Routes of Health Appendix D: Montgomery County, Maryland

I. Background and Key Demographics

Montgomery County is in the state of Maryland in the Mid-Atlantic region and is part of the Washington Metropolitan Area. Even though a high proportion of its area is low-density, the county is the largest populated in the Maryland state with approximately 1 million residents. Home to a mix of urban, rural, and suburban areas, Montgomery County is considered a desirable place to live due to its schools and proximity to employment. Montgomery County residents are racial and ethnically diverse. According to 2019 census data, 60 percent of residents are White, 20.1% are Black or African American, 20.1% Hispanic or Latino, and 15.6% Asian. The median household income is $108,820, making it one of the wealthiest counties in Maryland. However, the county's poverty rate is 7.3%. The median home value in Montgomery County is $484, 900. More than 90% of residents hold a college degree and almost 58.9% hold a Bachelor's degree or higher.

Montgomery County is located just north of Washington, D.C. and shares a border with Northern Virginia. Many of the county's downtown centers are located in close proximity to D.C. in an area known as the Capital Beltway. The Beltway is a 64-mile Interstate Highway (I-495) that surrounds D.C. and has connections to Maryland and Northern Virginia. Neighborhoods located inside the Beltway are typically closer to transit and are a mix of urban and suburban. These communities also tend to be denser and more diverse compared to other parts of the county. The County's transportation and traffic systems are managed by the Montgomery County Department of Transportation (MCDOT). Due to the regional transportation network, MCDOT collaborates with the District of Columbia Department of Transportation (DDOT) and Virginia Department of Transportation (VDOT).

II. Programs, Plans and Policies

In 2016, Montgomery County adopted a Vision Zero goal of eliminating all traffic fatalities by 2030. Montgomery County averaged 30 fatal collisions between 2015 – 2019. Fatal collisions declined between 2015 – 2017 but have increased since. 45% of fatal collisions involved people walking and biking. This still places Montgomery County behind the national average of fatal crash rates per 100 million vehicles. Montgomery County released their Draft Vision Zero Plan in April 2021 and opened it for public comment. MCDOT also aims to align Vision Zero with other County and regional plans including the 2021 - 2025 Maryland Strategic Highway Safety Plan, the Montgomery County Thrive 2050 General Plan Update, and the Montgomery County Climate Action Plan.

Montgomery County takes a safe systems approach to roadway safety. The County is committed to reducing speed limits and has a robust traffic camera enforcement program. Since launching its first Vision Zero Action Plan in 2017, Montgomery County has completed the following traffic safety projects and campaigns:

- 14.5 miles of new bikeway
- 35 new traffic signals and beacons
- 16.5 miles of new sidewalk

- 7.4 miles of highway lane widths reduced to lower speeds
- 26 miles of highway miles with speed limit reductions
- 1,921 crosswalks refreshed
- 1,151,806 citations issues by automated speed enforcement

Montgomery County has also made a commitment to equity in their Vision Zero plan. The goal is to address Black, African American, and Hispanic residents being disproportionately impacted by traffic injuries and fatalities. The root of this issue goes back to mid-century redlining policies that kept people of color from purchasing homes in more desirable residential neighborhoods. Residents of color were relegated to living along the county's busy highways, which still impacts safety today. Black residents in Montgomery County are at higher risk of being struck by a vehicle due to their proximity to the highway, higher transit use, and low car ownership compared to White, non-Hispanic residents. This has lead the County to outline several equity provisions in their Vision Zero plan including prioritizing projects in the areas where there is the greatest need and where there has been the greatest disinvestment. The plan also seeks to address age and gender gap disparities by context sensitive design and targeted safety programs.

As part of the Vision Zero planning process, community members were asked about the current state of road safety in Montgomery County and what improvements they would like to see in the future. Feedback was provided in the form of surveys, focus groups, interviews, and community meetings. The County's Vision Zero plan lists the following as top community priorities:

- More sidewalks
- More bike lanes
- Safer crossings
- Safe bus stop access
- More communication
- Less speeding
- Stopping for pedestrians

Residents felt unsafe walking and biking due to lack of sidewalks and unsafe bike infrastructure. Transit users were concerned with safety and access around bus stops, especially those along busy roads. Many people mentioned drivers speeding and drivers not yielding to pedestrians as top safety concerns. They expressed more support for lowering speed limits than expanding automated speed enforcement.

