

# Barren River Area Development District Regional Greenways Feasibility Study



## Existing Conditions Report

BARREN RIVER



November 2025



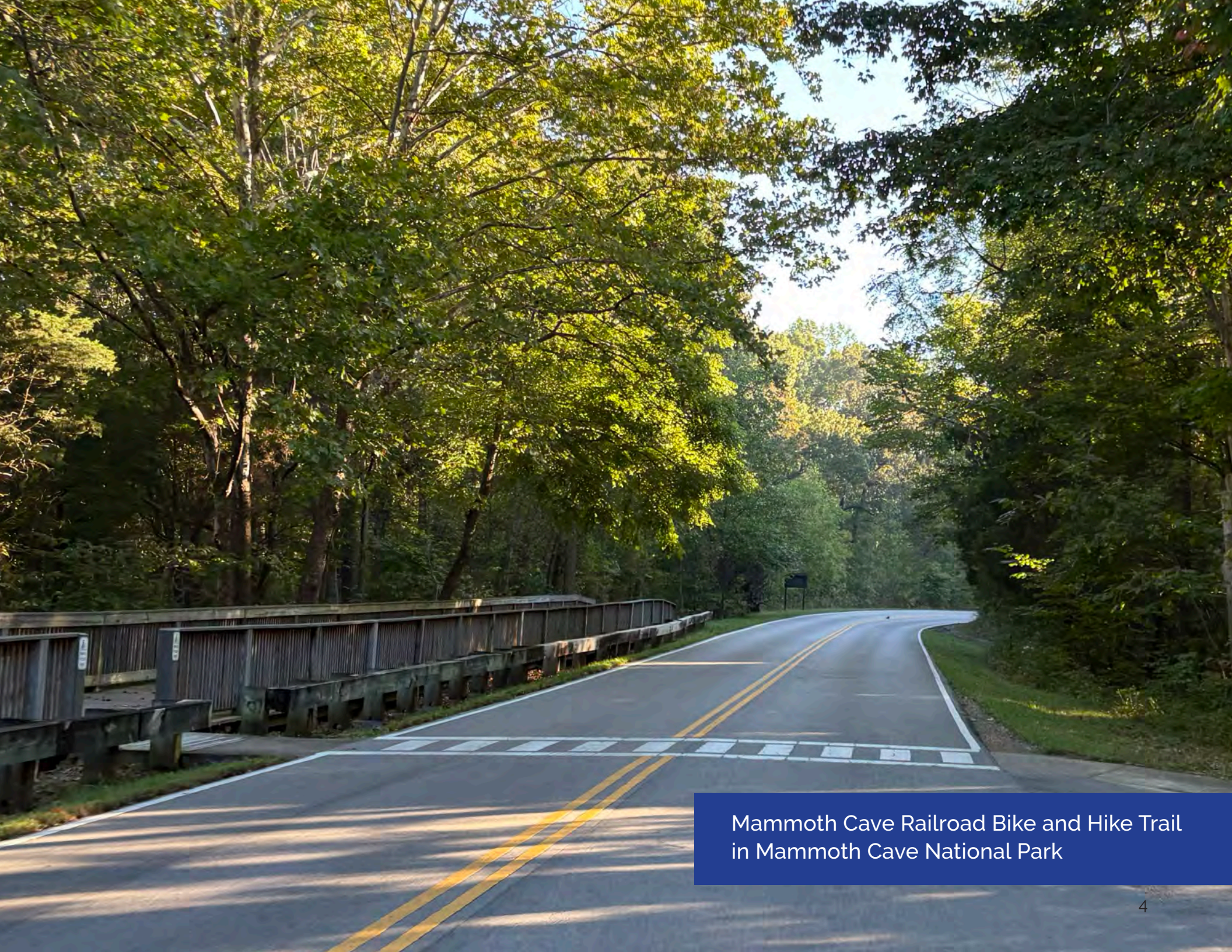
# Table of Contents

List of Figures .....	3
Introduction .....	5
Review of Legacy Plans .....	7
Existing Conditions .....	14
Population .....	14
Transportation Characteristics .....	28
Land Use and Environmental Characteristics .....	44
Endnotes .....	53



# List of Figures

Figure 1: Study Area Map .....	6	Figure 20: Crashes Involving Pedestrians, by Severity . . . .	35
Figure 2: Population Density .....	15	Figure 21: Crashes Involving Bicycles, by Severity .....	36
Figure 3: Population Under 18 Years Old .....	16	Figure 22: Speed Limits .....	37
Figure 4: Population 55 Years and Older .....	17	Figure 23: Bridges .....	38
Figure 5: 2025-2050 Population Growth .....	18	Figure 24: Truck Routes .....	39
Figure 6: Employment Density .....	19	Figure 25: Rail and Railroad Crossings .....	40
Figure 7: Percent of Population Who Take Transit to Work .	21	Figure 26: Overhead Utilities .....	41
Figure 8: Percent of Population Who Walk to Work .....	22	Figure 27: Water and Sewer Utilities .....	42
Figure 9: Percent of Population Who Bike to Work .....	23	Figure 28: Oil and Gas Utilities .....	43
Figure 10: Transportation Cost Burden .....	24	Figure 29: Parks and Greenspace .....	45
Figure 11: Percent of Households with No Vehicle .....	25	Figure 30: Elevation .....	46
Figure 12: Social Vulnerability Index – Socioeconomic Theme .	26	Figure 31: Land Cover .....	47
Figure 13: Areas of Persistent Poverty .....	27	Figure 32: Karst and Sinkholes .....	48
Figure 14: Existing Multi-Use Paths, Bike Lanes, and Water Trails .	29	Figure 33: Soil .....	49
Figure 15: U.S. and Kentucky Bike Routes and Scenic Byways .	30	Figure 34: Flood Hazard Areas .....	50
Figure 16: Existing Sidewalk .....	31	Figure 35: Wetlands .....	51
Figure 17: Community Resources .....	32	Figure 36: Historical Landmarks and Places .....	52
Figure 18: Schools and Childcare Facilities .....	33		
Figure 19: All Crashes Density .....	34		



Mammoth Cave Railroad Bike and Hike Trail  
in Mammoth Cave National Park

# Introduction

## Study Overview

In the past several decades, interest in outdoor recreation and active transportation in South Central Kentucky has grown. Walking, running, and cycling have become increasingly important for both quality of life and regional economic development. However, across much of the Barren River Area Development District (BRADD) region, there is limited bicycle and pedestrian infrastructure and few established long-distance trail systems. This creates gaps in accessibility, safety, and connectivity between communities and destinations.

Recognizing this need, BRADD seeks to expand upon previous trail planning efforts, including the Bowling Green to Mammoth Cave National Park Feasibility Study, by pursuing a comprehensive, regionwide greenways initiative. Building on federal support through a U.S. Department of Transportation RAISE grant, and with support from local leaders, the Regional Greenways Feasibility Study will explore opportunities to add trails in all ten BRADD counties: Allen, Barren, Butler, Edmonson, Hart, Logan, Metcalfe, Monroe, Simpson, and Warren. Figure 1 shows this study area. The study will provide a roadmap to improve recreation, mobility, and economic vitality through a connected regional trail network.

## Study Purpose

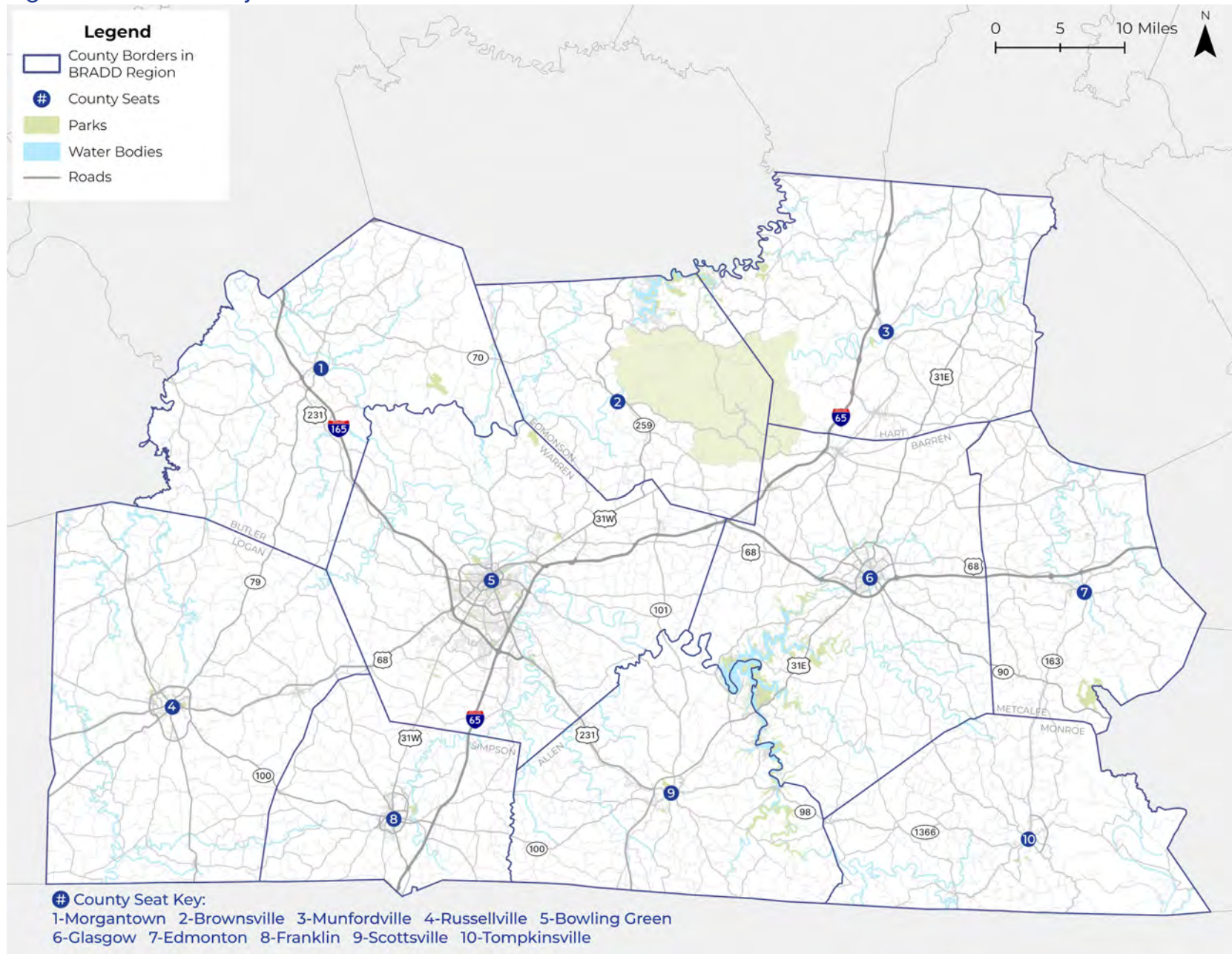
The purpose of the BRADD Regional Greenways Feasibility Study is to develop a plan for an interconnected trail system that links communities across the ten-county region, enhances bicyclist and pedestrian safety, and identifies opportunities for recreation, tourism, and alternative transportation. The study will evaluate potential greenway alignments, assess environmental considerations, and propose branding, wayfinding, and maintenance strategies needed to support long-term implementation.

## Study Goals

The supporting goals for this proposed shared-use network include:

- Explore the feasibility of an interconnected greenway system for the region that can provide recreational opportunities and alternatives to motor vehicle travel.
- Improve safety, comfort, and accessibility for bicyclists and pedestrians traveling between communities in the BRADD region.
- Strengthen regional connectivity by linking county seats, key destinations, and existing local trails into a cohesive network.
- Support economic development and tourism by creating a recreational asset that highlights the natural and cultural character of South Central Kentucky.
- Identify environmentally-friendly trail alignments and outline maintenance strategies to enhance long-term viability.
- Engage stakeholders and the public to build consensus, promote community ownership, and guide future implementation and funding opportunities.

**Figure 1. BRADD Study Area**



Source: BRADD GIS, KYTC GIS

# Review of Legacy Plans

This section summarizes past and ongoing planning efforts across the BRADD region that influence the development of a trail and greenway network. Reviewing these community, regional, and statewide legacy plans helps identify existing goals, proposed corridors, and previous recommendations related to bicycle, pedestrian, and trail networks. Together, these plans establish an important foundation for understanding current conditions, aligning regional priorities, and highlighting opportunities to connect communities through a unified greenway system.

## Local Plans & Studies



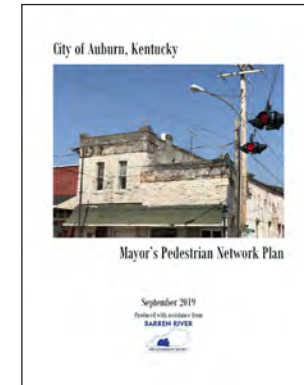
### Bowling Green & Warren County Metropolitan Planning Organization 2050 Metropolitan Transportation Plan (2025)

This section summarizes past and ongoing planning efforts across the BRADD region that influence the development of a trail and greenway network. Reviewing these community,

regional, and statewide legacy plans helps identify existing goals, proposed corridors, and previous recommendations related to bicycle, pedestrian, and trail networks. Together, these plans establish an important foundation for understanding current conditions, aligning regional priorities, and highlighting opportunities to connect communities through a unified greenway system.

### City of Auburn - Mayor's Pedestrian Network Plan (2019)

Completed in 2019, the Auburn Mayor's Pedestrian Network Plan identifies pedestrian infrastructure needs focused on improving pedestrian accessibility, connectivity, and safety along Auburn's Main Street (US 68X), College Street (KY 103), and access routes to the Auburn McCutchen-Coke Municipal Park. The plan calls for completing unconnected sidewalk segments, and repairing deteriorated or non-ADA compliant sidewalks and railroad crossings to enhance accessibility between the city's downtown, residential areas and community facilities.

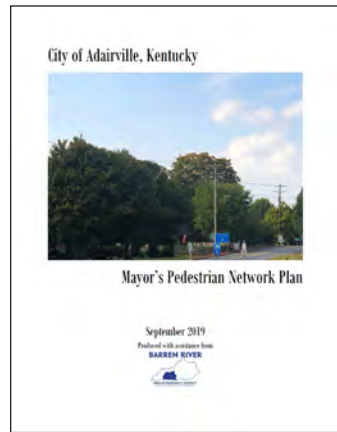


### Scottsville, Allen County, KY Pedestrian & Bicycle Master Plan (2025)



Completed in 2025, the Scottsville Bicycle and Pedestrian Master Plan outlines strategies to improve safety, accessibility, and connectivity for walking and biking. The plan recommends repairing sidewalks, adding new paths and crosswalks, and creating bike facilities along Main Street, Gallatin Road, and College Street. It supports community health, mobility, and economic growth by linking downtown Scottsville with parks, schools, and neighborhoods through future sidewalk and bike route networks.

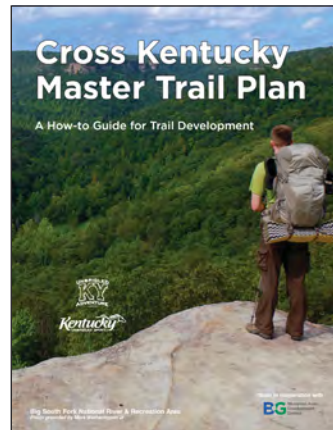
## City of Adairville - Mayor's Pedestrian Network Plan (2019)



Completed in 2019, the Adairville Mayor's Pedestrian Network Plan identifies key infrastructure needs centered on expanding sidewalks, crosswalks, and ADA accessibility along Main Street (US 431), Church Street (KY 2145), and key residential corridors including Gallatin Street, High Street, and School Avenue. The pedestrian infrastructure recommendations are prioritized over seven phases, with each successive phase extending further from the city center on Main Street.

## Cross Kentucky Master Trail Plan: A How-to Guide for Trail Development (2015)

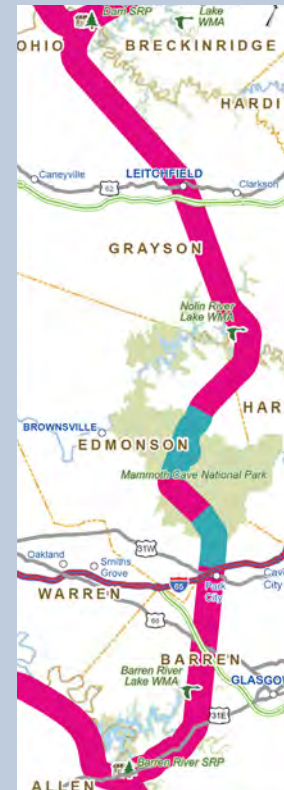
Completed in 2015, Cross Kentucky Trails envisions trail routes that provide interconnection between existing long-distance trails, state and national park trails, forest trails, and communities across the Commonwealth of Kentucky. It discusses the Kentucky Trail Town Program, which is an official tourism development designation through the Office for Adventure Tourism.



Recommendations from the Cross Kentucky Master Trail Plan relevant to the BRADD region include:

### *Kentucky Cave Trail*

This trail is proposed to begin at the Barren River State Recreation Park, head north to Park City through the Mammoth Cave National Park and continue through to Nolin Lake.



### *Trans Kentucky Trail*

The trail is proposed to flow east-west through Russellville and Auburn along US 68 into Warren County, finally connecting to the Barren River State Recreation Park. From the park, the trail continues on to Tompkinsville and the Old Mulkey Meetinghouse State Historic Site through to Cumberland County.

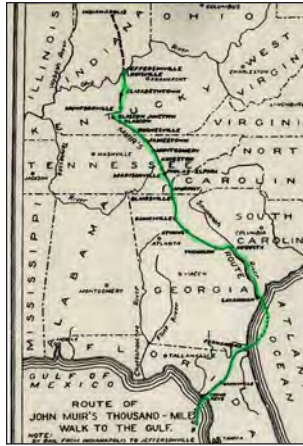


### *River Trails*

Trails along the Green River, Barren River, Gasper River, and Drakes Creek.



## John Muir Legacy Trail (In Progress)



The John Muir Legacy Trail (JMLT) is a developing initiative inspired by naturalist John Muir's book *A Thousand-Mile Walk to the Gulf*, written about his 1867 journey from Kentucky to Florida. The vision for the JMLT is to

create a regional trail system following Muir's route through the Commonwealth, celebrating both his legacy and Kentucky's natural beauty. The first phase, a 35-mile greenway linking Louisville to Elizabethtown, is being supported by the National Park Service's Rivers, Trails, and Conservation Assistance Program. From Elizabethtown, the future JMLT would continue south to Munfordville, then Glasgow, and onward to Burkesville, therefore it would traverse through the BRADD region.

## Barren County - Comprehensive Plan (2019)

The Barren County Comprehensive Plan provides a source of community information and a guide for identifying community goals and objectives in all of Barren County, including Park City in the eastern fringe of the focus area of the Bowling Green to Mammoth Cave Trail Feasibility Study. The plan identifies and evaluates inadequate facilities, provides an estimate of future development needs, acts as a device to coordinate development actions, and stimulates public interest.



Two critical elements of the Comprehensive Plan are the Glasgow Alternative Transportation Endeavour (G.A.T.E.). The

G.A.T.E. Plan provides a master greenway plan that proposes a comprehensive system of trails and corridors for active transportation within Glasgow.

## Park City Pedestrian and Bicycle Travel Feasibility Study (2024)

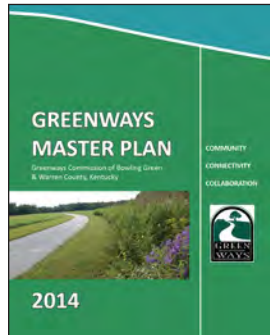
The Pedestrian and Bicycle Travel Feasibility Study for Park City documents the current and future potential conditions for pedestrian and bicycle travel along the KY 255 corridor between



downtown Park City and the entrance to Mammoth Cave National Park. The study determined that it is feasible to include a dedicated facility for walking and bicycling along the KY 255 corridor (0.36 miles in length) as part of its future reconstruction.

The study recommends three options for corridor improvements, organized by the degree of separation between shared-use paths and vehicle traffic as well as overall cost. The study emphasizes that walking and bicycling can provide numerous benefits to individuals and the community.

## Warren County Greenways Master Plan (2014)



The 2014 Greenways Master Plan for Warren County is an update to a plan previously completed in 1998 which aims to create a systematic expansion framework for greenways trails throughout

the community, to pursue all potential opportunities to secure long-term funding for trail construction, and to present strategies for the Greenways Commission to establish a sustainable public presence in Bowling Green and Warren County. The plan emphasizes supporting regional efforts, including the development of regional bike routes like the Mammoth Cave Connection and a bike route into Tennessee. The plan recommends establishing a Downtown Greenway along Avenue of Champions through several parks along with a greenway along Old Louisville Road to connect areas in the eastern end of the City.

## Bowling Green – Warren County Metropolitan Planning Organization - Bicycle and Pedestrian Master Plan (2022)



The Bicycle and Pedestrian Master Plan is a comprehensive effort designed to guide local agencies in developing context-sensitive bicycle and pedestrian infrastructure throughout Warren County. The goal of the master plan is to create a safe, convenient, and viable bicycle and pedestrian transportation network to connect people to places in an effort to enhance economic development, improve social and physical health, and create space for recreational and natural fulfillment.

A key recommendation is the development of regional trails such as the Bowling Green to Mammoth Cave trail. Other recommended shared use paths include the North Ridge Connection, Corvette Museum Greenway, and the Bristow-Ephram White Connection.

## Warren County - Focus 2030 Comprehensive Plan (2012, Last Amended in 2023)

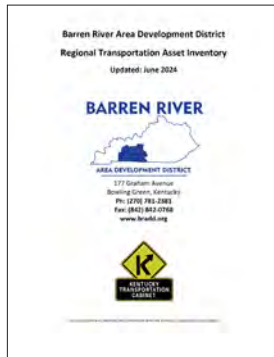
The Focus 2030 Comprehensive Plan is the countywide comprehensive plan that redefines Warren County's approach towards land use, superseding the 1990 Comprehensive Plan. First adopted in 2012 and last amended in 2023, Focus 2030 strives to instill clarity, predictability, and transparency in the development review process, advocating for reasonable development standards and flexibility to adapt to changing real estate markets. Focus 2030 also sets forth a priority of balancing urban and suburban growth with rural preservation. The plan includes a Future Land Use map, park needs, and ongoing/recommended transportation projects.



