus Area

Both An Equity Emphasis and Equity Focus Area

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Where People Who Live in Study Area Work

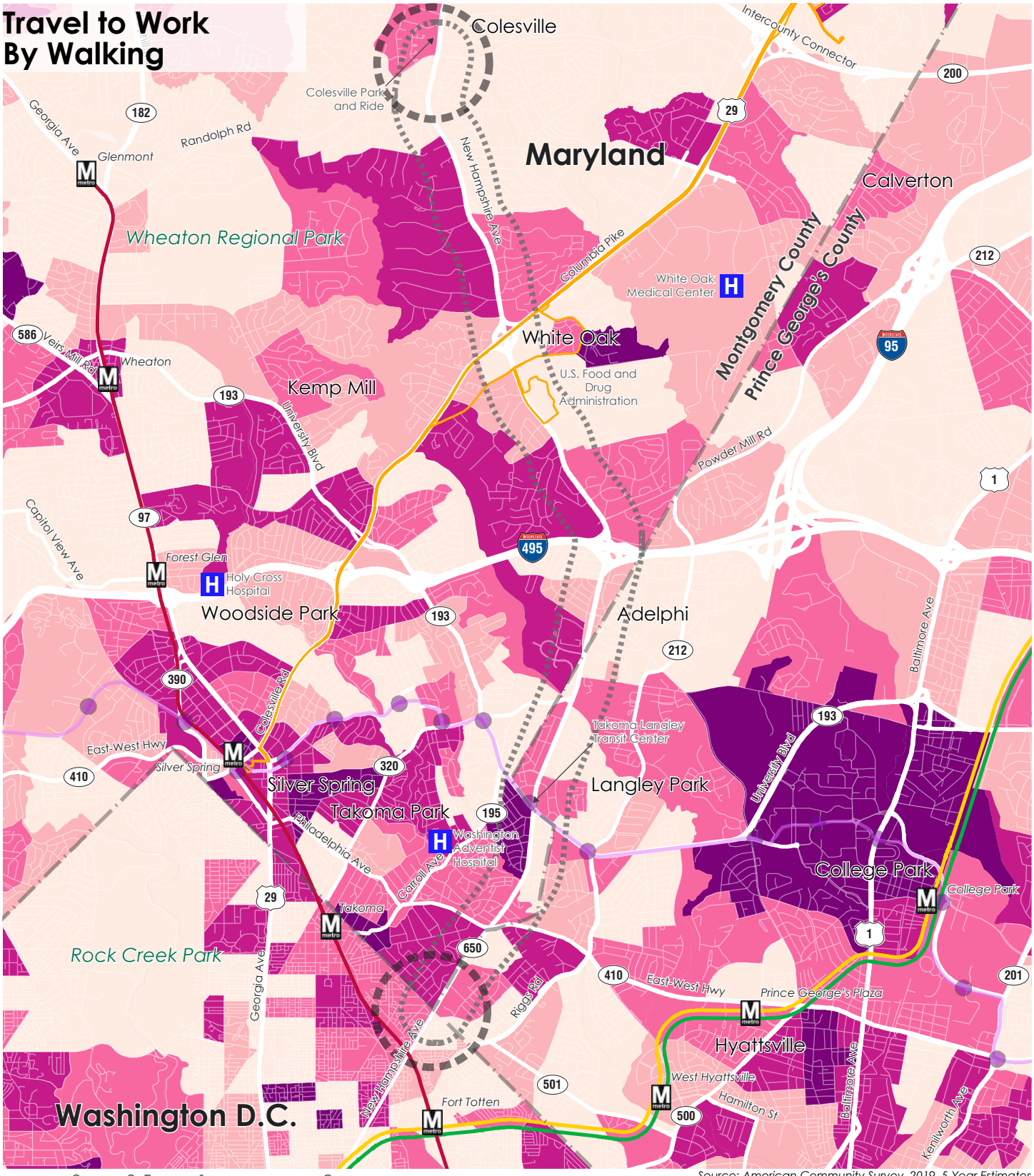


Source: U.S. Census Bureau. (2019). LEHD Origin-Destination Employment Statistics (2002-2019)

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Travel to Work By Walking



Source: American Community Survey, 2019, 5-Year Estimates

0 0.5 1 2 Miles

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

Municipalities

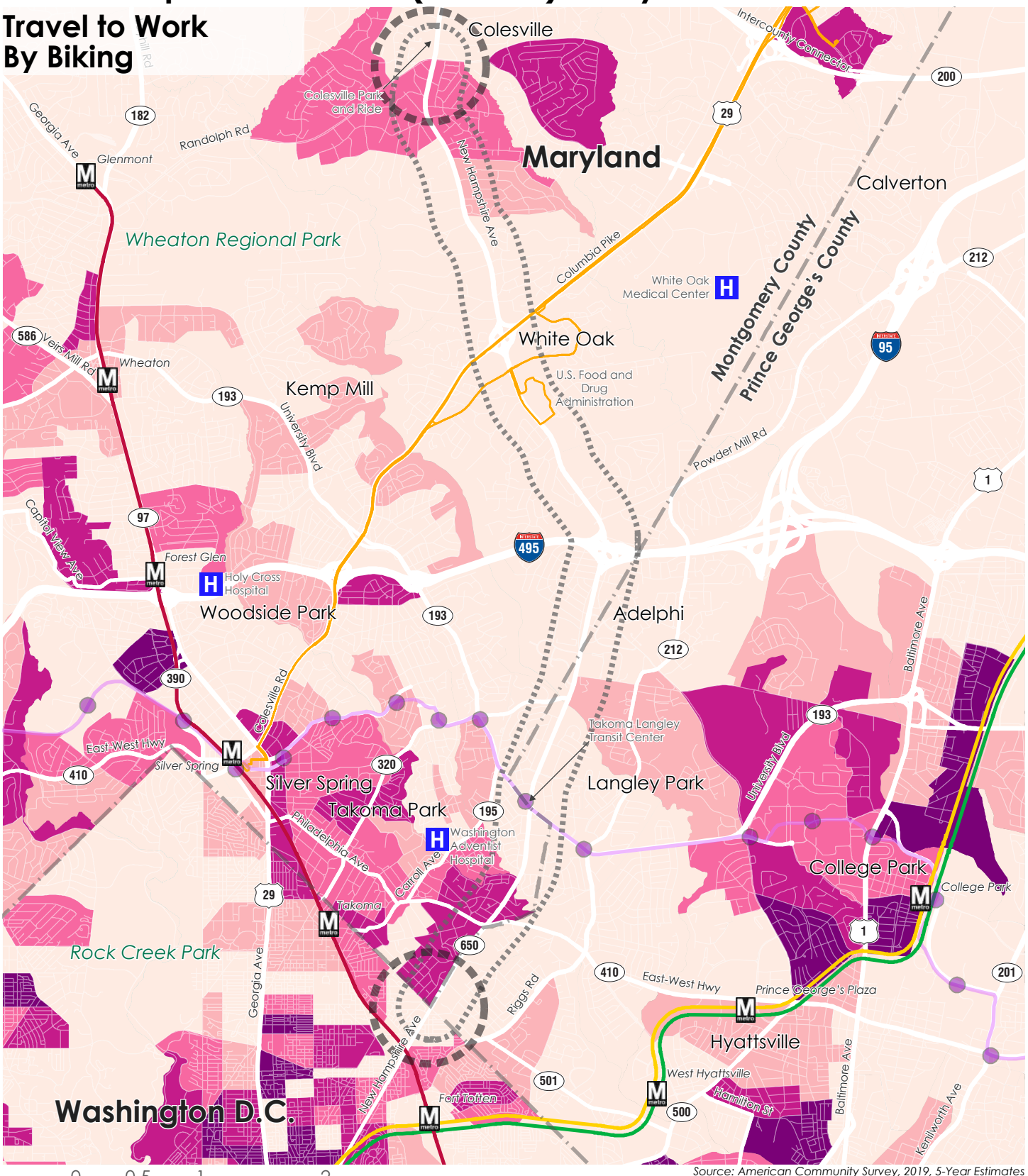
Percent Travel to Work by Walking
(By Quintile - Census Block Group)

- Less than 1%
- 1% to 2%
- 2.1% to 4%
- 4.1% to 9%
- 9.1% to 68%

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Travel to Work By Biking



Source: American Community Survey, 2019, 5-Year Estimates

0 0.5 1 2 Miles

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

Municipalities

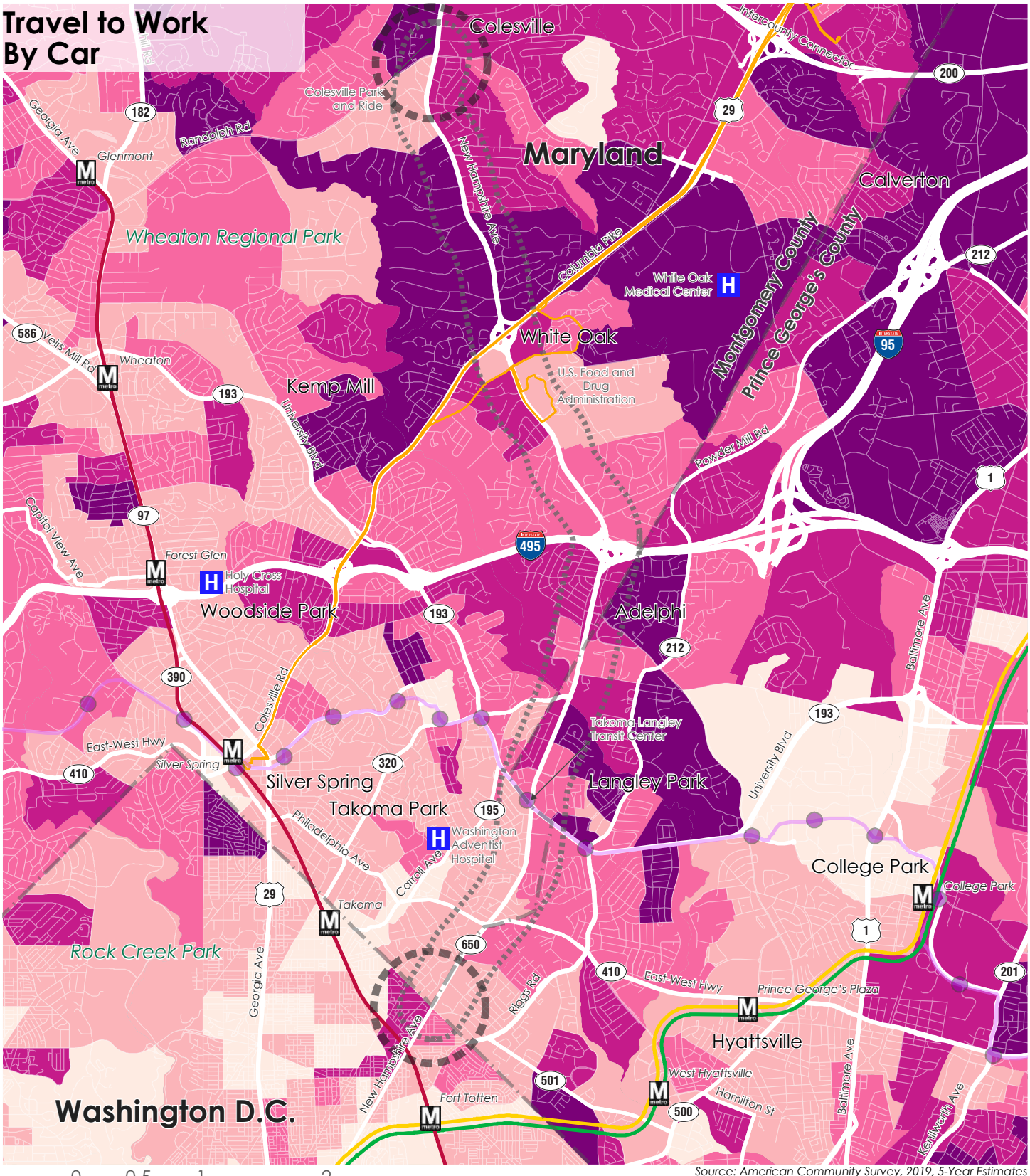
Percent Travel to Work by Biking
(By Quintile - Census Block Group)

- Less than 1%
- 1.1% to 2%
- 2.1% to 3%
- 3.1% to 6%
- 6.1% to 30%

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Travel to Work By Car



Source: American Community Survey, 2019, 5-Year Estimates

0 0.5 1 2 Miles

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

Municipalities

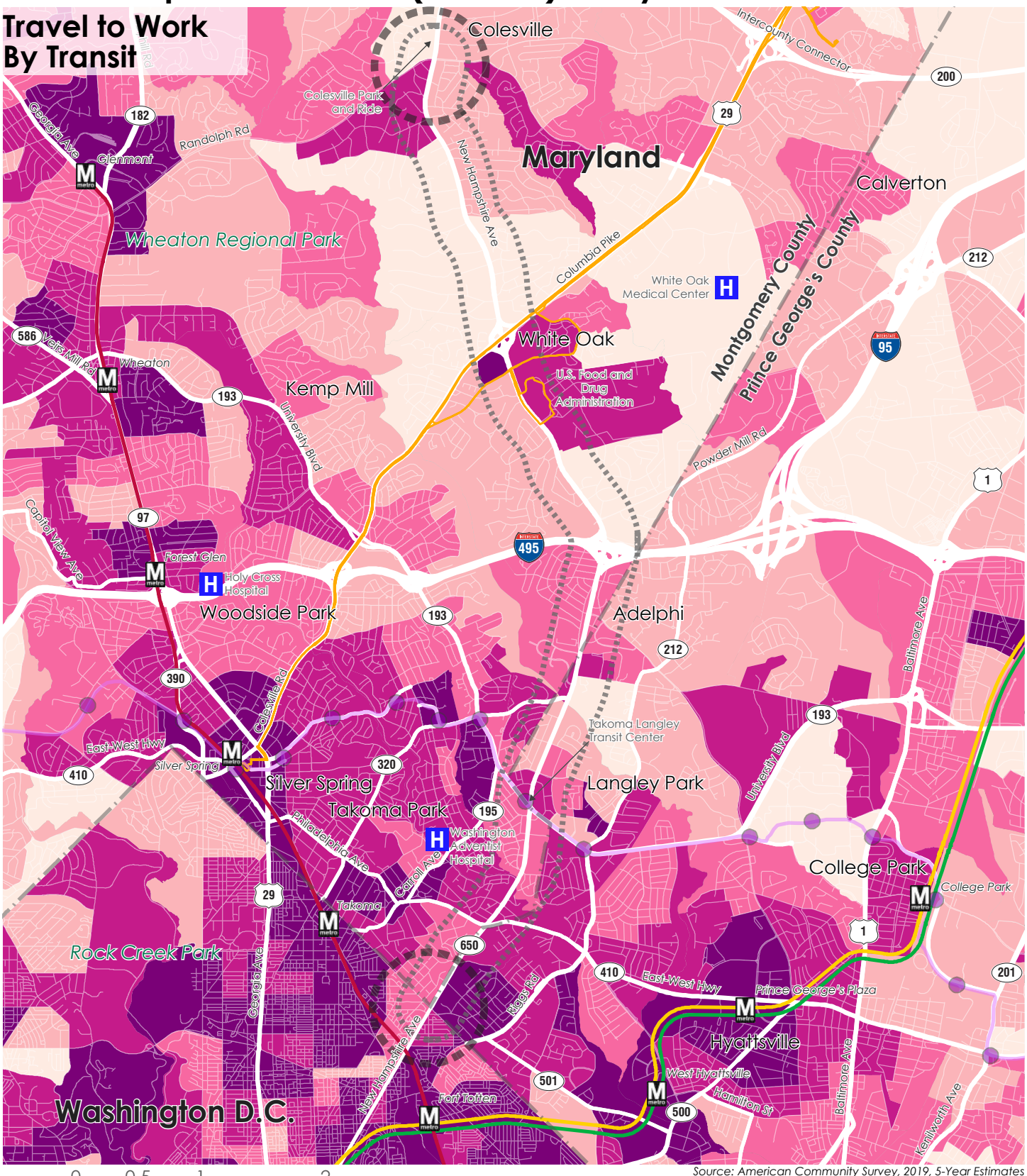
Percent Travel to Work by Car
(By Quintile - Census Block Group)