Montgomery County has an extensive automated enforcement program that include live traffic cameras. Between 2018 – 2020, MCDOT has issued over 1 million citations through automated speed enforcement. Perceptions around the automated enforcement program remained mixed, with some residents believing it is more about revenue than safety. However, MCDOT still considers automated enforcement as a safety measure above all else. Along with automated enforcement, MCDOT and the Department of Police run a number residential traffic calming programs to address traffic safety concerns. On local volume residential roads, they employ an education strategy using a Speed Monitoring Awareness Radar Trailer (SMART) to alert drivers of their speed. On mid volume collectors, they also deploy SMART trailers and work with residents on traffic calming interventions like speed humps and small traffic circles. Higher volume collector streets incorporate education and engineering strategies along with more enhanced enforcement measures. MCDOT also uses a

number of traffic calming devices on residential streets including traffic circles, curb extensions, and pedestrian refuge islands.

III. Existing Conditions

Communities in and around the Beltway were built at the height of mid-century car culture. Today the Beltway is known from having some of the heaviest vehicle traffic in the mid-Atlantic region. Drivers traveling between Washington, D.C., Maryland, and Virginia face long commute times and traffic congestion on the highway. To avoid Beltway traffic, many drivers look to alternative routes through surrounding neighborhoods, including those in Montgomery County. This has leads to an increase in traffic on residential streets and other roads that were not built to handle high vehicle capacity.

For those not driving, Montgomery County is serviced by regional transit including the Maryland Area Regional Commuter train (MARC), Metrobus and Metrorail, MTA commuter bus, and the MetroAccess transit serving disabled individuals. There are also a number of active transportation options that include the Capitol Bikeshare program, dockless scooters, and a regional trails network. Residents are encouraged to participate in active transportation initiatives and collaborate with the County to improve walkability. The County is also commited to pedestrian safety projects and provides information on how to request sidewalks, traffic calming measures, accessible pedestrian signals, and other safety infrastructure. MCDOT also had a number of community groups that advise on bike and pedestrian plans and projects. Key groups include the Montgomery County Bicycle Action Group, the Pedestrian, Bicycle and Traffic Safety Advisory Committee, and the Ride on Transit Advisory Group. MCDOT also recently established a Vison Zero Ambassadors program to engage youth in traffic safety.

IV. Community Engagement Summary – Glenmont Neighborhood

Our project area centered on the Beltway community of Glenmont, located a few miles outside of D.C. Glenmont is a growing residential neighborhood in the midst of new transit-oriented development and mixed use development. The Glenmont Sector Plan, adopted in 2014, envisions transit-oriented planning around Glenmont Shopping Center and the Glenmont Metro stop. Glenmont Shopping Center sits at the corner or Georgia Avenue and Randolph Road and is considered a main community hub. The Glenmont Sector Plan aims to improve safety and access around this area while making Glenmont more pedestrian friendly. Glenmont is also considered one of the County's Bicycle and Pedestrian Priority Areas (BiPPA).

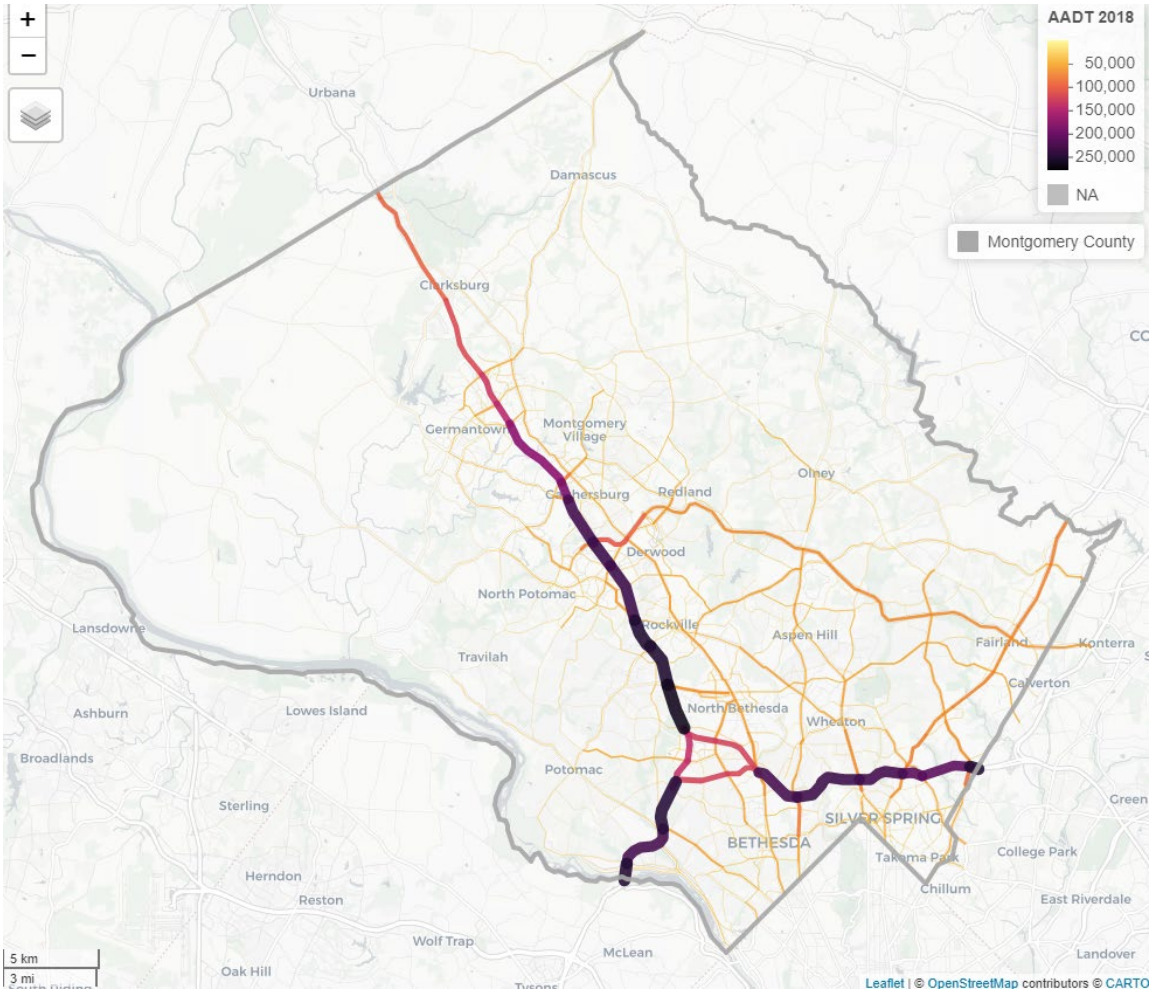
Due to the pandemic and other circumstances, our community engagement in Montgomery County was rather limited. However, we were able to gather basic information about the community's traffic safety concerns from public input on the County's Vision Zero plan. This public feedback period took place during the summer and fall of 2020 and involved a series of community conversations, surveys, and public meetings. There were 1,577 survey respondents, 208 residents who participated in listening sessions and interviews, and 12 community groups that submitted