Lastly, Focus 2030 updates rural village plans that were first developed in the 1990 Comprehensive Plan, and within the focus area for the Bowling Green to Mammoth Cave Trail Feasibility Study, there are two focal point plans - Oakland and Smiths Grove. Both plans provide policy and land use recommendations to promote recreational opportunities and preserve the town's rural village identities.

## BRADD Regional Transportation Asset Inventory (2024)

The BRADD Regional Transportation Asset Inventory supports the Kentucky Transportation Cabinet's (KYTC) Statewide Transportation Planning process. Designed to promote



inclusiveness in the planning process by involving local leaders, elected officials, the public, and other stakeholders, this inventory serves as a tool for identifying and reaching consensus on regional transportation plans and challenges. The document primarily evaluates highway and freight related assets, such as truck parking; however, it also includes scenic bikeways, such as the US 68 Heritage Corridor, as well as park and ride facilities in the region. BRADD's inclusion of these assets signals an inherent elevation of their priority in active transportation efforts.

## Statewide Bicycle and Pedestrian Master Plan (2022)

KYTC last updated its Statewide Bicycle and Pedestrian Master Plan in 2022 to align with its mission to provide a safe transportation system for all users. The plan inventories the Commonwealth's current bicycle and pedestrian networks, identifies current policies, programs, and tools available to support active transportation, and establishes a framework for advancing active transportation over the next few years.

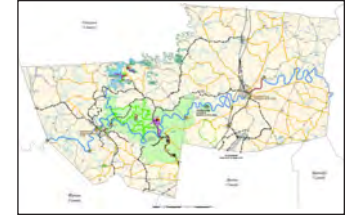
The Plan discusses existing KYTC manuals and guides that are informative for active transportation planning along state



routes including the Planning Guidance Manual, Highway Design Manual, KYTC Complete Streets, Roads, and Highways Manual, and ADA Transition Plan. Policy recommendations in this Bicycle and Pedestrian Master Plan include enacting the KYTC Complete Streets Manual, considering active transportation in project development and prioritization, improving data collection, and supporting local public agencies in implementing bicycle and pedestrian projects.

## Cave Country Trails Initiative

The Cave Country Trails Master Planning Study was completed in 2017 and is a composite of



trail corridor recommendations based on community input from a series of Trail Planning Workshops completed in Barren, Edmonson, Hart, and Warren Counties in a partnership with the Cave Country Trails Initiative and the National Park Service (NPS). The types of trails considered include equestrian trails, blueways, greenways, soft surface hiking trails, and mountain biking trails.

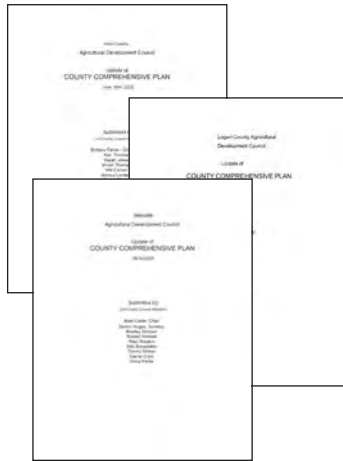


A connection between Bowling Green and Mammoth Cave National Parks was one of the

key recommendations to come out of this planning effort. The master plan includes a proposed multi-use path connecting Glasgow to Horse Cave and Munfordville.

## County Comprehensive Plan Update - Logan, Allen and Metcalfe County

In June of 2025, the Agricultural Development Committees of Logan, Allen and Metcalfe Counties updated their County Comprehensive Plans to identify programs and projects best



suites for agricultural development fund investments in each respective county. The plans identify agricultural assets and statistics, short-term and long-term goals, tactics for leveraging funds, as well as procedures for review of development proposals. Challenges for the agricultural industries include a lack of available labor, increasing costs of operation, rising real estate costs due to expanding non-agricultural land uses, difficult terrain and soil, and low commodity prices squeezing farmers. New and exciting opportunities for the area include expanding farmers markets and agriculture-based businesses settling in the area.

## Brownsville-Edmonson County Comprehensive Plan (1997, Last Amended in 2023)



The Edmonson County Comprehensive Plan aims to enhance the region's commercial and industrial sectors while improving overall livability. The plan advocates for environmentally sensitive

development practices and the provision of public services, community facilities, and recreational spaces. The plan also emphasizes the judicious development of land, encouraging diverse land uses, and to improve the transportation system.

## Franklin Forward 2045: A Comprehensive Plan for Franklin-Simpson County (2024)



The Franklin Forward plan provides a 20-year vision to manage growth, guide land use, and enhance quality of life through coordinated planning and infrastructure

investment. The plan emphasizes preserving the community's small-town character, supporting economic development, protecting natural resources, and improving transportation connectivity. The plan calls for the development of a county-wide greenway master plan that would propose a system of trails that connect existing and future parks to downtown Franklin.

## The Hart County Strategic Plan (2022)

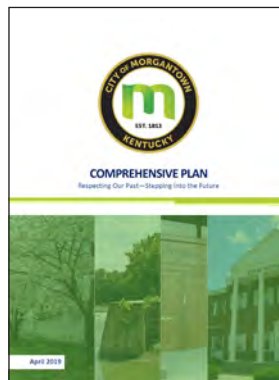


BRADD's County Strategic Plan for Hart County outlines a community-driven framework to strengthen resilience, foster economic growth, and improve quality of life through goals in housing, infrastructure, transportation, and workforce development. The plan recommends studying sidewalks, bike lanes, and

multi-use trails, expanding recreational opportunities, and enhancing safety for drivers, cyclists, and pedestrians.

## The City of Morgantown Comprehensive Plan (2019)

The City of Morgantown Comprehensive Plan (2019) focuses on guiding growth and revitalization through improved infrastructure, downtown development, and the expansion of housing and economic opportunities. The plan promotes sustainable land use, preservation of community character, and enhancement of public facilities. The plan includes recommendations for new recreational facilities along the river including walking trails, picnic areas and an outdoor amphitheater.



## Bowling Green to Mammoth Cave Trail Feasibility Study (In Progress)

The Bowling Green to Mammoth Cave Trail Feasibility Study is an ongoing effort to examine opportunities for a dedicated, off-road multi-use trail linking Riverfront Park in Bowling Green to the Mammoth Cave Railroad Hike and Bike Trail terminus in Park City. Spanning portions



of Warren, Edmonson, and Barren Counties, the project seeks to enhance tourism, recreation, and economic development opportunities while improving bicycle and pedestrian connectivity across the Cave Country Region. The study evaluates multiple trail alignments, environmental and property considerations, and public input to identify a preferred route and a multi-year implementation strategy for advancing the corridor to design and construction. Much like this Regional Greenways Feasibility Study, the Bowling Green to Mammoth Cave project aims to establish regional trail connectivity; however, it is further along in having a defined project corridor and an engaged network of stakeholders, serving as a model for how other recommended greenway and trail projects can advance following completion of this regional plan.

# Existing Conditions

The project team explored existing conditions to contextualize the overall environment in which trail initiatives may be successful. This included an analysis of the population, transportation infrastructure and points of interest, and natural features of the study area.

## Population

Population data assessed as part of this analysis include population and employment density, projected growth, age distribution, commute modes to work, and socio-economic factors.

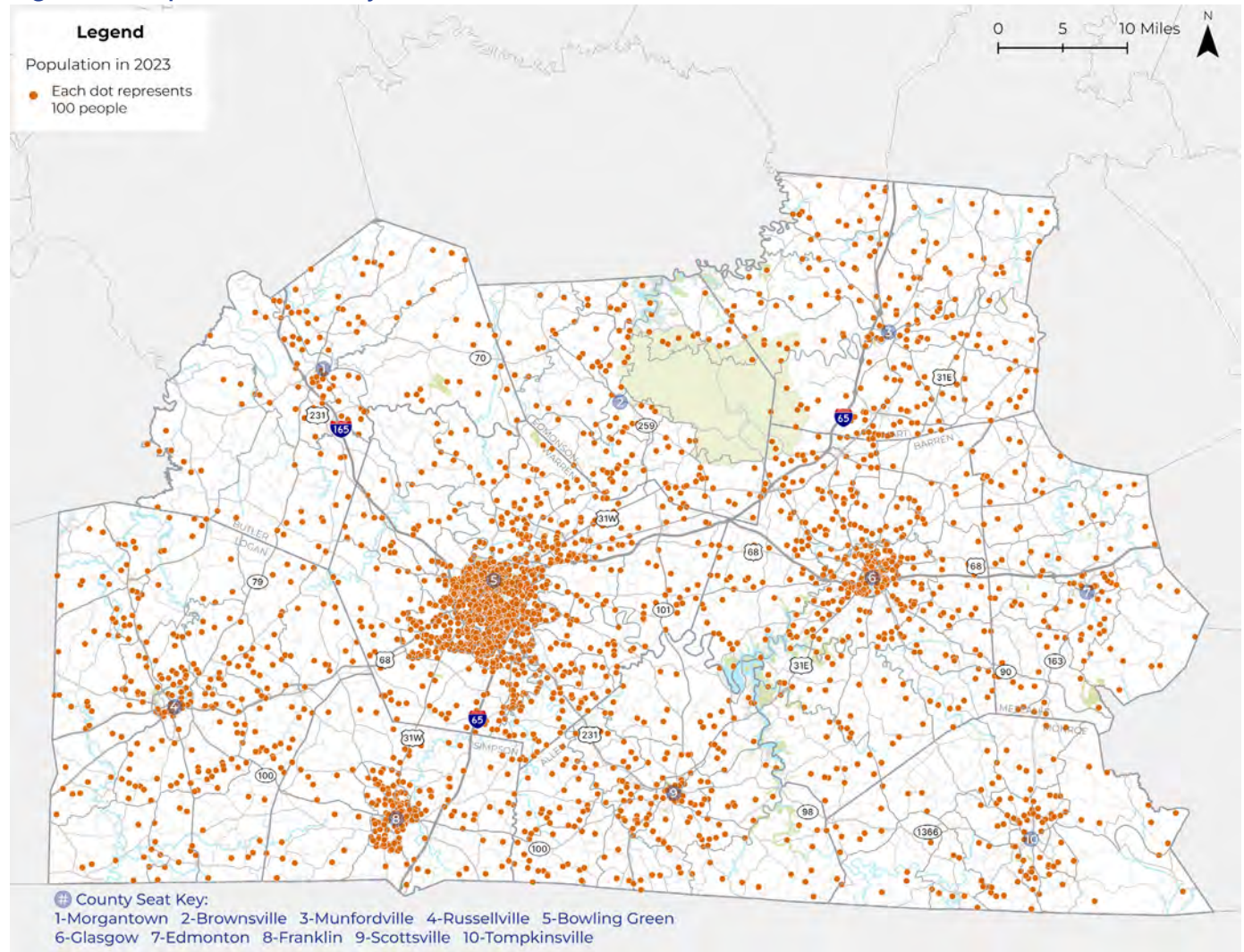


Main Street in Munfordville

## Total Population

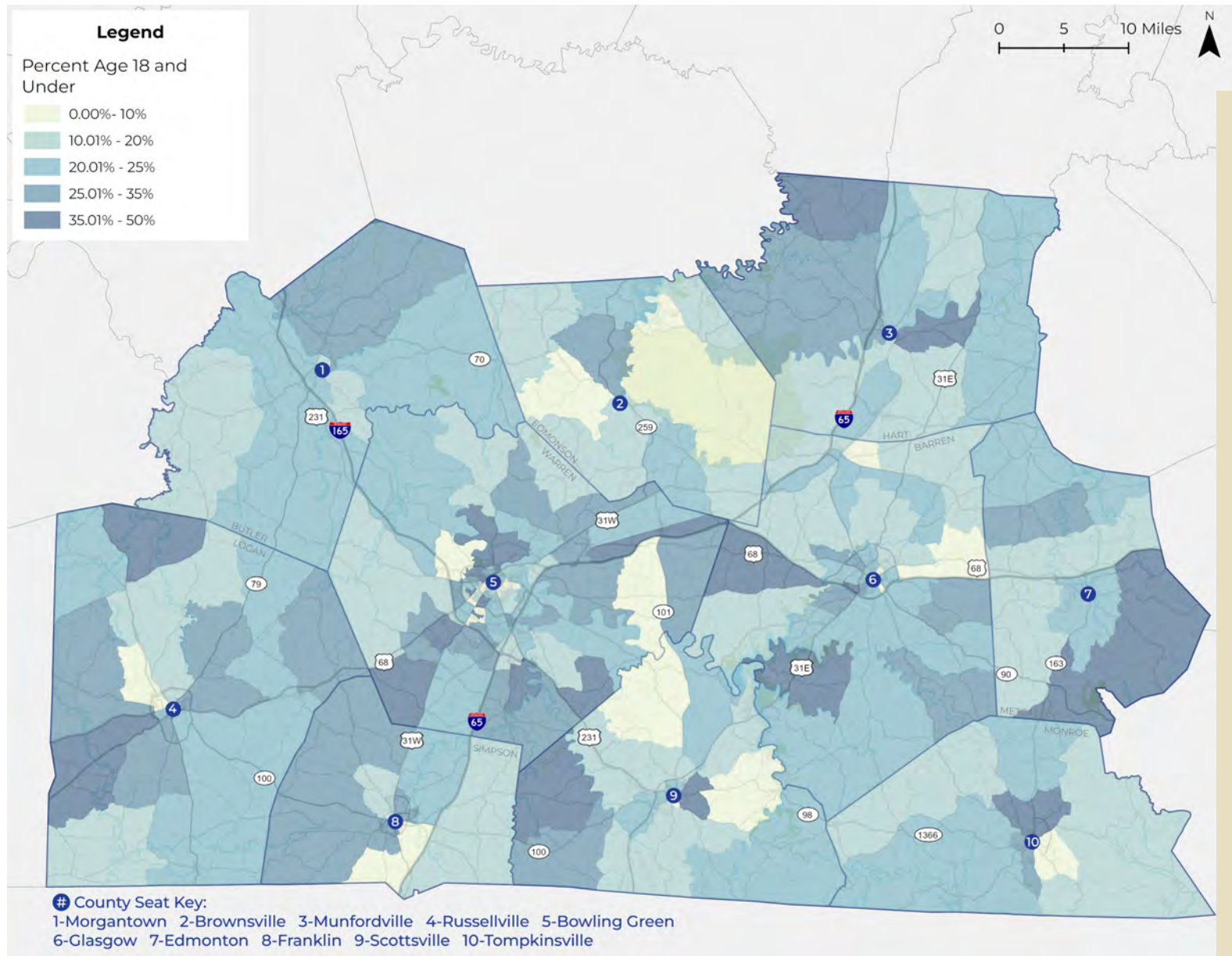
The total population for the BRADD region in 2023 was 316,541 and mainly concentrated around the cities that serve as the county seats for the 10 BRADD counties. Figure 2 shows population density across the region, with the highest populations found in Bowling Green, Glasgow, and Russellville.

**Figure 2. Population Density**



Source: U.S. Census American Community Survey Five-Year Estimates (2019-2023)

**Figure 3. Population Under 18 Years Old**

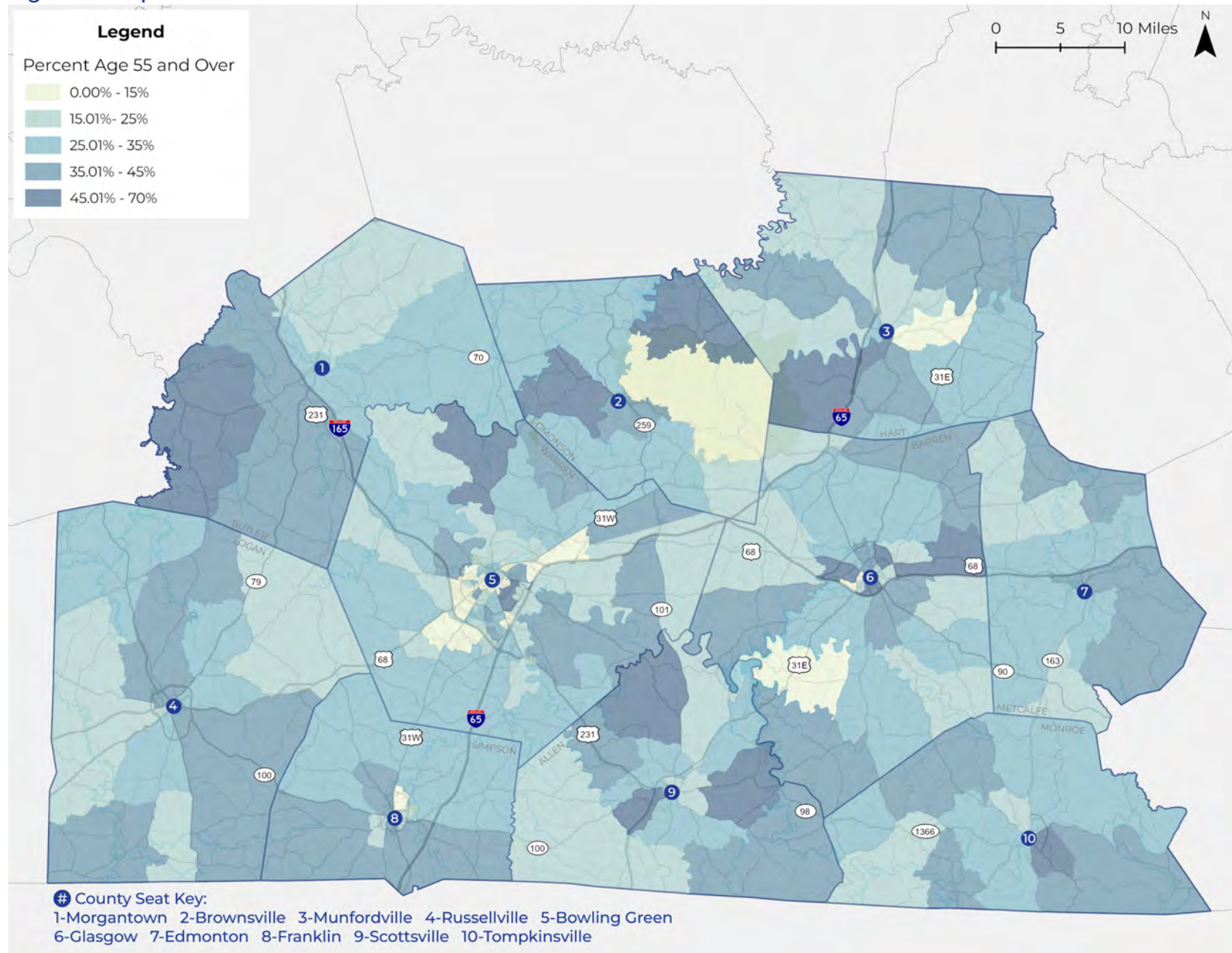


Source: U.S. Census American Community Survey Five-Year Estimates (2019-2023)

### Populations Under 18 Years and 55 Years and Older

The percentages of population under 18 years of age or 55 years and over show wide variability in age across the region, with no obvious clusters of block groups demonstrating greater concentrations of younger or older population in a certain area. These populations by percentage are shown in Figures 3 and 4.