- 0% to 48%
- 48.1% to 67%
- 67.1% to 77%
- 77.1% to 84%
- 84.1% to 100%

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Travel to Work By Transit



Source: American Community Survey, 2019, 5-Year Estimates

0 0.5 1 2 Miles

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

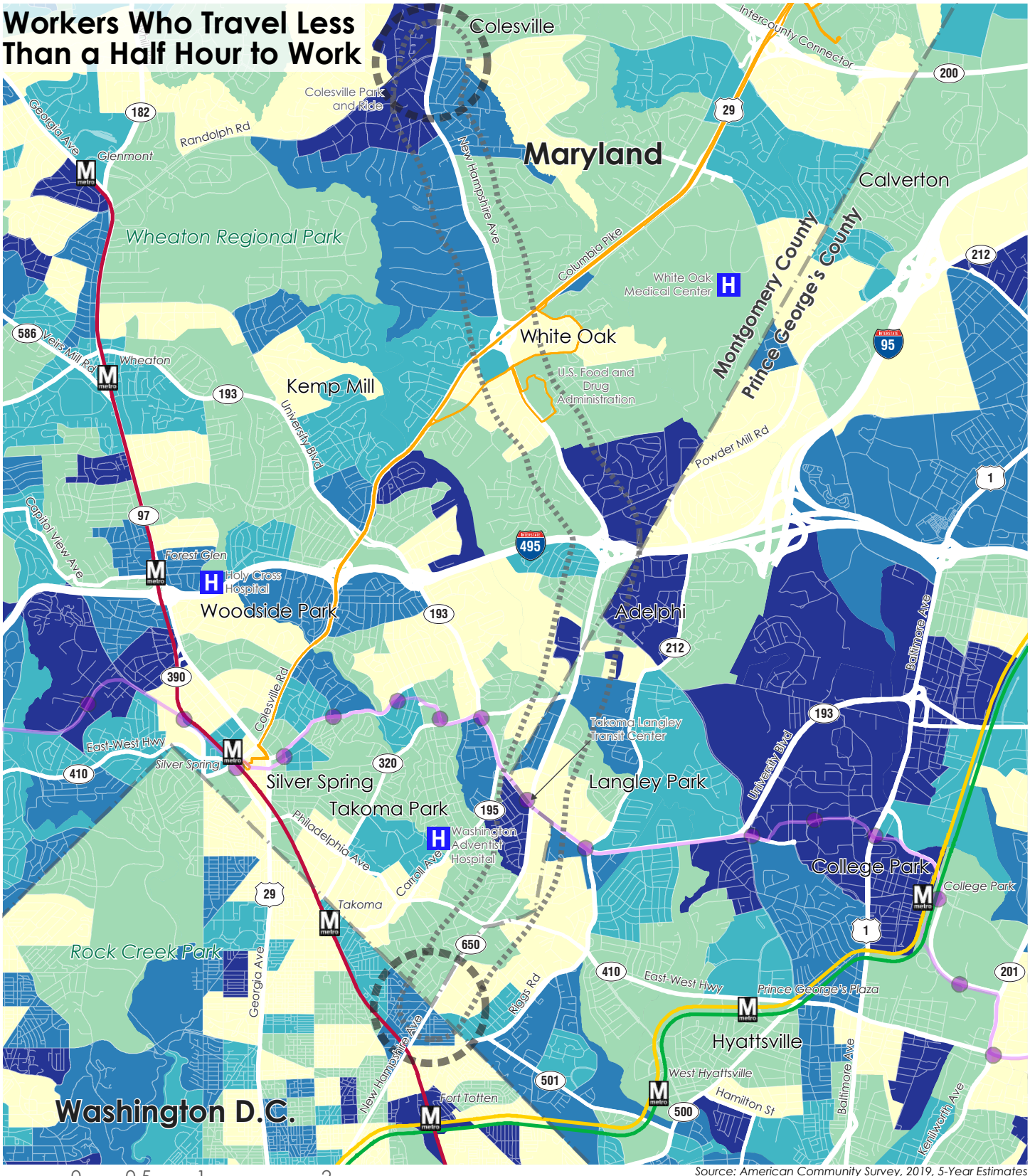
Municipalities

Percent Travel to Work by Transit
(By Quintile - Census Block Group)

- 0% to 8%
- 8.1% to 13%
- 13.1% to 21%
- 21.1% to 32%
- 32.1% to 100%

New Hampshire Avenue (MD 650) Study Corridor

FLASH



Source: American Community Survey, 2019, 5-Year Estimates

0 0.5 1 2 Miles

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

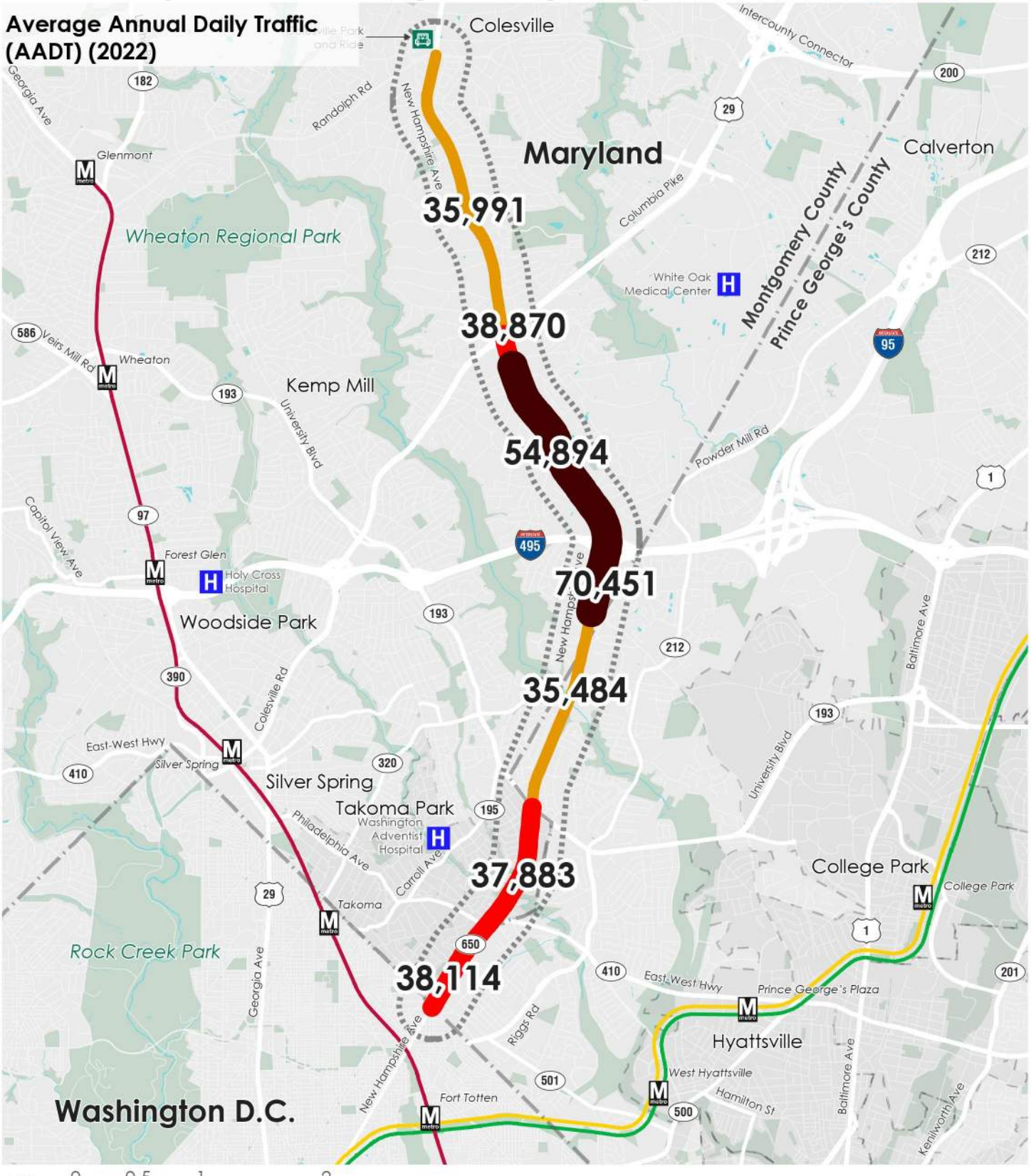
Municipalities

Share of Workers who Travel Less Than a Half Hour to Work (Excluding Work from Home)
(By Quintile - Census Block Group)

- 0% to 30%
- 30.1% to 37%
- 37.1% to 43%
- 43.1% to 50%
- 50.1% to 100%

New Hampshire Avenue (MD 650) Study Corridor

FLASH



0 0.5 1 2 Miles

Study Corridor Buffer

Colesville Park & Ride

Parks and Greenspace

Waterbodies

County Boundary

Municipalities

Average Annual Daily Traffic (Vehicles Per Day) - MDOT SHA -2022

30,000 to 36,000

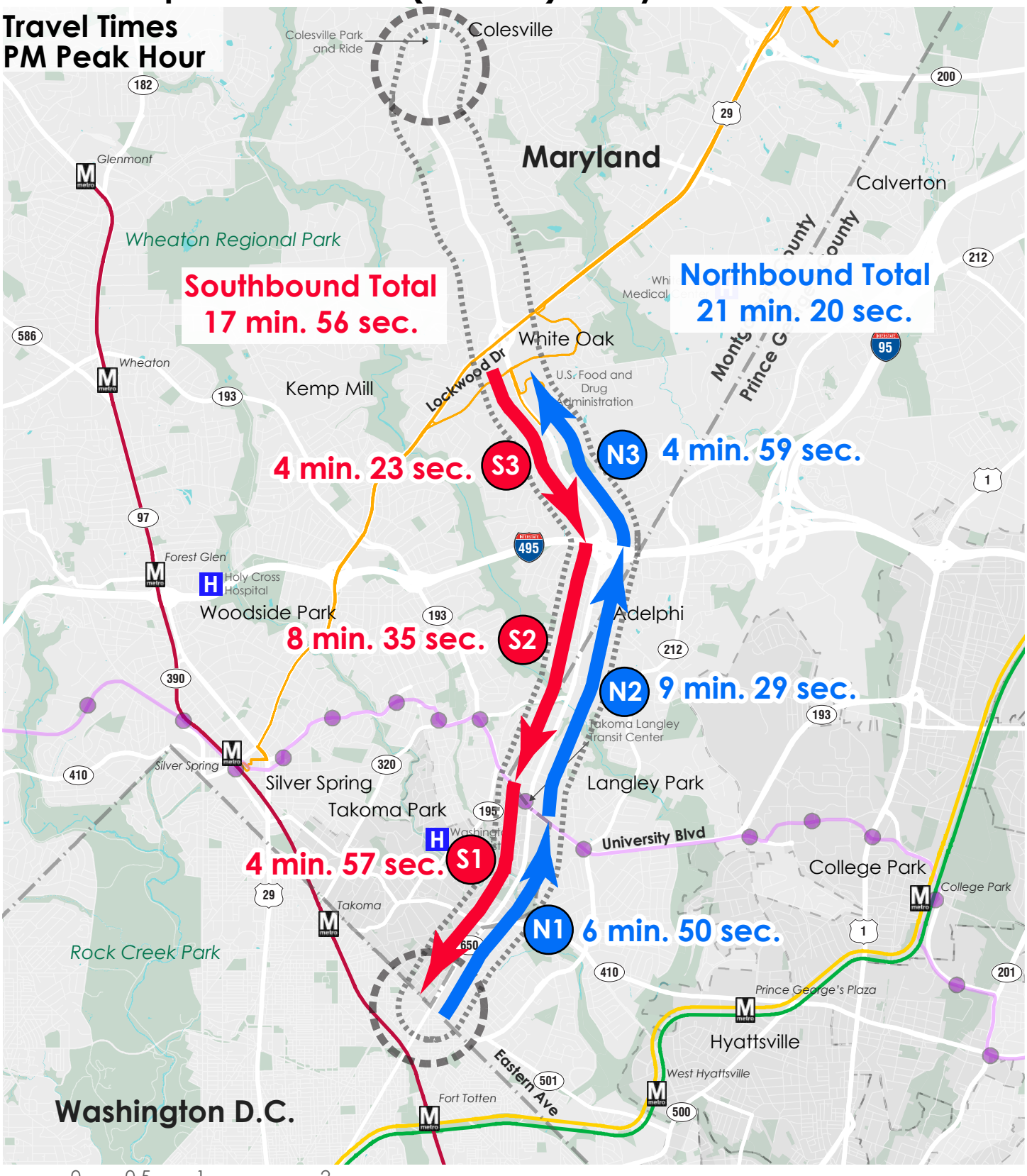
36,001 to 50,000

50,001 to 71,000

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Travel Times
PM Peak Hour



0 0.5 1 2 Miles

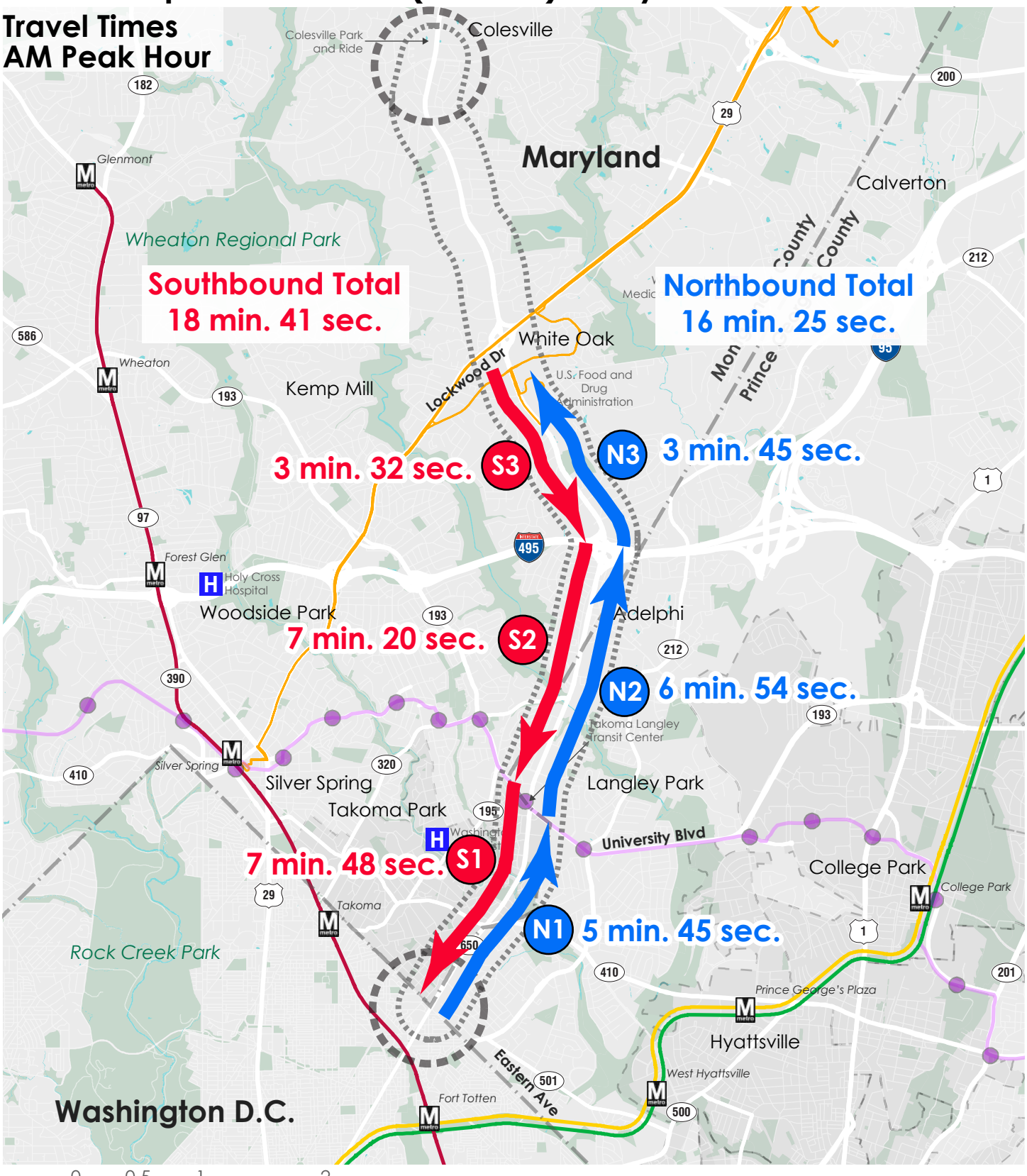
- Study Corridor
- Exact Route and Terminus to be Determined
- County Boundary
- Municipalities

1. Eastern Ave to University Blvd
2. University Blvd to I-495
3. I-495 to Lockwood Dr

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Travel Times
AM Peak Hour



0 0.5 1 2 Miles

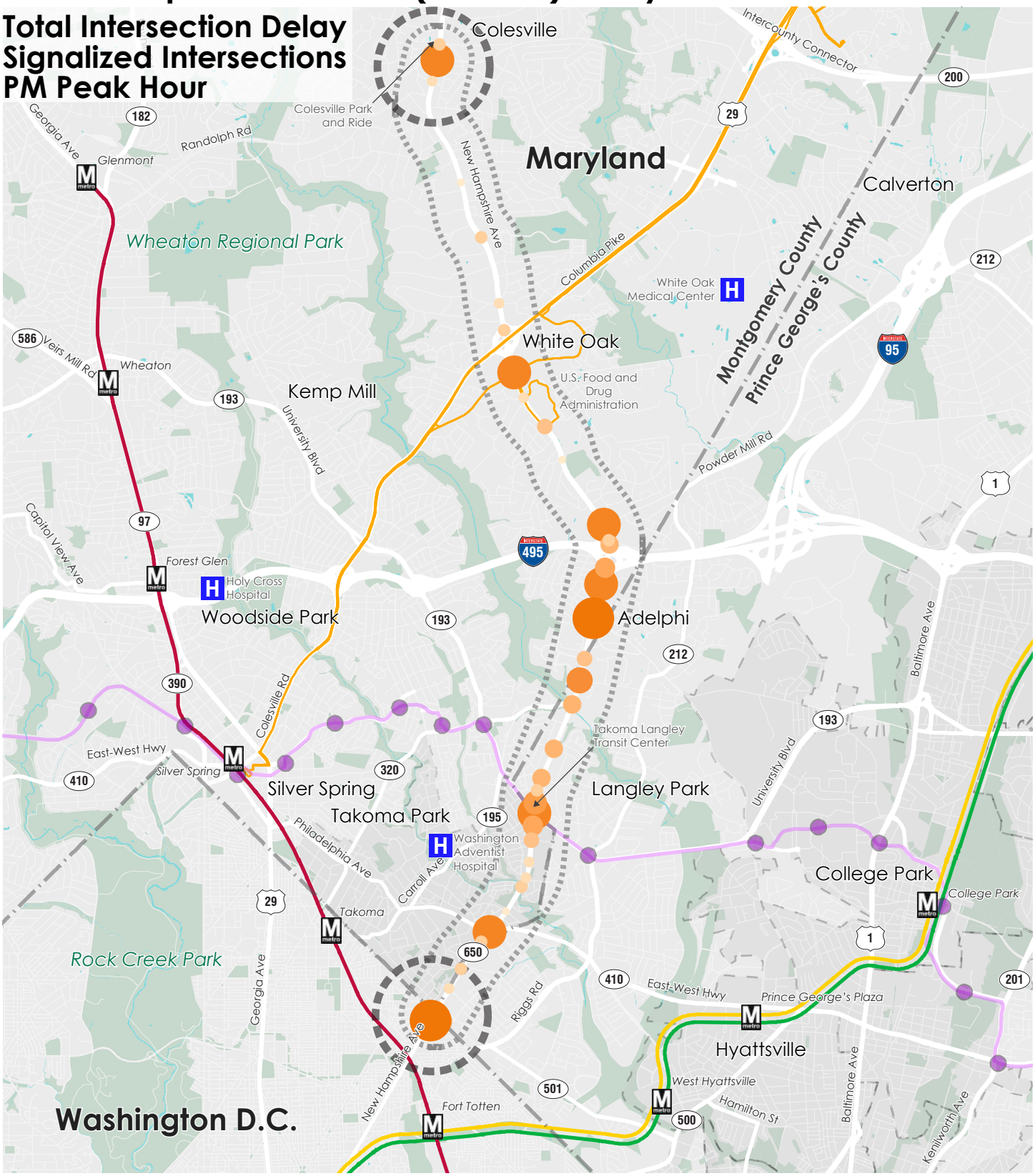
- Study Corridor
- Exact Route and Terminus to be Determined
- County Boundary
- Municipalities

1. Eastern Ave to University Blvd
2. University Blvd to I-495
3. I-495 to Lockwood Dr

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Total Intersection Delay
Signalized Intersections
PM Peak Hour



0 0.5 1 2 Miles

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

Municipalities

Total Intersection Delay (in seconds)

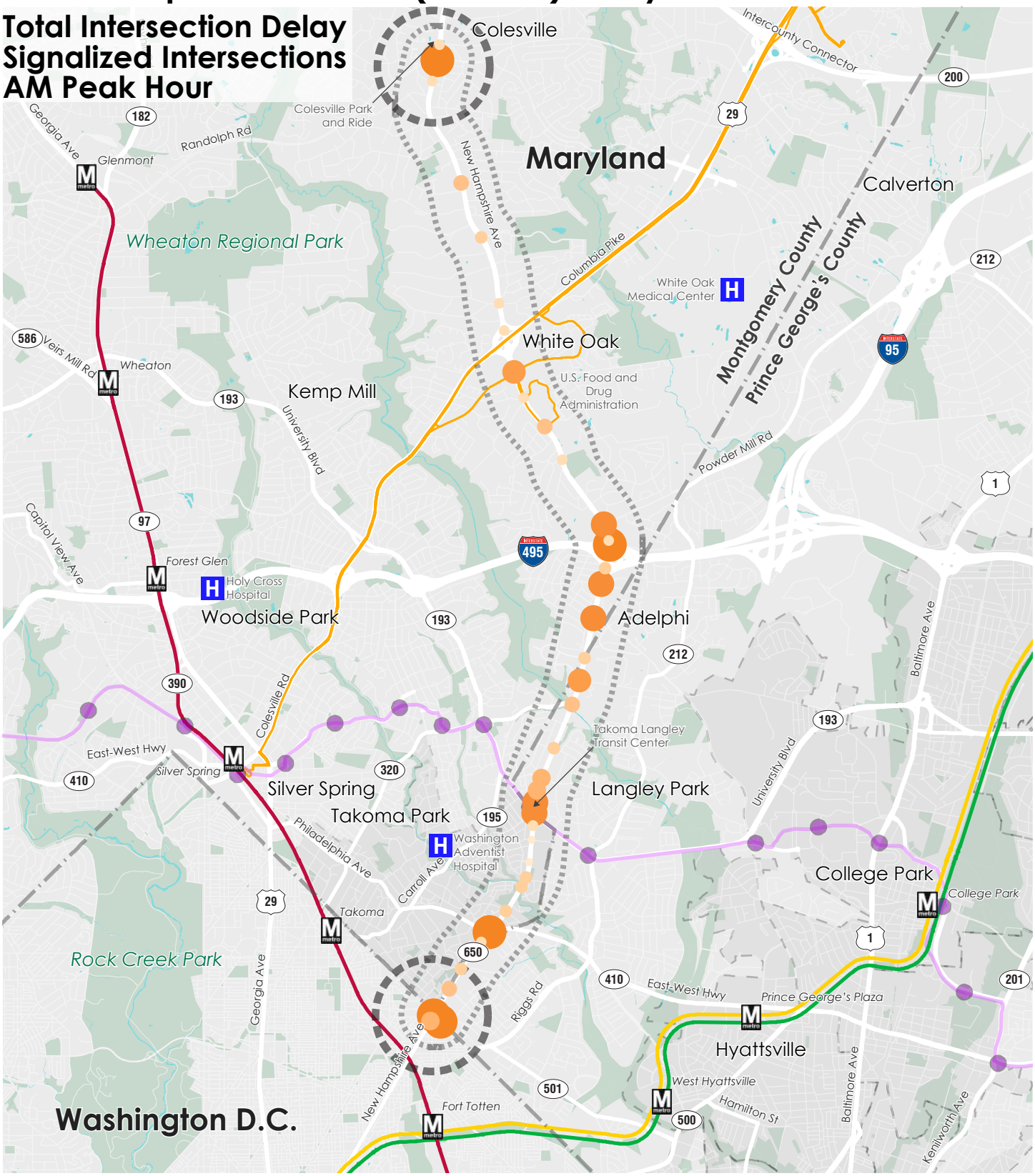
5 or Less

60 or more

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Total Intersection Delay
Signalized Intersections
AM Peak Hour



0 0.5 1 2 Miles

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

Municipalities

Total Intersection Delay (in seconds)

5 or Less

60 or more

New Hampshire Avenue (MD650) Study Corridor

FLASH

Bicycle & Pedestrian Infrastructure

586 200 193 212 320 195 410 501 500

INTERSTATE 495 INTERSTATE 95

Source: WMATA

0 0.5 1 2 Miles

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

Municipalities

Parks and Greenspace

Waterbodies

Average Weekday Bus On-/Off-Boardings

Less than 10

10 to 25

26 to 50

51 to 100

Over 100

New Hampshire Avenue (MD650) Study Corridor

FLASH

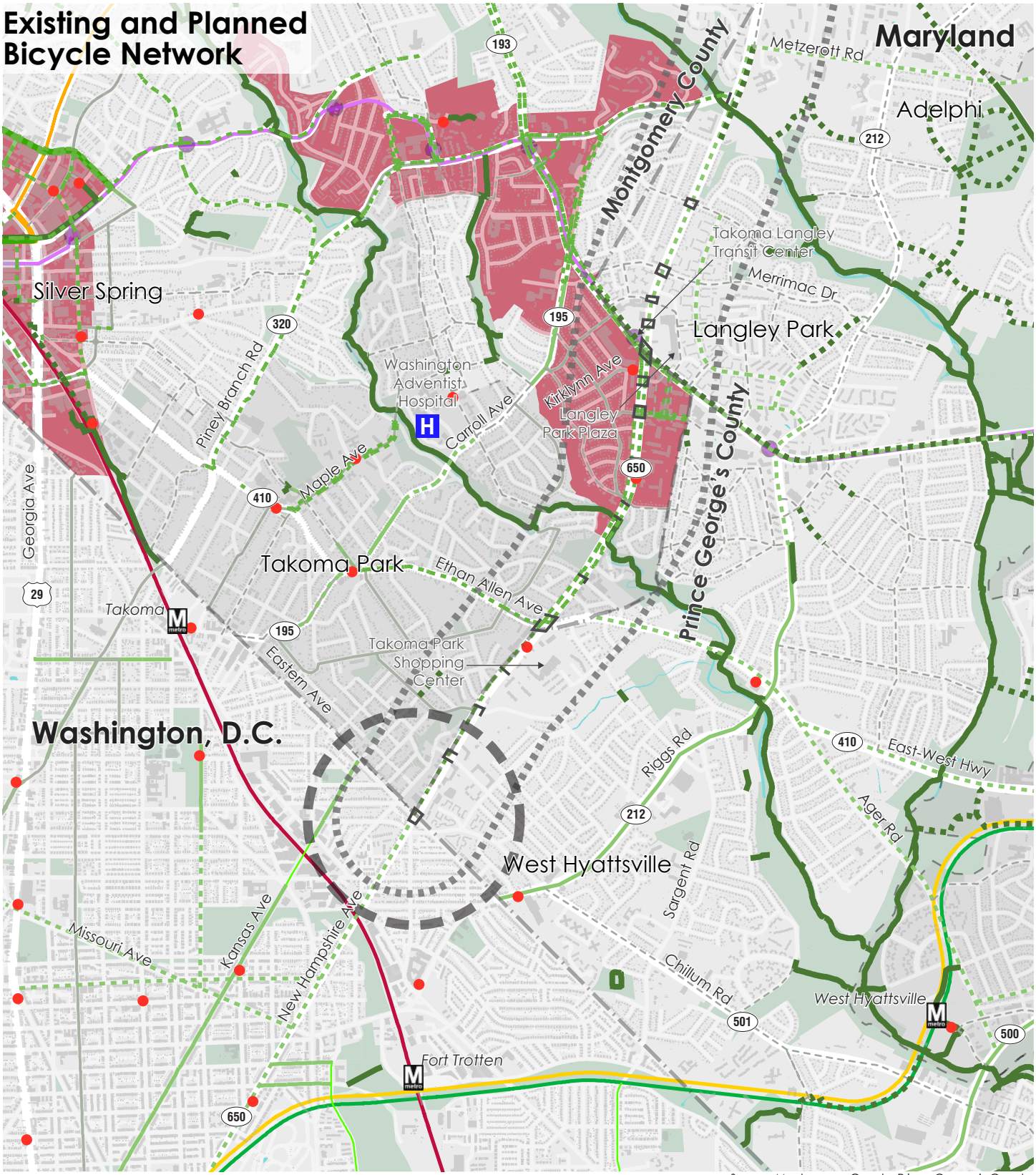
Bicycle & Pedestrian Infrastructure

- Study Corridor Buffer
- Colesville Park & Ride
- Parks and Greenspace
- Waterbodies
- County Boundary
- Municipalities
- Metro Red Line
- Metro Yellow Line
- Metro Green Line
- Metro Stations
- Hospitals
- MTA Purple Line
- MTA Purple Line Stations
- US 29 Flash Route

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Existing and Planned Bicycle Network



0 0.25 0.5 1 Miles

Source: Montgomery County, Prince George's County, and Washington D.C. Open Data Portals

- Study Corridor
- Exact Route and Terminus to be Determined
- County Boundary
- Municipalities
- Parks and Greenspace
- Waterbodies

Existing Bicycle Facilities

- Trail/Shared Use Path
- Separated Bike Lane/Cycle Track
- Bike Lane
- Shared Lane/Shoulder
- Bicycle Pedestrian Priority Area
- Marked Crosswalk

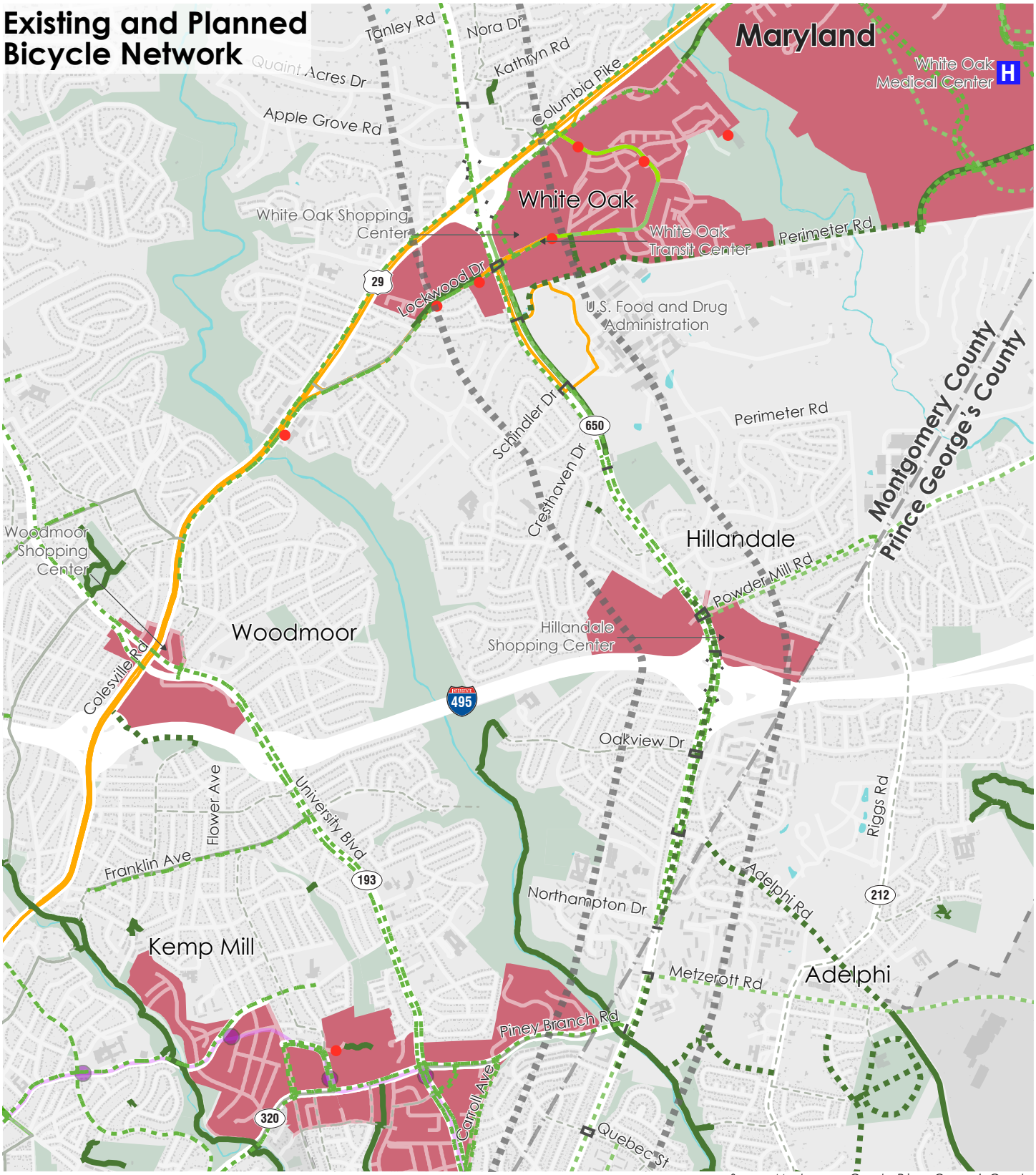
Planned Bicycle Facilities

- Trail/Shared Use Path
- Separated Bike Lane/Cycle Track
- Bike Lane
- Shared Lane/Shoulder
- Capital Bikeshare Station

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Existing and Planned Bicycle Network



0 0.25 0.5 1 Miles

Source: Montgomery County, Prince George's County, and Washington D.C. Open Data Portals

- Study Corridor
- Exact Route and Terminus to be Determined
- County Boundary
- Municipalities
- Parks and Greenspace
- Waterbodies

Existing Bicycle Facilities

- Trail/Shared Use Path
- Separated Bike Lane/Cycle Track
- Bike Lane
- Shared Lane/Shoulder
- Bicycle Pedestrian Priority Area
- Marked Crosswalk

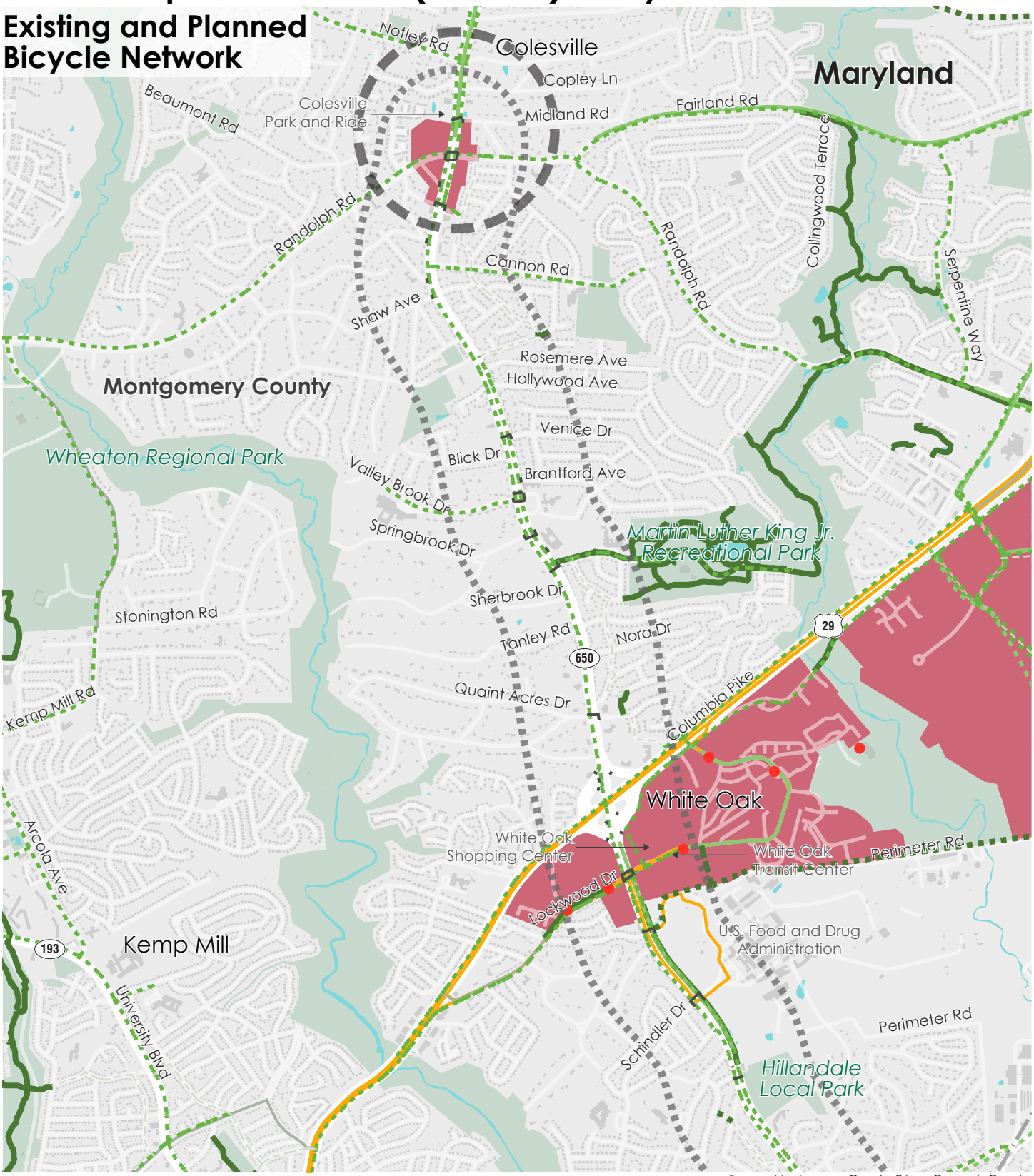
Planned Bicycle Facilities

- Trail/Shared Use Path
- Separated Bike Lane/Cycle Track
- Bike Lane
- Shared Lane/Shoulder
- Capital Bikeshare Station

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Existing and Planned Bicycle Network



Source: Montgomery County, Prince George's County, and Washington D.C. Open Data Portals

0 0.25 0.5 1 Miles

- Study Corridor
- Exact Route and Terminus to be Determined
- County Boundary
- Municipalities
- Parks and Greenspace
- Waterbodies

Existing Bicycle Facilities

- Trail/Shared Use Path
- Separated Bike Lane/Cycle Track
- Bike Lane
- Shared Lane/Shoulder
- Bicycle Pedestrian Priority Area
- Marked Crosswalk

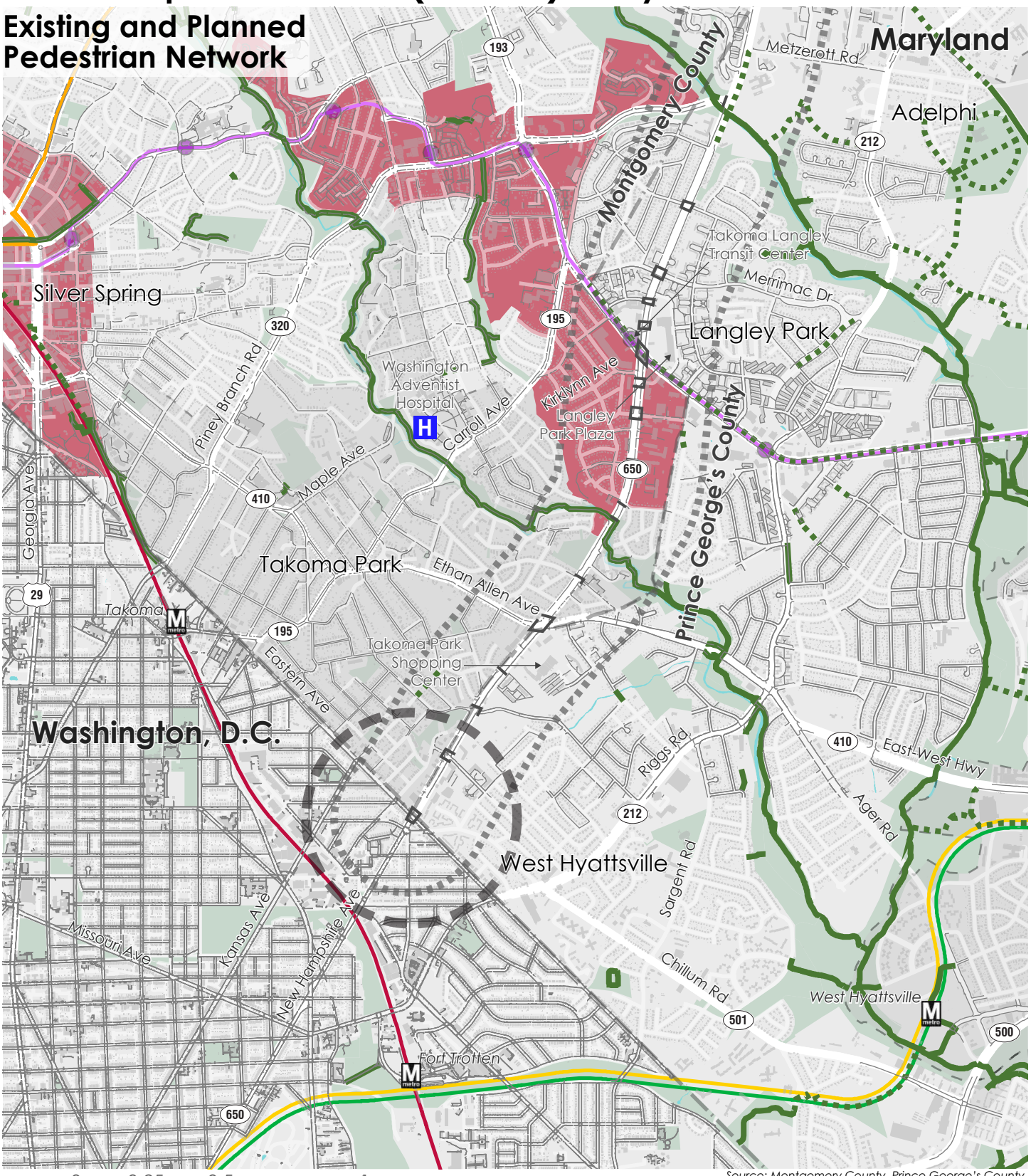
Planned Bicycle Facilities

- Trail/Shared Use Path
- Separated Bike Lane/Cycle Track
- Bike Lane
- Shared Lane/Shoulder
- Capital Bikeshare Station

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Existing and Planned Pedestrian Network



0 0.25 0.5 1 Miles

Source: Montgomery County, Prince George's County, and Washington D.C. Open Data Portals

- Study Corridor
- Exact Route and Terminus to be Determined
- County Boundary
- Municipalities
- Parks and Greenspace
- Waterbodies

Existing Pedestrian Facilities

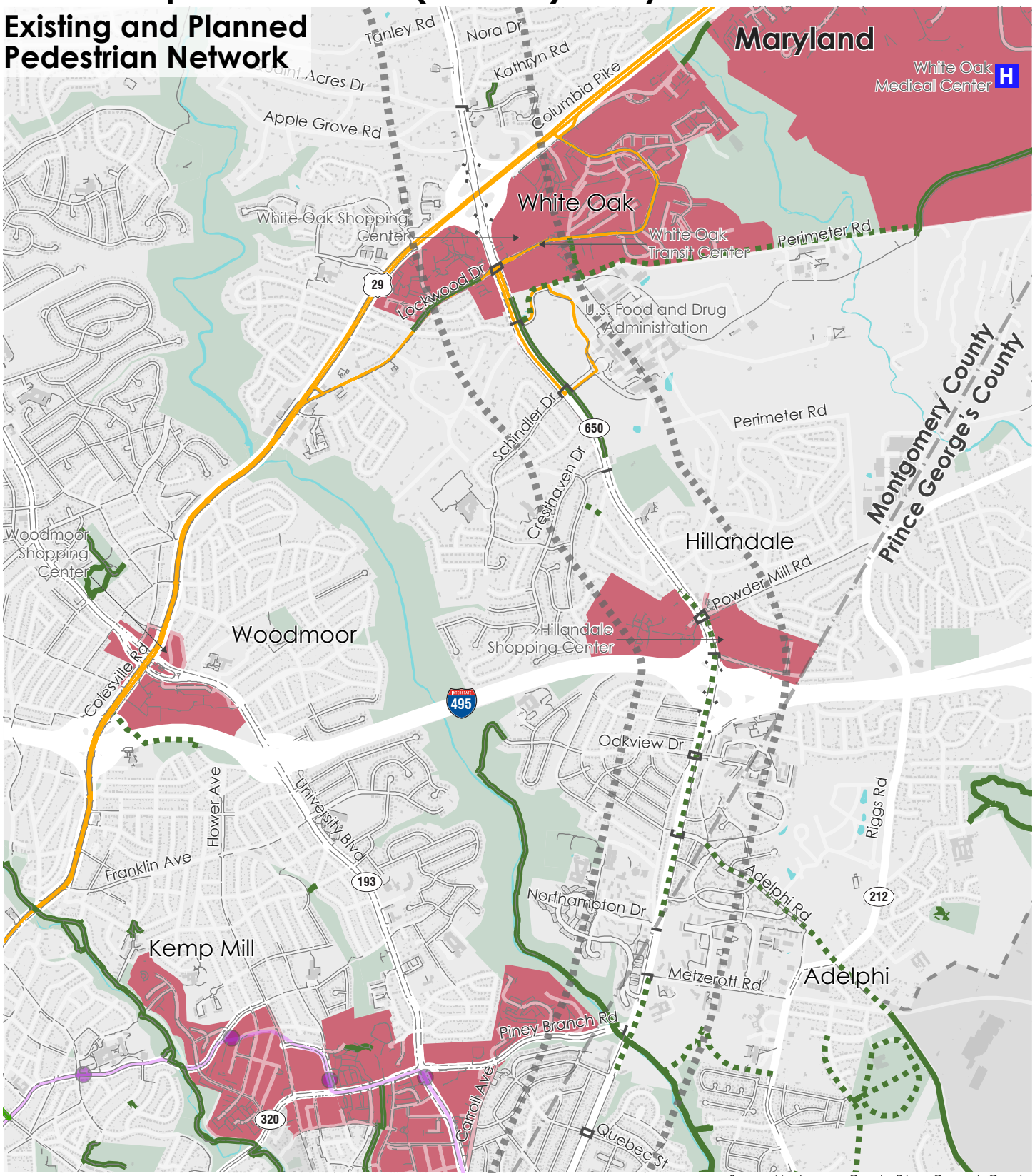
- Trail/Shared Use Path
- Marked Crosswalk
- Sidewalk
- Bicycle Pedestrian Priority Area

Planned Pedestrian Facilities

- Trail/Shared Use Path

New Hampshire Avenue (MD 650) Study Corridor

Existing and Planned Pedestrian Network



Source: Montgomery County, Prince George's County, and Washington D.C. Open Data Portals

0 0.25 0.5 1 Miles

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

Municipalities

Parks and Greenspace

Waterbodies

Existing Pedestrian Facilities

- Trail/Shared Use Path
- Marked Crosswalk
- Sidewalk
- Bicycle Pedestrian Priority Area

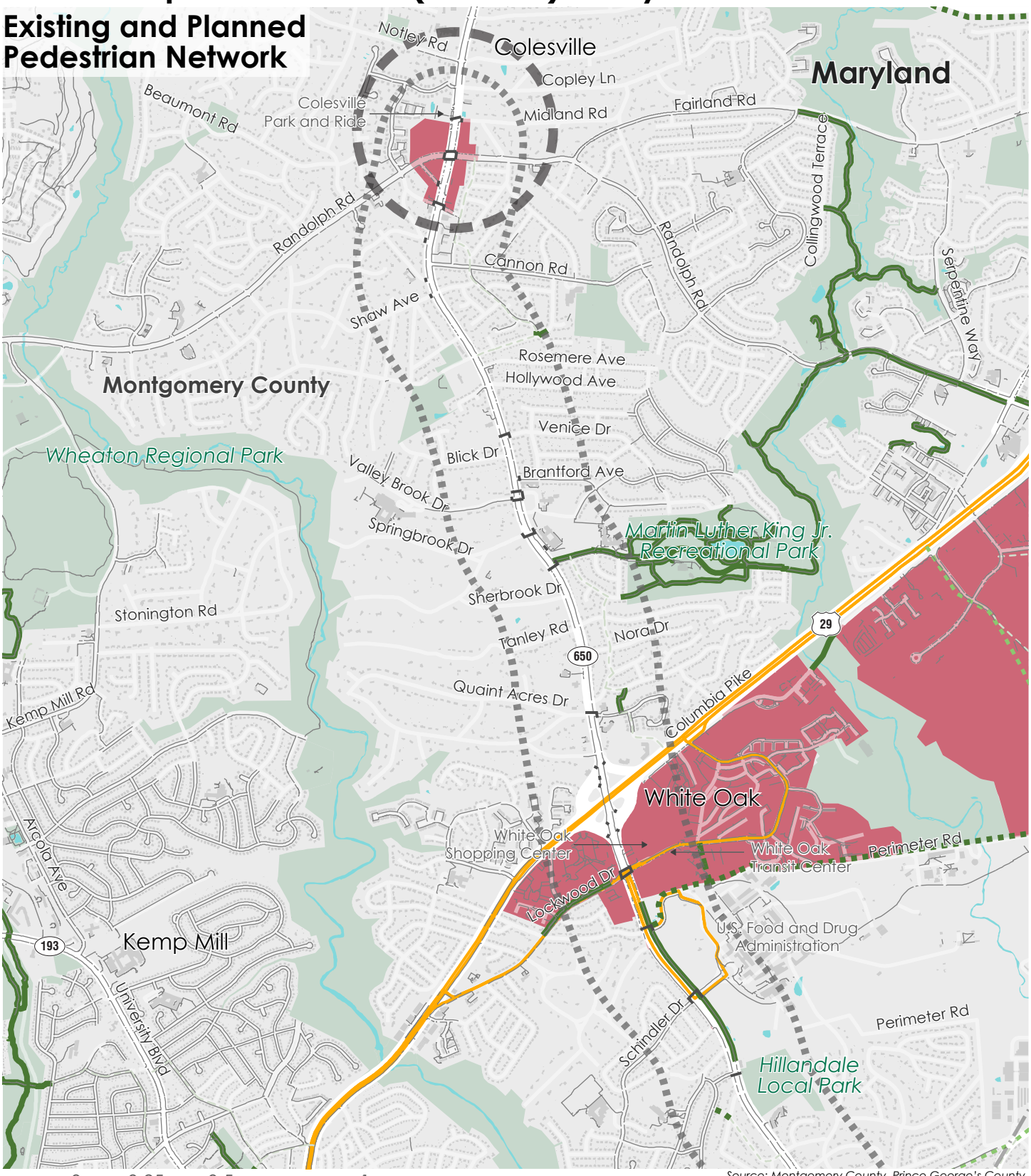
Planned Pedestrian Facilities

- Trail/Shared Use Path

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Existing and Planned Pedestrian Network



0 0.25 0.5 1 Miles

Source: Montgomery County, Prince George's County, and Washington D.C. Open Data Portals

- Study Corridor
- Exact Route and Terminus to be Determined
- County Boundary
- Municipalities
- Parks and Greenspace
- Waterbodies

Existing Pedestrian Facilities

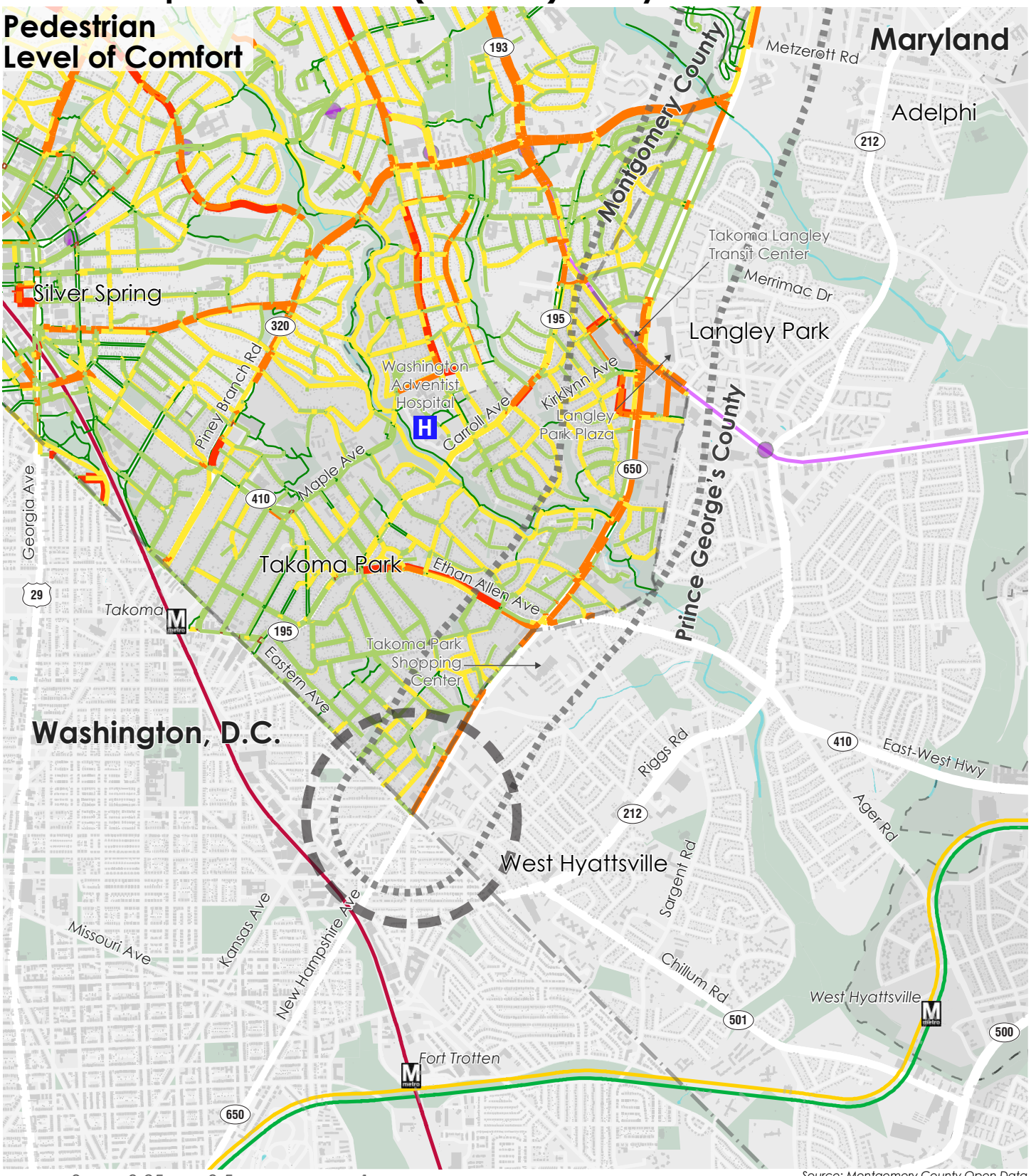
- Trail/Shared Use Path
- Marked Crosswalk
- Sidewalk
- Bicycle Pedestrian Priority Area

Planned Pedestrian Facilities

- Trail/Shared Use Path

New Hampshire Avenue (MD 650) Study Corridor

FLASH



0 0.25 0.5 1 Miles

Source: Montgomery County Open Data
Data Not Available for DC and Prince George's County

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

Municipalities

Parks and Greenspace

Waterbodies

Pedestrian Level of Comfort

1 - Very Comfortable

2 - Comfortable

3 - Somewhat Uncomfortable

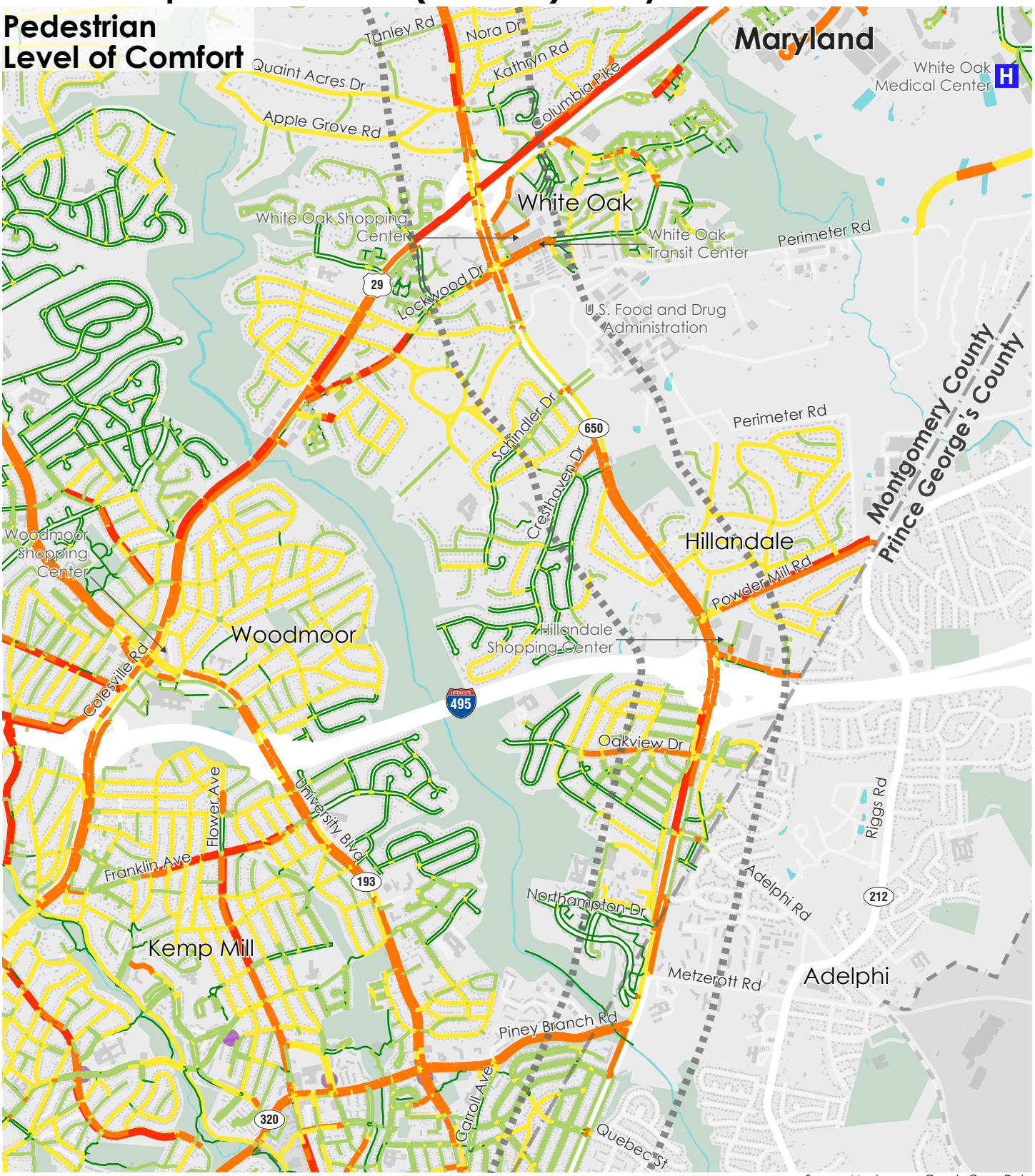
4 - Uncomfortable

5 - Undesireable

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Pedestrian Level of Comfort



0 0.25 0.5 1 Miles

Source: Montgomery County Open Data
Data Not Available for DC and Prince George's County

- Study Corridor
- Exact Route and Terminus to be Determined
- County Boundary
- Municipalities
- Parks and Greenspace
- Waterbodies

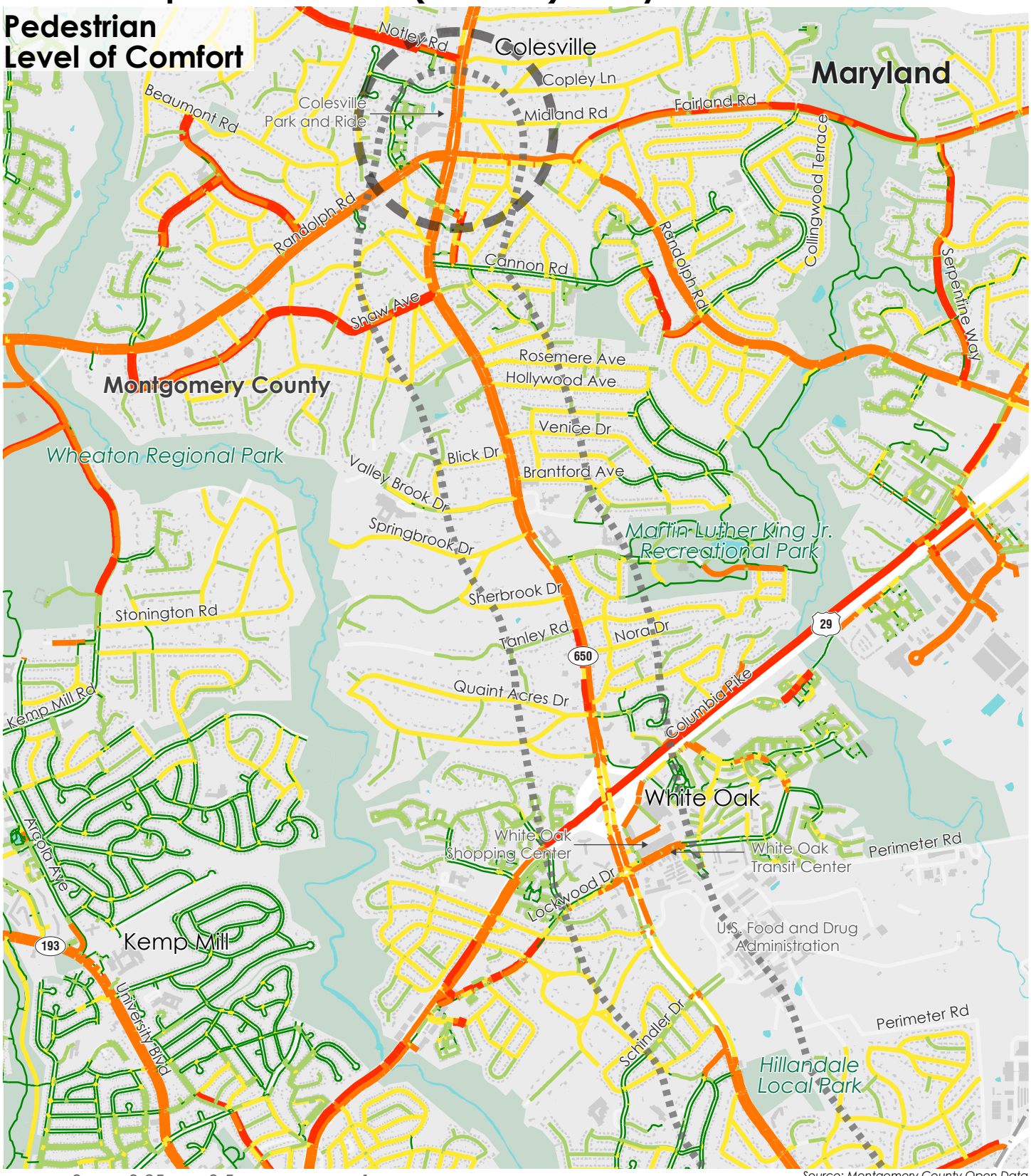
Pedestrian Level of Comfort

- 1 - Very Comfortable
- 2 - Comfortable
- 3 - Somewhat Uncomfortable
- 4 - Uncomfortable
- 5 - Undesireable

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Pedestrian Level of Comfort



0 0.25 0.5 1 Miles

Source: Montgomery County Open Data
Data Not Available for DC and Prince George's County

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

Municipalities

Parks and Greenspace

Waterbodies

Pedestrian Level of Comfort

1 - Very Comfortable

2 - Comfortable

3 - Somewhat Uncomfortable

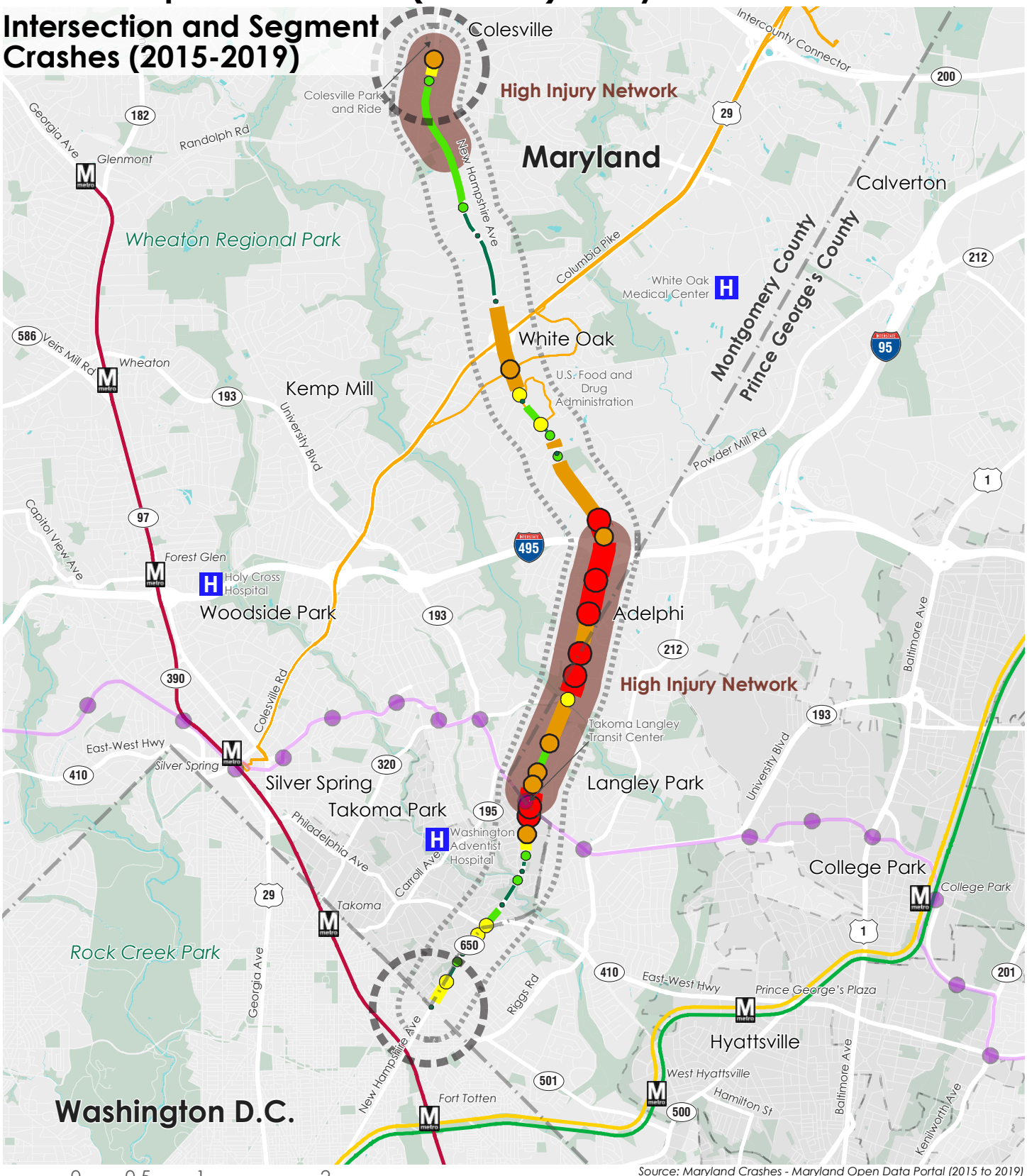
4 - Uncomfortable

5 - Undesireable

New Hampshire Avenue (MD 650) Study Corridor

Intersection and Segment Crashes (2015-2019)

FLASH



0 0.5 1 2 Miles

Source: Maryland Crashes - Maryland Open Data Portal (2015 to 2019)
Data from DC omitted

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

Municipalities

High Injury Network

Total Crashes within 250 feet of Signalized Intersection
By Quintile

- 50 to 145
- 29 to 49
- 21 to 28
- 16 to 20
- 8 to 15

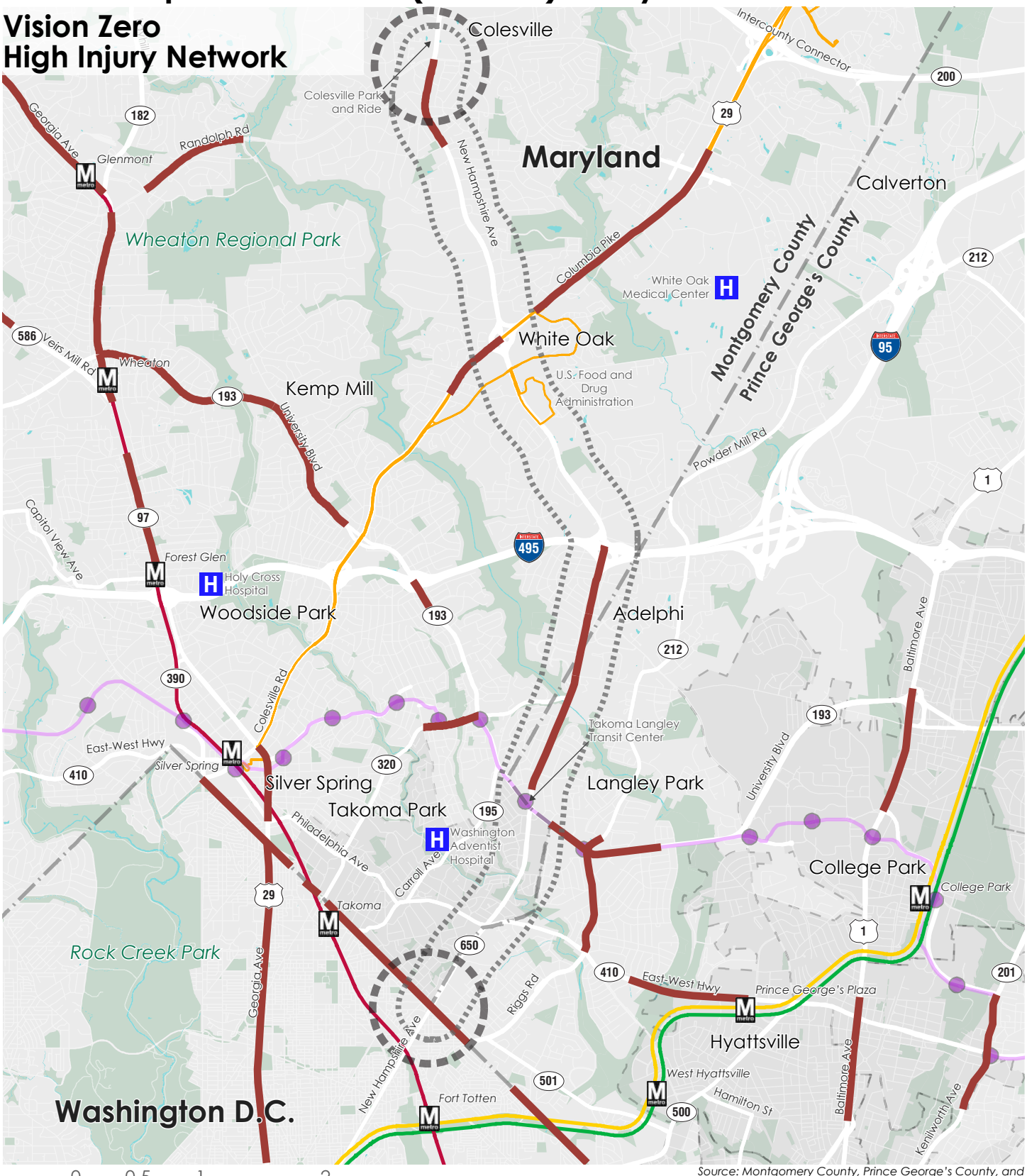
Total Crashes per Mile on Roadway Segment
BY Quintile

- 248 to 628
- 121 to 247
- 91 to 121
- 47 to 90
- 12 to 46

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Vision Zero
High Injury Network



Source: Montgomery County, Prince George's County, and Washington D.C. Vision Zero Action PLans

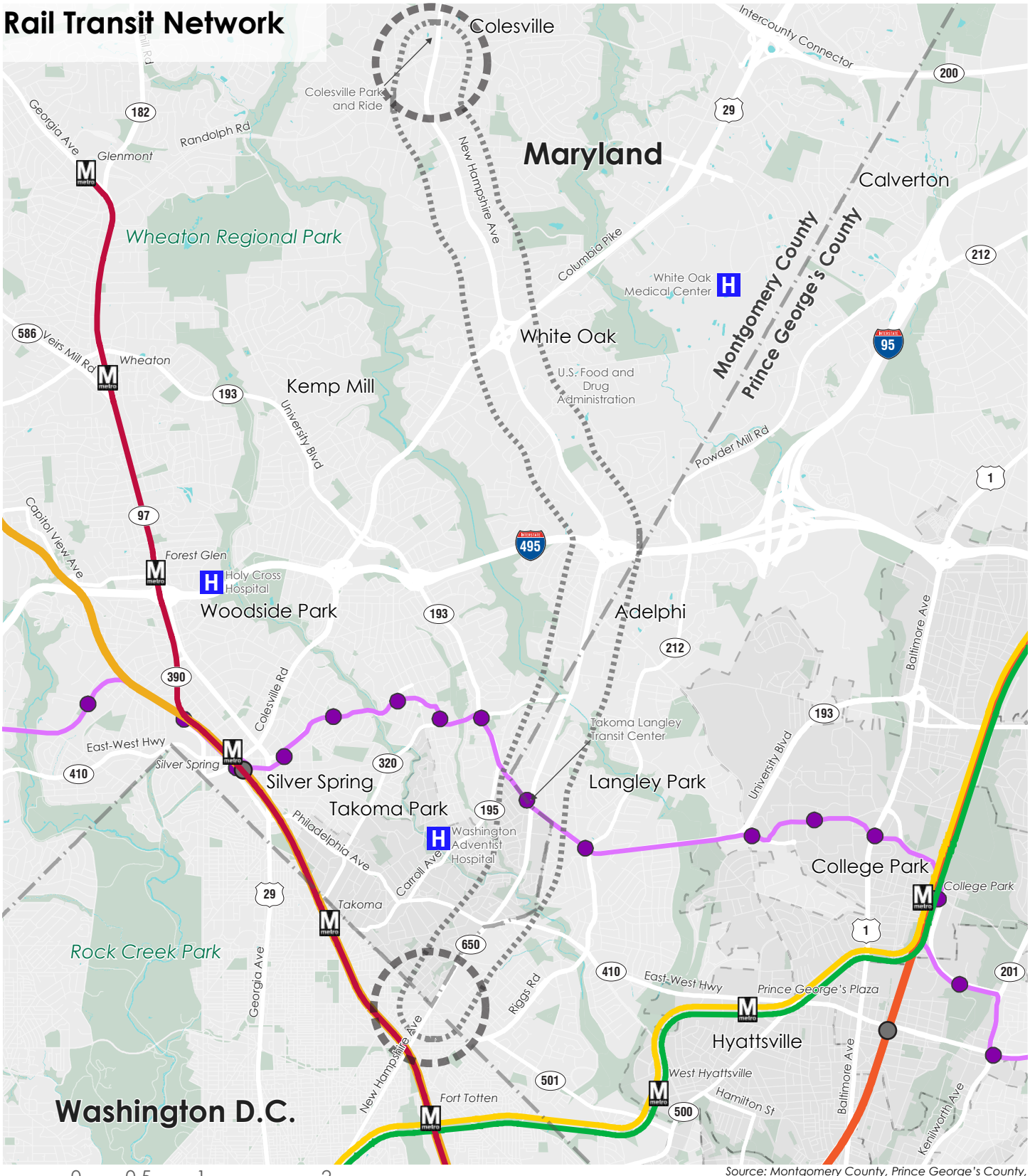
0 0.5 1 2 Miles

- Study Corridor
- Exact Route and Terminus to be Determined
- County Boundary
- Municipalities
- High Injury Network/High Crash Corridor

New Hampshire Avenue (MD 650) Study Corridor

Rail Transit Network

FLASH



Source: Montgomery County, Prince George's County, and Washington D.C. Open Data Portals

0 0.5 1 2 Miles

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

Municipalities

Rail Transit Network

Metro Red Line

Metro Yellow Line

Metro Green Line

Metro Stations

MTA Purple Line

MTA Purple Line Stations

MARC Brunswick Line

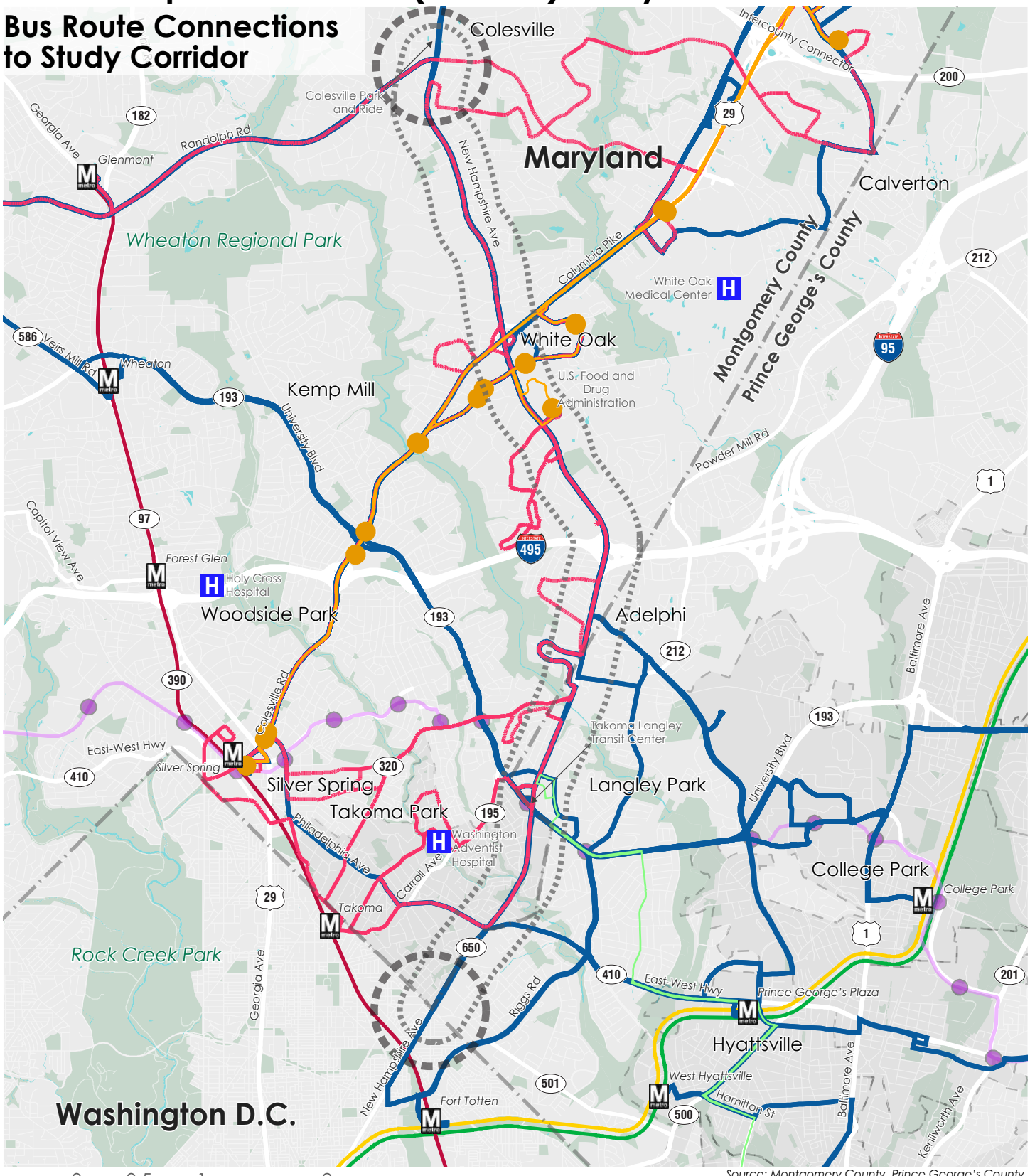
MARC Camden Line

MARC Station

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Bus Route Connections to Study Corridor



0 0.5 1 2 Miles

Source: Montgomery County, Prince George's County, and Washington D.C. Open Data Portals

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

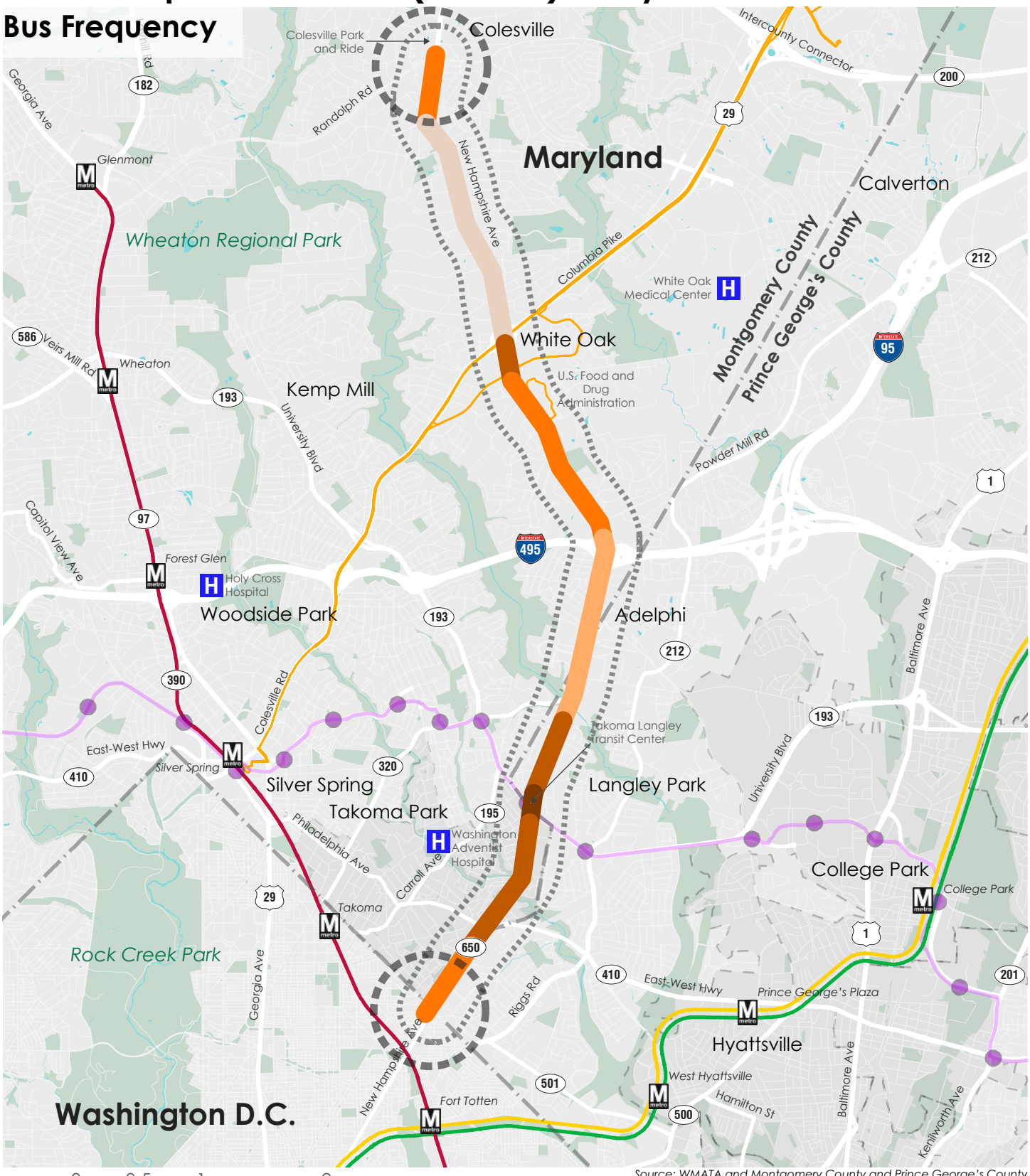
Municipalities

Bus Transit Network

- WMATA Bus
- Montgomery County RideOn Bus
- Prince George's County The Bus
- US 29 Flash Route
- US 29 Flash Route Stops

New Hampshire Avenue (MD 650) Study Corridor

Bus Frequency



Source: WMATA and Montgomery County and Prince George's County Open Data Portals

0 0.5 1 2 Miles

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

Municipalities

Parks and Greenspace

Waterbodies

Bus Frequency* (Buses per Hour)

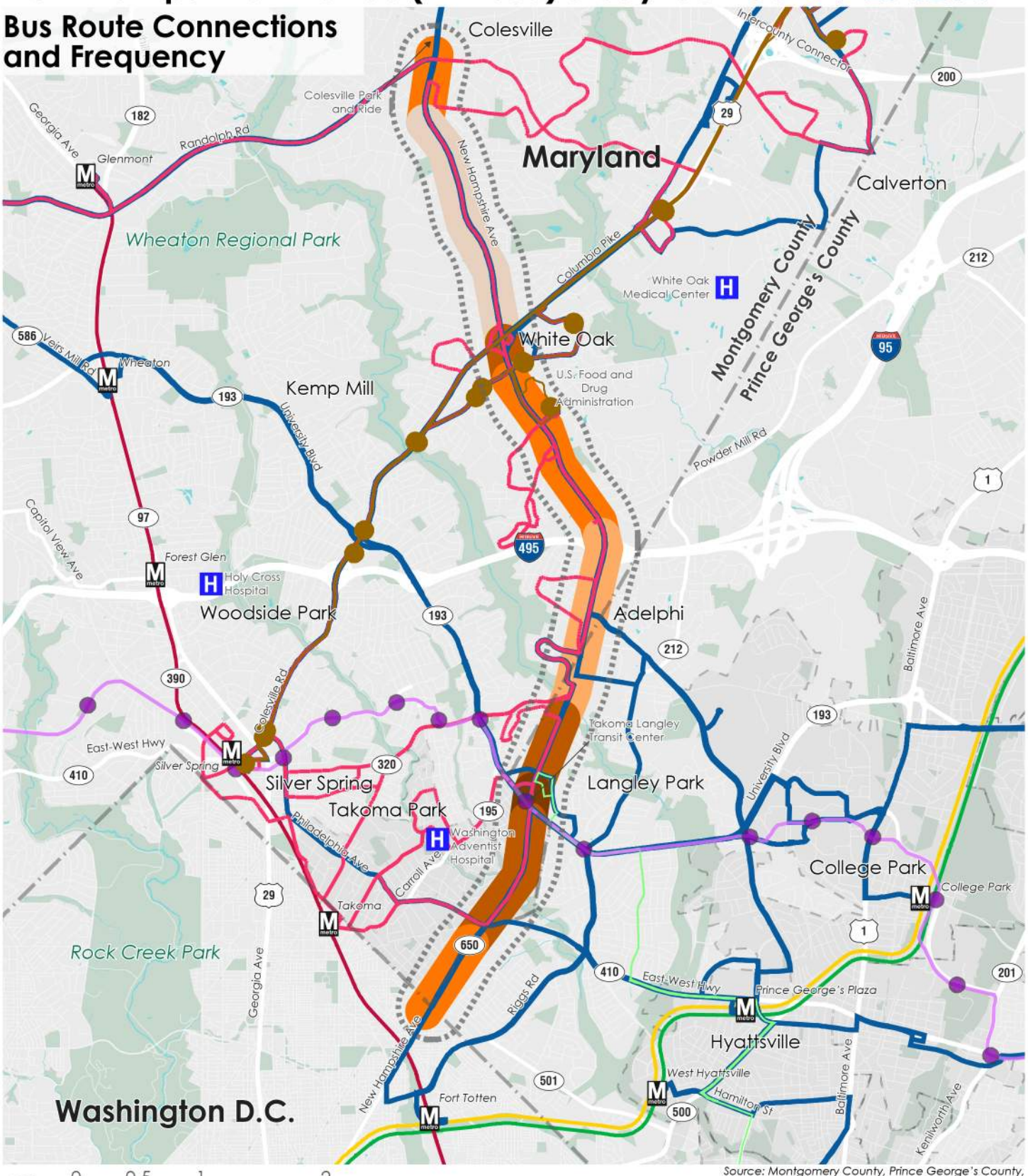
** Bus frequency only includes bus routes that use New Hampshire Avenue*

- Less than 5
- 5 to 9
- 10 to 14
- 15 to 20
- Over 20

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Bus Route Connections and Frequency



Source: Montgomery County, Prince George's County, and Washington D.C. Open Data Portals

0 0.5 1 2 Miles

- Study Corridor
- County Boundary
- Municipalities

Bus Transit Network

- WMATA Bus
- Montgomery County RideOn Bus
- Prince George's County The Bus
- US 29 Flash Route
- US 29 Flash Route Stops

Bus Frequency* (Buses per Hour)

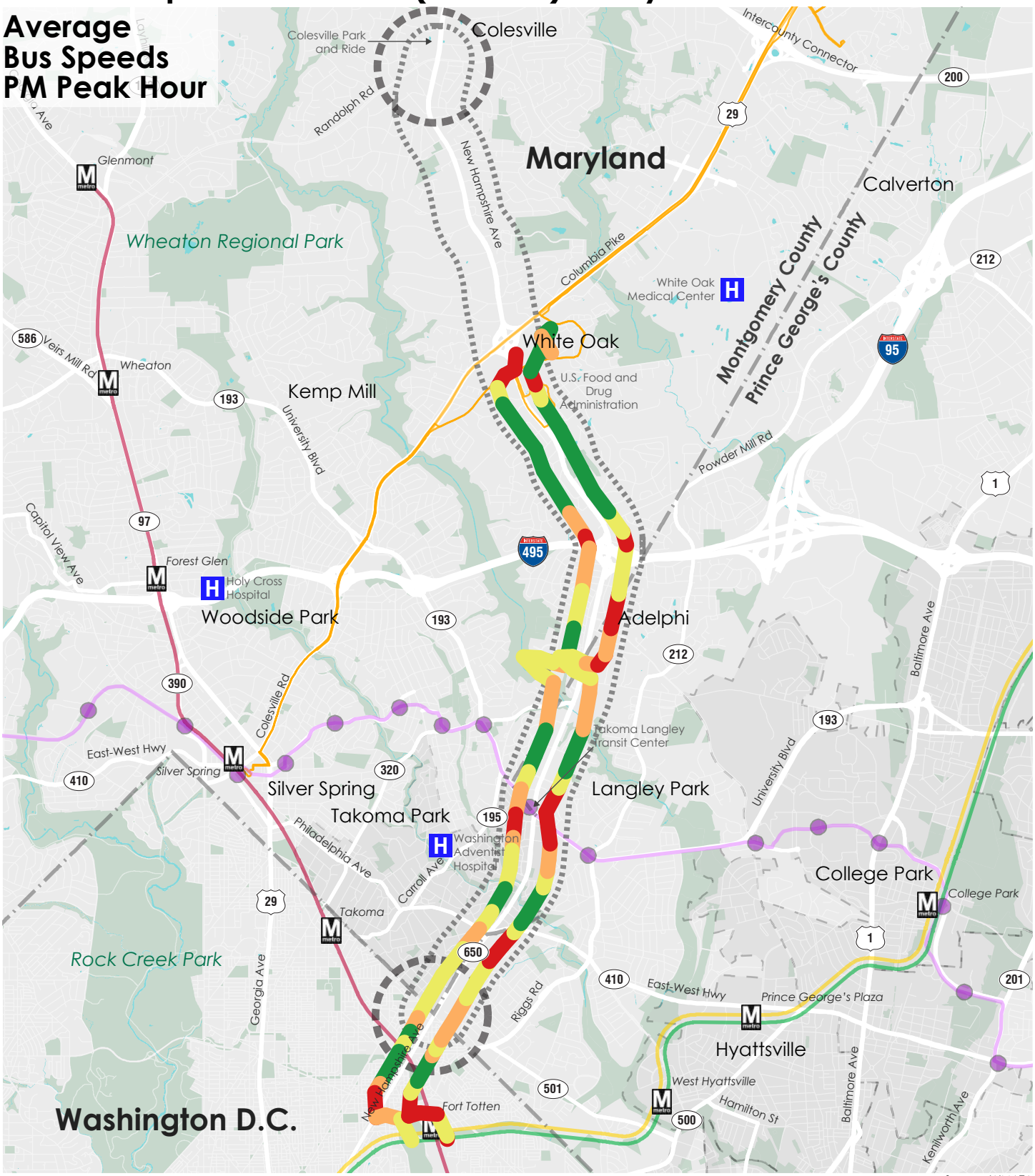
** Bus frequency only includes bus routes that use New Hampshire Avenue*

- Less than 5
- 5 to 9
- 10 to 14
- 15 to 20
- Over 20

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Average Bus Speeds PM Peak Hour



Source: WMATA

0 0.5 1 2 Miles

- Study Corridor
- Exact Route and Terminus to be Determined
- County Boundary
- Municipalities
- Parks and Greenspace
- Waterbodies

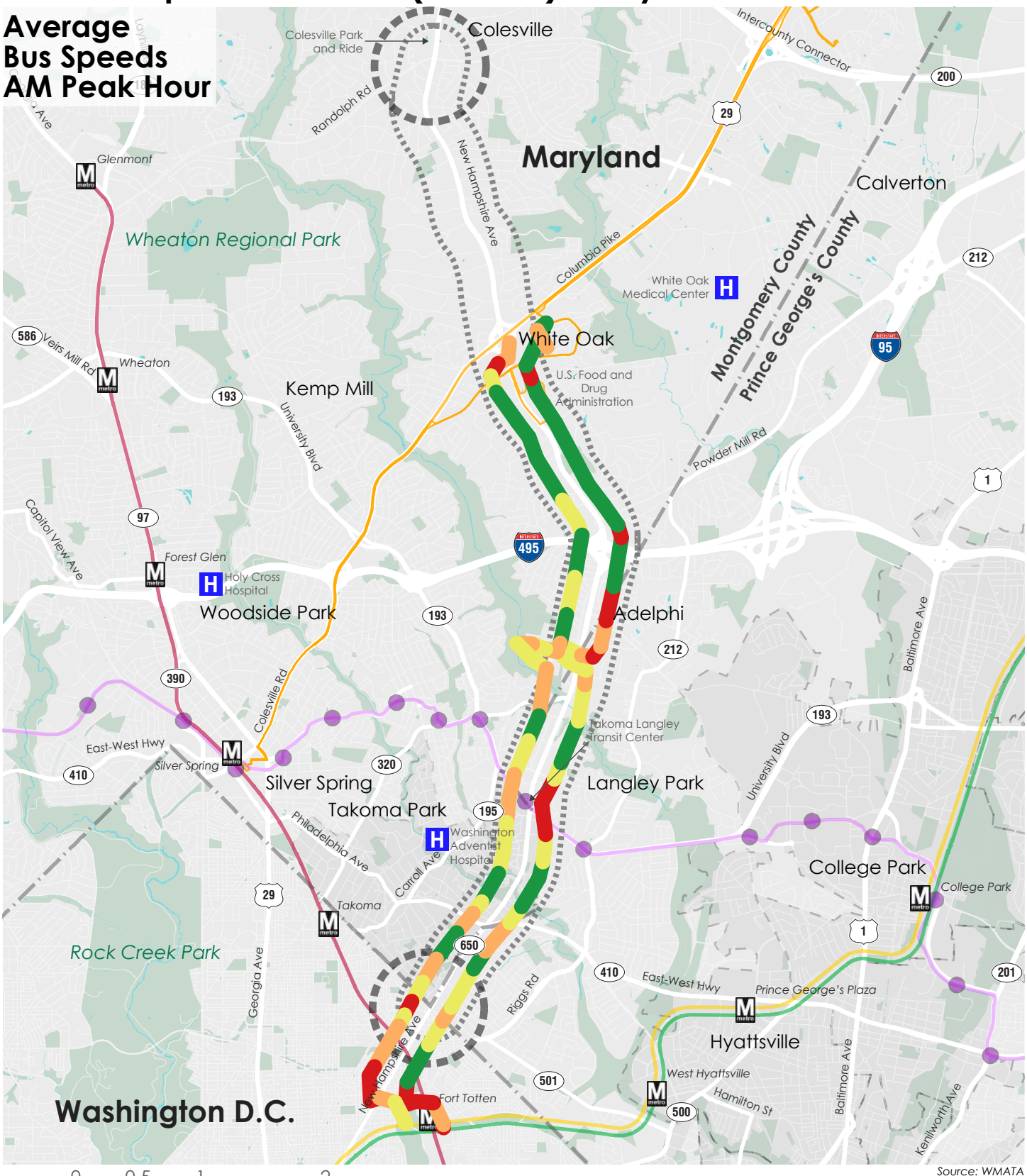
Average Bus Speed for Route K6 (miles per hour)

- 10 or less
- 10.1 to 15.0
- 15.1 to 20.0
- Over 20

New Hampshire Avenue (MD 650) Study Corridor

FLASH

Average Bus Speeds AM Peak Hour



Source: WMATA

0 0.5 1 2 Miles

Study Corridor

Exact Route and Terminus to be Determined

County Boundary

Municipalities

Parks and Greenspace

Waterbodies

Average Bus Speed for Route K6 (miles per hour)

- 10 or less
- 10.1 to 15.0
- 15.1 to 20.0
- Over 20