letters. The community's top safety priorities included sidewalk improvements, expanding the bike network, safer crossing for bicyclists and pedestrians, safer access to bus stops, and improving driver behavior around speeding and yielding to pedestrians. Full details on the public feedback process can be found in the Phase I Public Outreach Summary Report.

V. Data Analysis

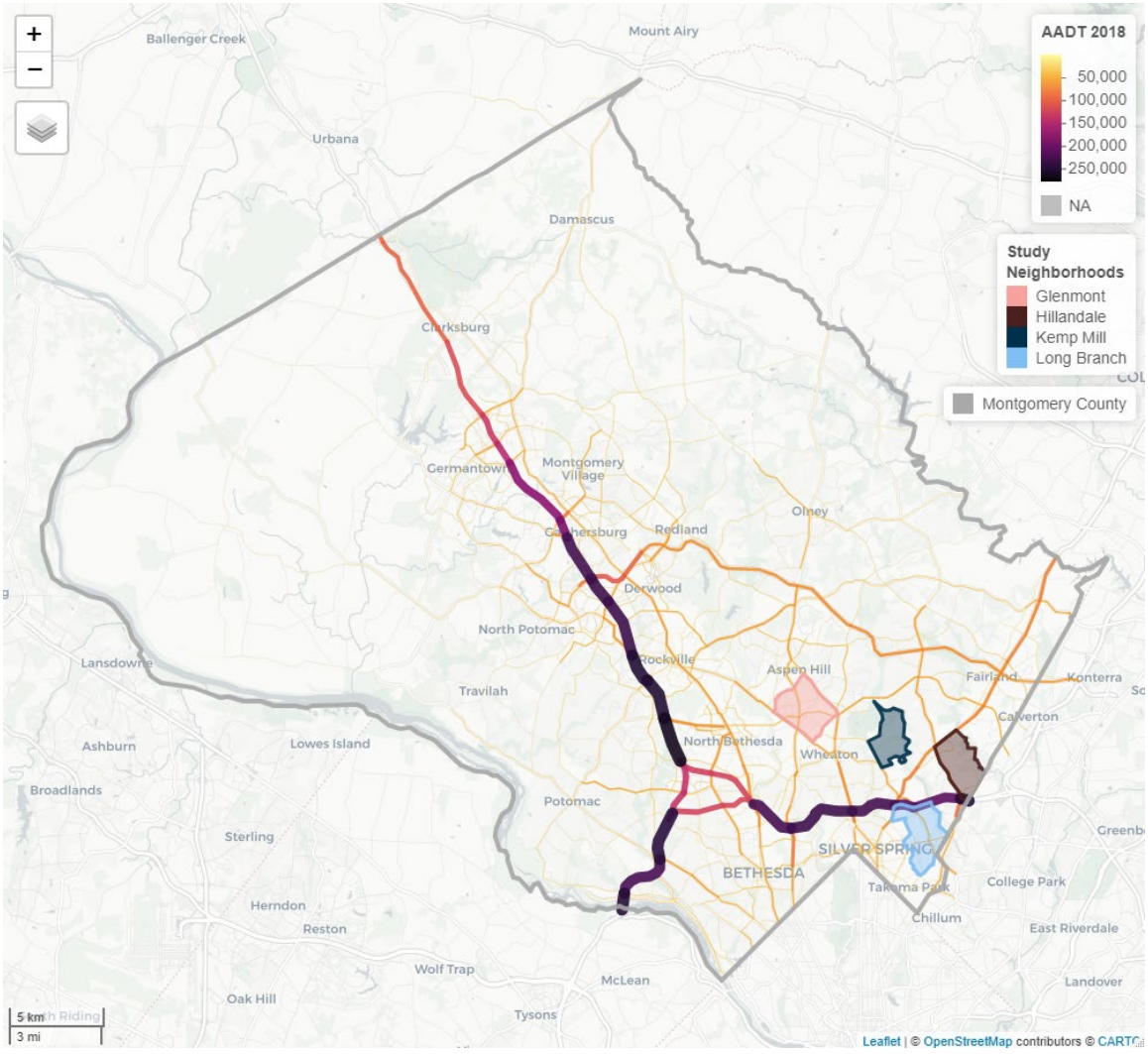
Most of Montgomery County's urban centers are along the I-270 and in the south/southeast where it shares boundary with Washington D.C. The county hosts U.S. government offices, scientific research and learning centers, and business campuses, as well as residential areas for those workers and commuters to D.C. Figure 1shows the average daily traffic flows in Montgomery's major roads. Most traffic is along I-270 and then gets diverted to the east and west through the I495 beltway.