**Figure 4. Population 55 Years and Older**

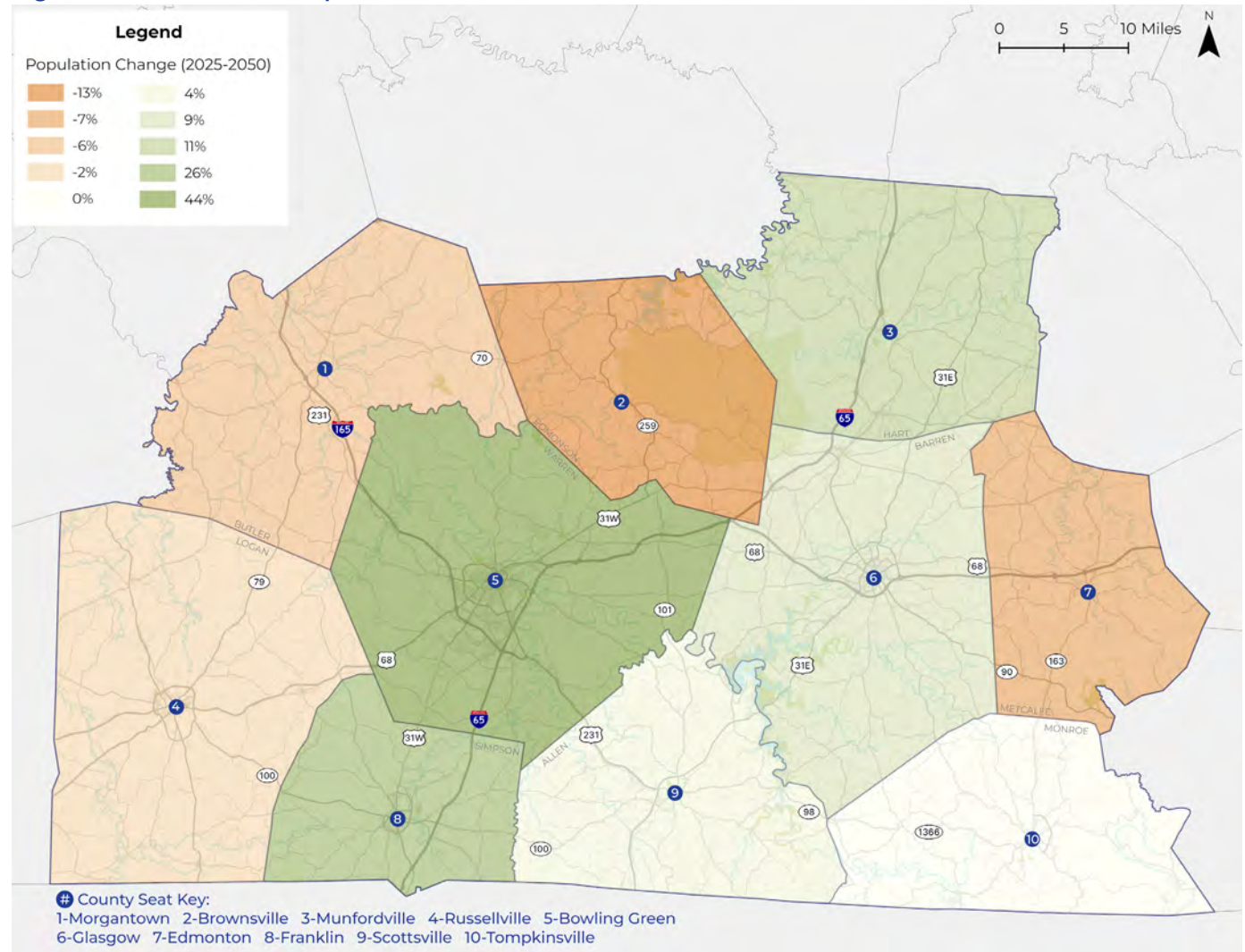


Source: U.S. Census American Community Survey Five-Year Estimates (2019-2023)

## Population Growth by 2050

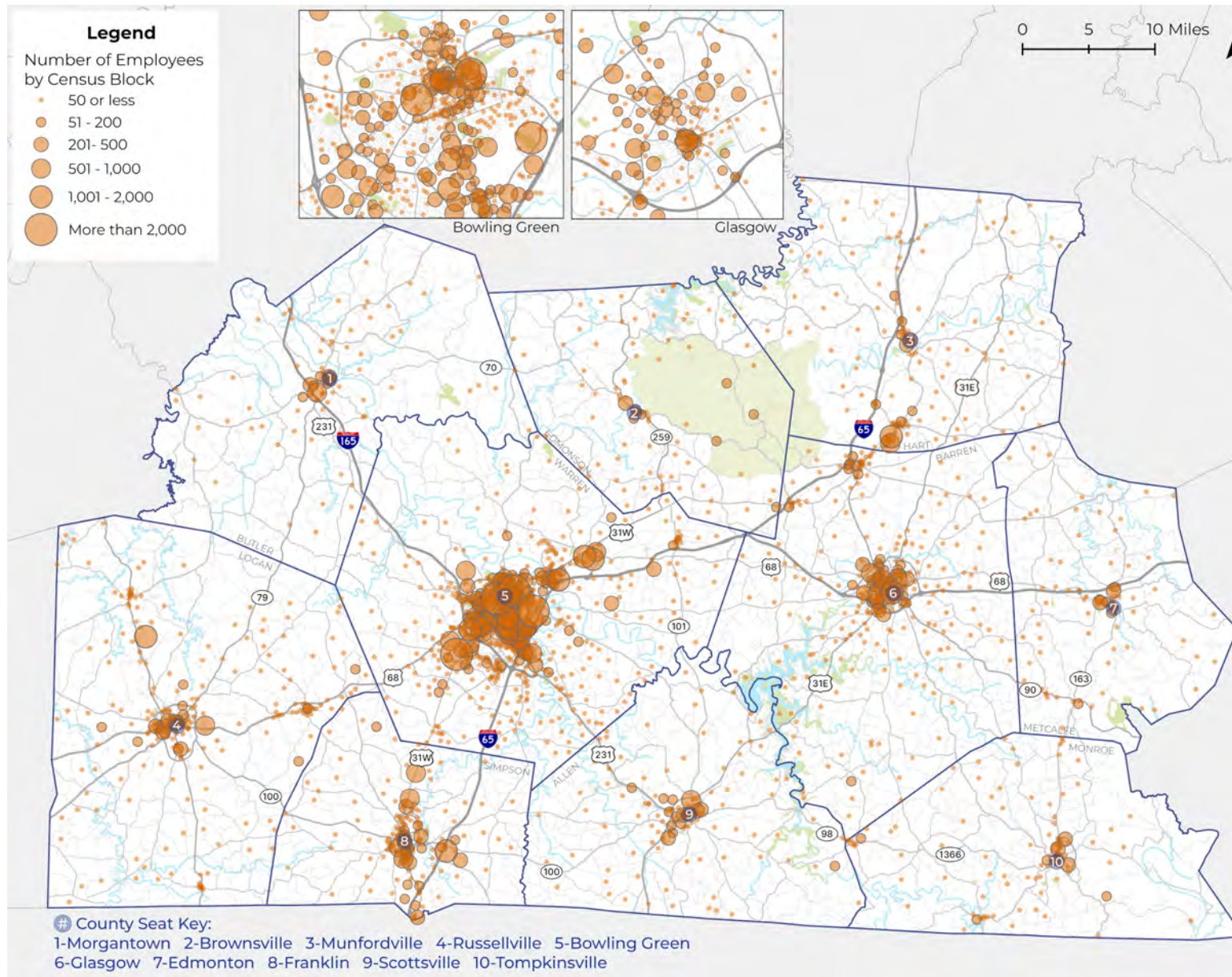
Population projections were available only at the county level and were used to calculate population change between 2025 and 2050, illustrated in Figure 5. Between 2025 and 2050, the populations of Logan, Butler, Metcalfe, and Edmonson Counties are anticipated to decline by two, six, seven, and 13 percent, respectively. Monroe County's population is estimated to remain the same. Five counties are expected to see increases in population including Allen (four percent), Barren (nine percent), Hart (11 percent), Simpson (26 percent), and Warren (44 percent) Counties.

**Figure 5. 2025-2050 Population Growth**



Source: University of Louisville Kentucky State Data Center

**Figure 6. Employment Density**



## Employment Density

Job density in the BRADD region is similar to population density where the greater concentrations tend to be in and around the county seats. However, Figure 6 also shows job clusters in Horse Cave and Cave City, both along US 31W to the southeast of Mammoth Cave National Park, and one large employer north of Russellville in Logan County, where an aluminum rolling mill employes over 1,500 people.

Source: U.S. Census Longitudinal Employer-Household Dynamics (2022)

## Commute Modes to Work

Figures 7-9 show the percentage of the population by block group that commute to work by walking, biking, or taking transit, respectively. In reality, people may use more than one mode in a single commute, such as combining walking and transit or walking with carpooling. Additionally, the data in these figures is for work commutes only and does not include trips made outside of work. While a person's workplace may be far from their home leading them to drive, they may choose walking, biking, or transit for shorter trips in their neighborhood such as going to the grocery store or park. Pedestrian and bicycle networks therefore benefit a greater portion of the population than reflected in the commute data alone.



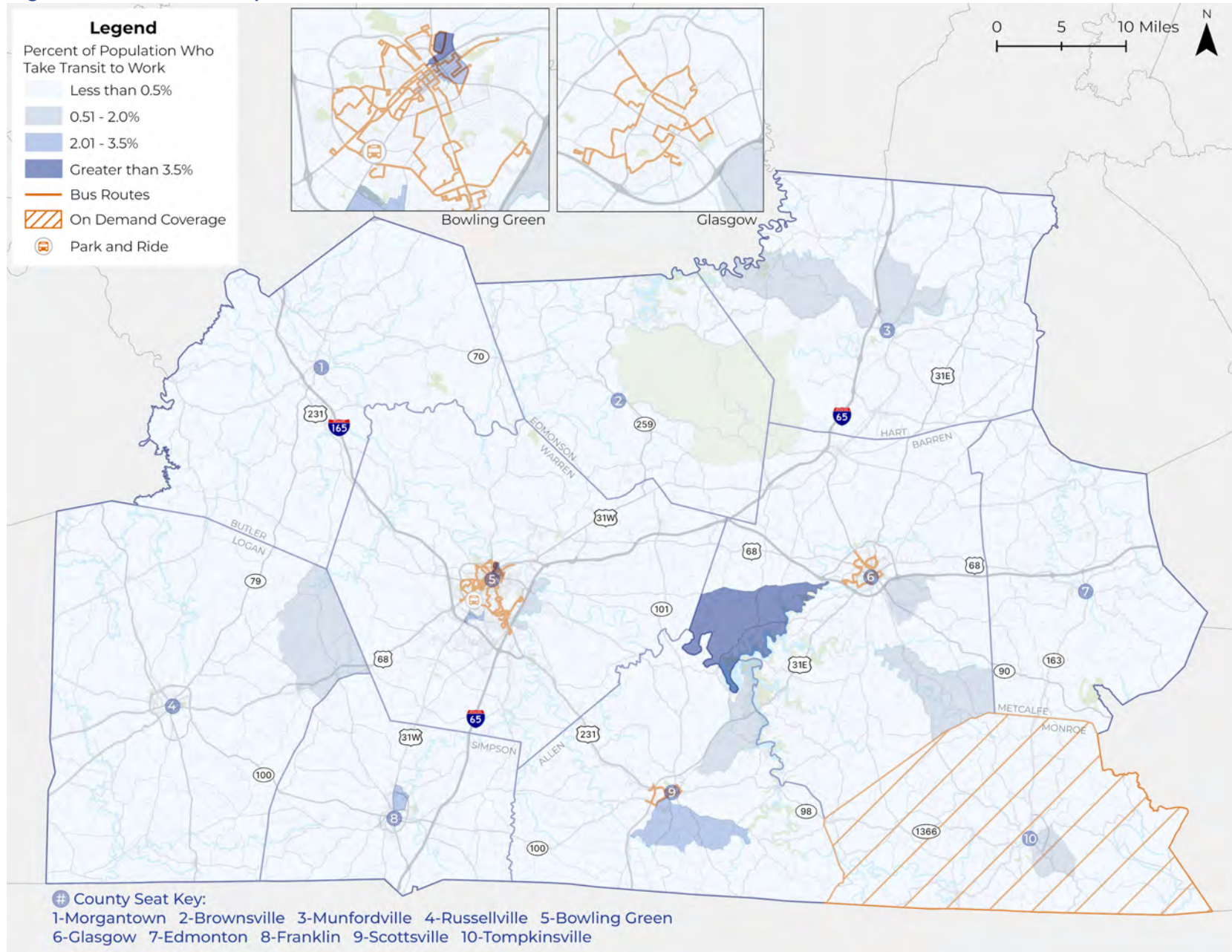
Pedestrian walking in Downtown Brownsville

## Transit to Work

Members of the BRADD population who use public transportation for their work commute reported taking the bus, subway or elevated rail, long-distance train or commuter rail, ferryboat, or taxi, with the bus being the most common option. While there are several transit providers in the region who offer bus transportation, the other modes of transportation may reflect reporting errors or individuals who commute to jobs outside the region where such services are available. The data nevertheless indicate that while fixed-route public transit access is limited across the BRADD region, there is some level of interest or dependence on alternative transportation options.

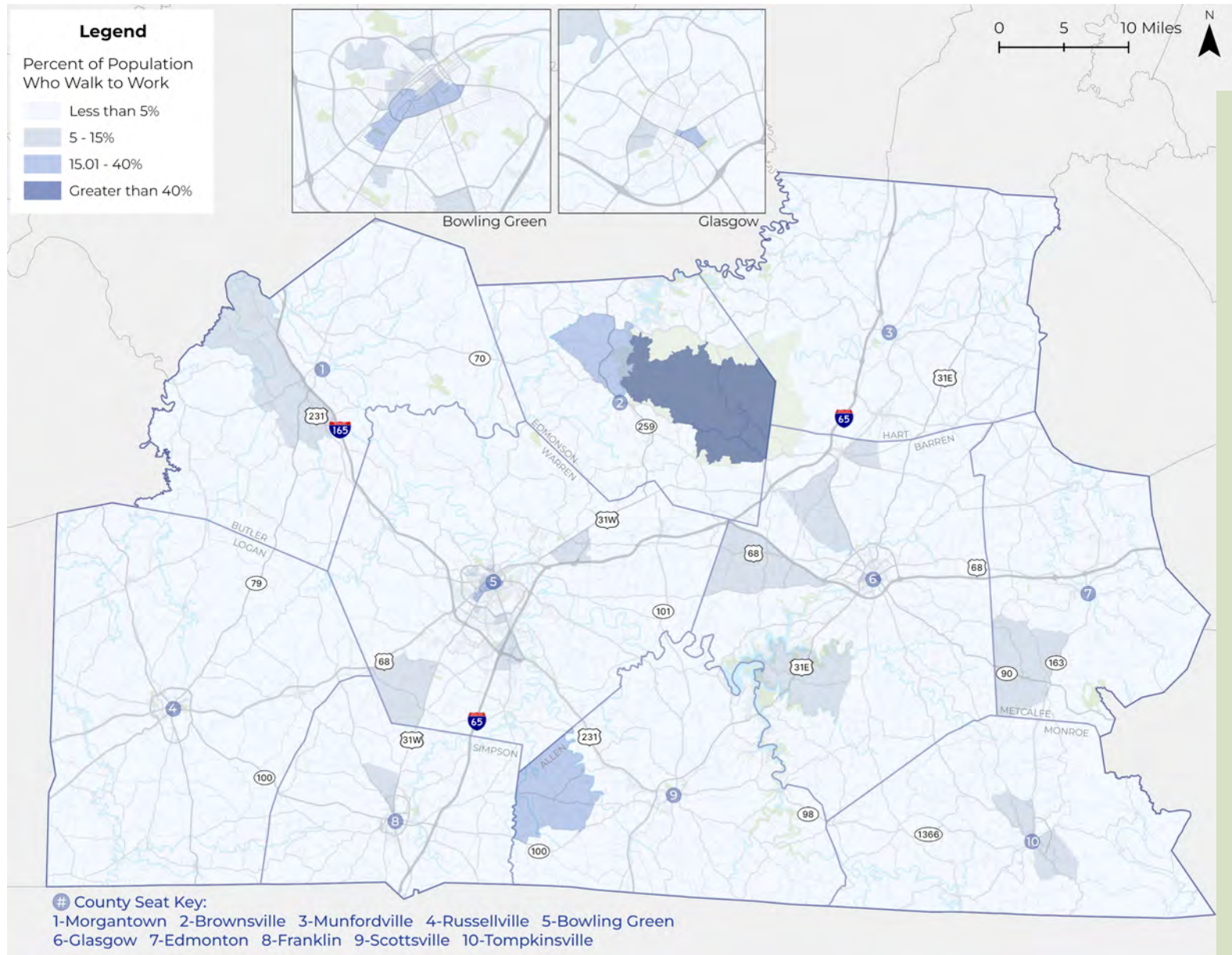
Figure 7 shows where these populations are located. Interestingly, the area with the highest percentage of public transportation riders, nearly 10 percent, is in western Barren County, which falls outside of Barren County's transit routes. The next highest percentage, nearly nine percent, is a neighborhood near downtown Bowling Green, while the remaining areas with between 1-3.5 percent are located across the region.

**Figure 7. Percent of Population Who Take Transit to Work**



Source: U.S. Census American Community Survey Five-Year Estimates (2019-2023)

**Figure 8. Percent of Population Who Walk to Work**

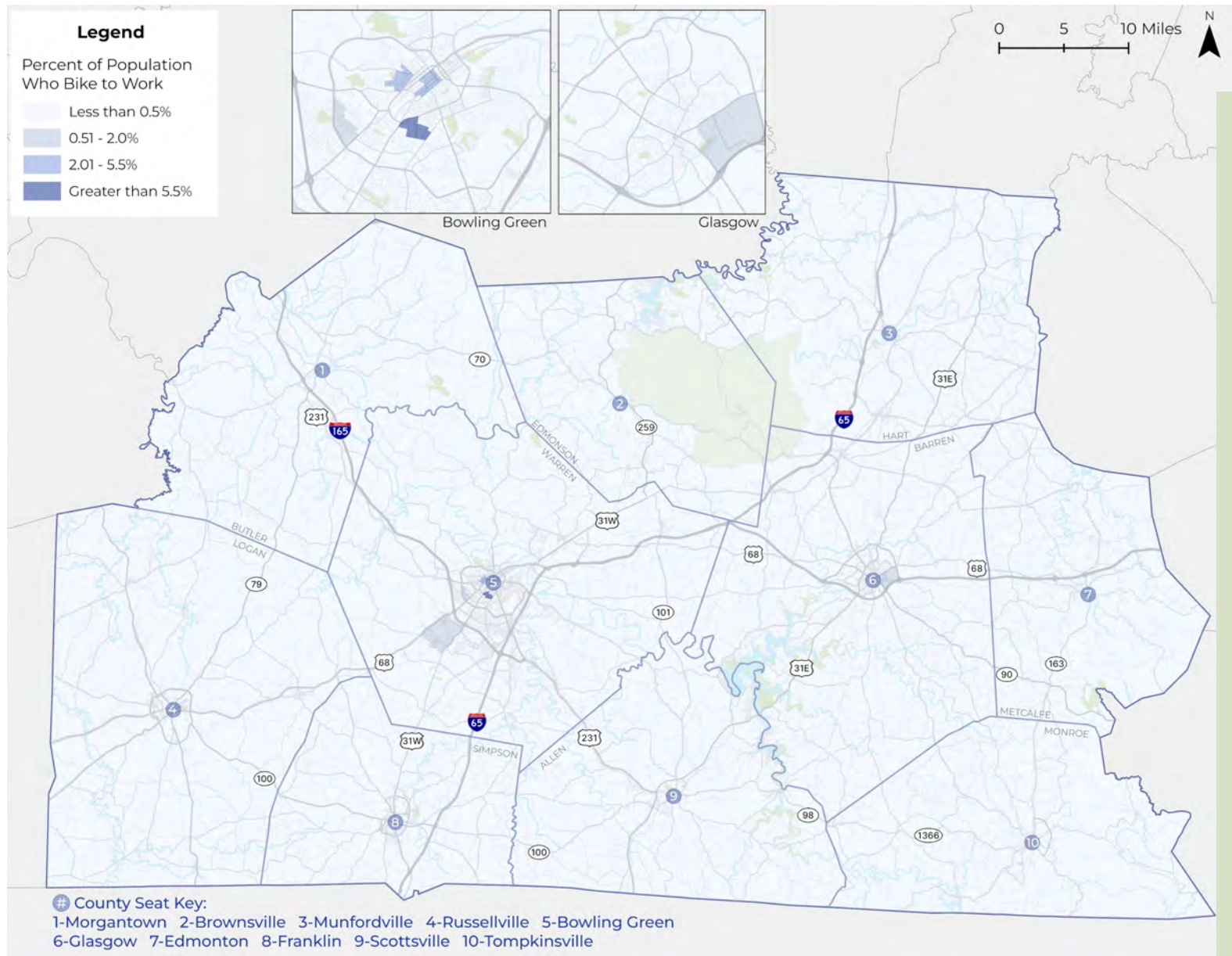


Source: U.S. Census American Community Survey Five-Year Estimates (2019-2023)

### Walk to Work

In the BRADD region, more people walk to work than bike or take transit. In Figure 8, the area with the darkest color, over Mammoth Cave National Park, is an outlier. While 70 percent of its population walks to work, the block group's total population is 27 people. Areas with 15 percent or more of their population walking to work are found near the downtowns of Bowling Green and Glasgow and in the block group west of Mammoth Cave National Park, north of Brownsville.

**Figure 9. Percent of Population Who Bike to Work**



### Bike to Work

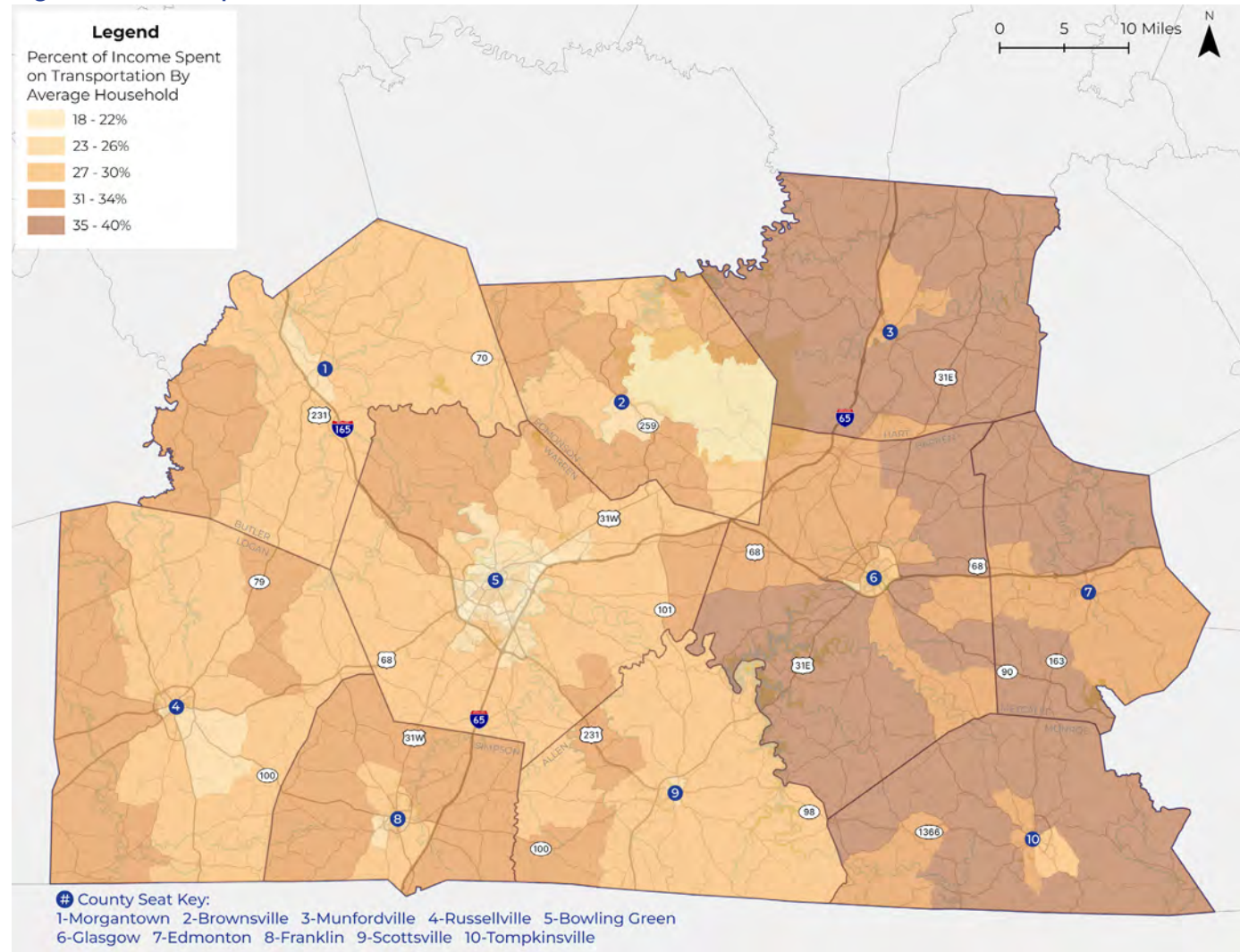
Biking to work is not common in the BRADD region, as shown in Figure 9. The three areas with more than three percent of the population biking to work are located in or near downtown Bowling Green. However, most of the BRADD region opts for another mode to get to and from work.