Figure 1 – Montgomery County, Annual Average Daily Traffic, 2018



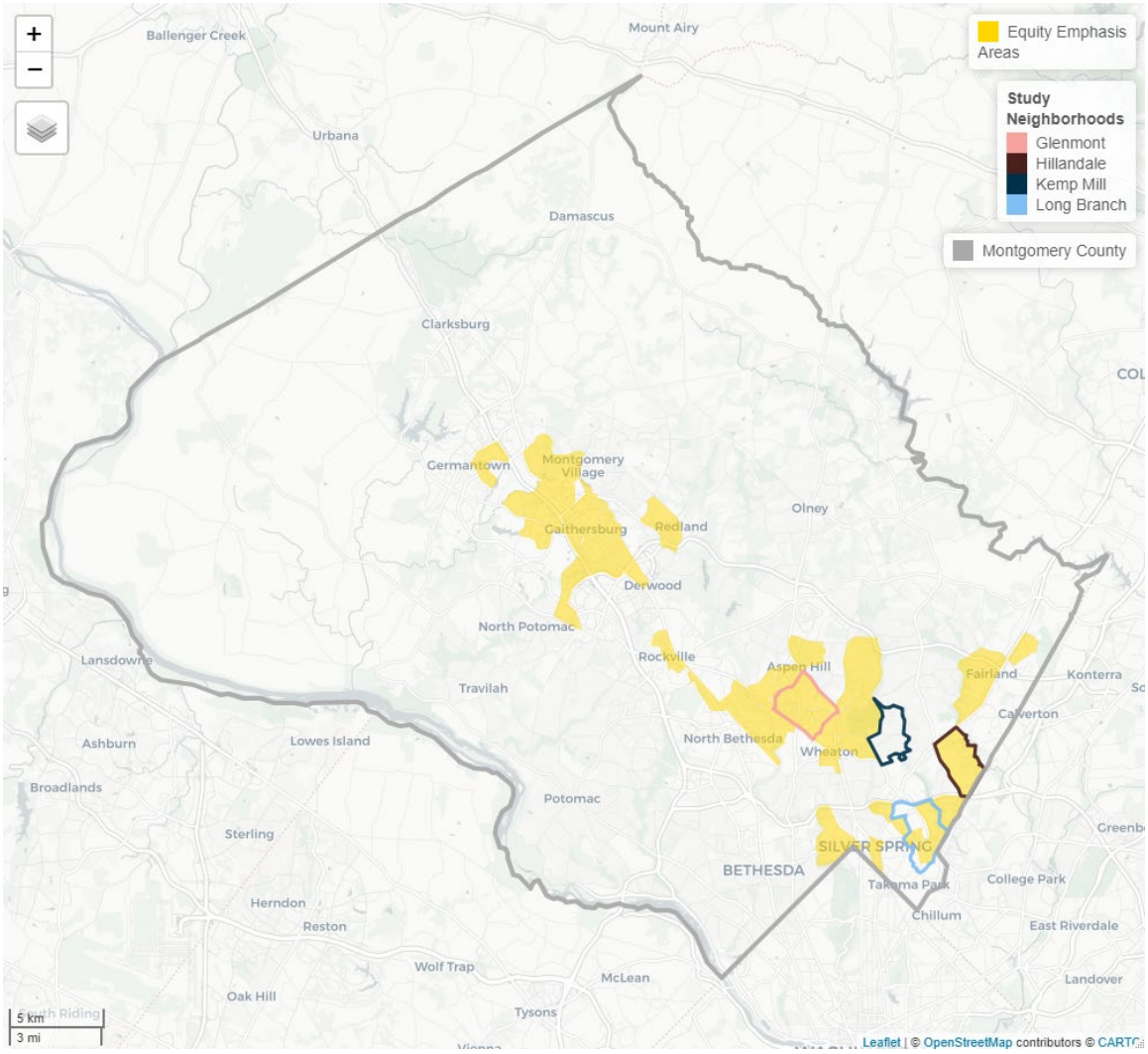
Staff at Montgomery County identified four candidate neighborhoods for the traffic analysis based on community feedback, previous work, and school locations. Figure 2 shows Glenmont, Hillandale, Kemp Mill and Long Branch neighborhoods boundaries. The neighborhoods are located in the southeast corner, where most traffic activity occurs. Connecticut Ave, Veirs Mill Road and Georgia Ave are high-traffic roads crossing Glenmont. Long Branch neighborhood is bounded in the north by I-495 (Capital Beltway) and crossed by University Boulevard East which might divert traffic into local roads. Although Hillandale and Kemp Mill are close to high-traffic roads, their winding street grid provides less opportunity for cut-through traffic.