Source: U.S. Census American Community Survey Five-Year Estimates (2019-2023)

## Transportation Cost Burden

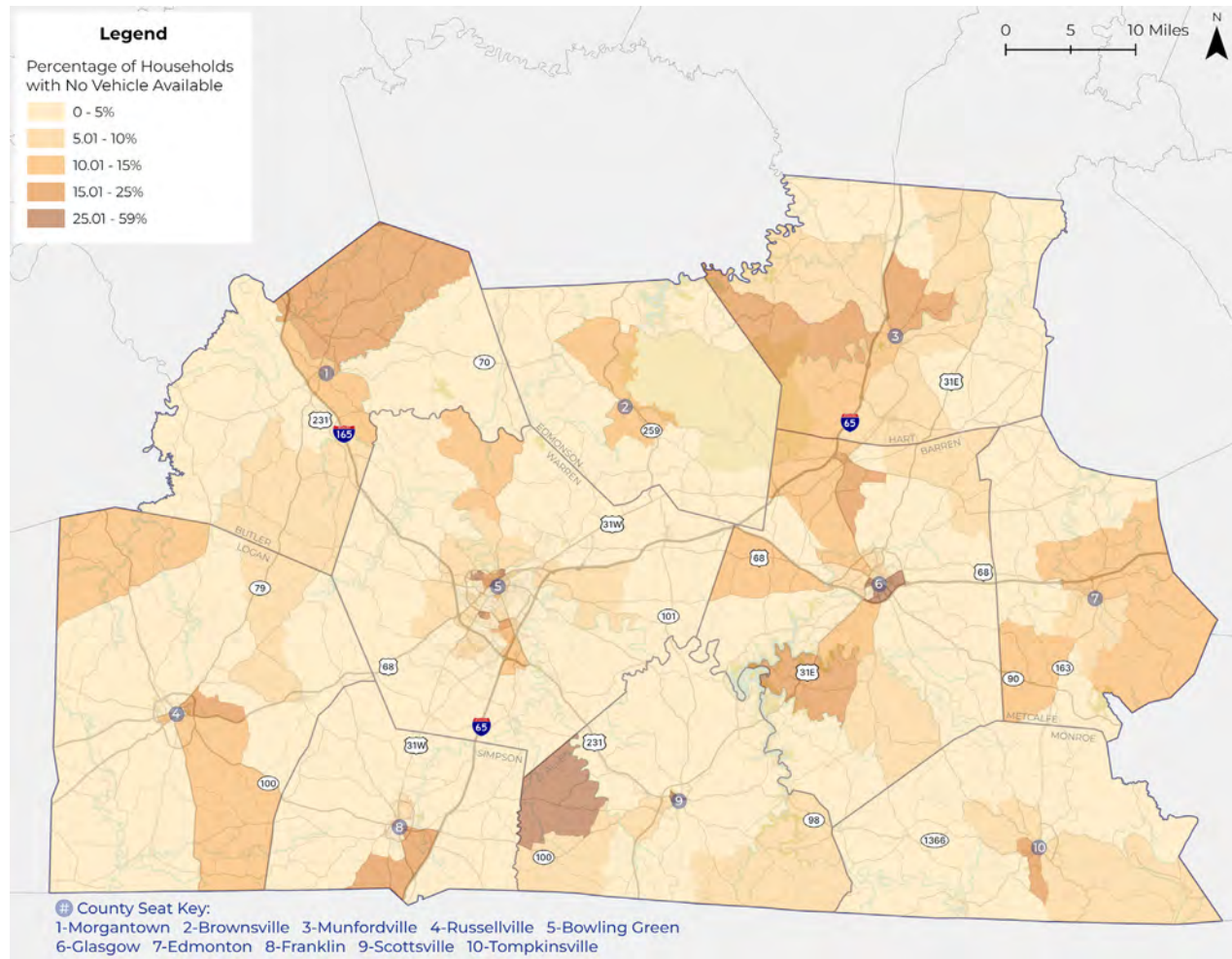
A household is considered to experience transportation cost burden when more than 15% of household income is spent toward transportation. Figure 10 illustrates, by block group, the percentage of income spent on transportation by the average household. All block groups in the BRADD region are transportation cost burdened with the most severe burden occurring in rural areas, particularly in Hart, Barren, Metcalfe, and Monroe Counties. When household resources are tight, families and individuals may look for ways to reduce costs. Offering transportation alternatives to driving not only provides access to recreation but also options for households to manage their budgets.

Figure 10. Transportation Cost Burden



Source: Center for Neighborhood Technology

**Figure 11. Percent of Household with No Vehicle**



Source: U.S. Census American Community Survey Five-Year Estimates (2019-2023)

## Households with No Vehicle

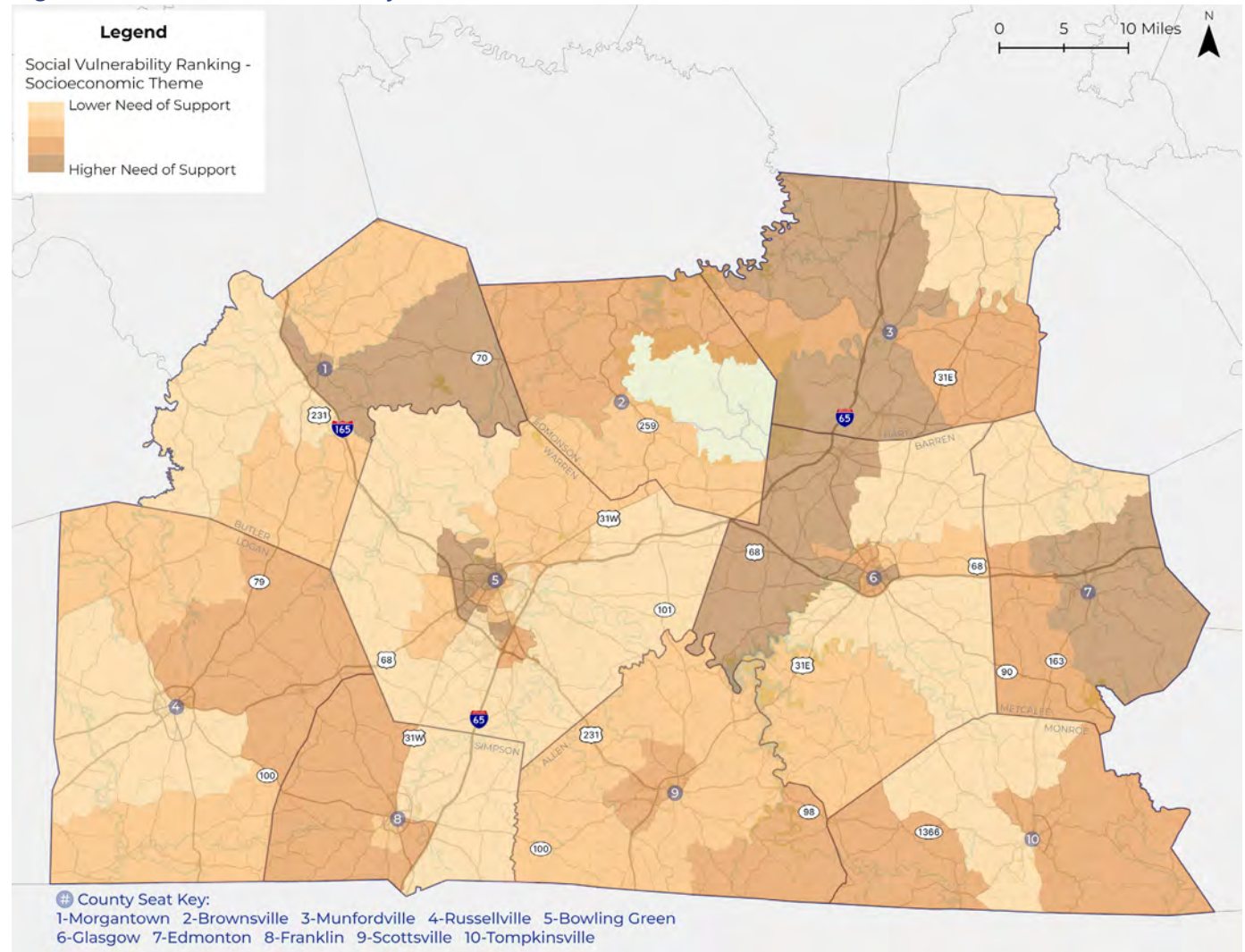
The percentage of households with no vehicle available is shown in Figure 11. Communities located in or around the county seats tend to have higher percentages of households without a vehicle available. Ten of the 11 block groups with greater than 25 percent of households without a vehicle available are in or near Bowling Green, Glasgow, and Scottsville. Still, there are block groups in areas with lower population density that have between five and 30 percent of households without a vehicle.

It is possible some of these households are located close enough to their daily destinations that they do not feel they need a vehicle. However, given the rural nature of much of the region, households without a vehicle may be unable to drive for reasons such as age or disability or unable to afford a vehicle and therefore rely on rides from others, transit, or walking or biking. Furthermore, availability of a vehicle in the household does not guarantee everyone in the household has access to use that vehicle at any time.

## Social Vulnerability Index

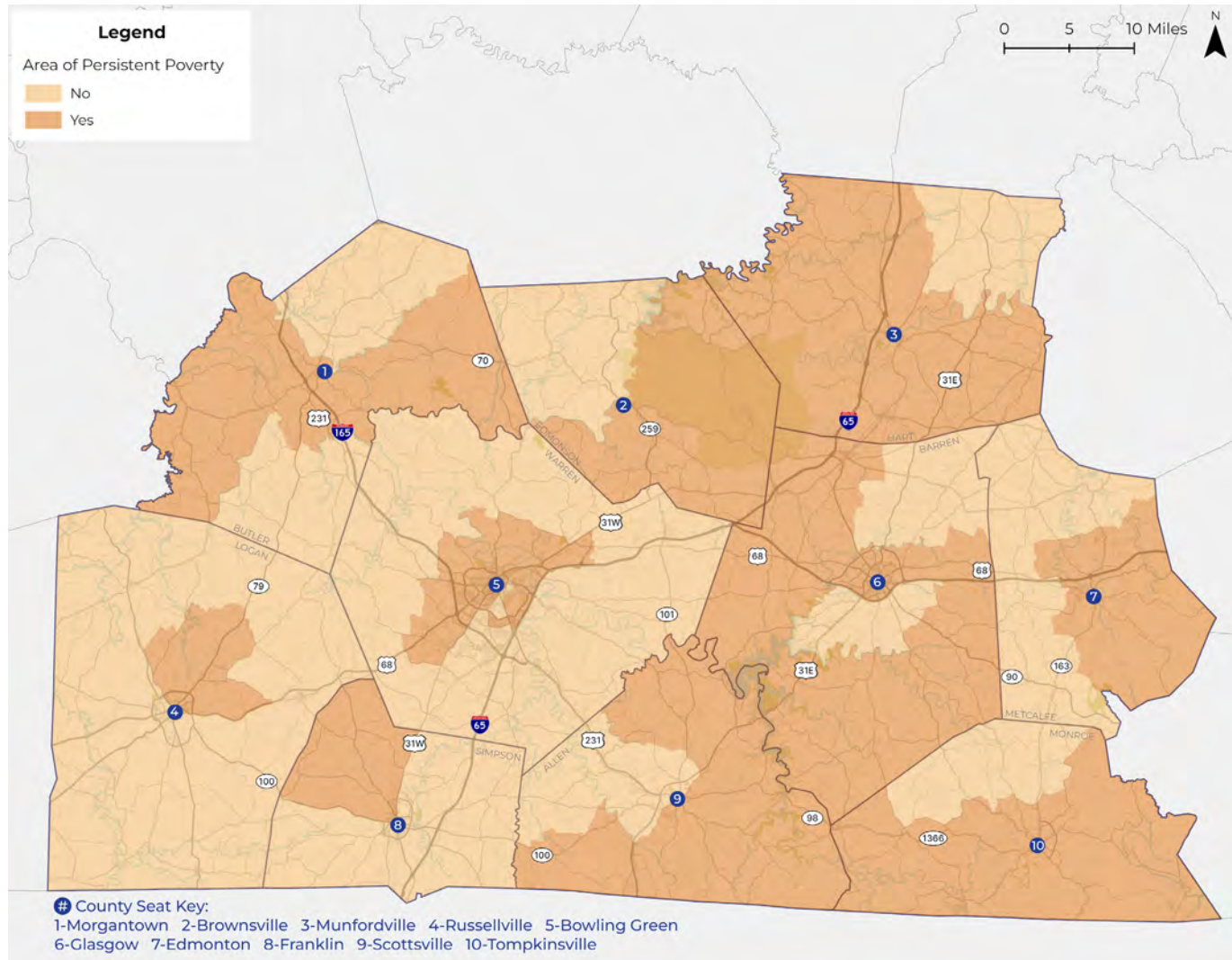
Social vulnerability data highlights census tracts which are more likely to need support before, during, and after a hazardous event. Figure 12 shows the vulnerability score related to socioeconomic factors such as unemployment, lack of health insurance, housing cost burden, limited education, and poverty, revealing areas within the BRADD region where there may be broader need for facilities like trails that enable walking and biking.

**Figure 12. Social Vulnerability Index - Socioeconomic Theme**



Source: U.S. Centers for Disease Control and Prevention

**Figure 13. Areas of Persistent Poverty**



Source: U.S. Department of Transportation

## Areas with Persistent Poverty

An “area of persistent poverty” is a census tract with a poverty rate of at least 20 percent as measured by the U.S. Census American Community Survey five-year data estimates for 2019-2023.<sup>1</sup> Figure 13 shows census tracts in the BRADD region based on whether or not they meet this definition of an area of persistent poverty.

Extensive areas of Edmonson, Hart, Barren, Allen, and Monroe Counties and about half of Butler and Metcalfe Counties’ areas are considered areas of persistent poverty, indicating that these communities have experienced systemic economic hardship. Additionally, at least some or all of the county seat cities are within census tracts considered areas of persistent poverty.

## Transportation Characteristics

Next, data was gathered and analyzed on existing infrastructure, such as trails, sidewalks, and utilities, which could potentially serve as connectors, corridors, or barriers in a greenway network. Crash data was also analyzed for the past five years (2020–2024), including crashes involving pedestrians and bicyclists. Crash data can help identify areas on the road network that pose higher risk to vulnerable road users. If a greenway is proposed in that area, additional safety improvements may be necessary to mitigate risk and promote safety for all modes of transportation.



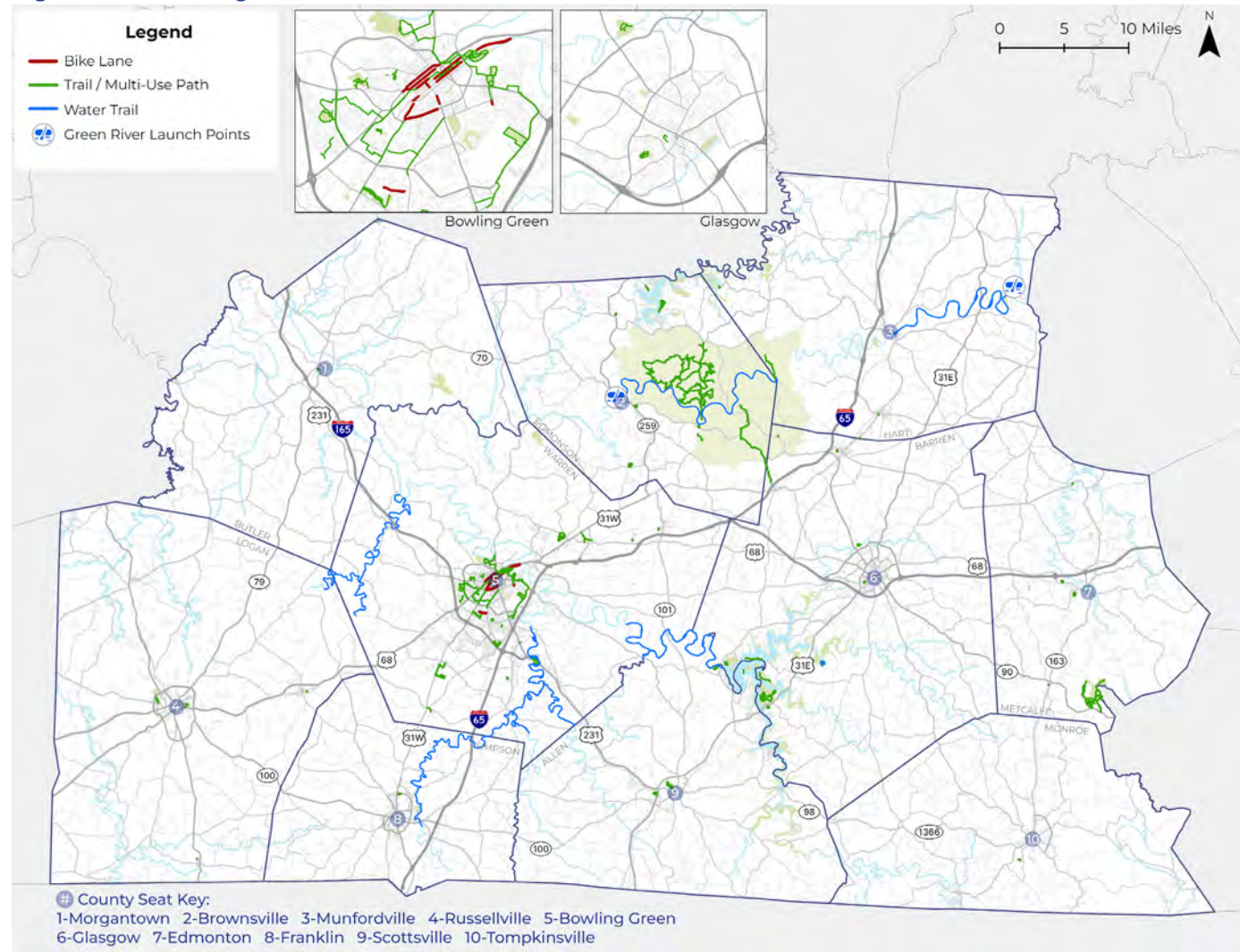
Crosswalk in Courthouse Square in Franklin

## Existing Multi-Use Paths, Bike Lanes, and Water Trails

Existing trail and bike lane infrastructure is important for assessing where and how a broader greenway network can tie in across the entire BRADD region. As reflected in Figure 14, most of the existing multi-use paths are within parks or open space settings and not connected to one another as part of a regional network. In Bowling Green, there are some trails linking parks and neighborhoods but most are contained within the city limits.

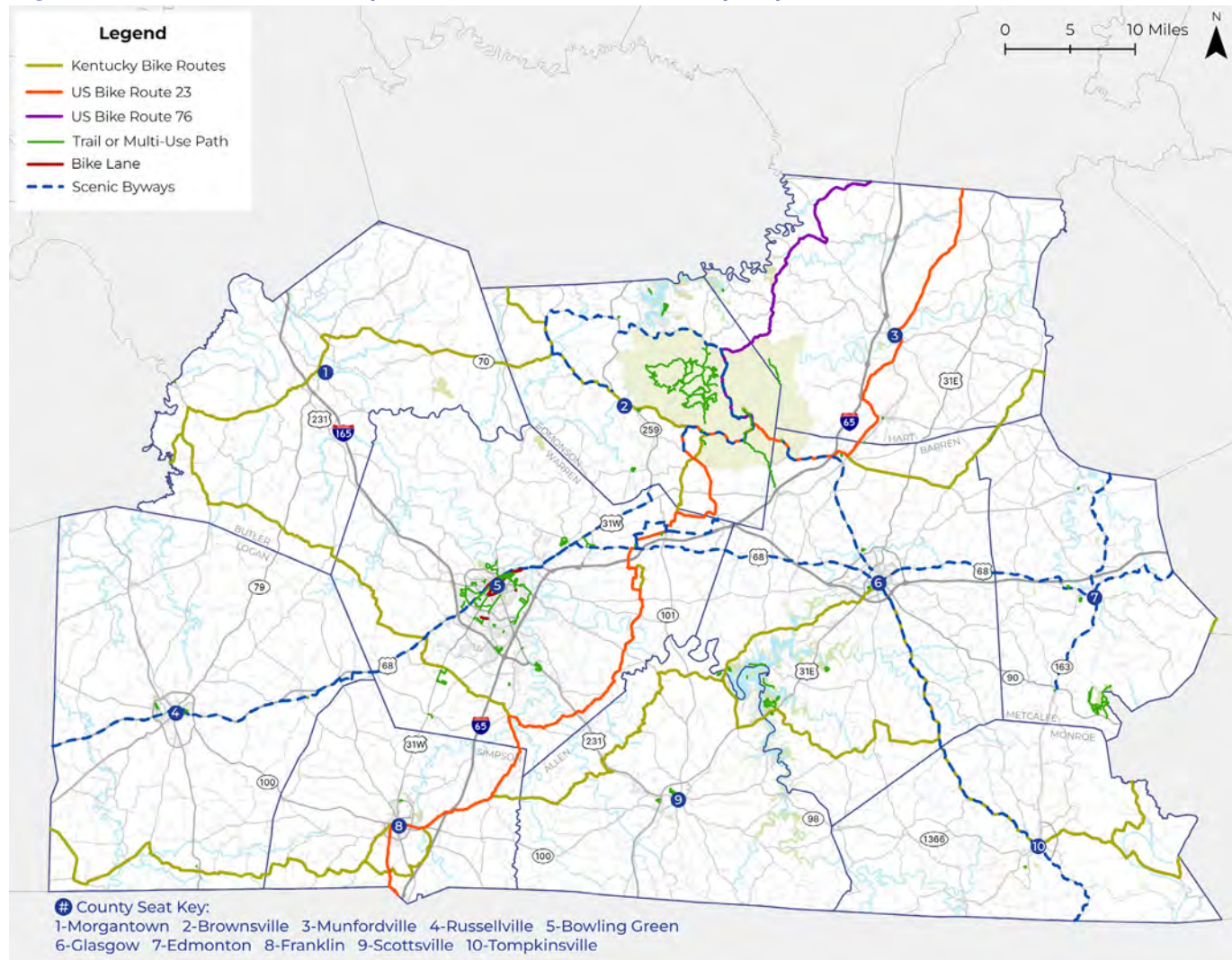
Bowling Green is also host to one of the region's two bike lanes; the other is in Cave City and their combined length is 0.94 miles. The region also features water trails on some of its rivers and creeks, such as Green River, Barren River, Gasper River, and West Fork Drakes Creek. While greenways are mainly on land, they often run along water bodies and can connect to and complement a region's blueways.

Figure 14. Existing Multi-Use Paths, Bike Lanes, and Water Trails



Source: BRADD GIS, KYTC GIS, Gateways to the Green "Green River Access points" (<https://gatewaystothegreen.com/>)

**Figure 15. U.S. and Kentucky Bike Routes and Scenic Byways**

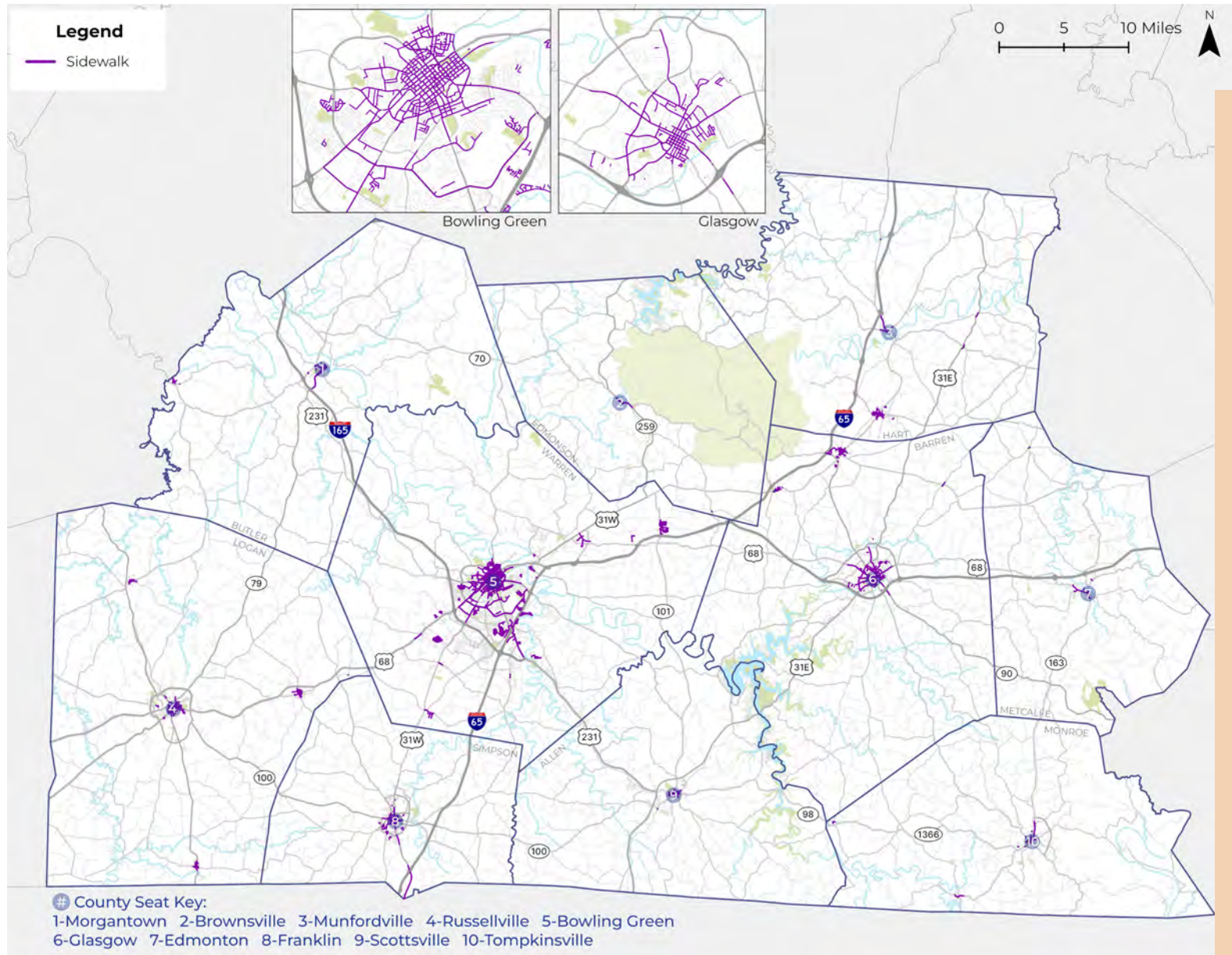


Source: BRADD GIS, KYTC GIS, KYTC U.S. Bicycle Routes in Kentucky (2022) (<https://transportation.ky.gov/BikeWalk/Documents/USBRs%20in%20Kentucky.pdf>)

## U.S. and Kentucky Bike Routes and Scenic Byways

Figure 15 shows U.S. and Kentucky bike routes and scenic byways in the region. The U.S. and Kentucky bike routes are primarily intended for confident riders as most of the routes do not feature separated bicycle infrastructure and they must share the travel lane with motor vehicles. Two U.S. bike routes intersect with the BRADD region: U.S. Bike Route 76, named the TransAmerica Bike Tour, is an east-west route that passes through the middle of Kentucky but includes a spur to the south through Hart and Edmonson Counties to Mammoth Cave National Park. U.S. Bike Route 23, named the Cave Country Bike Tour, runs north-south through Hart, Barren, Edmonson, Warren, and Simpson Counties. The remaining bike routes are state-designated routes that touch every county in the region but Metcalfe and link some of the county seats.

**Figure 16. Existing Sidewalk**

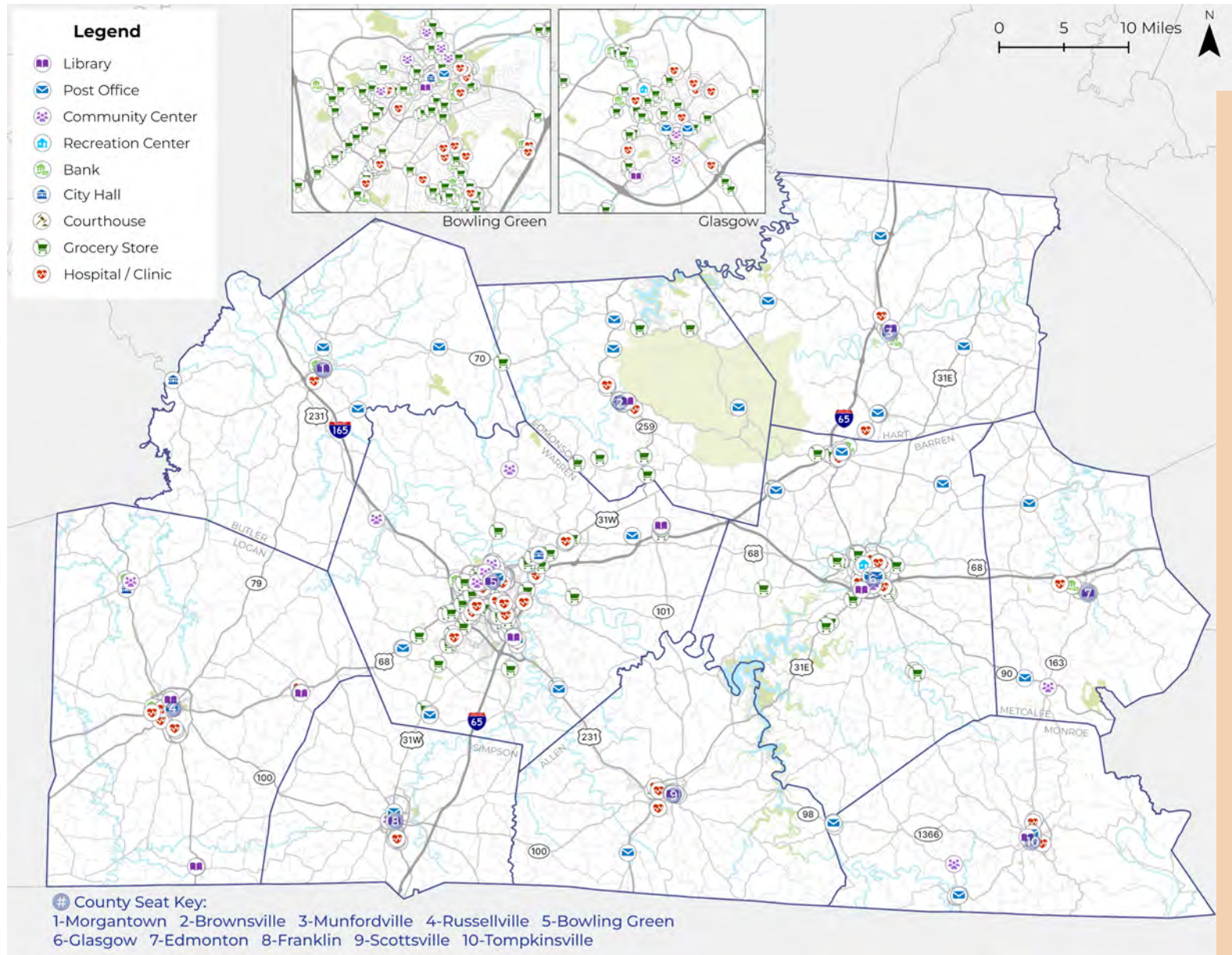


Source: BRADD GIS

## Existing Sidewalk

While trails are the most likely pedestrian infrastructure to span long distances beyond city or county borders, sidewalks are typically found in more densely populated areas. This holds true for the BRADD region, as seen in Figure 16, where sidewalks are found in each county seat as well as larger towns and cities throughout the region. Sidewalks are important as they can serve as pedestrian access points to and from a future greenways network.

**Figure 17. Community Resources**

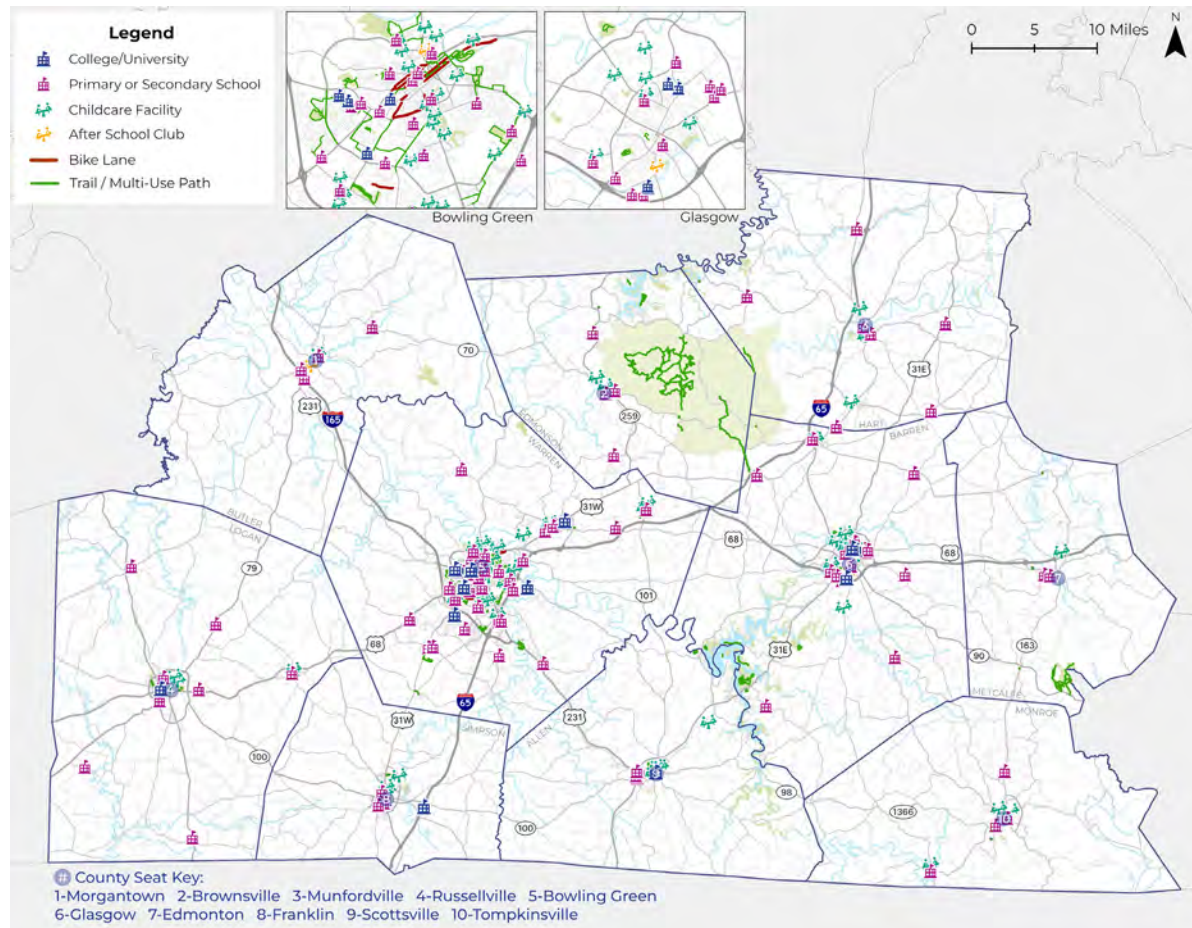


Source: BRADD GIS

## Community Resources

Community facilities and resources are important to consider in developing a greenway network as these are places people may be interested in visiting by walking or biking. Figure 17 shows the locations of schools, libraries, grocery stores, post offices, community centers, recreation centers, banks, clinics and hospitals, and government institutions such as city halls and court houses.

**Figure 18. Schools and Childcare Facilities**



Sources: BRADD GIS, KYTC GIS

## Schools and Childcare

The BRADD region hosts five colleges and universities with a total of 14 campuses and centers. There are 105 public primary and secondary schools, over half of which are elementary level or a combination of elementary and higher levels. For children needing care before entering school, there are at least 64 childcare facilities across the region. Schools and childcare facilities are represented in Figure 18.

Schools are points of heavy pedestrian traffic on school days and for other events hosted in the facilities. Trail networks that connect to schools can provide safe routes to school for students of all ages, reduce congestion during drop-off and pick-up times, and facilitate school-based educational and recreational opportunities for students. Since schools can also serve as polling places and hubs after emergencies, trails connecting to schools can help people access these services as they become necessary.

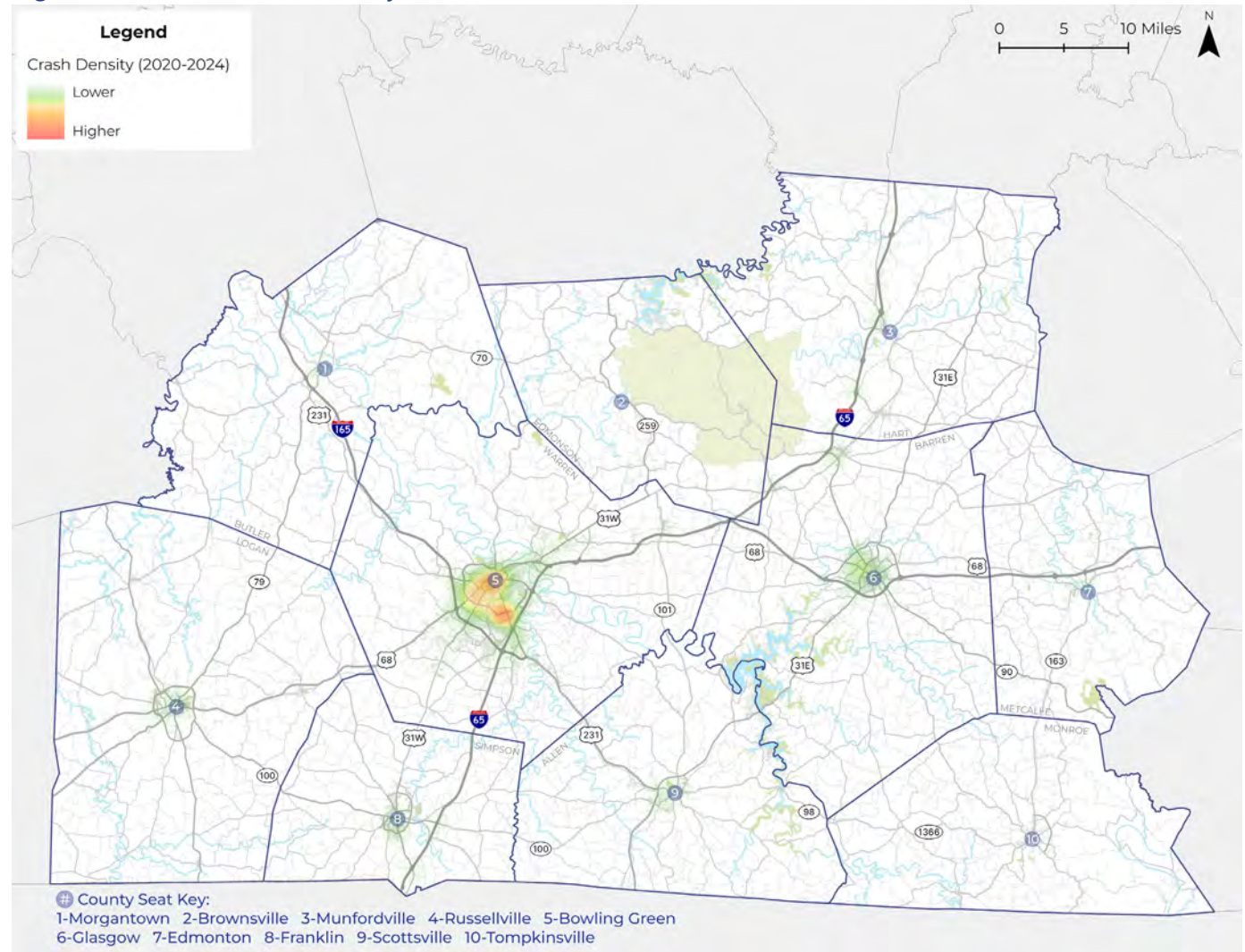
Because these schools and childcare facilities are interspersed across the entire BRADD region, there are numerous schools and facilities that are not well-served by the existing trail network. Five colleges and universities (36 percent of all), 43 primary and secondary schools (41 percent), and 26 childcare facilities are within a half-mile of an existing trail or multi-use path (41 percent).

## All Crashes

Using 2020-2024 crash data, the project team mapped crash locations. Mapping crashes helps identify corridors or intersections with multiple crashes for a more in-depth review which can inform recommendations as part of a greenway network development.

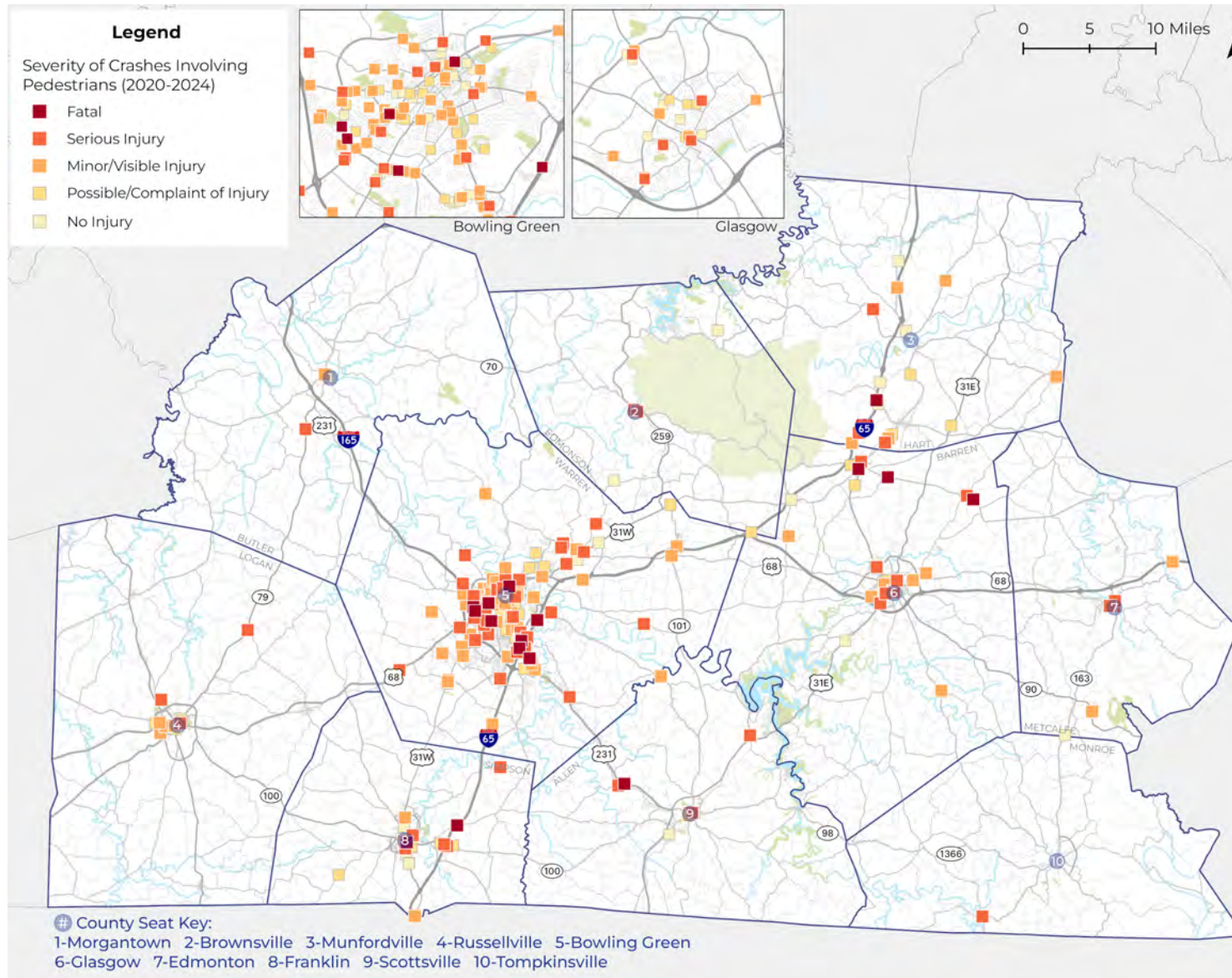
Across the five-year period, there was a total of 51,838 crashes. Overall crash density in the BRADD region is shown in Figure 19. Areas with higher crash density correlate with areas with higher population density.