Figure 2 – Study neighborhoods in Montgomery County



Montgomery County has developed an Equity Focus indicator to identify areas of the county that may experience the highest inequities in access to transportation, job opportunities and other resources supporting a high quality of life. The variables analyzed include household income, race and ethnicity, and the ability to speak English. This methodology was specifically tailored for Montgomery County, Figure 3 most equity focus areas are located along the I-270 corridor and Route 29. The neighborhoods of Glenmont, Hillandale and Long Branch are within the equity focus zones.

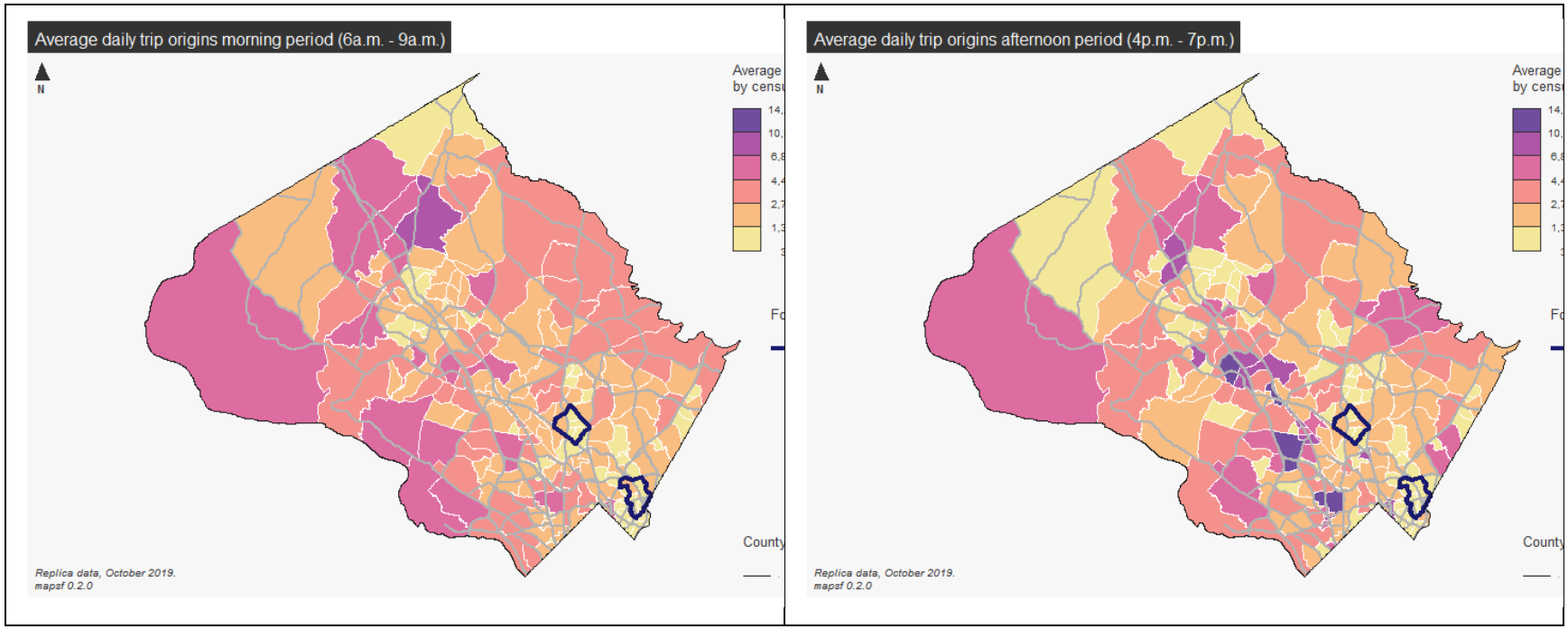
Figure 3 – Montgomery County Equity Emphasis Areas



Total trip origins by census tract

Maps in Figure 4 show the concentration of trips starting at a given census tract in the three-hour morning and afternoon peak period. Highest trip origination census tracts are in the county northwest near Clarksburg which has predominately residential land use. There are other large tracts with high trip originations in the west, however, this is due to the size of the census tracts. In the afternoon, several census tracts show high trip origination along the I-270 corridor, near the cities of Rockville, North Bethesda, Bethesda, and John Hopkins University. Those areas are important employment and commercial activities. Regionally, neither Glenmont or Long Branch neighborhoods are among the highest total trip originators.

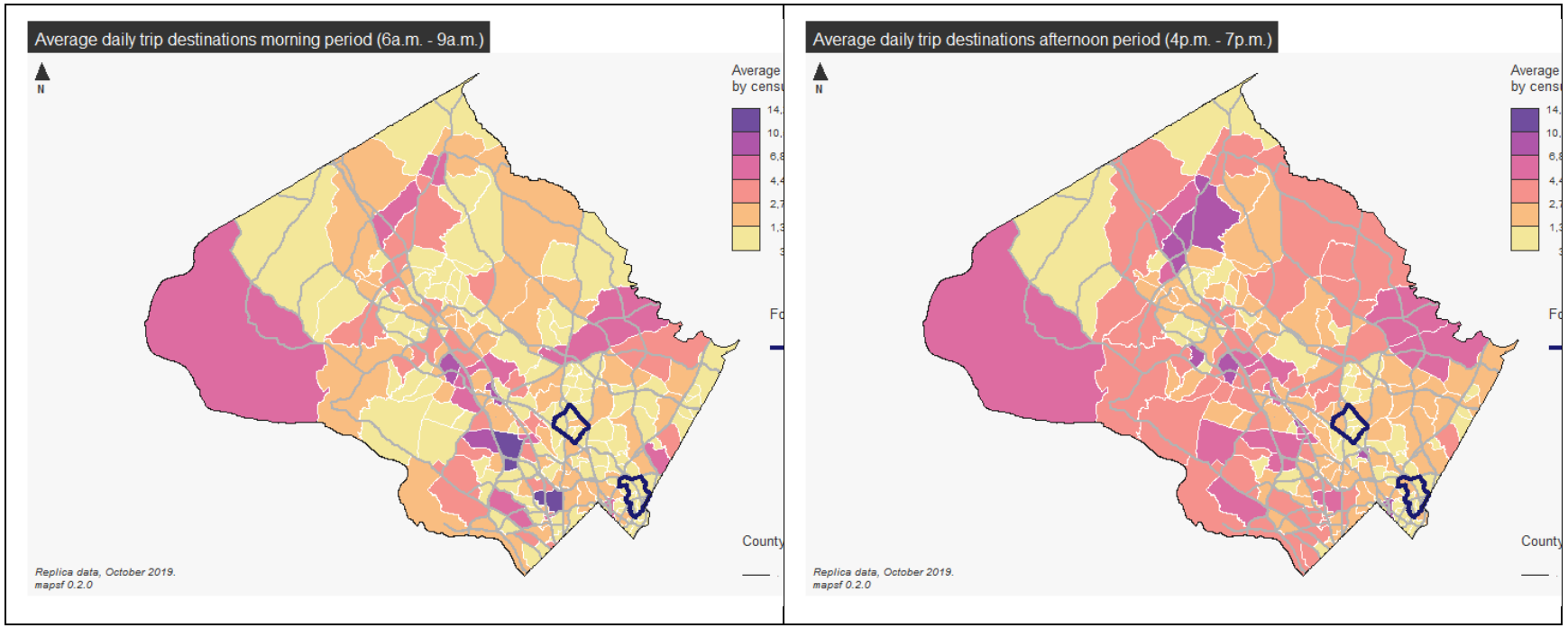
Figure 4 – Total trip origins by census tract, morning and afternoon peak periods



Total trips destinations by census tract

Maps in Figure 5 show the concentration of trips with destination at a given census tract in the three-hour morning and afternoon peak period. The destinations in the morning are concentrated in the John Hopkins University area and the surrounding census tracts, Bethesda, and North Bethesda areas. The afternoon shows a more dispersed pattern with a slight tendency of more trips ending in the outers census tracts. The commuting patterns are very symmetrical; areas with high trip destinations in the morning are the same with high trip origination in the afternoon.

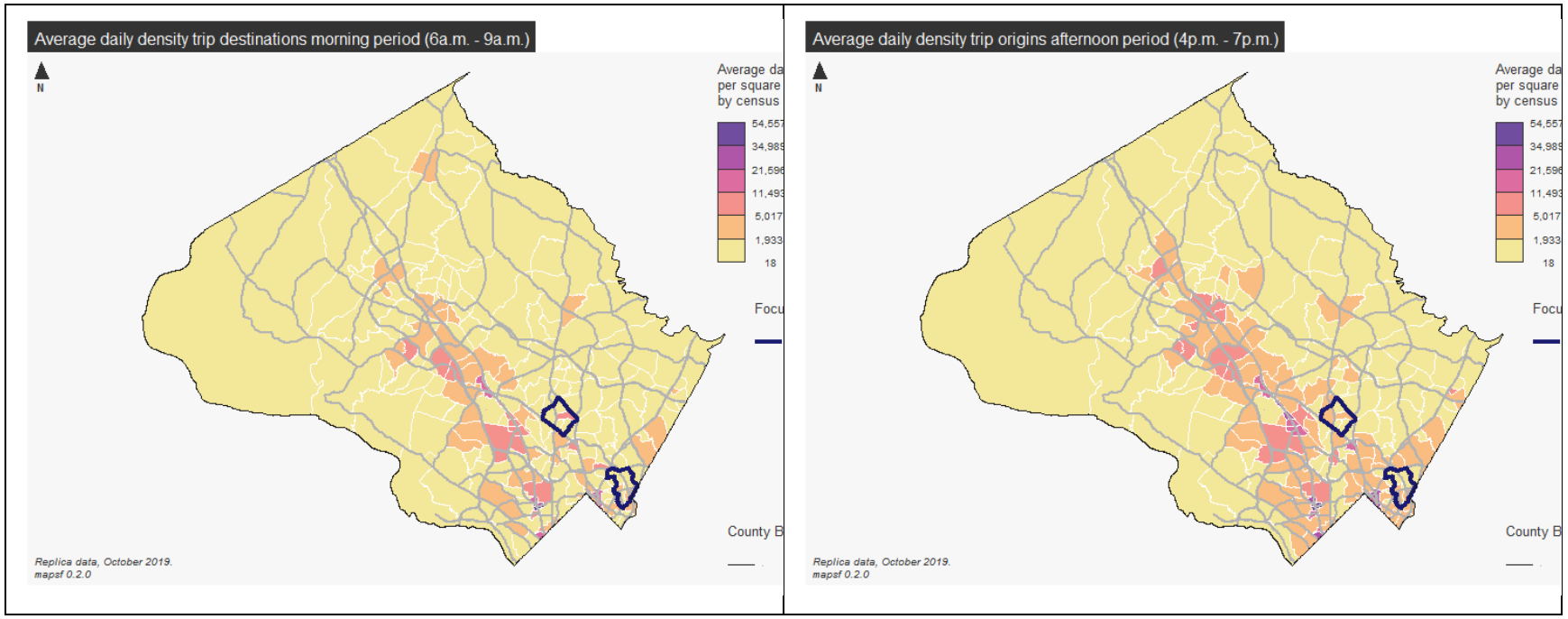
Figure 5 – Total trip destinations by census tract, morning and afternoon peak periods



Density trips by census tract

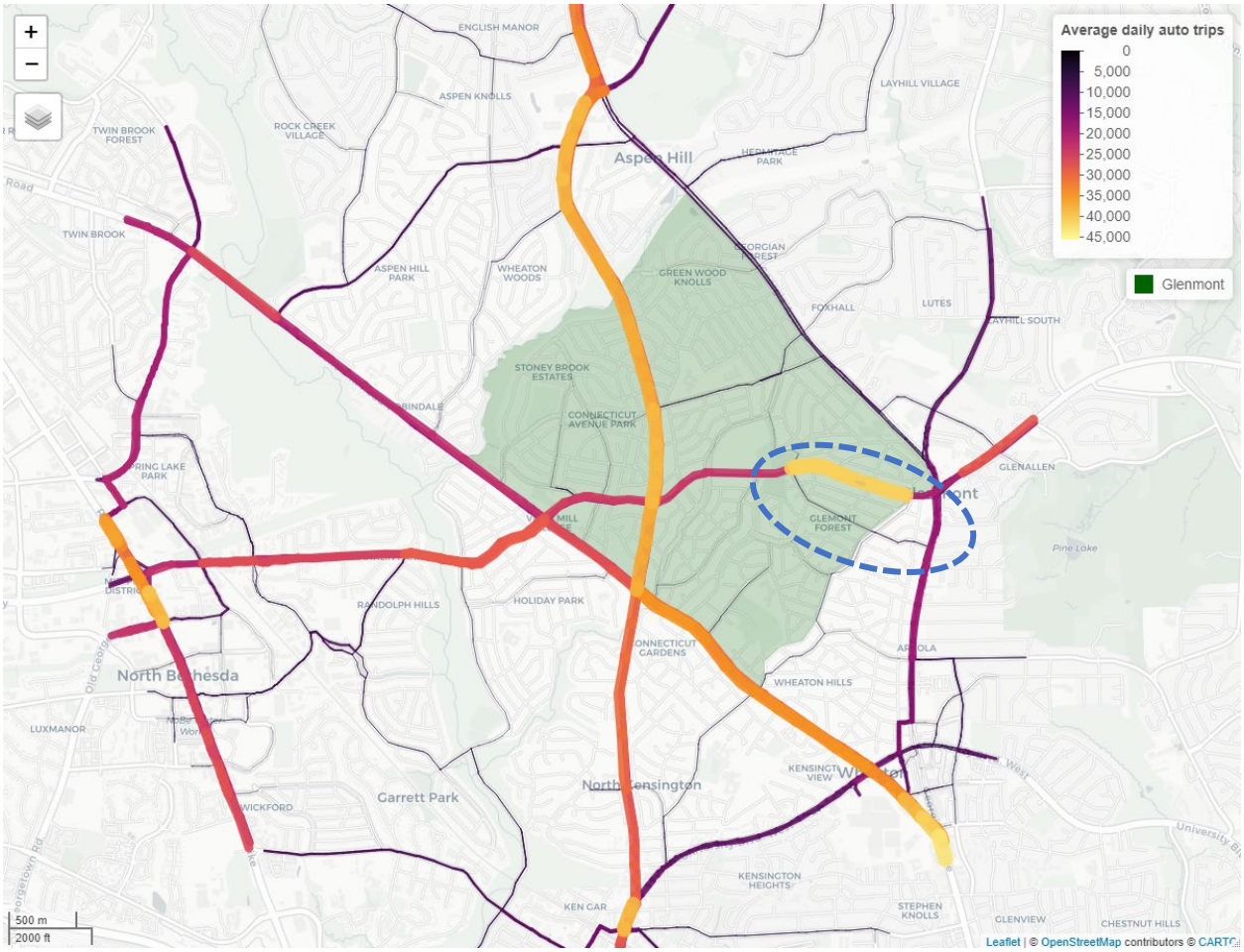
Figure 6 shows the density of trip destination in the morning and trip origination in the afternoon during the three-hour period. As expected, the areas with higher trip origination and density are along the I-270 corridor and Route 29 corridor. The concentration of trip density might be of particular concern for Montgomery County, since those areas are constrained along those key corridors, hence congestion on those backbone roads can encourage cut-through traffic into adjacent local neighborhoods.

Figure 6 – Trip origins and destinations per square mile



The analysis of origin and destination trips can help to establish regional flows and to obtain a snapshot of potential conflict areas or areas susceptible for cut-through traffic. Nonetheless, a more detailed evaluation will require traffic analysis at street level. For Montgomery County, data at network level was available through Replica's Places platform.[1] Figure 7 shows the average weekday auto trips in the streets surrounding Glenmont neighborhood. Connecticut Avenue cuts Glenmont north-south with up to 45,000 daily trips, some of those trips travel east on Randolph Road and potentially merge to Georgia Avenue. A potential opportunity to cut this route would be through Lindell Street (blue circle). The major arterials around Glenmont carry between 45,000 and 10,000 daily trips, with most of that traffic concentrate around peak areas, cut through traffic seems very feasible through several local streets depending on the route, however, the next step to refine the analysis would be to determine if the trips are coming from afar or if they are close local trips.

Figure 7 – Average weekday auto trips, Glenmont Neighborhood



[1] This dataset was only available for the Montgomery case study area. In the absence of street-specific travel flows, the rest of case studies use Google Maps for qualitative assessment of potential cut-trough traffic.