**Figure 19. All Crashes Density**



Sources: Kentucky State Police crash database

**Figure 20. Crashes Involving Pedestrians, by Severity**



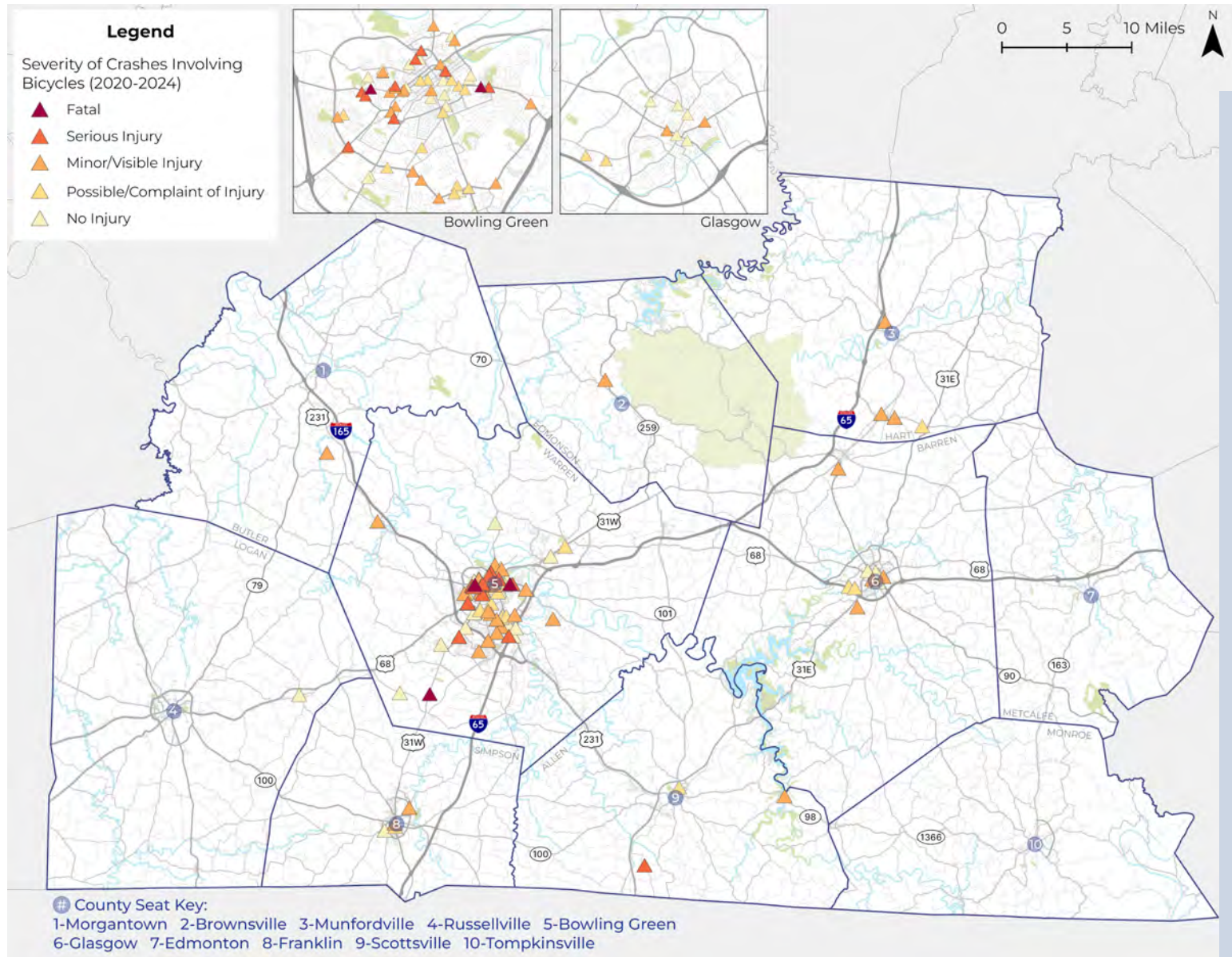
Source: Kentucky State Police crash database

## Crashes Involving Pedestrians

Between 2020 and 2024, there were 324 reported crashes involving a total of 349 pedestrians. Almost a third (32 percent) of the crashes took place in parking lots. The number of crashes involving pedestrians increased between 2020 and 2023 before dropping somewhat in 2024.

Among the 324 pedestrian crashes, shown in Figure 20, 16 resulted in at least one fatality, 64 in serious injury, 112 in minor injury, 57 in complaint of injury, and 66 with no injury reported. Nine crash records did not have any value entered for severity of injury. Fatal and serious injury pedestrian crashes occurred across the region but especially along US 68, US 231, US 31W, KY 70, and I-65, among others.

**Figure 21. Crashes Involving Bicycles, by Severity**



Source: Kentucky State Police crash database

## Crashes Involving Bicyclists

Within the same period, there were 103 reported crashes that involved a bicyclist, twelve of which took place in parking lots. Among the 103 crashes, shown in Figure 21, three resulted in a fatality, 12 in serious injury, 37 in minor injury, 19 in complaint of injury, and 31 with no injury reported. Fatal and serious injury crashes mainly occurred in Bowling Green, particularly along Morgantown and Old Morgantown Roads, US 68, and KY 234/Fairview Ave.

## Speed Limits

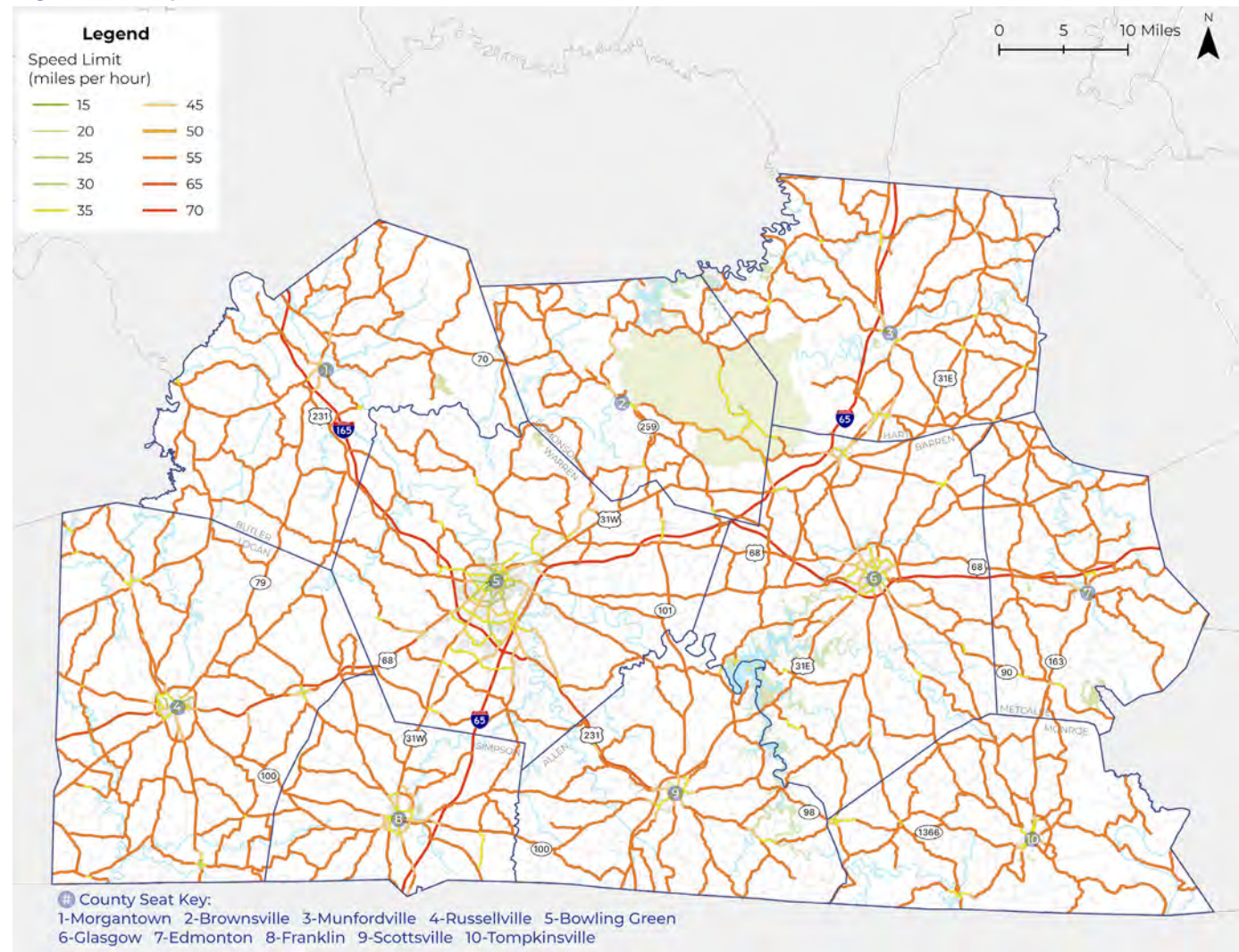
Roadway speed limits along major roadways in the BRADD region are shown in Figure 22. Speed limits are a useful factor when considering potential greenway corridors in case there are segments that may run along or near a road, as vehicular speed can influence safety, comfort, and noise.

Reflecting the rural nature of the region, most routes have a 55 miles per hour (mph) speed limit. I-65, I-165, and Cumberland Parkway are the only routes with speed limits of 70 mph.

Roads with speed limits of 65 mph include US 231 between southeast Bowling Green and northwest Scottsville and US 68 to west and east of Russellville toward Bowling Green.

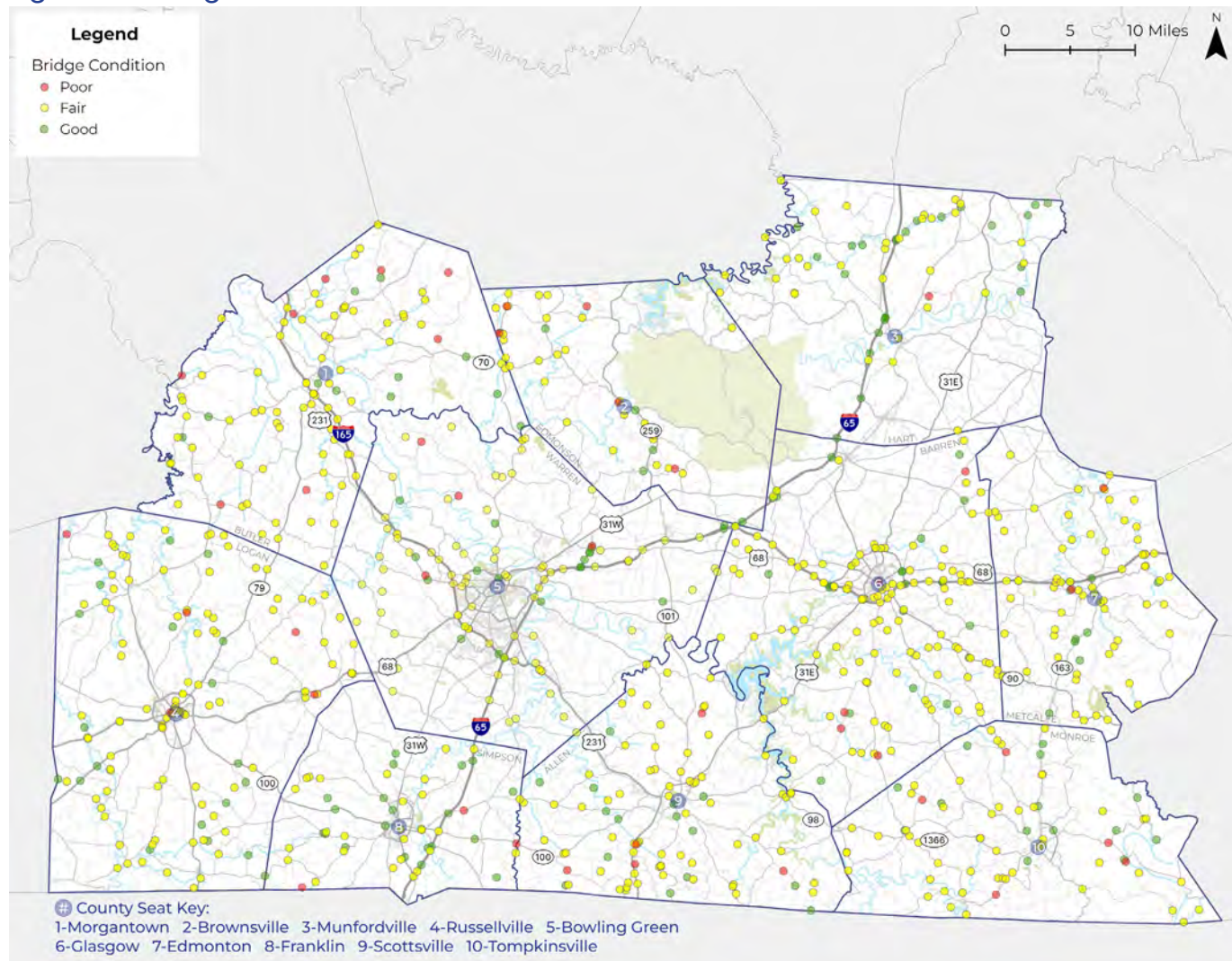
Roads with 45 mph speed limits tend to fall on the outside edges of cities as transitional segments between higher speeds in rural areas and 35 mph or lower speed limits within cities.

Figure 22. Speed Limits



Source: KYTC ArcGIS Online

**Figure 23. Bridges**



Source: BRADD GIS, U.S. Department of Transportation Federal Highway Administration National Bridge Inventory

## Bridges

Assessing bridge infrastructure can help determine potential greenway alignments by evaluating both constraints and opportunities with respect to bridge cross-section and whether or not there is room to pass under an existing bridge, or follow a bridge over a stream, creek, highway, or railroad.

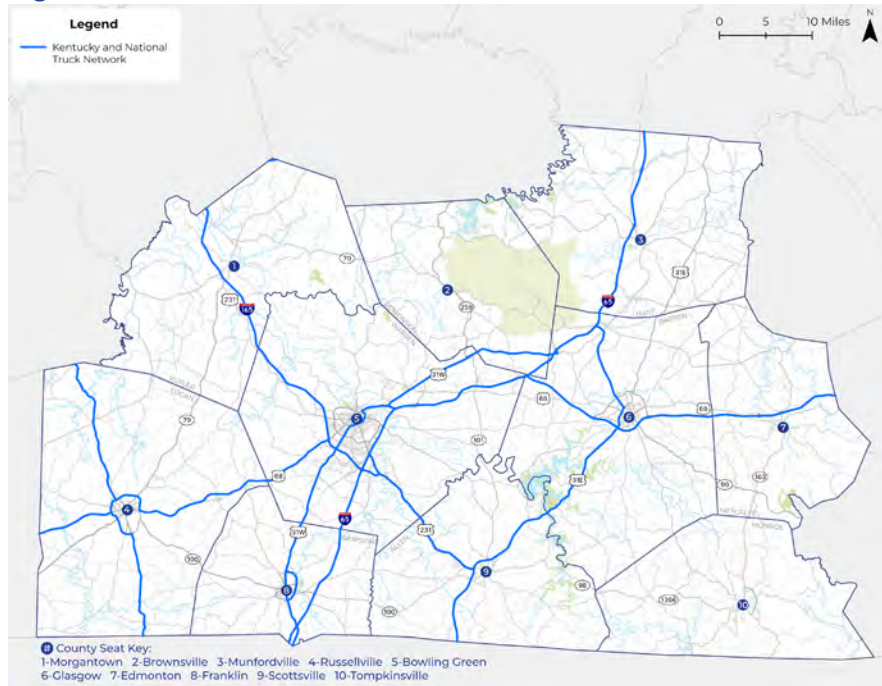
According to 2025 data, there are a total of 1,446 bridges in the BRADD region, as illustrated in Figure 23. Most (85 percent) of the bridges are in fair condition. Forty-three bridges are in poor condition with each of the 10 counties having at least one bridge in poor condition. Butler County has the greatest number (eight) of bridges in poor condition.

Most bridges in the region are over waterways, followed by highways and railroads.

## Truck Routes

Truck routes that run through the BRADD region, shown in Figure 24, are made up of both national and state freight networks. Truck traffic mixed with pedestrian traffic can create an uncomfortable trail experience and should be avoided where possible.

**Figure 24. Truck Routes**



Source: BRADD GIS

## Rail and Railroad Crossings

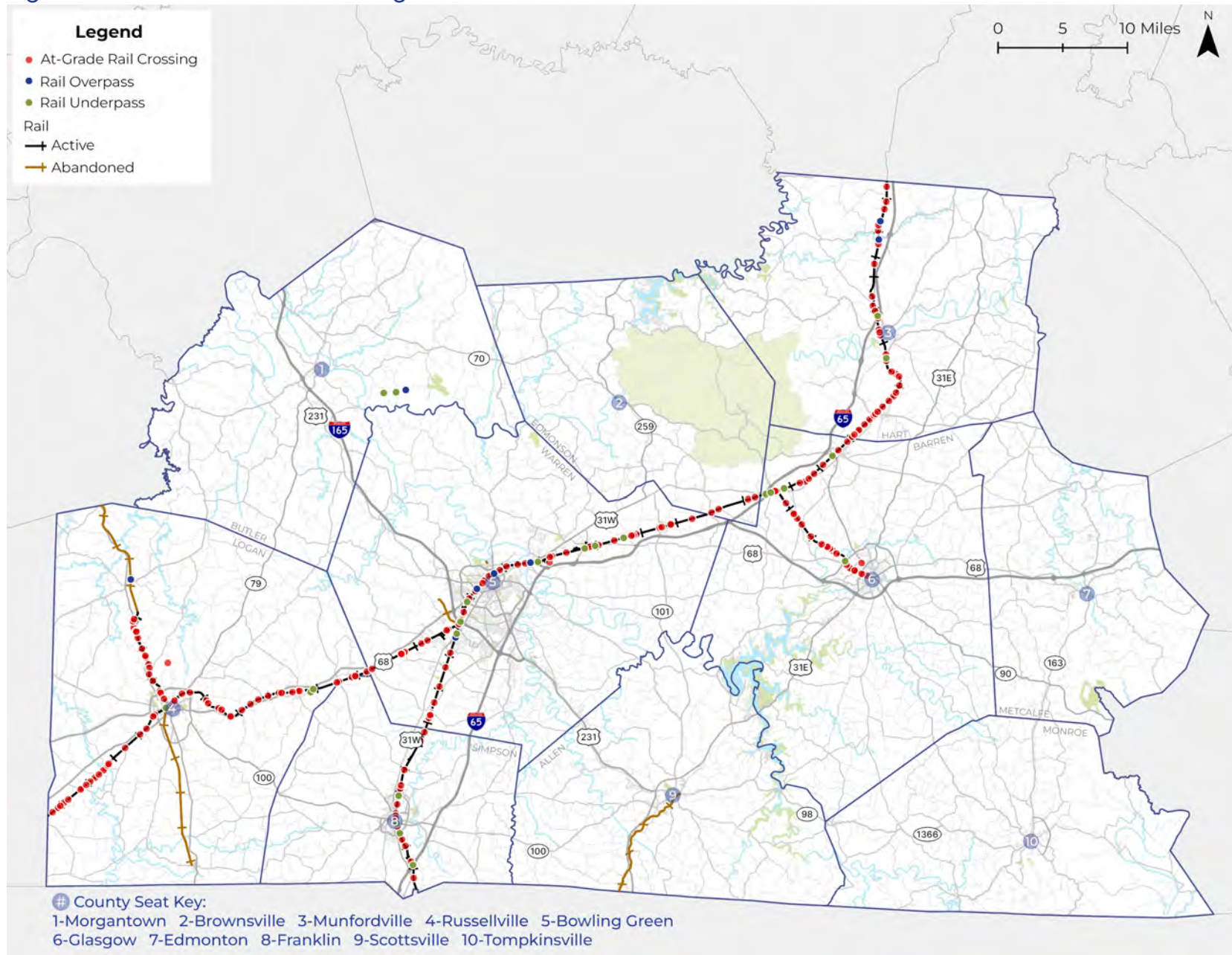
Rail lines and at-grade crossings within the BRADD region are shown in Figure 25. Two active rail lines operate within the BRADD region, one by CSX and the other by R. J. Corman Railroad Group. The R.J. Corman line runs through Logan County and into Warren County to Bowling Green and includes a north-south spur between Russellville and the Logan Aluminum mill. The CSX line runs north-south through Simpson, Warren, Edmonson, Barren, and Hart Counties, passing through the county seats of Franklin, Bowling Green, and Munfordville, and other cities such as Smiths Grove, Park City, Cave City, and Horse Cave. The CSX line also includes a spur between Park City and Glasgow.

There are also abandoned rail lines in the region. Aside from an abandoned spur where the R.J. Corman and CSX rail lines meet southeast of Bowling Green, the main abandoned lines run south from Scottsville into Tennessee and to the north and south of the R.J. Corman spur in Logan County.

Although it is often difficult to construct a trail following an active rail line, there are trails across the nation adjacent to rail lines (rails-with-trails).<sup>2</sup> There are also many examples across the U.S. of abandoned rail lines being converted to trails (rails-to-trails).<sup>3</sup> Trail planning along active or abandoned rail should be developed through continuous coordination with both the Federal Railroad Administration (FRA) and private railroad companies.

The BRADD region includes 245 railroad crossings, including 213 at-grade crossings (78 of which are private), 24 overpasses (above grade), and eight underpasses (below grade). Wherever a greenway corridor crosses a rail line, additional safety improvements may be recommended for all users at and approaching the crossing point.

**Figure 25. Rail and Railroad Crossings**

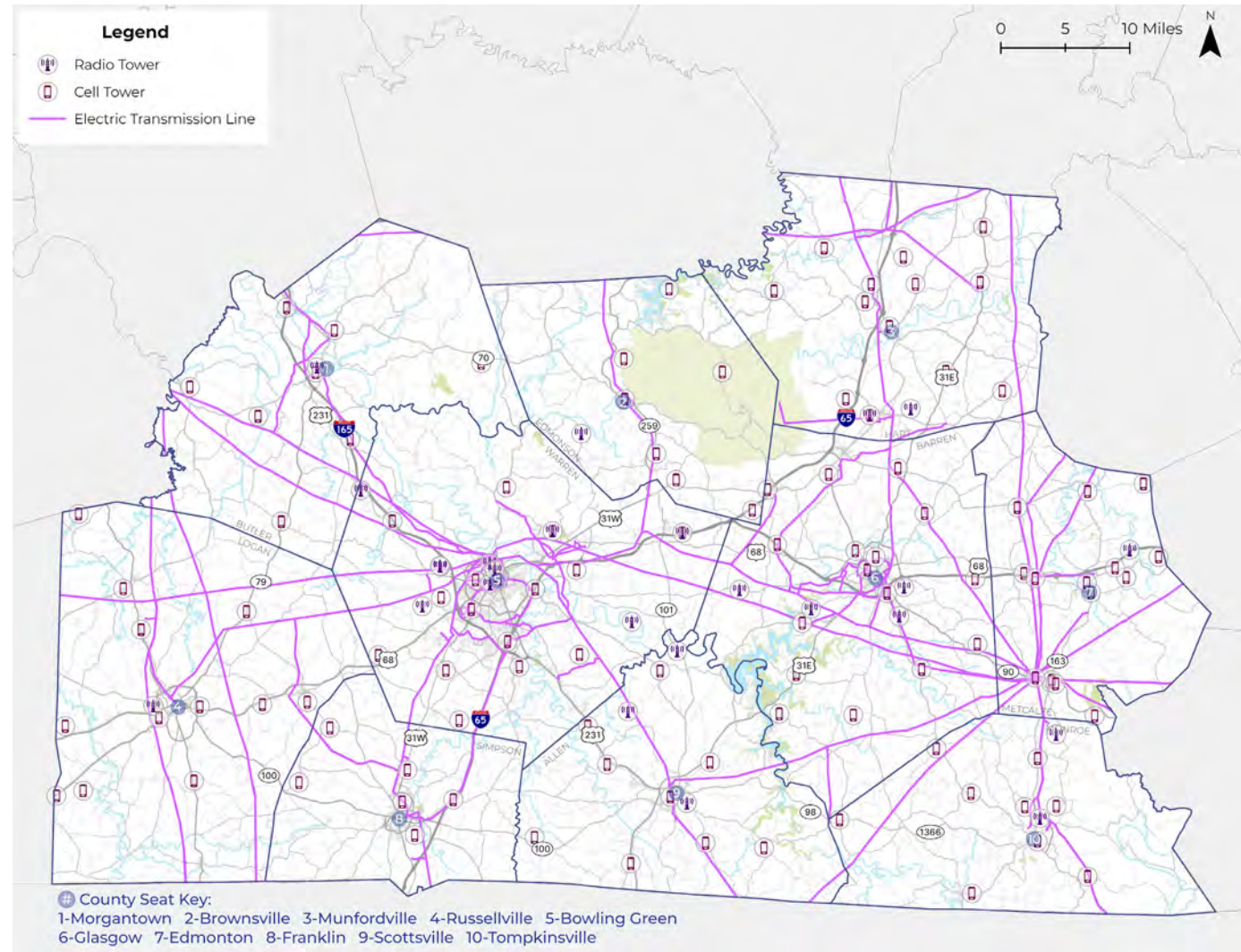


Source: KYTC GIS, U.S. Department of Transportation Federal Rail Administration Crossing Inventory Data

## Overhead and Underground Utilities

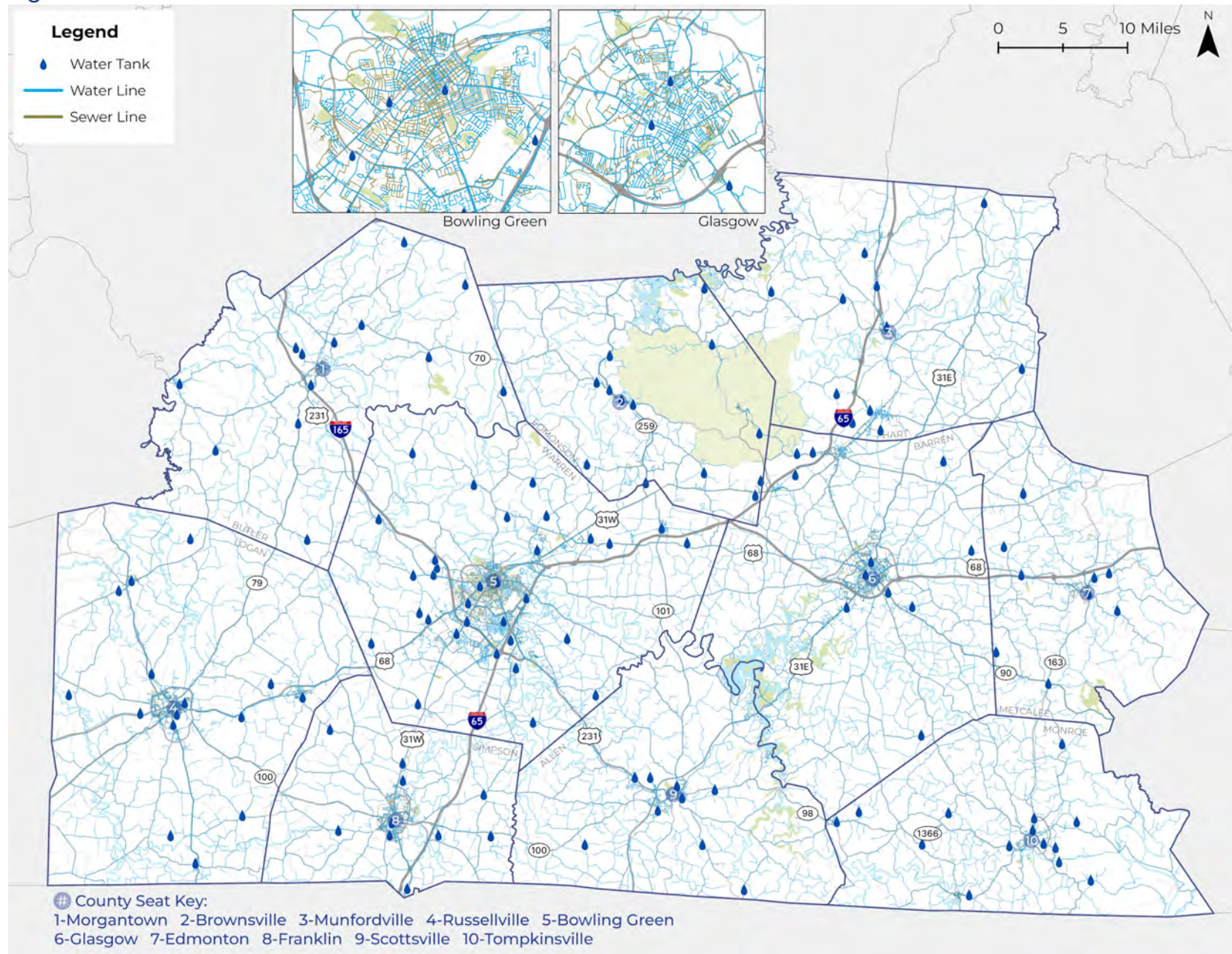
Looking toward the complexities of implementation, data points were collected of various utilities, including overhead electric transmission lines, radio and cell towers, sewer lines, water lines, and gas pipelines and storage, as shown in Figures 26-28. Such locations reflect where greenway infrastructure may be easier to implement relative to other locations due to combinations of right-of-way and easements. Conversely, these locations may also be cost prohibitive to implement greenways due to the possibility of expensive utility relocations.

Figure 26. Overhead Utilities



Source: BRADD GIS

**Figure 27. Water and Sewer Utilities**



Source: BRADD GIS



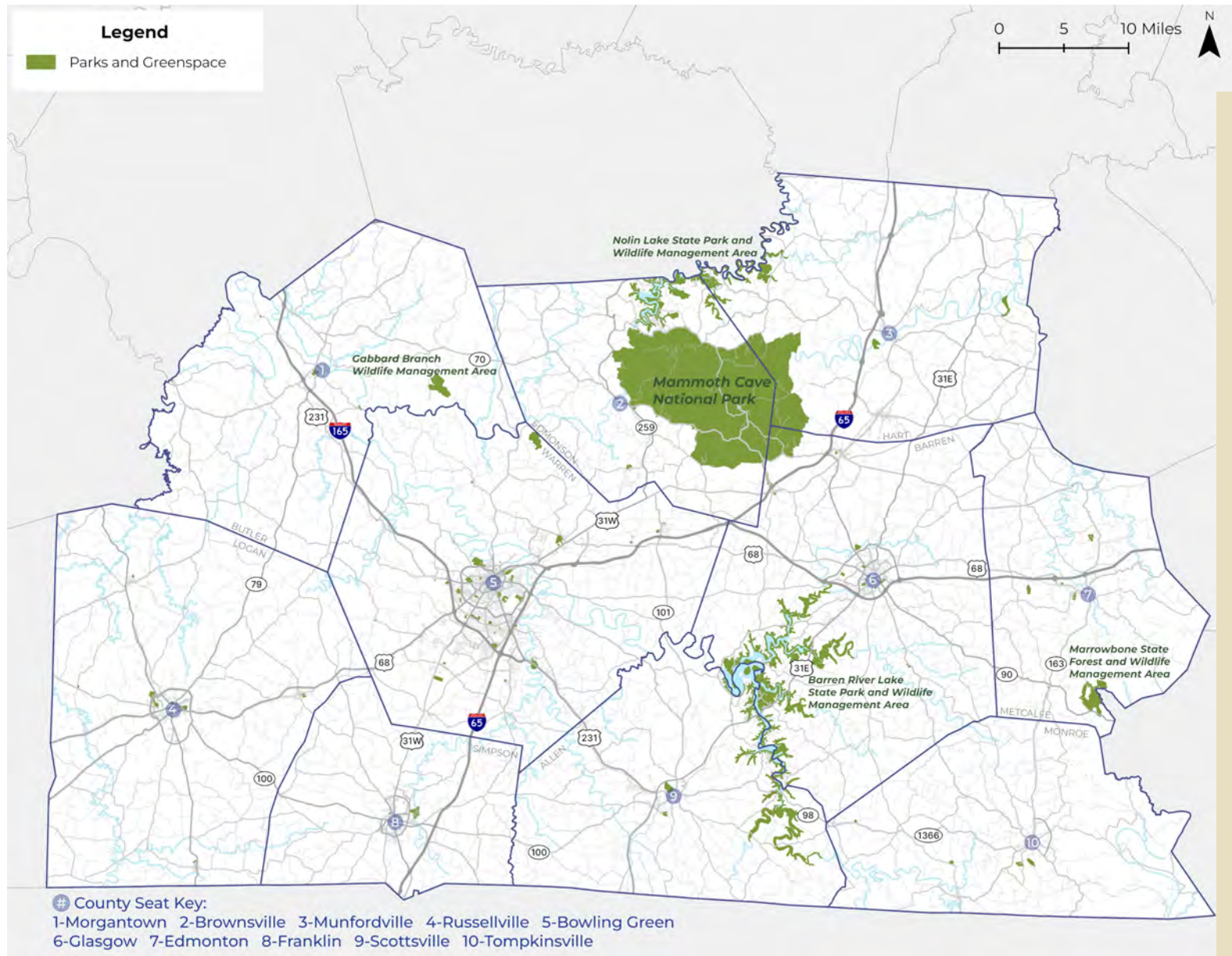
## Land Use and Environmental Characteristics

Natural features are abundant throughout the BRADD region, creating both opportunities and challenges for the development of a greenways network.



West Fork Drakes Creek in Jim Roberts Community Park in Franklin

**Figure 29. Parks and Greenspace**



## Parks and Greenspace

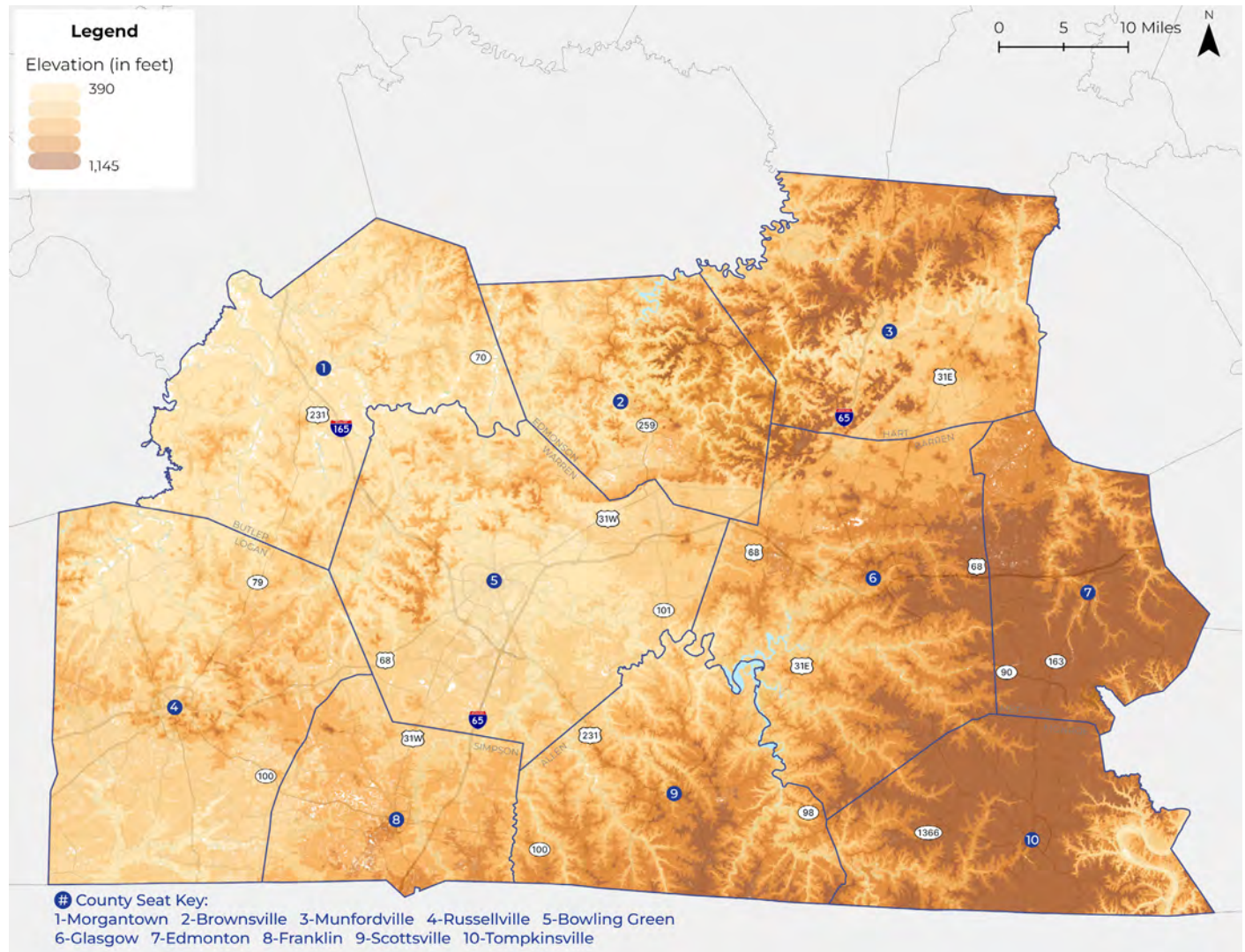
Parks and open space already serve as concentrations for recreational activity but can also broadly serve as places that can be connected via a greenways network. Parks and open spaces in the region, including national, state, and local parks, state forests, wildlife management areas, and nature preserves, are reflected in Figure 29.

Source: BRADD GIS, Kentucky Division of Geographic Information, KYTC GIS

## Elevation

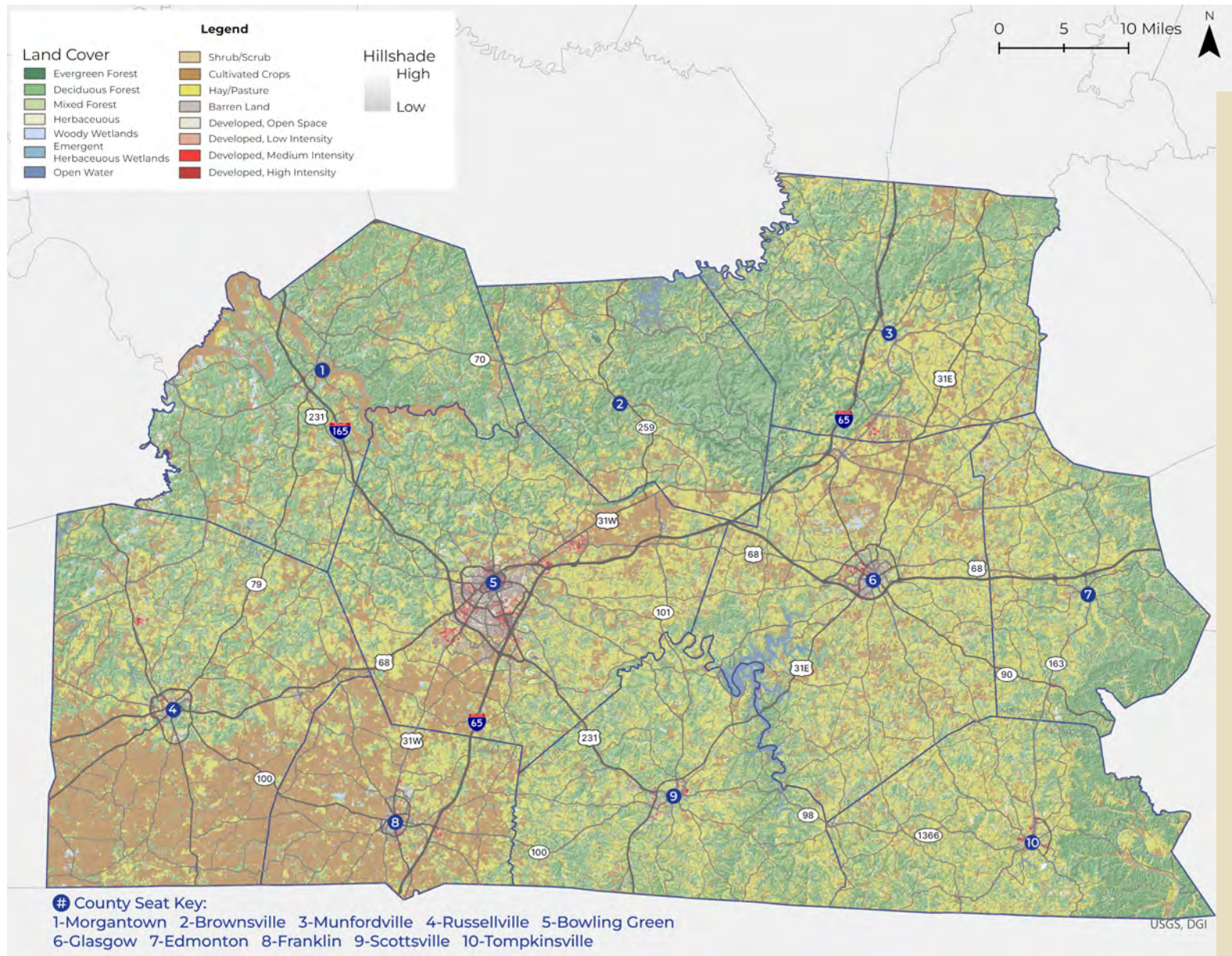
Elevation in the region generally increases from east to west toward the Appalachian Mountains, as illustrated in Figure 30. Butler, Logan, and Warren Counties host the lowest elevations while Metcalfe and Monroe Counties contain the highest. Hart, Edmonson, and Monroe Counties also feature some of the steepest grades in the region. Such topography can make for beautiful viewsheds, but can also make greenway construction more costly and can deter general users from using facilities that traverse particularly strenuous grades.

Figure 30. Elevation



Source: Kentucky Division of Geographic Information KyFromAbove

**Figure 31. Land Cover**



Source: U.S. Geological Survey (USGS) National Land Cover Database (NLCD) (2021)

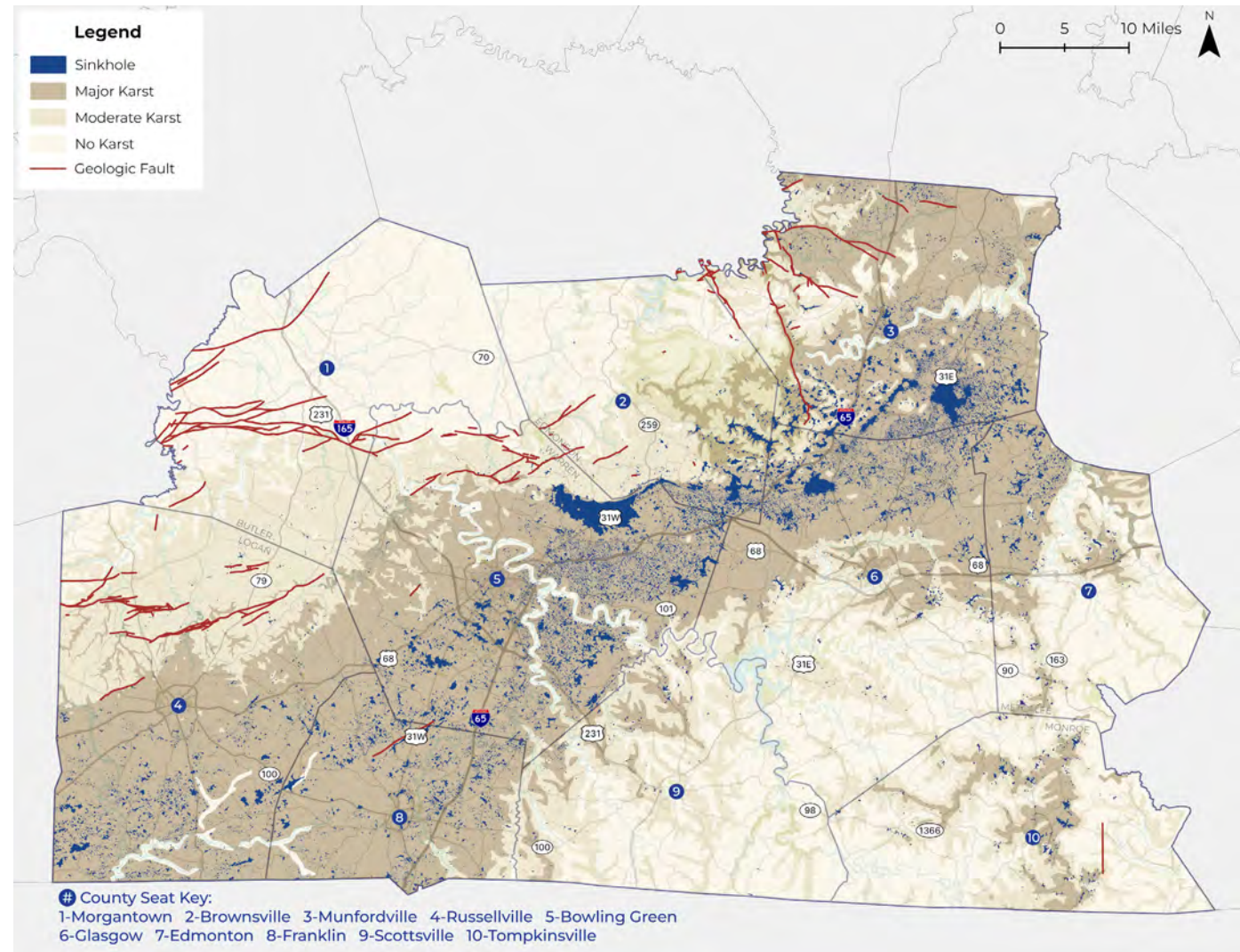
## Land Cover

Land cover was evaluated within the BRADD region, as shown in Figure 31. Cultivated crops is the dominant land cover type in the southwestern part of the region. Along the top third of the region and in the southeast are forest, mainly deciduous, evergreen, and mixed. Barren County and adjacent areas of Hart, Metcalfe, and Monroe Counties contain greater density of hay/pasture land compared to the other counties. The county seats and other cities throughout the region are made up of developed land cover of varying intensities.

## Karst and Sinkholes

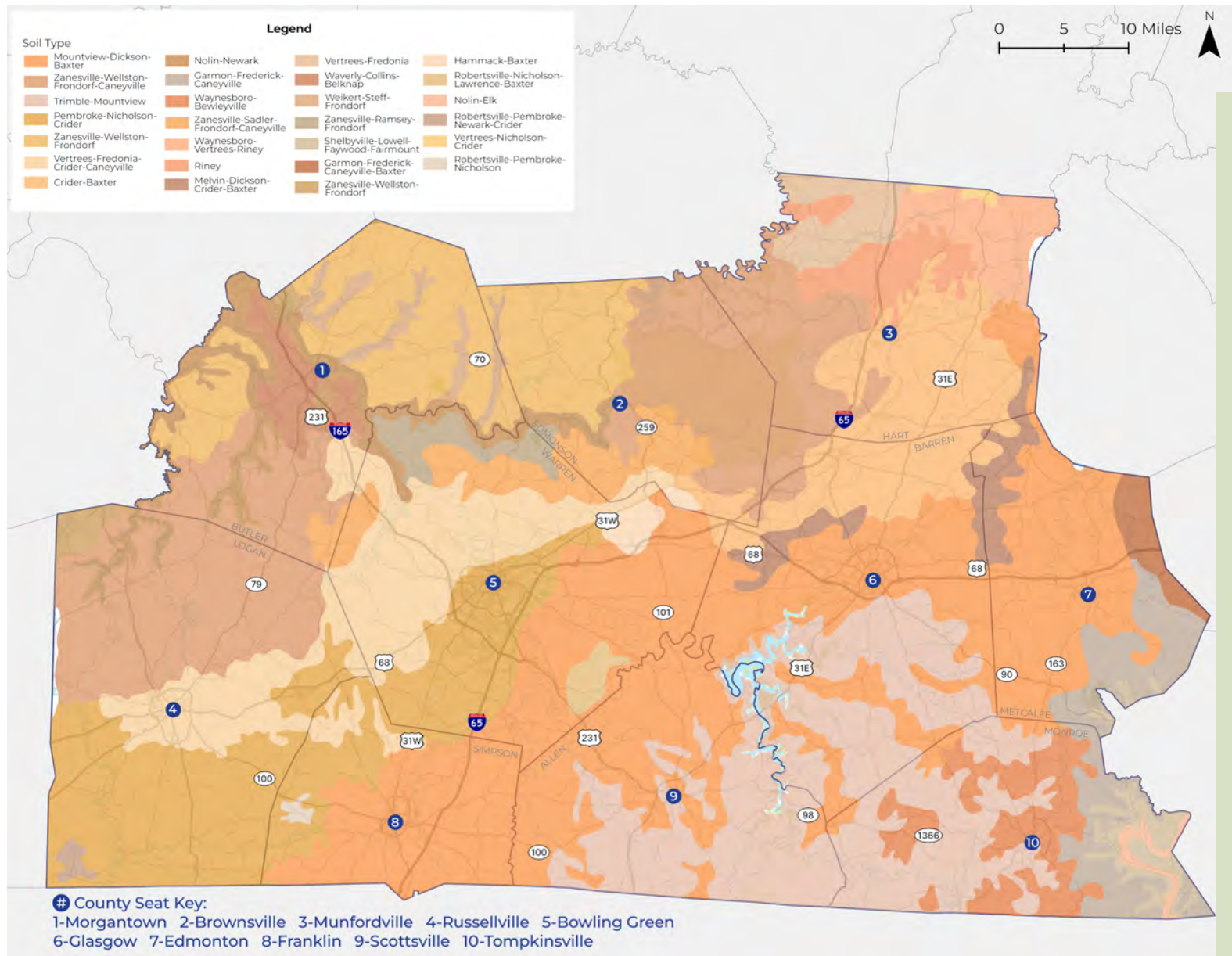
Geological features including karst, sinkhole, and fault data are represented in Figure 32; therefore demonstrating why this region of Kentucky is well-known for its karst and sinkholes. Stretching between the southwest and northeast corners of the region is land considered major karst. Sinkholes are also prevalent throughout this area. North of the major karst corridor and, to a lesser degree, to its south are areas considered moderate karst. The northwest and parts of the southeast corners of the state have little to no karst. Geologic faults in the region are found in the eastern and northern parts of the region, mainly Logan, Butler, Warren, and Hart Counties.

Figure 32. Karst and Sinkholes



Source: BRADD GIS

**Figure 33. Soil**

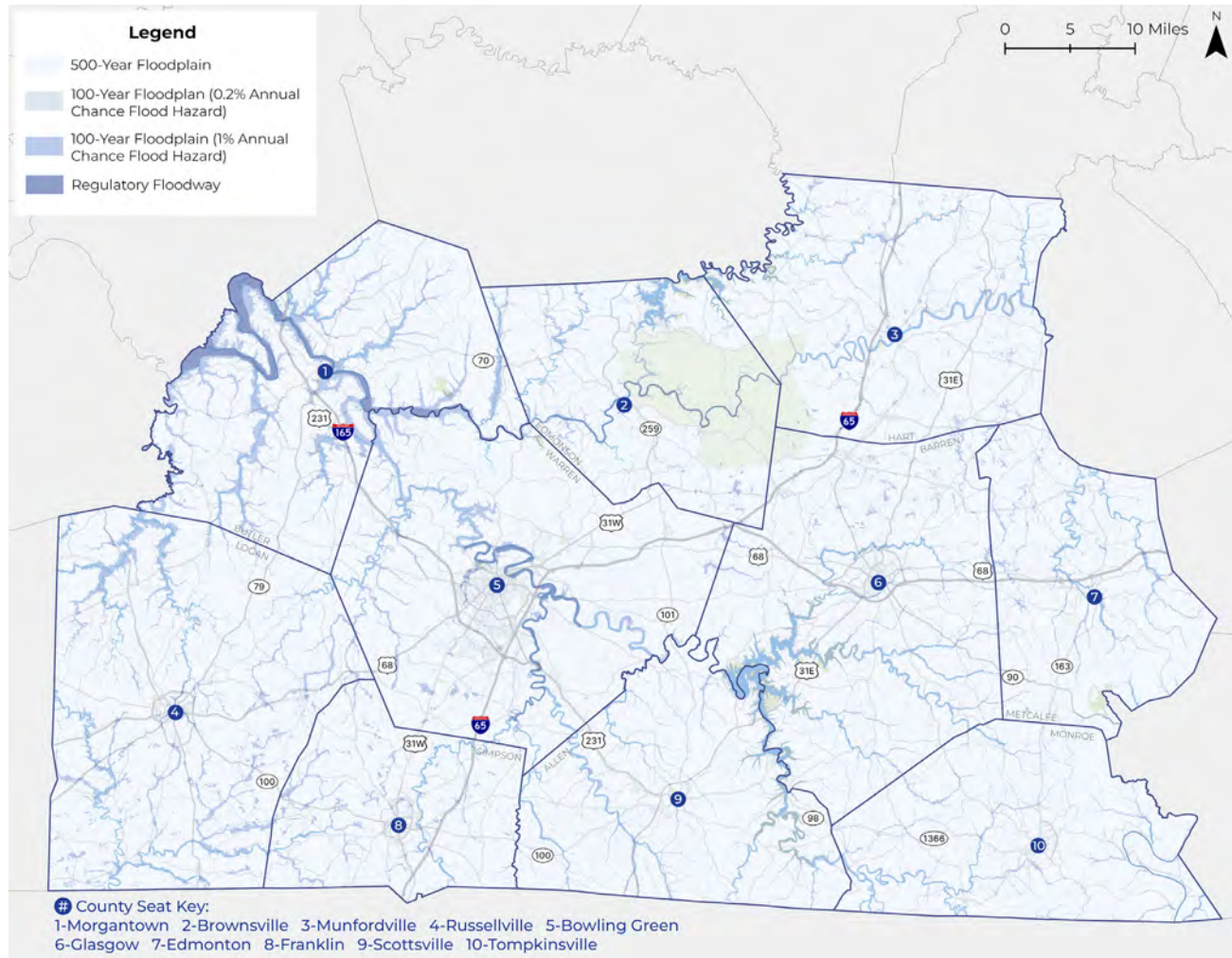


Source: U.S. Department of Agriculture Natural Resources Conservation Service Web Soil Survey

## Soil

The BRADD region contains a variety of soil types as depicted in Figure 33. Frondorf, Zanesville, Caneyville, Crider and Baxter are among the most common soil types found in the region. The soil types with the largest areas in the region include Mountview-Dickson-Baxter, Zanesville-Wellston-Frondorf-Caneyville, Trimble-Mountview, Pembroke-Nicholson-Crider, Zanesville-Wellston-Frondorf, Vertrees-Fredonia-Crider-Caneyville, and Crider-Baxter.

**Figure 34. Flood Hazard Areas**



Source: U.S. Federal Emergency Management Agency

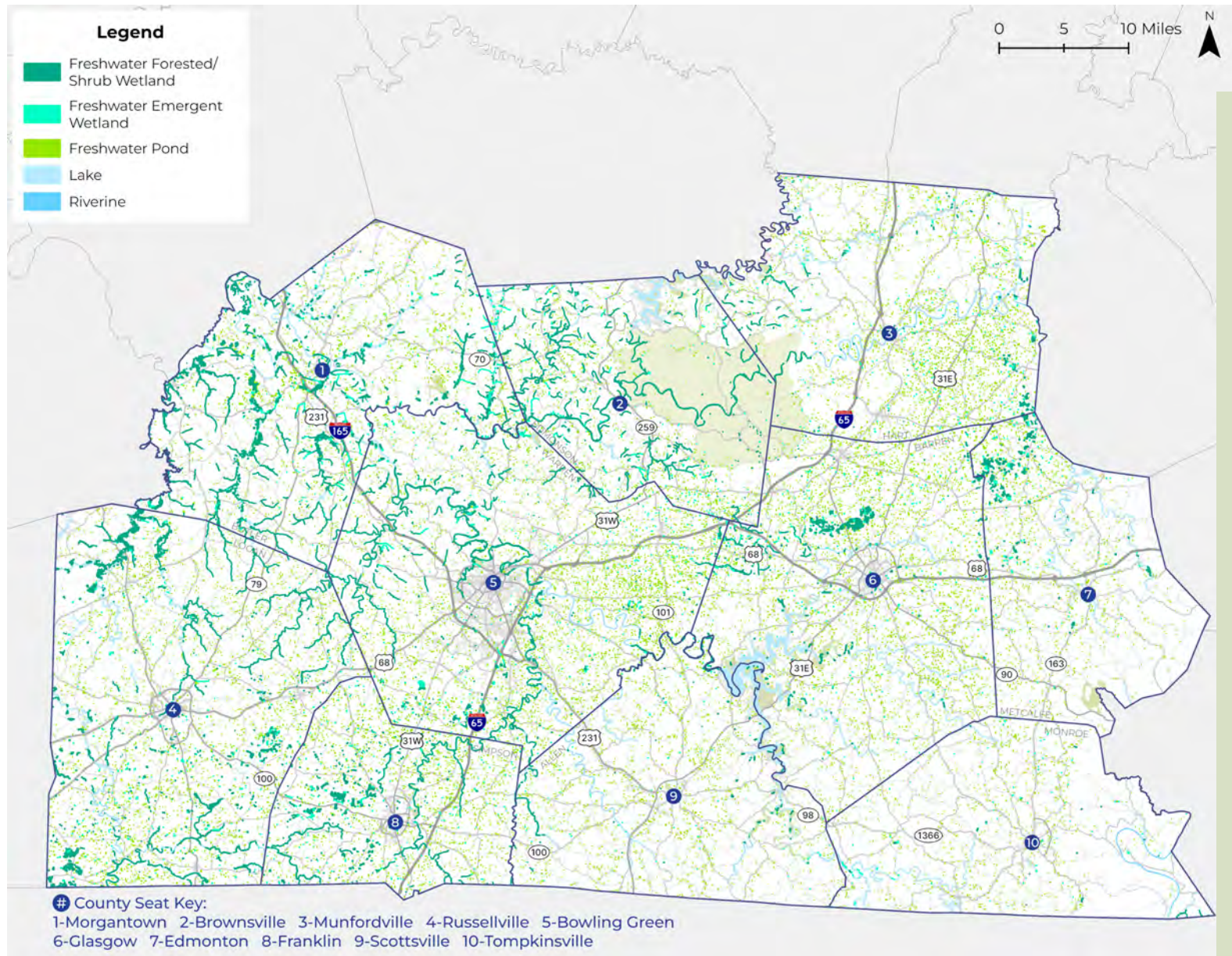
## Flood Hazard Areas

Water features, such as rivers and lakes, can often be good locations for trail investment. Similar to parks and open space, there are also several bodies of water in the region, such as the Green River, Barren River, Barren River Lake and Nolin Lake, which attract aquatic recreational opportunities and may benefit from connections on a greenways network.

Conversely, water features typically relate to flood hazard areas. Most of the BRADD region falls within the 500-year floodplain, though areas along waterbodies are considered in the 100-year floodplain. Regulated floodway lines the Barren River around Bowling Green and the Green River in Butler County, along the northern border of Warren County, and through Edmonson County.

While such areas can accommodate greenways, sensitivity in design and construction materials are often essential. Also, adding fill or structures within regulated floodways is typically prohibited. Flood hazard areas in the BRADD region are depicted in Figure 34.

Figure 35. Wetlands



Source: KYTC GIS

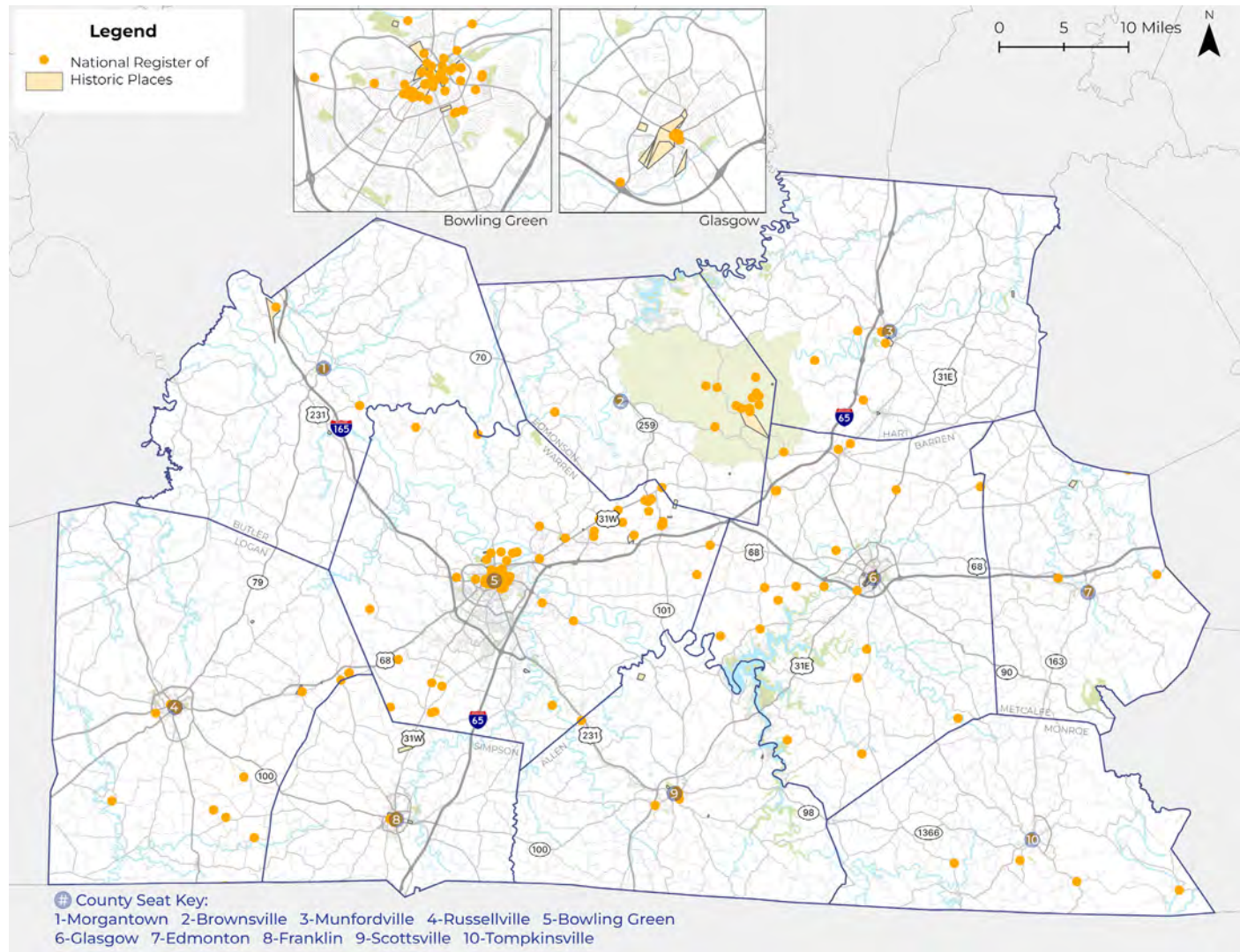
## Wetlands

Figure 35 shows wetlands across the BRADD region. There is a greater mix of wetlands northwest of I-65 compared to the rest of the region, which could make greenways development through this area a challenge. Potentially affected wetlands would need to be reassessed prior to any construction activities.

## Historical Landmarks and Places

Greenways may pass through cities or areas with older structures or landmarks that have been designated as historical sites. These sites can influence where and how trails are constructed. They can serve as points of interest for greenway users but also require careful planning around protections in place. Designated places within the BRADD region, shown in Figure 36, include historic districts in Bowling Green, as well as houses, churches, and forts, among others.

Figure 36. Historical Landmarks and Places



Source: National Register of Historic Places

# Endnotes

- 1 U.S. Department of Transportation Federal Transit Administration, "What is an 'area of persistent poverty?'" <https://www.transit.dot.gov/02-what-%E2%80%9Carea-persistent-poverty%E2%80%9D>
- 2 Rails to Trails Conservancy (2013). <https://www.railstotrails.org/resource-library/resources/americas-rails-with-trails-report/>
- 3 Rails to Trails Conservancy (2025). <https://www.railstotrails.org/united-states/>

Prepared By:

