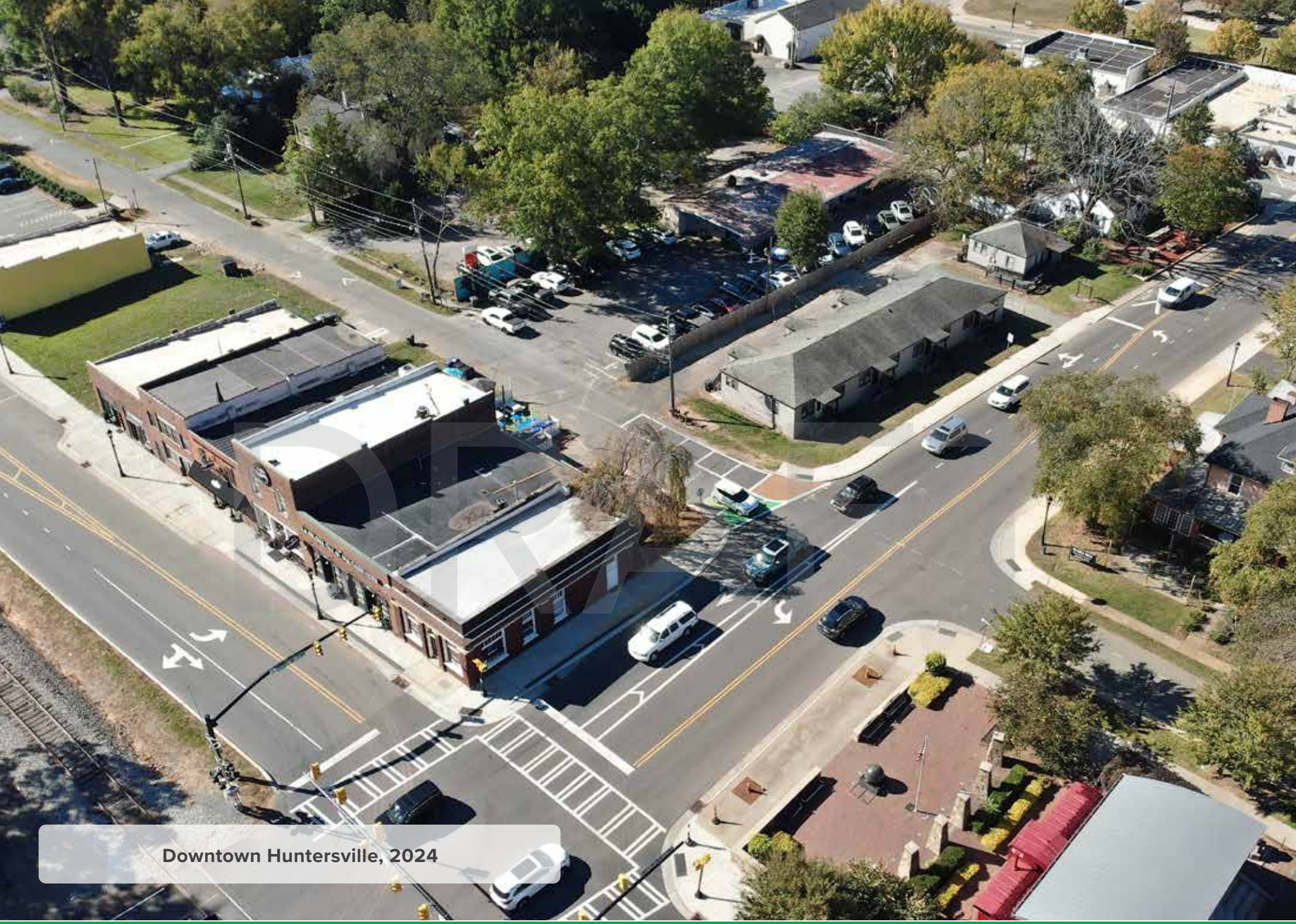
HUNTERSVILLE
MOBILITY PLAN

Adopted [April 2025]

Town of Huntersville
NORTH CAROLINA

Downtown Greenway Trailhead, 2024

CONTENTS



Downtown Huntersville, 2024

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Road Map of Mecklenburg County, showing types and location, November 1923

CHAPTER 1

Introduction

1. INTRODUCTION

With 61,376 residents as of 2020, Huntersville has experienced rapid growth over the past several decades, having grown from just over 3,000 residents in 1990. Along with the growth comes transportation challenges, and new residents are looking for alternative mobility opportunities to access the new destinations that have also come to the Town. As a result of the growth, and in anticipation of additional future growth, the Town is working to plan its transportation network in a way that is forward-thinking, efficient, and aligns with the community's needs.

This Mobility Plan will help the Town define its network of streets as "Complete Streets", which are streets designed to allow safe travel by all modes of transportation, including walking, bicycling, public transit, and driving. The Town of Huntersville's Zoning Ordinance already requires that the Town's streets be designed to serve as Complete Streets (see Figure 1.1, at right) to serve every person traveling by any mode using the transportation network.

This Mobility Plan will provide specific cross-sections to define what these Complete Streets will look like across the different land-use contexts within our Town. The plan will also provide implementation guidance by combining the vision of the *2040 Community Plan* with these Complete Streets concepts.

Town of Huntersville Zoning Ordinance – Article 5 Streets

Article 5.1 Summary

Streets are an integral component of community design and represent the largest percentage of public open space in town. In Huntersville, public streets are designed with the land uses adjacent to the street to safely accommodate mobility, access, and travel for all users. All streets should connect to help create a comprehensive network of public areas to allow movement of automobiles, transit vehicles, bicyclists, and pedestrians. All elements of community design must be incorporated with the design of the street network to promote motorized speeds that are appropriate to their context.

Streets shall:

1. Incorporate appropriate accommodations for all modes of transportation including, vehicles, pedestrians, bicyclists, and transit users, and may include user amenities such as shelters, benches, and bike racks.
2. Interconnect within a development and with adjoining development. Cul-de-sac streets may be allowed only where topographical and/or adjacent development offer no practical alternatives for connections or through traffic. Street stubs shall be provided within developments adjacent to vacant land or land suitable for redevelopment, wherever possible, to provide for future connections. The Land Development Map, Huntersville Community Plan and any applicable Small Area Plans should be reviewed to locate potential connections in new neighborhoods.
3. Be bordered by sidewalks on both sides, with the exception of ditch-type local streets, alleys, and the undeveloped edge of parkways (see Article 7.11). Sidewalks on one side of the road may be permitted in the Rural zone as an incentive to protect water quality.
4. Be lined with street trees on both sides, with the exception of ditch-type local streets, alleys, and the undeveloped edge of parkways (see Article 7.11).
5. Be public. Private streets are not permitted within any new development. Alleys will be classified as public or private depending on function. Private drives are permitted only as specifically provided for in these regulations.
6. Generally, all buildings will front on public streets.

Figure 1.1. The Town of Huntersville's Streets Policy found in Article 5 of the Zoning Ordinance

1.1 Purpose & Need

The purpose of this Mobility Plan is to synthesize the recommendations from previous regional, state, and local transportation and land use plans— including the *2040 Community Plan* and the regional Comprehensive Transportation Plan—into street cross-section designs that consider and reflect the Town's Complete Streets policy and its land use context and development patterns.

The need for this plan stems from the fact that the regional Comprehensive Transportation Plan (CTP), which is maintained by the Charlotte Regional Transportation Planning Organization (CRTPO), provides an outline of where the roadway, pedestrian, bicycle, and public transit systems need to be improved or expanded, but it does not define how they need to be improved. It is the work of this Mobility Plan to do just that.

1.2 Vision & Goals

The vision and goals were developed based on input from the Mobility Plan Technical Committee (TC)—which included representatives from Town of Huntersville, Charlotte Area Transit System, NCDOT Division 10, NCDOT Integrated Mobility Division (IMD), and CRTPO—as well as from the public. Through a series of activities and discussions, the TC established vision and goal statements that reflected the mobility principles outlined in the *2040 Community Plan*, namely multimodal connectivity, safety, and choice of travel mode. These vision and goal statements were then presented to the public for feedback and refinement at the public engagement events in May 2023, and ultimately the objectives were outlined for how the vision and goal would be achieved.

The following arose from these efforts and was approved by the TC:

Vision

Our vision is to have a transportation network that integrates land uses; offers choices to safely connect pedestrians, bicyclists, transit riders, and motor vehicles to the community; and meets the needs for all users.

Goal

Safe & Accessible Mobility Choices for All.

Objectives

- Define Complete Streets cross-sections for all boulevards, major thoroughfares, and minor thoroughfares that are context-specific to the Town's various land-use areas.
- Create an online mapping database (GIS) of Huntersville's transportation network that shows the defined cross-sections, and that can be used to evaluate and prioritize transportation projects by considering local input, and
- Identify funding sources, partnerships, and collaborations to support the implementation and construction of multimodal, regionally connected transportation projects.

Downtown Greenway Bridge, opened 2023

CHAPTER 2

Existing Conditions

2. EXISTING CONDITIONS

An analysis of existing conditions was conducted based on existing demographics, major corridors, activity centers, trip patterns, commuting patterns, and current/future land use to better understand the mobility needs of the Town of Huntersville. Following the existing conditions analysis, connectivity across Town was assessed to determine gaps in the network.

2.1 Geography & Study Area

The study area for the Mobility Plan includes the corporate limits of the Town and its extra-territorial jurisdiction (ETJ). The Town of Huntersville is located in the northern part of Mecklenburg County, just north of the City of Charlotte, and south of the Towns of Cornelius and Davidson (Figure 2.1, on the following page). The Town stretches from Cabarrus County in the east to Lincoln County in the west, and is bisected by Interstate 77 (I-77), which runs north-to-south through the center of Town. US Highway 21 (Statesville Road) and NC Highway 115 (Old Statesville Road)—locally referred to as “21” and “115”, respectively—are additional north-south corridors, both of which are located east of I-77. Gilead Road/Huntersville-Concord Road, and NC 73 (Sam Furr Road) serve as the main east-west thoroughfares in the Town, along with Hambright Road, Stumptown Road, and Ramah Church Road. The historic downtown is located at the intersection of Gilead Road and NC 115; other commercial centers include Birkdale Village, Northcross Shopping Center, and Bryton Towne Center.

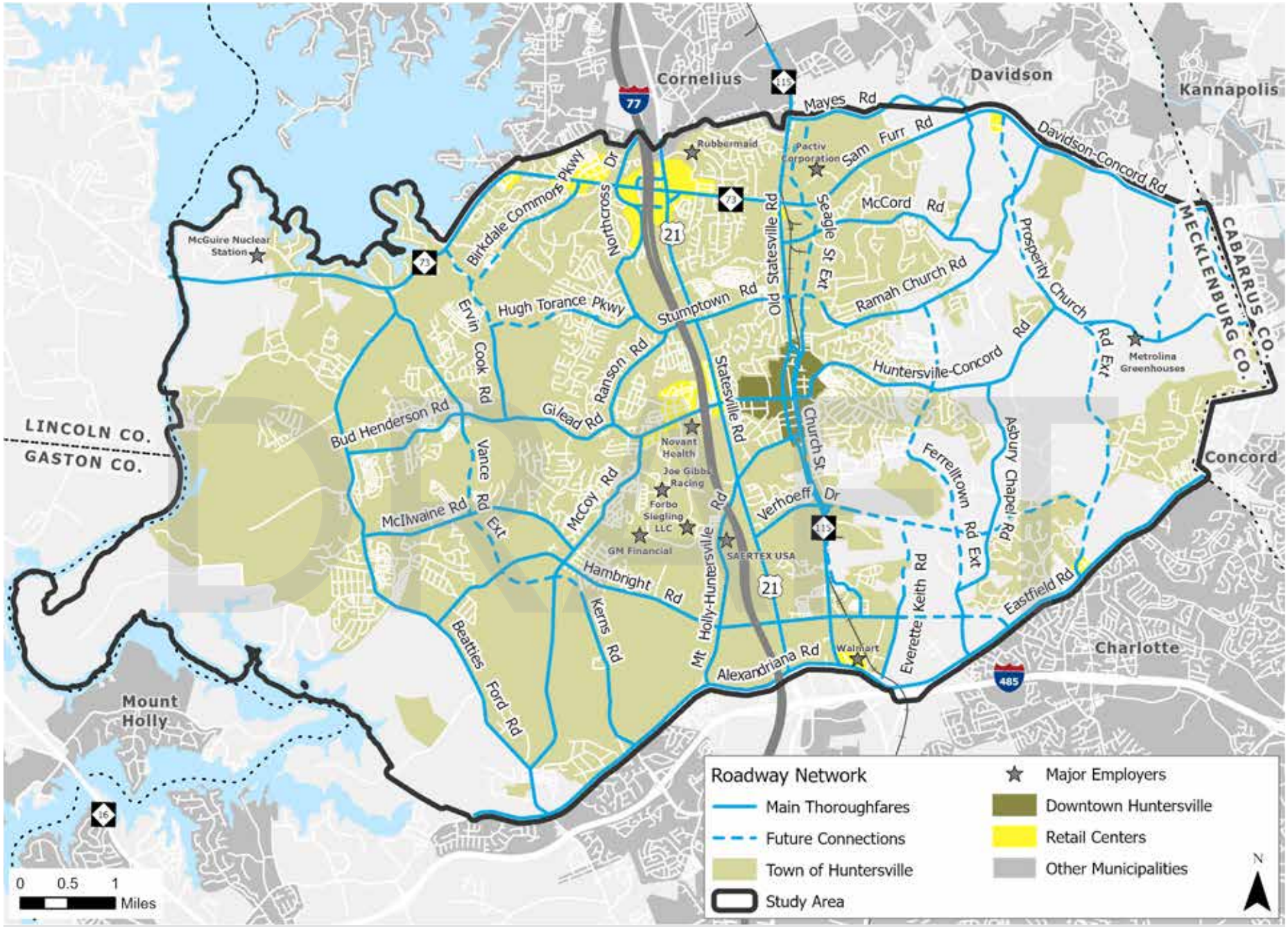


Figure 2.1. Huntersville Mobility Plan Study Area and Roadway Network (Source: CRTPO CTP, available at https://crtpo.org/resources/maps-gis/)

2.2 Population

The population of Huntersville has grown dramatically in the past 30 years, from approximately 3,000 residents in 1990 to 61,376 in the 2020 Census. The current estimate for 2023 is approximately 68,377[1]. This rapid growth has resulted in increased travel demand and traffic on our roadway network.

Population density can be a key indicator of transportation demand. As population density increases, the number of trips made in an area increases and traffic and congestion can increase as well. In Huntersville, the denser areas of Town are north of Gilead Rd and along-side to Interstate 77 where large, single family residential communities such as Wynfield, Birkdale, Cambridge Grove and The Hamptons (among others) are located (Figure 2.2, at right).

Future population growth is expected to continue in Huntersville, and where that growth occurs will have a significant impact on Huntersville's transportation system. According to the Metrolina Regional Model (MRM) that estimates daily travel patterns based on existing and projected transportation and development patterns, Huntersville is expected to increase to as many as 106,567 people by 2040. The majority of that growth is expected to be in the western, southern, and eastern reaches of the Town's sphere of influence, as depicted in Figure 2.3 on the following page.

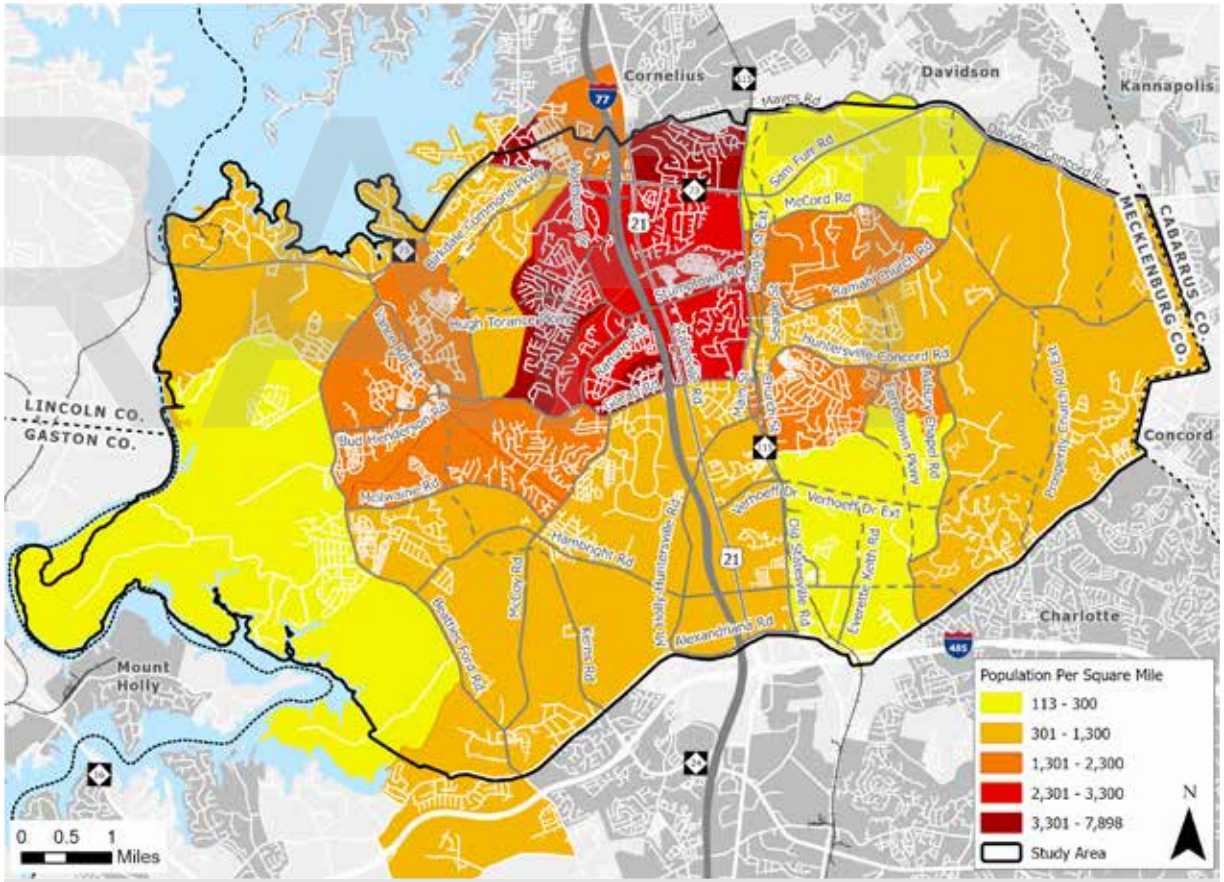


Figure 2.2. Huntersville Population Density 2022 (Source: U.S. Census Bureau)

1 Town of Huntersville, based on NC Office of State Demography

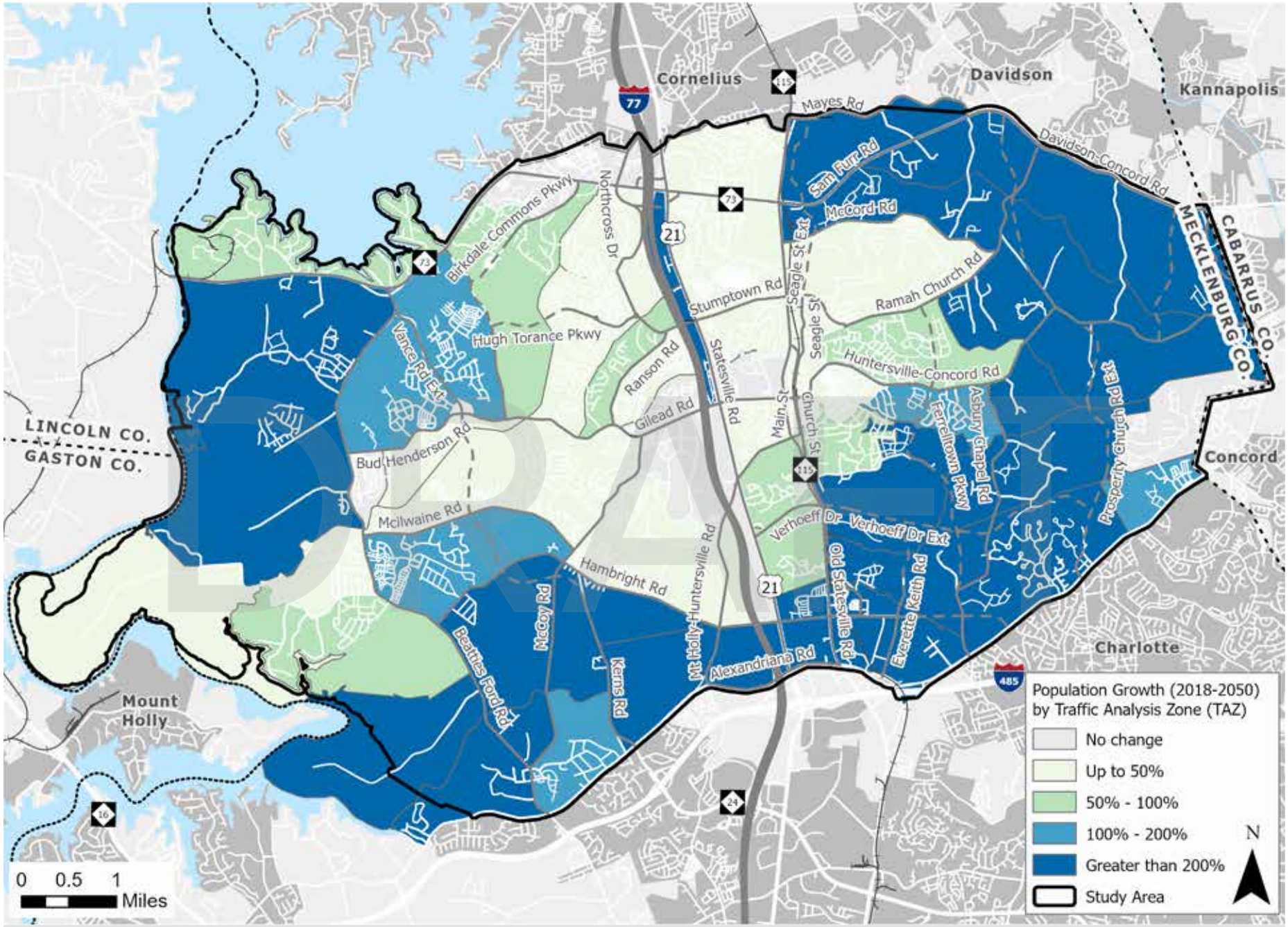


Figure 2.3. Huntersville's Projected Population Growth 2018-2050 (Source: Metrolina Regional Model)

2.3 Employment

This section uses spatial data to understand where Huntersville residents work and where the employment centers are in Huntersville. OnTheMap is a U.S. Census based web-based mapping application that uses Longitudinal Employer-Household Dynamics (LEHD) Origin-Destination Employment Statistics (LODES) data, to understand where people work in Huntersville.

There are clusters of employment density along the I-77 corridor in Huntersville, and on the outskirts of downtown Huntersville, as shown in Figure 2.4. The largest concentrations of employment are located near interchanges off of Interstate 77 at Sam Furr Road and Gilead Road. Access to these areas contributes to the concentration of employment, as does the presence of Huntersville Business Park off Gilead Road, which includes over 2.5 million square feet of office, flex, and medical space and is home to several large employers including Joe Gibbs Racing and the Novant Health Huntersville Medical Center. At Sam Furr Road, Birkdale Village and other regional shopping destinations translates to a large employment center.

There are two large employers that are located away from Interstate 77. McGuire Nuclear Station is located off NC 73 at Lake Norman and uses water from Lake Norman as part of its power generation, and Metrolina Greenhouses which is located off Huntersville-Concord Road where the rural nature of the area allows for its large footprint. The proximity to both Interstate 77 and Interstate 85 to the east also benefits Metrolina Greenhouse, which ships its products via trucks throughout the region.

The Metrolina Regional Model (MRM) also provides employment projections based transportation and land use patterns. According to the MRM, significant job growth is expected in northeast Huntersville along NC 73 and in south central Huntersville east of NC 115 and around future extensions of Verhoeff Drive, Hambright Road, and Everette Keith Road. Future job growth patterns for Huntersville are shown in Figure2.5 on the facing page.

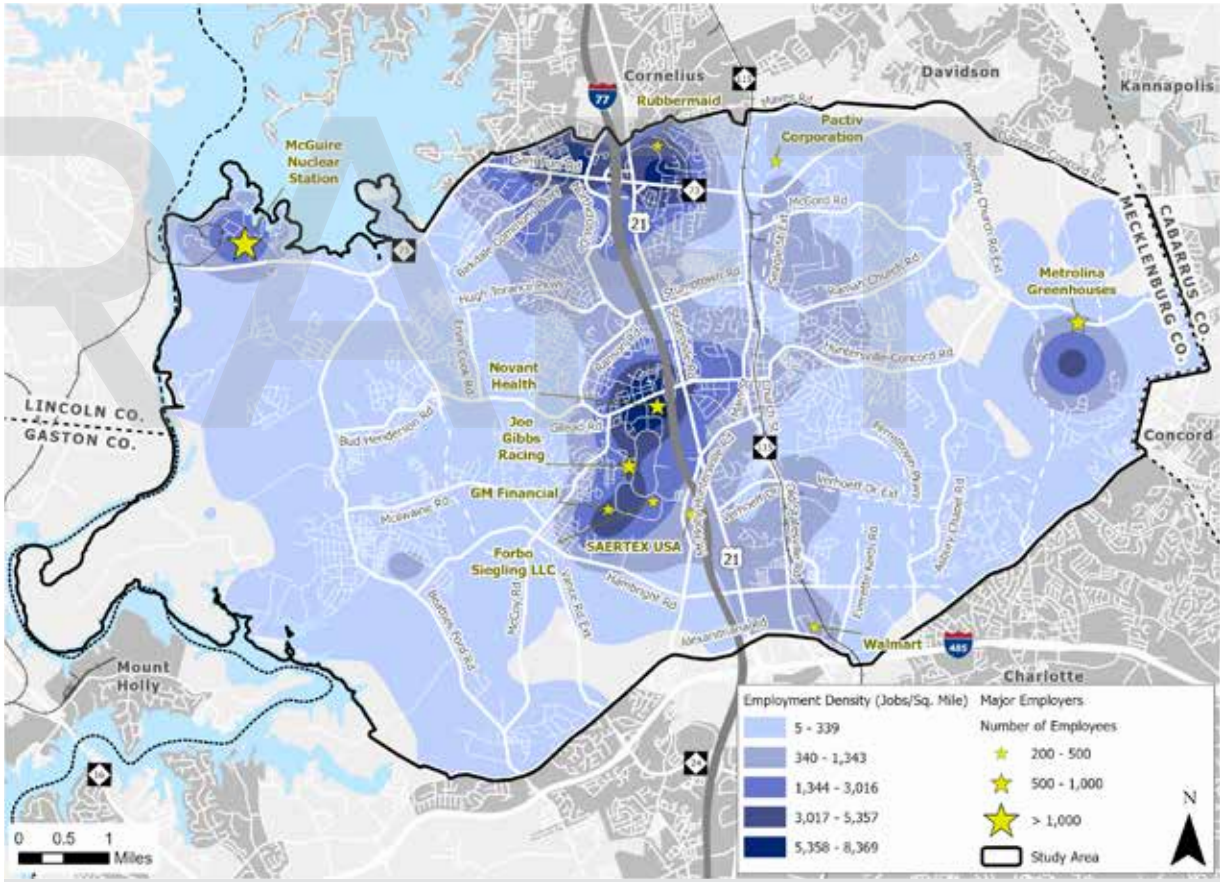


Figure 2.4. Huntersville Employment Density, 2021 (U.S. Census Bureau OnTheMap)

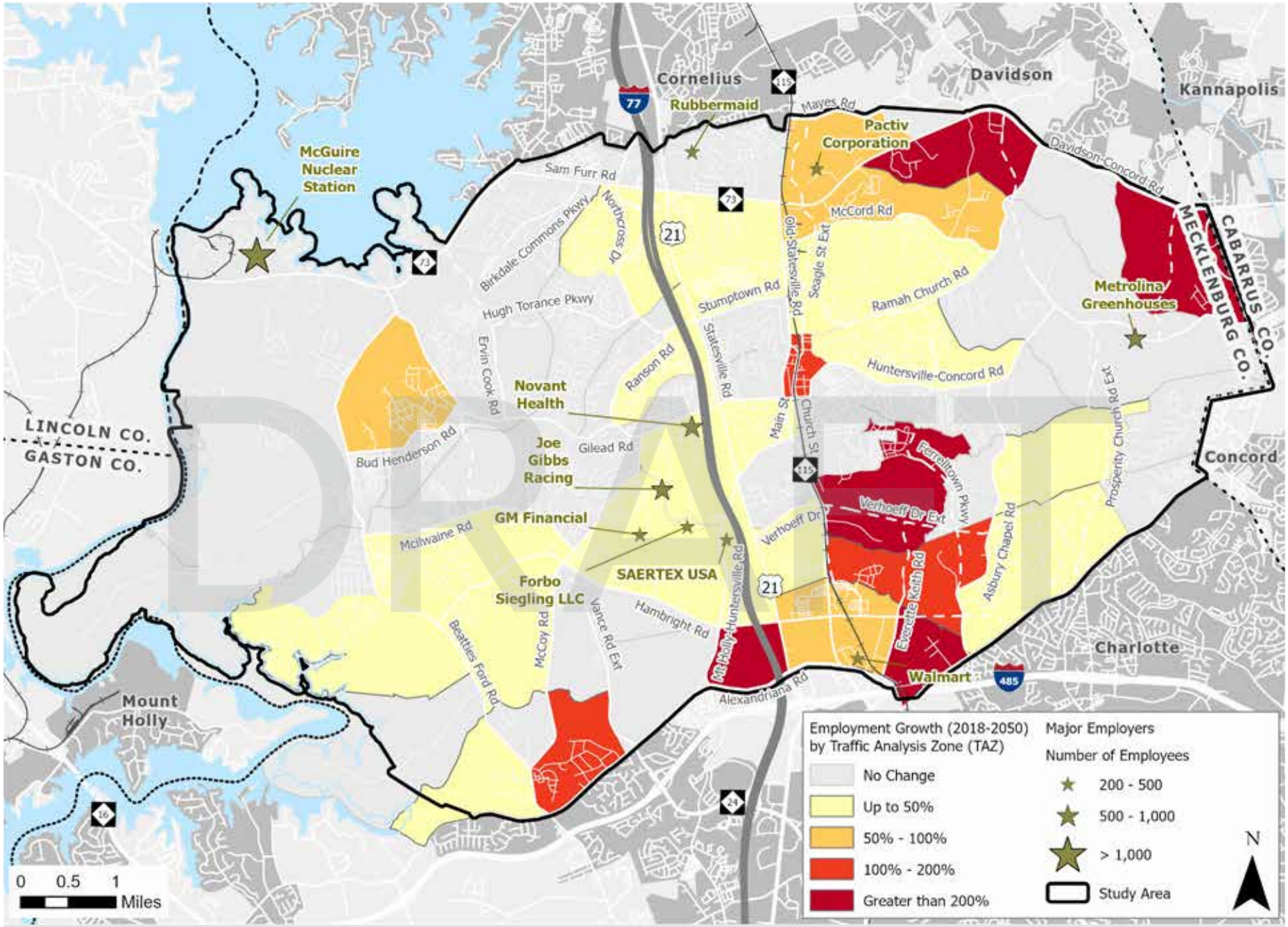


Figure 2.5. Huntersville's Projected Employment Growth 2018-2050 (Source: Metrolina Regional Model)

2.4 Land Use

The coordination of transportation infrastructure planning with current and anticipated land development patterns is crucial to meeting the mobility needs of Huntersville residents. The *Huntersville 2040 Community Plan* provides an inventory and analysis of existing land uses and a vision for the future spatial distribution of those uses. Figure 2.7, on the following page, shows the land use map from the *2040 Community Plan*,[1] depicting how industrial and commercial land uses are concentrated around I-77, US 21 and NC 115, which are surrounded by residential in the core and transitional areas. There are significant amounts of conserved land and rural, agricultural lands in the west and eastern edges of the Town's planning jurisdiction.

Throughout the Town, there are 6,000 acres in conservation or parks. Single-family housing is the largest percentage of physical land use at 29% of the land area, representing approximately 52% of all property value within Huntersville.[2]

Land use types and densities have profound impacts on the transportation network. Areas with high population and/or employment density tend to increase demands on the transportation system, while lower-density development creates a distinct set of challenges. As summarized in Figure 2.6, at right, higher density uses result in more frequent, shorter trips. They also support walking, cycling, and public transit as viable modes of transportation. By contrast, low-density uses are associated with longer trips and less viability for alternative transportation.[3]

1 *Huntersville 2040 Community Plan*, Adopted 2020. https://www.letsplanhuntersville.org/huntersvile-2040

2 Ibid.

2.4.1 Existing Development Pattern

Huntersville's existing land use is a result of zoning laws whereby land uses are separated by zoning type—residential, commercial, industrial, etc. This typically results in a development pattern where higher intensity uses are concentrated along major thoroughfares and less intense uses (like single-family residential) are spread out away from the more intense uses. Currently, more intense uses are concentrated along US 21, NC 115 , and NC 73 (Sam Furr Road); the higher capacities of these roadways support the relatively higher densities in the vicinity. There is a diversity of uses along these corridors that serve both local residents and through-traffic—from shopping centers and industry to hotels and gas stations.

3 Mattson, Jeremy. "Relationships between density, transit, and household expenditures in small urban areas". Transportation Research Interdisciplinary Perspectives, November, 2020; Nasri, Arefeh. "The Influence of Urban Form at Different Geographical Scales on Travel Behavior; Evidence from US Cities", Ph.D. Thesis, University of Maryland, College Park, MD, March 2016.

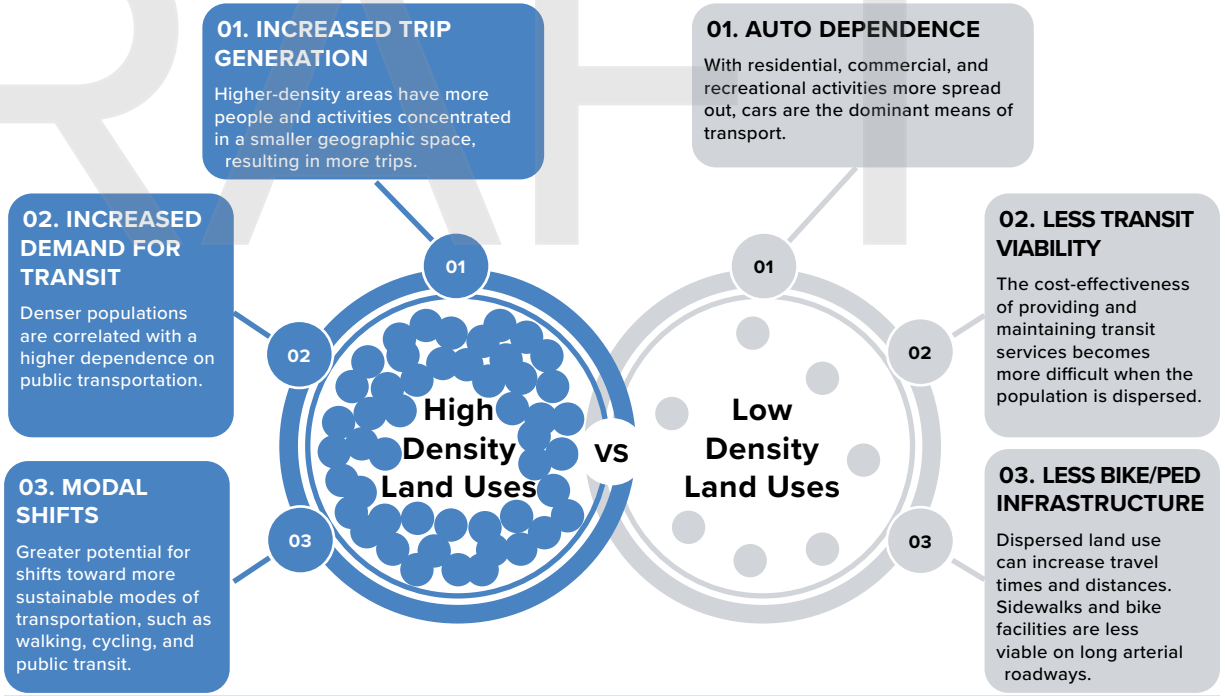


Figure 2.6. Impacts of Land Use Density on Mobility

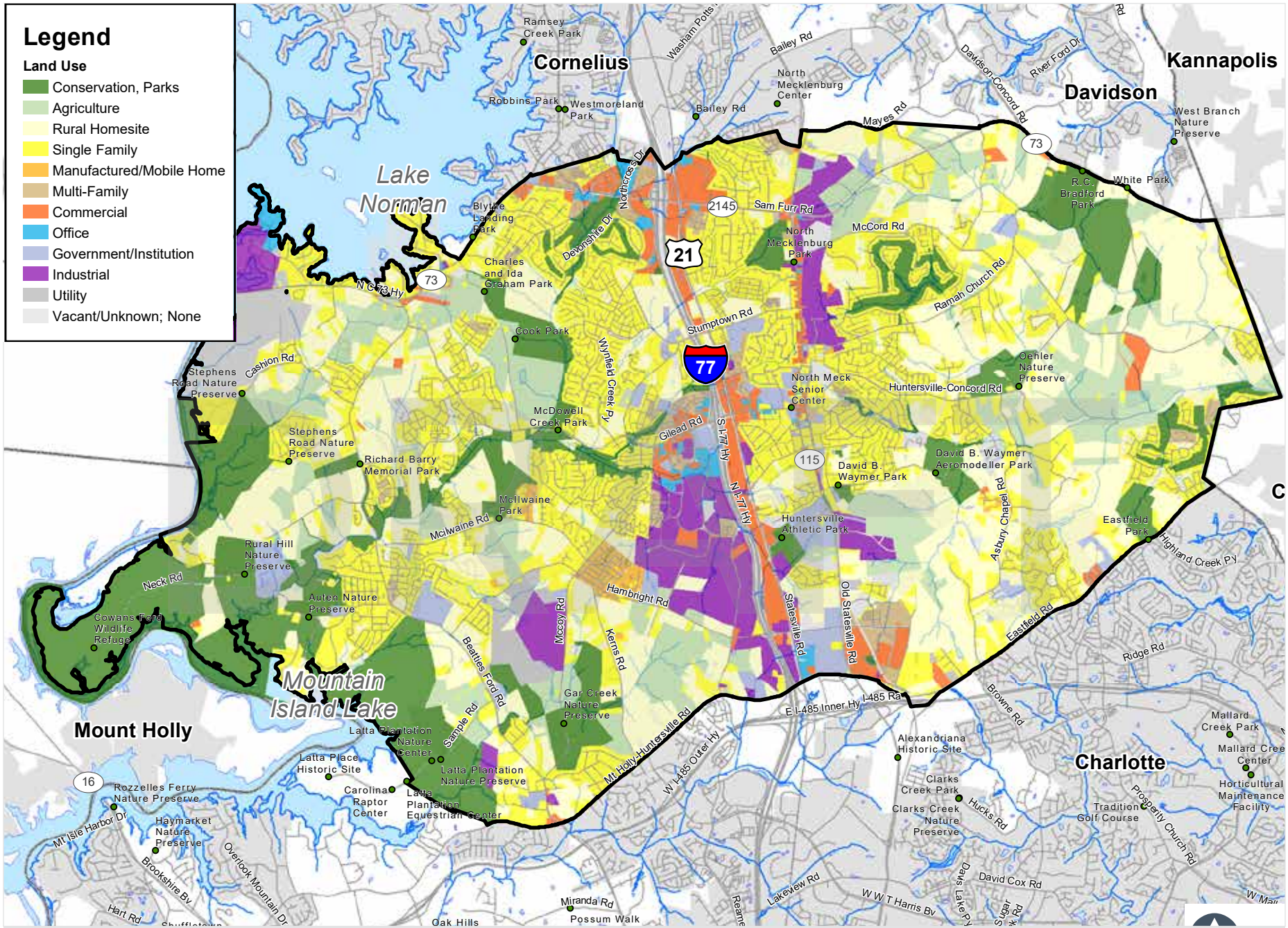


Figure 2.7. Huntersville Existing Land Use (Source: *Huntersville 2040 Community Plan*)

2.4.2 Zoning & Future Land Use

While the existing land use follows a historic pattern of segregated uses that favors vehicular modes of transportation, Huntersville's current form-based code and the Future Land Use Map are shaping a different development pattern—one that efficiently connects residents to essential services and enhances overall mobility within the community. Of the 15 General Districts in Zoning Ordinance, 6 fall under the "Mixed Use" Classification. These Districts prescribe a diverse mixture of land uses connected by walkable streets.

Similarly, the Future Land Use Map (Figure 2.8) designates several areas for mixed-use nodes, a large "Town Core" Character Area that accommodates a variety of residential densities as well as appropriate non-residential uses, and employment centers that support a "live, work and play" environment. All future land use decisions must be supportive of and compatible with the Future Land Use Map. Over time, this will result in a better-connected, more vibrant, and sustainable community fabric.

The Future Land Use Map provided the context for anticipating future land-use intensities and related travel patterns that need to be accommodated for with a multimodal transportation network. The recommended cross-sections in this plan align with Huntersville's zoning and land use vision by:

- Focusing the provision of vehicular, bicycle, and pedestrian infrastructure within the Town Core Character Area that accommodate multimodal access and connectivity to the variety of uses consistent with the designation.
- Improving arteries in the Moderate Density Residential Areas to support the increased capacity.
- Linking Mixed-Use Nodes and Activity Centers to efficiently move residents to and from the Town's most vibrant places.
- Limiting right-of-way impacts in the Rural Conservation and Critical Watershed areas.

As implemented over time, the *Huntersville Mobility Plan* create a transportation system that embodies the vision of the *2040 Community Plan* to create a well-connected and accessible, multimodal transportation network that links residents to essential services and enhances overall mobility within the community.

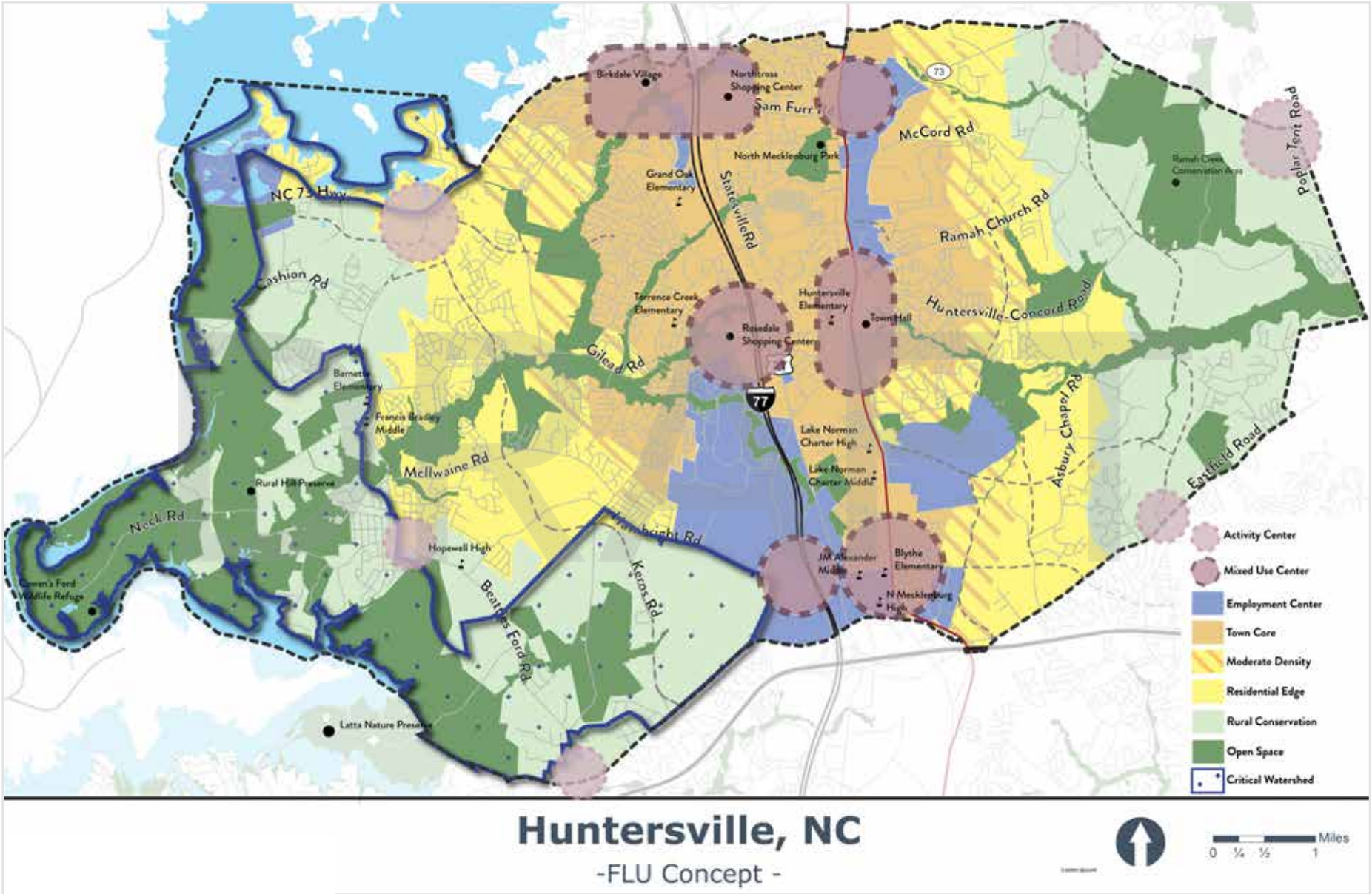


Figure 2.8. Huntersville Future Land Use (Source: *Huntersville 2040 Community Plan*)

2.5 Transportation Disadvantaged Populations

NCDOT's Transportation Disadvantaged Index (TDI) was used assess transportation needs of residents within Huntersville. The TDI tool uses census block-group level data to identify areas with higher proportions of certain populations who have been shown to be susceptible to transportation challenges and have more difficulties overcoming transportation barriers. The TDI considers six demographic factors: zero-vehicle ownership, poverty, youth aged 15 and under, seniors aged 65 and older, disability/ mobility impairments, and populations of racial and ethnic minorities.

Each census block group is given a comprehensive score from 0 to 21 that ranks the proportion of these demographics against the respective county, division, metropolitan planning organization (MPO), and the state. The higher the index score for a selected block group, the higher the proportion of these demographic groups in the area, and a greater degree of transportation disadvantage. TDI provides a high-level assessment of where the community may be facing transportation challenges, which the Town can use as a starting point to further investigate and target the appropriate transportation improvements where they are most needed.

The TDI tool is used in many state and federal funding grant programs to target investments to areas of high need. In general, the Town of Huntersville scores in the middle range of the TDI, with relative scores between 7 and 11 out of a total possible 21. In Mecklenburg County, scores range between 3.5 and 19.5, with the median score for the county being 12.

The TDI scores for Huntersville are shown in Figure 2.9 on the following page. The two highest scoring block groups in Huntersville are located between Kerns Road and US 21 south of Gilead Road, and between US 21 and NC 115 north of Gilead Road. Both block groups have relatively high minority populations (54.9 percent and 45.3 percent respectively compared to 25.3 percent for the town as a whole), as well as high poverty rates (23.3 percent and 20.6 percent respectively compared to 9.2 percent for the town as a whole). Both block groups have relatively high disabled populations compared to the town as well (13.2 percent and 14.4 percent compared to 9.1 percent for the town). It is also noteworthy that one of the block groups with relatively higher scores is located on the southwest part of town, with the majority of the block group spilling into Charlotte and unincorporated areas of the county. The majority of the population is outside the town limits. Similarly, a block group on the north side of town is located partly in Huntersville and partly in Cornelius, although the population is more evenly dispersed throughout the block group.

It is important to note that although that there are not any highly disadvantaged areas at the block-group level, there are smaller pockets of high-need populations that may be obscured by surrounding areas of affluence. For instance, the Huntington Green neighborhood, which has a higher proportion of racial minorities, poverty, and disability, is found within a block-group that is largely zoned as commercial or very low-density residential, so the disadvantaged status is diluted across a large area. Similarly, the Pottstown neighborhood has a higher proportion of racial minorities and households without a vehicle, but the block-group that it falls within also includes the Vermillion neighborhood that has higher car ownership and fewer minorities. Understanding the specific transportation needs of these relatively disadvantaged neighborhoods and other like them may require further study in order to target the appropriate transportation investments.

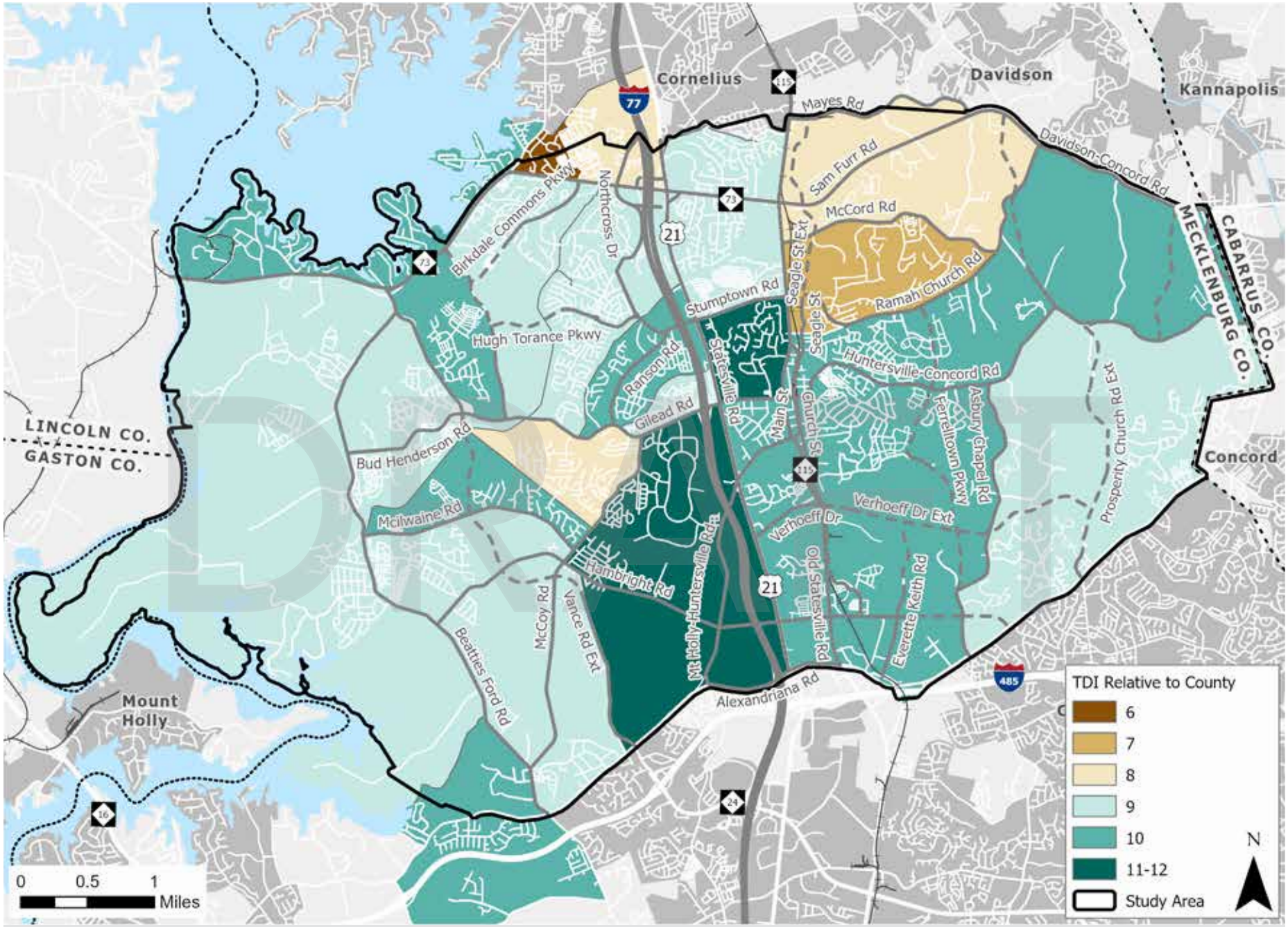


Figure 2.9. Huntersville Transportation Disadvantaged Index Scores relative to County (Source: NCDOT Transportation Disadvantaged Index (TDI).

2.6 Commuting Patterns

Commuting characteristics were analyzed using OnTheMap data (described in Section 2.4) to understand regional travel patterns and travel choices of people living and working in Huntersville. Table 2.1 breaks down where residents of Huntersville work (left column) where all people working in Huntersville live (right column). Figure 2.10, on the following page, shows graphically the travel patterns for Huntersville residents and workers.

Starting in the left column in Table 2.1, there are an estimated 32,629 Huntersville residents who are employed. Of those employed residents, 43.9% of them commute to Charlotte for work. The second largest percentage of residents, 9.7%, remain in Huntersville for work.

In terms of workers in Huntersville, the largest percentage, 22.6% are coming from Charlotte. Nearly 11% of Huntersville workers live in town. Most individuals employed in Huntersville live outside of the Town limits (89.1%).

This information provides greater context to understand the direction from which various employees are traveling into the Town and can inform recommendations regarding future mobility opportunities. The information presented here is crucial to understanding current vehicular, pedestrian, bicycle, and transit travel patterns, since commuting trips make up a large proportion of all trips. Travel mode splits for commuting trips are explored in the following sections.

Table 2.1. The Town of Huntersville's Complete Streets Policy

COMMUTE OUT OF HUNTERSVILLE			COMMUTE INTO HUNTERSVILLE		
WHERE HUNTERSVILLE RESIDENTS WORK			WHERE HUNTERSVILLE WORKERS LIVE		
Huntersville	3,181	9.7%	Huntersville	3,246	10.9%
Charlotte	14,337	43.9%	Charlotte	6,752	22.6%
Cabarrus County	1,841	5.6%	Cabarrus County	2,525	8.4%
Iredell County	1,776	5.4%	Iredell County	2,476	8.3%
Unincorporated Meck Co.	1,732	5.3%	Gaston County	1,564	5.2%
Cornelius	1,247	3.8%	Lincoln County	1,134	3.8%
Wake County	1,026	3.1%	Cornelius	1,116	3.7%
Gaston County	736	2.3%	Rowan County	921	3.1%
Davidson	573	1.8%	Union County	882	3.0%
Union County	546	1.7%	Unincorporated Meck. Co.	853	2.9%
Lincoln County	456	1.4%	Wake County	819	2.7%
Guilford County	441	1.4%	Catawba County	759	2.5%
York County, SC	380	1.2%	York County, SC	520	1.7%
Rowan County	355	1.1%	Davidson	319	1.1%
Matthews/Mint Hill	346	1.1%	Matthews/Mint Hill	308	1.0%
All Others*	3,656	43.9%	All others*	5,694	19.3%
Total Commuting Out	**29,448**	**90.3%**	Total Commuting In	**26,642**	**89.1%**
Total Huntersville Residents Jobs	32,629		Total Jobs in Huntersville	29,888	

*"All Others" categories is comprised of cities/counties whose individual total was <300.
Source: U.S. Census Bureau. (2024) LEHD Origin-Destination Employment Statistics (2002-2021). Washington, DC: U.S. Census Bureau, Longitudinal-Employer Household Dynamics Program, accessed on March 4, 2024. At https://onthemap.ces.census.gov/ LODES 7.5

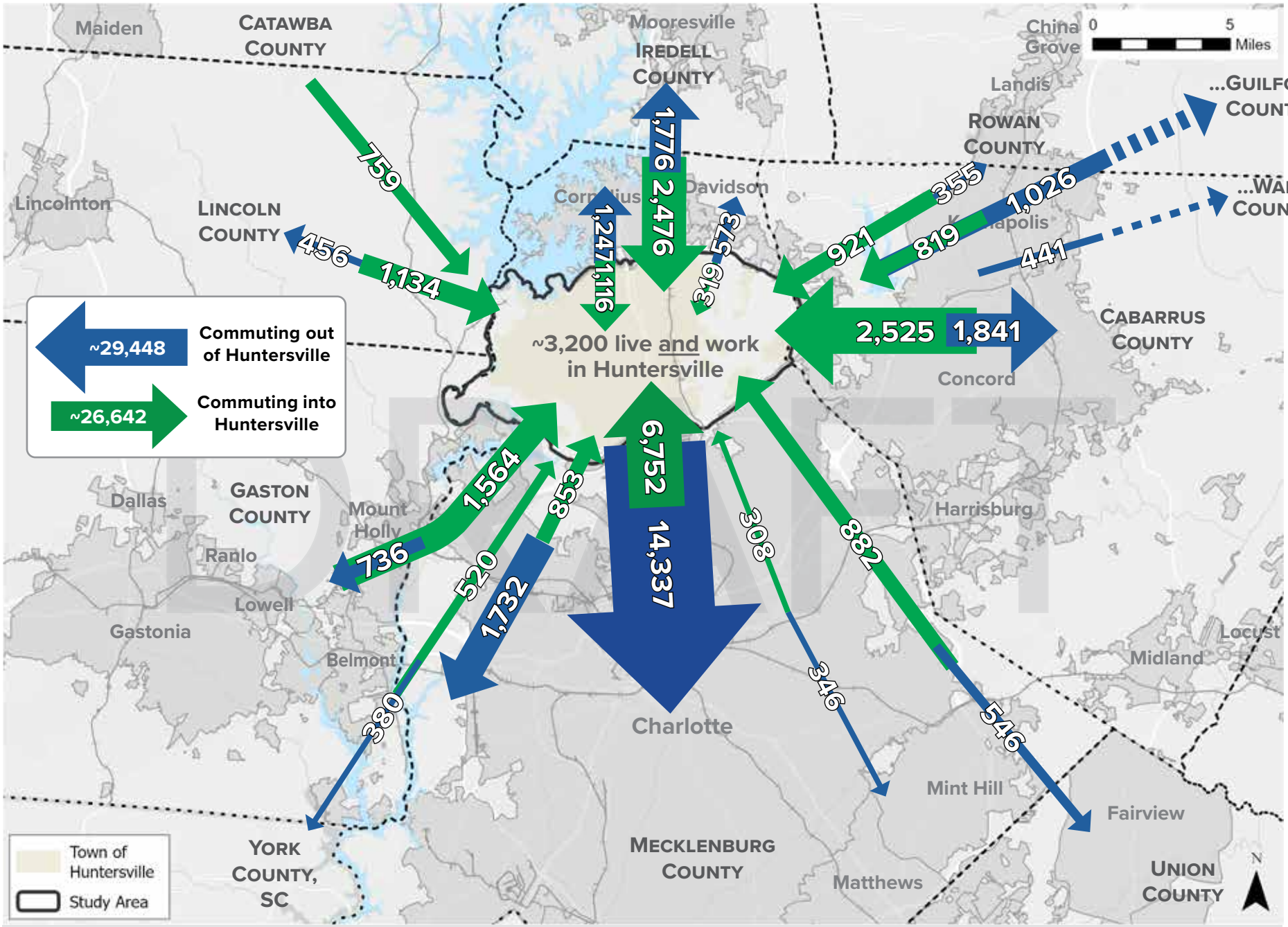


Figure 2.10. Travel Patterns of Workers and Residents (Source: (2024) LEHD Origin-Destination Employment Statistics (2002-2021))

2.7 Trip Counts by Mode

In addition to reviewing the flow of workers into/out of Huntersville, the team reviewed the mobility patterns within Huntersville using data obtained from Replica to better understand what mode of travel—car, bike, foot, transit—people use to get around. Replica is a planning tool that captures mobile location data (including data obtained from mobile devices such as cell phones), real estate data, and consumer and economic spending data to provide a comprehensive picture of movement patterns.

Replica data includes travel mode data that is presented at the road segment level. Replica data for total trips by mode for the sample week of March 30th through April 6, 2024 shows that private auto trips and auto passenger trips (such as carpool riders) are the primary modes of travel (Table 2.2).[1] In Replica terminology, "private auto" corresponds to trips made by drivers in private auto vehicles, whereas "auto passenger" corresponds to trips made by passengers in private auto vehicles. Overall, nearly 88% of all trips are made using a vehicle (both as private auto and auto passenger trips). Walking trips are a smaller share of overall trips (11.7%). Biking and transit trips each represented less than 1% of total trips.

A review of historical Replica data shows the total daily trips by mode for the period between September 2022 and February 2024 remains relatively unchanged for the study area.

2.7.1 Vehicular Trips

The average number of motor vehicular trips per day for each road segment in Huntersville is shown in Figure 2.11. Auto trips are highest along roads where interchanges with I-77 are located: Sam Furr Road (NC 73), Gilead Road, and Hambright Road, as well as along US 21 and NC 115. Traffic volumes are also slightly higher along Beatties Ford Road. Additionally, there are higher traffic volumes on southern sections of NC 115 that connect to I-485. All of these roads provide access to Charlotte and other regional destinations and are likely used for commuting trips.

Table 2.2. Huntersville Commuting Trips by Mode

DAILY TRIPS BY MODE		
Mode	**Total Trips**	**Percentage of Trips**
Auto - Single Occupant	143,747	71.3%
Auto - 2+ Occupants	33,602	16.7%
Walking	23,526	11.7%
Bike	503	0.2%
Transit	275	0.1%

1 Replica Dashboard accessed 6/10/24. https://studio.replicahq.com/trends/dashboard/7227/5112915

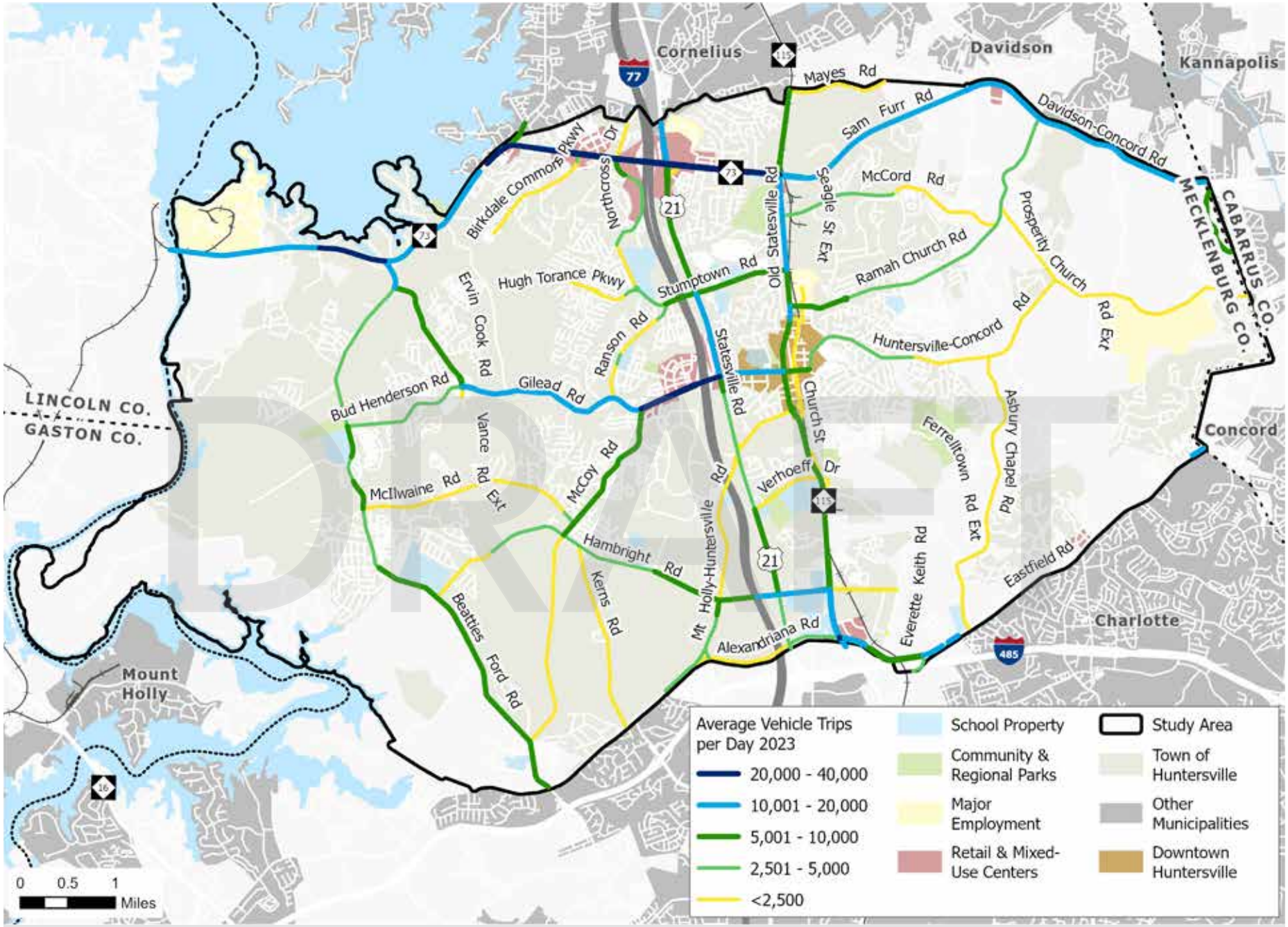


Figure 2.11. Distribution of Auto Trips (Source: Replica Dashboard accessed 6/10/24. https://studio.replicahq.com/trends/dashboard/7227/5112915)

2.7.2 Truck Trips

Total truck traffic was also analyzed in the review of the roadway network and is shown in Figure 2.12, on the following page. Truck traffic data comes from NCDOT's traffic volume data and includes two different types of trucks. Single unit trucks include vehicles such as buses and dump trucks, and multi-unit trucks include tractor-trailer trucks. The figure shows the percentage of all traffic that is trucks, including both single-unit trucks and multi-unit trucks.

Truck traffic is especially high on I-77 where trucks make up approximately 8% of the total traffic. High truck volumes are also found on US 21 south of Sam Furr Road, where there are several manufacturing and trucking facilities located, especially south of Gilead Road. Sam Furr Road/ Davidson Concord Road also has relatively higher truck traffic compared to the rest of the town. This is also likely due to the presence of manufacturing and warehouses along the corridor.

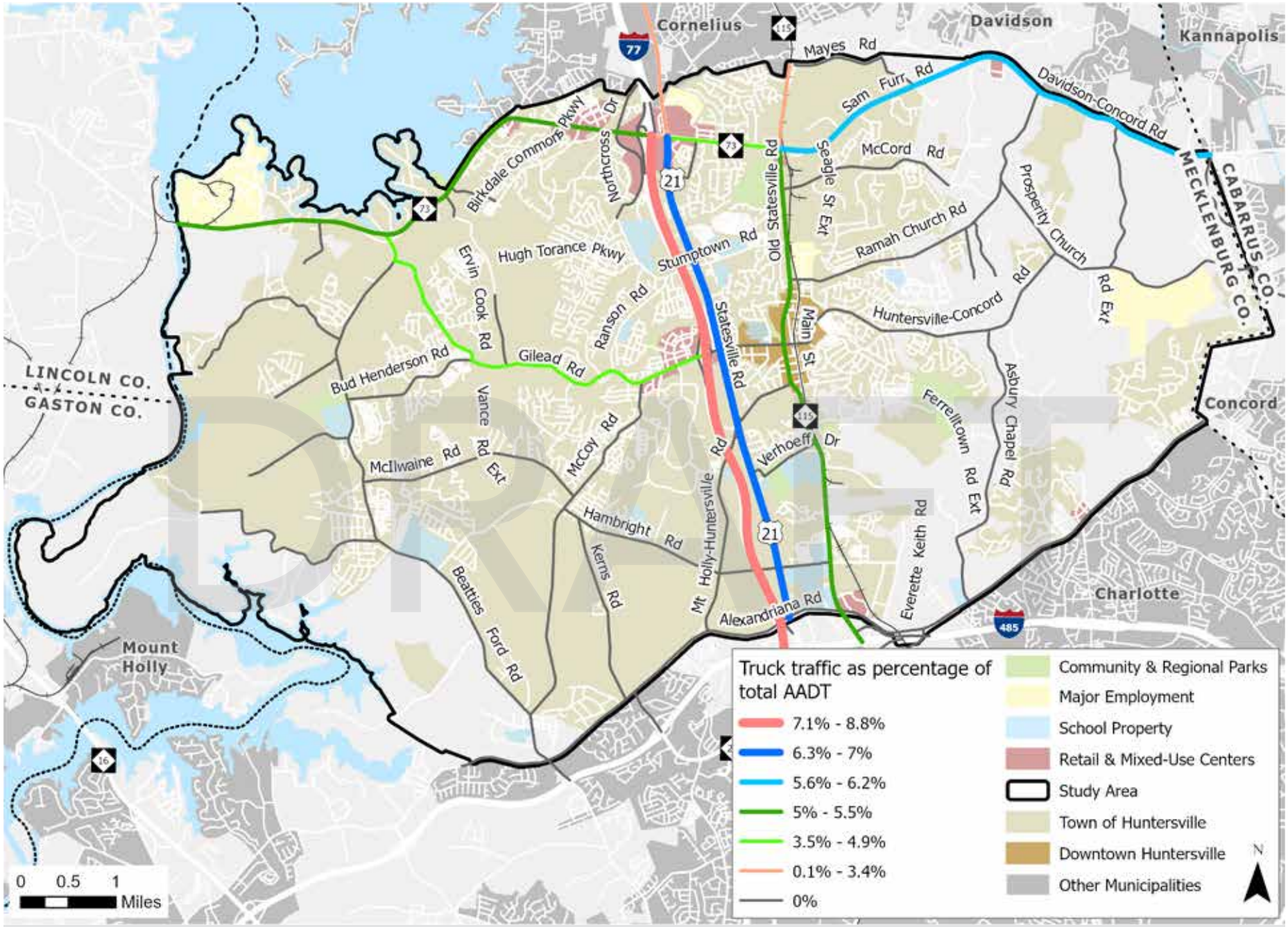


Figure 2.12. Freight traffic in Huntersville (Source: NCDOT Traffic Segments Shapefile, https://connect.ncdot.gov/resources/State-Mapping/Pages/Traffic-Survey-GIS-Data.aspx. Accessed 6/10/2024)

2.7.3 Walking Trips

The Replica travel mode data included trip information on non-vehicular travel, including bicycle and walking trips. Walking trips are shown in Figures 2.13 (Downtown Huntersville) and 2.14 (all of Huntersville). There are sections of roadways throughout the town that have over 100 daily walking trips on them. Some of these sections are busy roads with sidewalks along them (e.g., Gilead Road near Huntersville Elementary School, and Sam Furr Road near Target), while others are along busy streets that have no sidewalks (e.g., Gilead Road across I-77, Stumptown Road across I-77, and Beatties Ford Road north of McIlwaine Rd).

Section 2.8.4, starting on page 34, shows the where sidewalks are present.

Figure 2.13. Downtown Inset of Walking Trips (Source: Replica Dashboard)

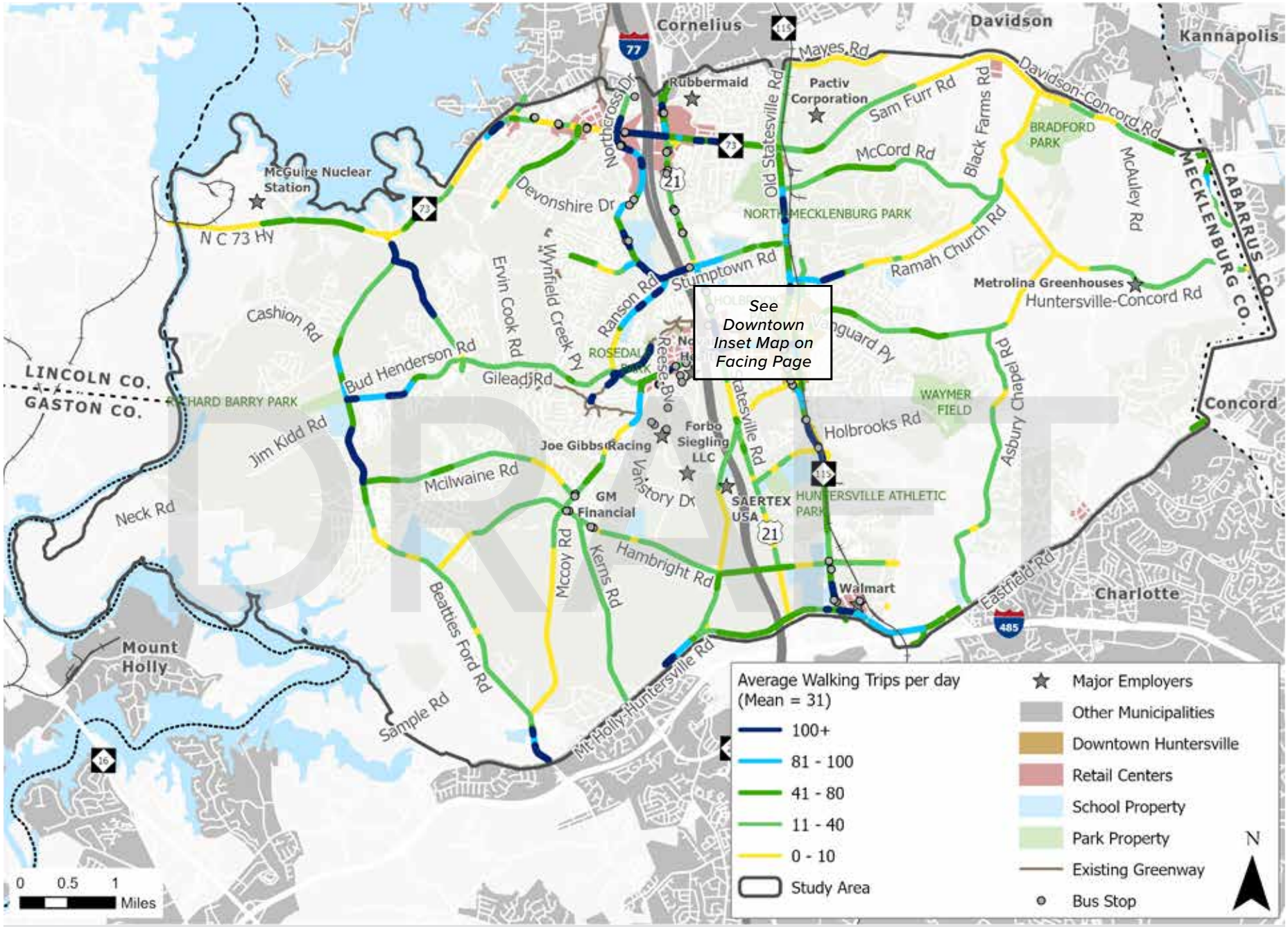


Figure 2.14. Distribution of Walking Trips (Source: Replica Dashboard accessed 6/10/24. https://studio.replicahq.com/)

2.7.4 Biking Trips

According to the Replica travel model data, there are sections of Gilead Road, Stumptown Road, Ranson Road, Birkdale Commons Parkway, Old Statesville, among others, that have an average of over 40 biking trips per day (Figure 2.15 and Figure 2.16). These roads have intermittent bike lanes in places, but the sections with 40+ trips include stretches that do not have any bike lanes.

See Section 2.8.5 on page 36 to see maps of where existing bike lanes are.

Figure 2.15. Downtown Inset of Biking Trips (Source: Replica Dashboard)

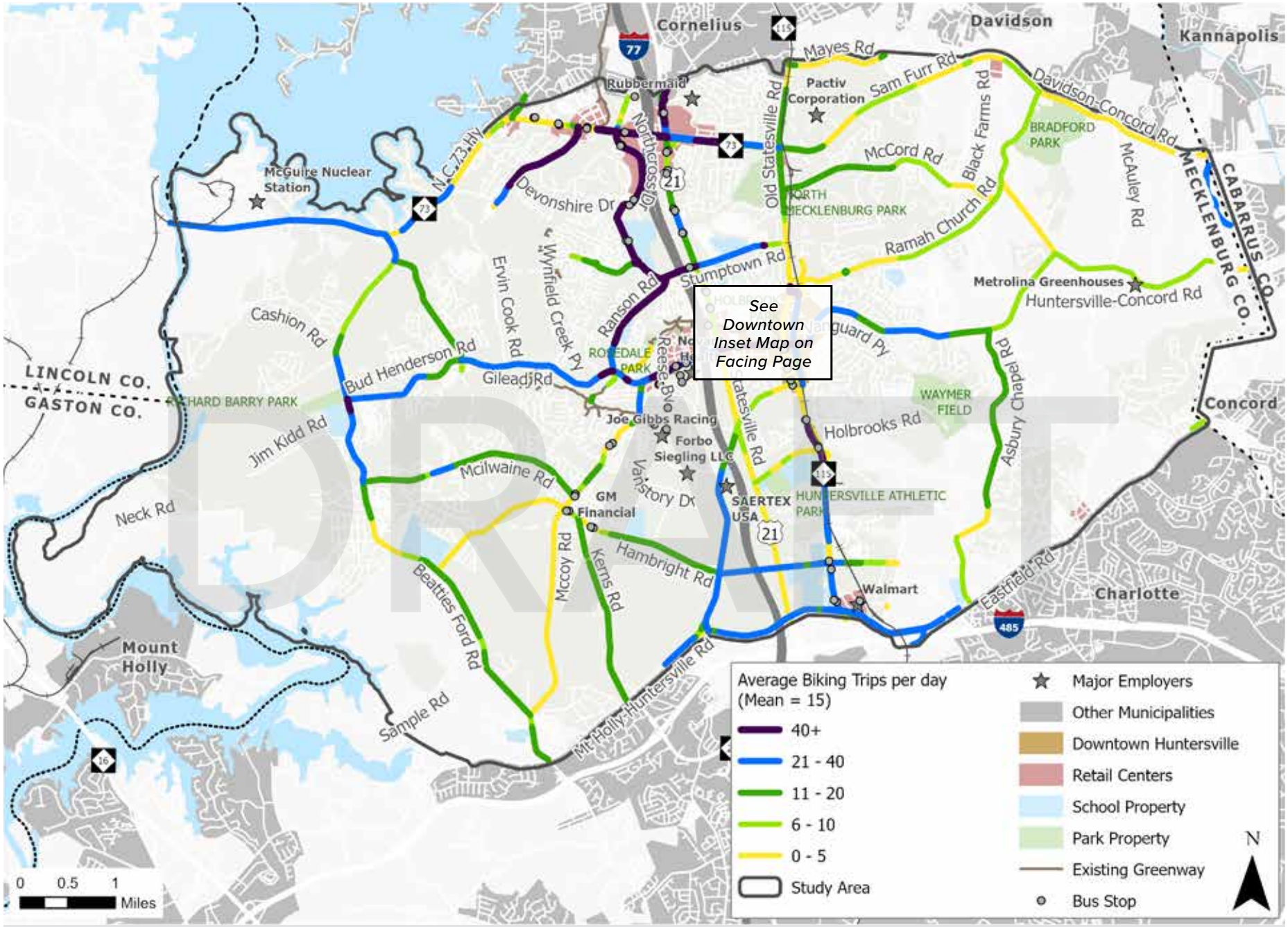


Figure 2.16. Distribution of Biking Trips (Source: Replica Dashboard accessed 6/10/24. https://studio.replicahq.com)

2.8 Existing Transportation Infrastructure

2.8.1 Roadway Network

The long-term vision for how the transportation network should evolve to serve residents and employers in our region is outlined in the Comprehensive Transportation Plan (CTP), which is maintained by the Charlotte Regional Transportation Planning Organization (CRTPO) for the greater Charlotte region. The CTP reflects the recommendations for future improvements for all modes of travel, including streets and highways, pedestrian facilities (sidewalks and trails), bicycle facilities (on-street as well as trails and multi-use paths), and public transportation. It identifies needed improvements and recommends new facilities to improve overall network connectivity. The existing and proposed network of streets and highways in the CTP, as depicted in Figure 2.17, served as the network for which cross sections were developed for the Mobility Plan.

There are three different CTP road classifications in Huntersville that were addressed in the Mobility Plan: boulevards, major thoroughfares, and minor thoroughfares. Interstate 77 is classified as a freeway in the CTP so is not included in the mobility network planning done in this plan. According to the CTP, the characteristics of the road classifications are:

- **Boulevards**: Provide moderate mobility and low to moderate access. Roads are typically two lanes, with speeds ranging between 30 to 55 MPH, and there is limited, partial, or no control of access.
- **Major Thoroughfares**: Provide moderate to low mobility and high access. Roads are typically two lanes with no median, with speeds ranging between 25 and 55 MPH, and no control of access.
- **Minor Thoroughfares**: The same design standards as major thoroughfares, however minor thoroughfares collect traffic from the local collector streets and carry it to the major thoroughfares.

In addition to the road classifications outlined in the CTP, roadways are classified into three different Improvement types, including:

- **Existing**: The existing facility meets current needs. The facility may be considered adequate based on a variety of factors, such as appropriate design, expected future traffic volumes, consistency with adopted plans, or livability objectives. The facility may also be considered adequate based on its context within the larger transportation network or because it is unbuildable due to physical constraints.
- **Needs Improvement**: The existing facility or service is (or is expected to be) inadequate and should be changed to accommodate expected traffic volumes, improve inadequate design, or identified safety issues, reflect pedestrian and bicycle facilities shown in adopted plans, improve poorly designed facilities, or fill in connectivity gaps.
- **Recommended**: There are no existing facilities, and a new facility or service is needed.

As is evident from Figure 2.17, as well as in the online version of the CTP, the future roadway network includes new roadway connections such as future extensions of Prosperity Church Road, Verhoeff Drive, Hambright Drive, Vance Road, and others.

The Huntersville roadway network has over 240 linear miles of roadway that the Town maintains, with an additional 120 miles of NCDOT maintained roads (not including i-77). The Comprehensive Transportation Plan recommends 26.2 linear miles of new roadways to support future development. Table 2.3 shows linear miles of roadway by classification.

Table 2.3. Summary of Existing and Proposed Roadways Miles

Roadway Classification	Linear Miles (Existing)	Linear Miles (Needs Improvement)	Linear Miles (Recommended)
Interstate/Freeway	--	11.7	--
Boulevard	1.9	25.7	9.3
Major Thoroughfare	1.5	11.4	1.2
Minor Thoroughfare	5.7	37.8	15.7

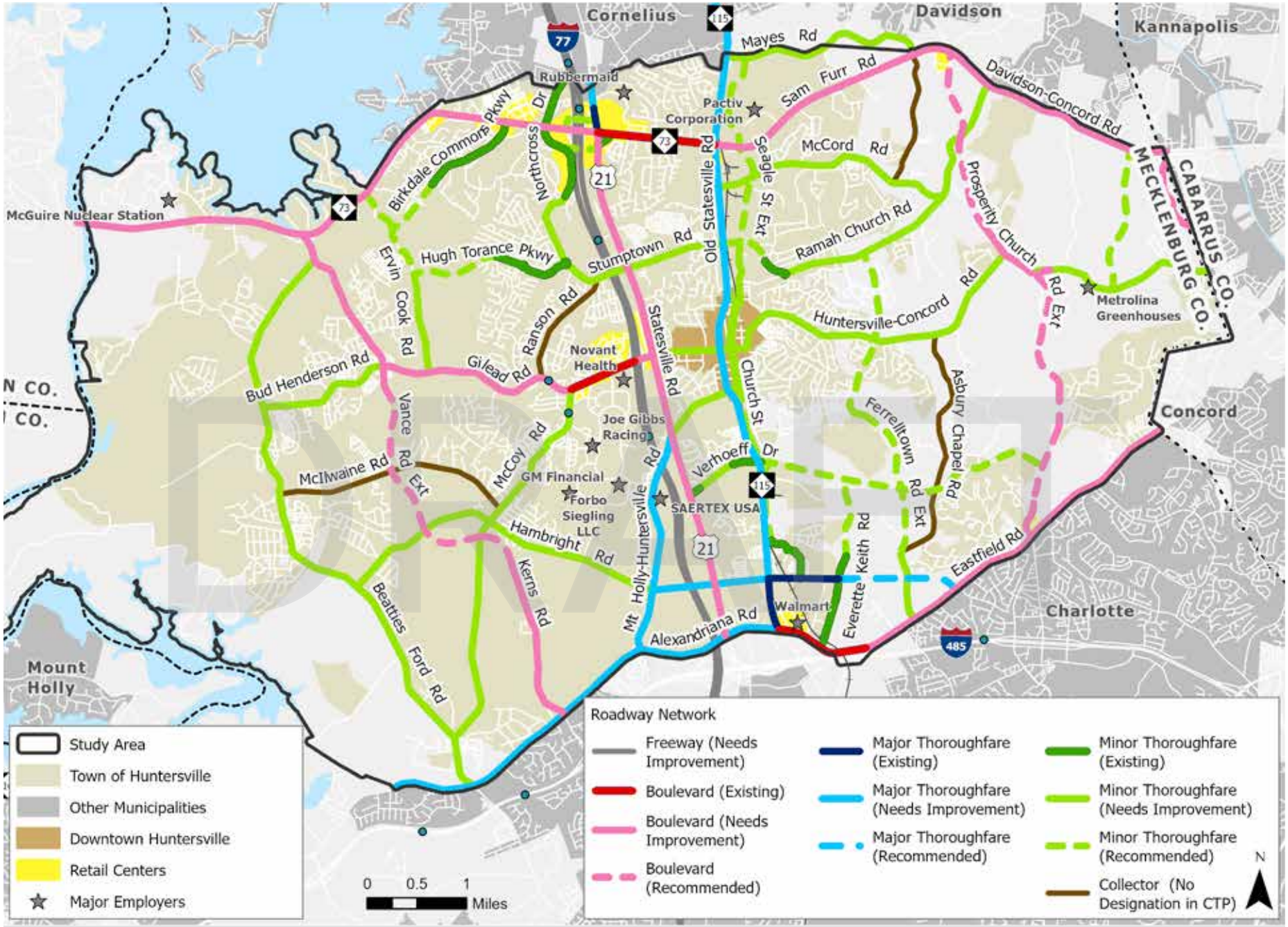


Figure 2.17. Comprehensive Transportation Plan (CTP) Roadway Network (Source CRTPO, available at https://crtpo.org/resources/maps-gis/)

2.8.2 Roadway Maintenance Responsibility

The majority of thoroughfares and boulevards are maintained by NCDOT, while the majority of neighborhood roads are maintained by the Town of Huntersville. Figure 2.18 on the following page shows the roadways by their maintenance jurisdiction.

All roads designated as Boulevards and Major Thoroughfares on the CTP are NCDOT maintained. Most Minor Thoroughfares are maintained by NCDOT, but there are a handful of Minor Thoroughfares that are maintained by the Town of Huntersville. They are highlighted in Figure 2.18 in orange, and include:

- Stumptown Road, from NC 115 to Hugh Torance Parkway,
- Hugh Torance Parkway, from Stumptown Road to its western terminus at Wynfield Creek Parkway,
- Birkdale Commons Parkway, from NC 73 to Babe Stillwell Farm Road,
- Main Street, from Mount Holly-Huntersville Road to Fourth Street,
- Church Street, from Fourth Street to Dellwood Drive, and
- Church Street and Meacham Farm Drive, from Holbrooks Road to the southern terminus of Meacham Farm Road south of Commerce Station Drive.

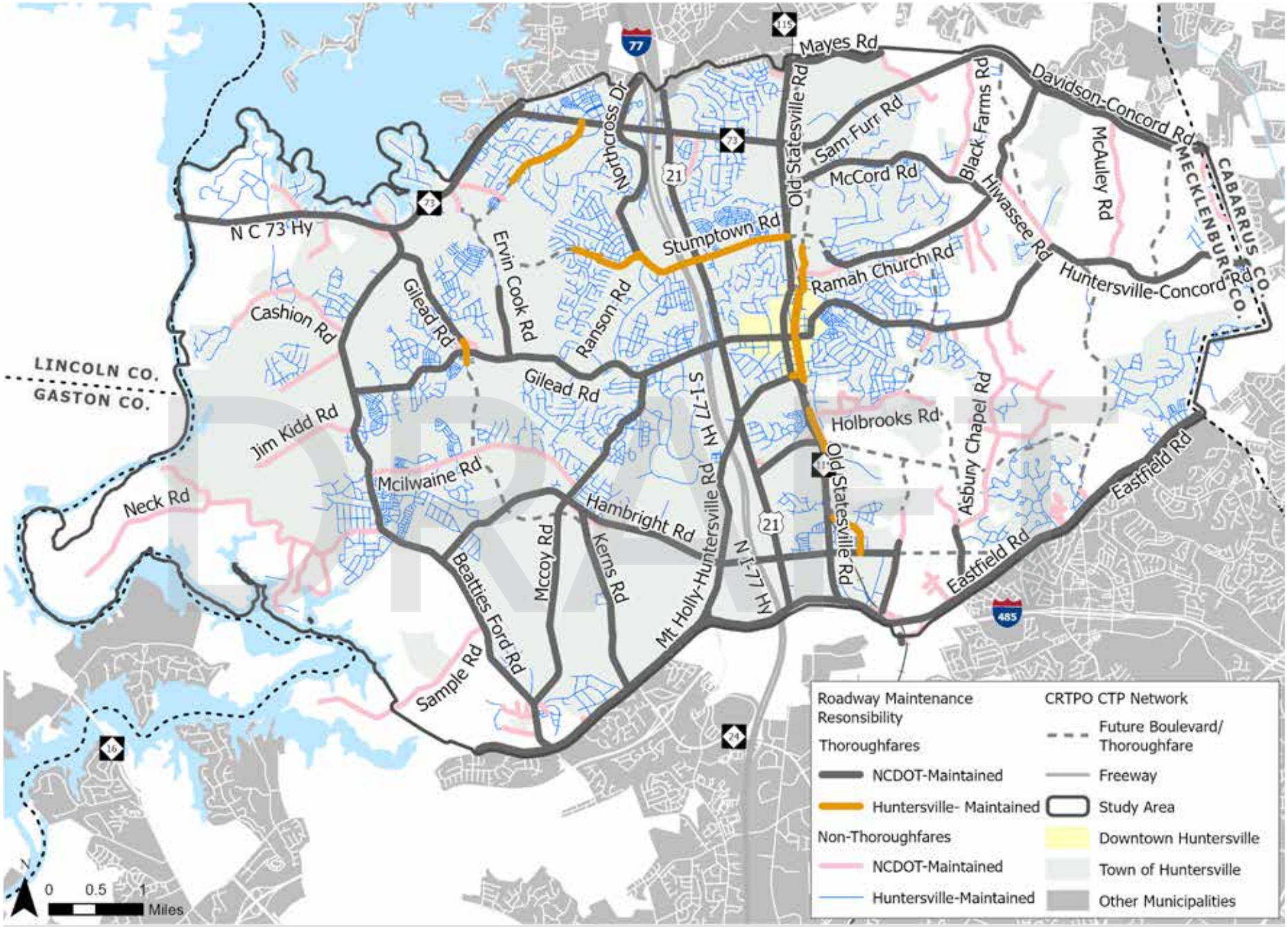


Figure 2.18. Roadway Maintenance Responsibility (Source NC OneMap, available at https://www.nconemap.gov/maps/)

2.8.3 Highway Functional Classification System

In addition to CRTPO's classifications of boulevard/major thoroughfare/minor thoroughfare, the Federal Highway Administration has a Highway Functional Classification system for roadways that are part of the Federal-aid Highway Program, which includes the Interstate Highway System, primary highways, and secondary local roads.[1] As the name suggests, the functional classification system categorizes roads by the role it serves in the roadway network, ranging from serving long-distance passenger and freight needs to serving neighborhood travel. The Highway Functional Classification categories include the following:

a. Principal Arterial
   i. Interstate
   ii. Other Freeways & Expressways
   iii. Other Principal Arterial (OPA)
b. Minor Arterial
c. Collector
   i. Major Collector
   ii. Minor Collector
d. Local

The functional classification, along with the CTP classification, for roadways in Huntersville are shown in Figure 2.19 on the following page.

As is evident from Figure 2.19, the functional classification of a road does not consistently correspond with a specific CTP classification; and some are classified as minor thoroughfares on our CTP but do not have a functional classification in the Federal system, despite the fact that they operate as collectors. These inconsistencies are noted in Table 2.4, at right.

1 Roadways that are part of the Federal-aid Highway Program are eligible for Federal funding for construction, maintenance, and operations.

Table 2.4. Roadways with inconsistent CTP Classifications Relative to Highway Functional Classification System and Maintenance Responsibility

Roadway Classification	Extents (To/From)	Maintenance Responsibility	CTP Classification	Federal Aid System Classification
Asbury Chapel Rd	Huntersville-Concord Rd/Trails End Ln	NCDOT	None	Major Collector
Asbury Chapel Rd	Trails End Ln/Eastfield Rd	NCDOT	Minor Thoroughfare	Major Collector
Birkdale Commons Pkwy	NC 73/southern terminus of Birkdale Commons	Town of Huntersville	Minor Thoroughfare	None
Black Farms Rd	NC 73/McCord Rd	NCDOT	None	None
Bud Henderson Rd	Beatties Ford Rd/Gilead Rd	NCDOT	Minor Thoroughfare	None
Church St	South of Dellwood Dr/north of Huntersville-Concord Rd	Town of Huntersville	Minor Thoroughfare	None
Hambright Rd	Beatties Ford Rd/McCoy Rd	NCDOT	Minor Thoroughfare	None
Hambright Rd	NC 115/Everett Keith Rd	NCDOT	Major Thoroughfare	None
Holbrooks Rd	NC 115/eastern terminus of Holbrooks	NCDOT	None	None
Hugh Torance Pkwy	Stumptown Rd/western terminus at Wynfield Creek Pkwy	Town of Huntersville	Minor Thoroughfare	None
Main St	Northern roundabout with NC 115 & 4th St/southern roundabout with NC 115 & Mt. Holly-Huntersville Rd	Town of Huntersville	Minor Thoroughfare	
McIlwaine Rd	Beatties Ford Rd/McCoy Rd	NCDOT	None	Major Collector
Meacham Farm Rd	Hambright Rd/northern terminus of Meacham Farm Rd	Town of Huntersville	Minor Thoroughfare	None
Northcross Dr	Northern Town Limits/NC 73	NCDOT	Minor Thoroughfare	Minor Collector
Northcross Dr	NC 73/Hugh McAuley Rd	NCDOT	Minor Thoroughfare	None
Ramah Church Rd	NC 115/Stumptown Rd	NCDOT	None	Major Collector
Ramah Church Rd	Stumptown Rd/Davidson-Concord Rd	NCDOT	Minor Thoroughfare	Major Collector
Ranson Rd	Stumptown Rd/Gilead Rd	Town of Huntersville	None	None
Seagle St	4th St/northern terminus of Seagle St	Town of Huntersville	Minor Thoroughfare	None
Stumptown Rd	Hugh McAuley Rd/Hugh Torance Pkwy	NCDOT	Minor Thoroughfare	None
Stumptown Rd	Hugh Torance Pkwy/US 21	Town of Huntersville	Minor Thoroughfare	None
Stumptown Rd	US 21/NC 115	Town of Huntersville	Minor Thoroughfare	Added as a Minor Collector (2023)
Verhoeff Dr	US 21/NC 115	NCDOT	Minor Thoroughfare	None
Westmoreland Rd	Mayes Rd/southern terminus of Westmoreland Rd	NCDOT	None	None

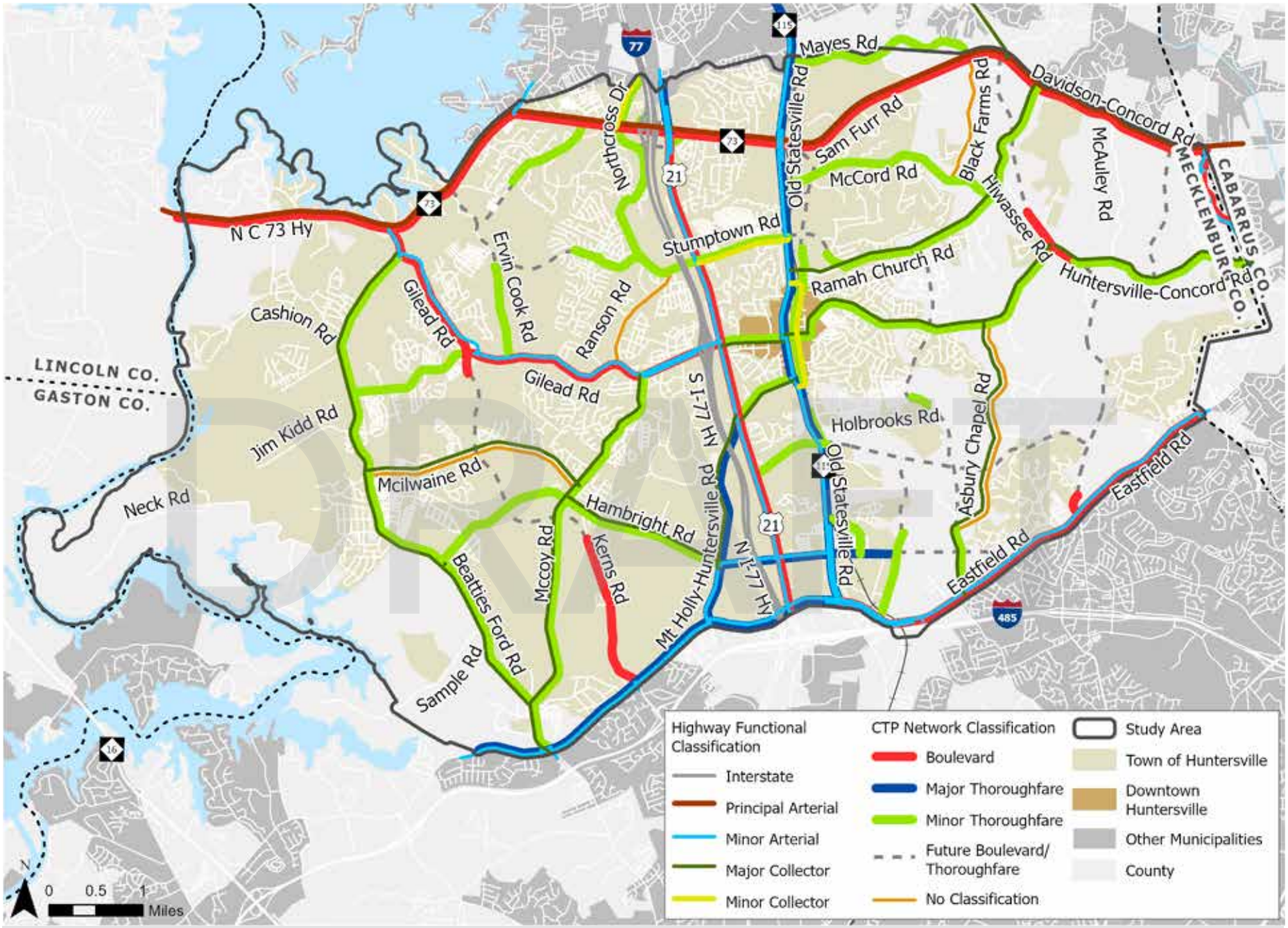


Figure 2.19. Highway Functional Classification and CTP Network Classification (Source CRTPO and Connect NCDOT, available at https://connect.ncdot.gov/projects/planning/Pages/Functional-Classification-of-Highways.aspx)

2.8.4 Existing Pedestrian Facility Network

The pedestrian network is made up of two types of facilities: sidewalks and greenways. Currently, there are 291 miles of existing sidewalk, based on the latest data collection by the Town in 2023. In 2020, the greenway network in the Town included 3.25 miles of greenways. Since then, another 0.75 miles of greenways and sidepath have been built as part of the Downtown Greenway and the Torrence Creek Tributary 2 Greenway, bringing the total to 4.0 miles.

The existing network of pedestrian facilities is shown in Figures 2.20 (Downtown) and 2.21 (all of Huntersville). There is a high density of existing sidewalks near the retail areas off Interstate 77 and in residential neighborhoods, but there is a lack of pedestrian infrastructure along major corridors connecting residential zones to the downtown and retail areas.

Figure 2.20. Downtown Inset of Existing Pedestrian Infrastructure

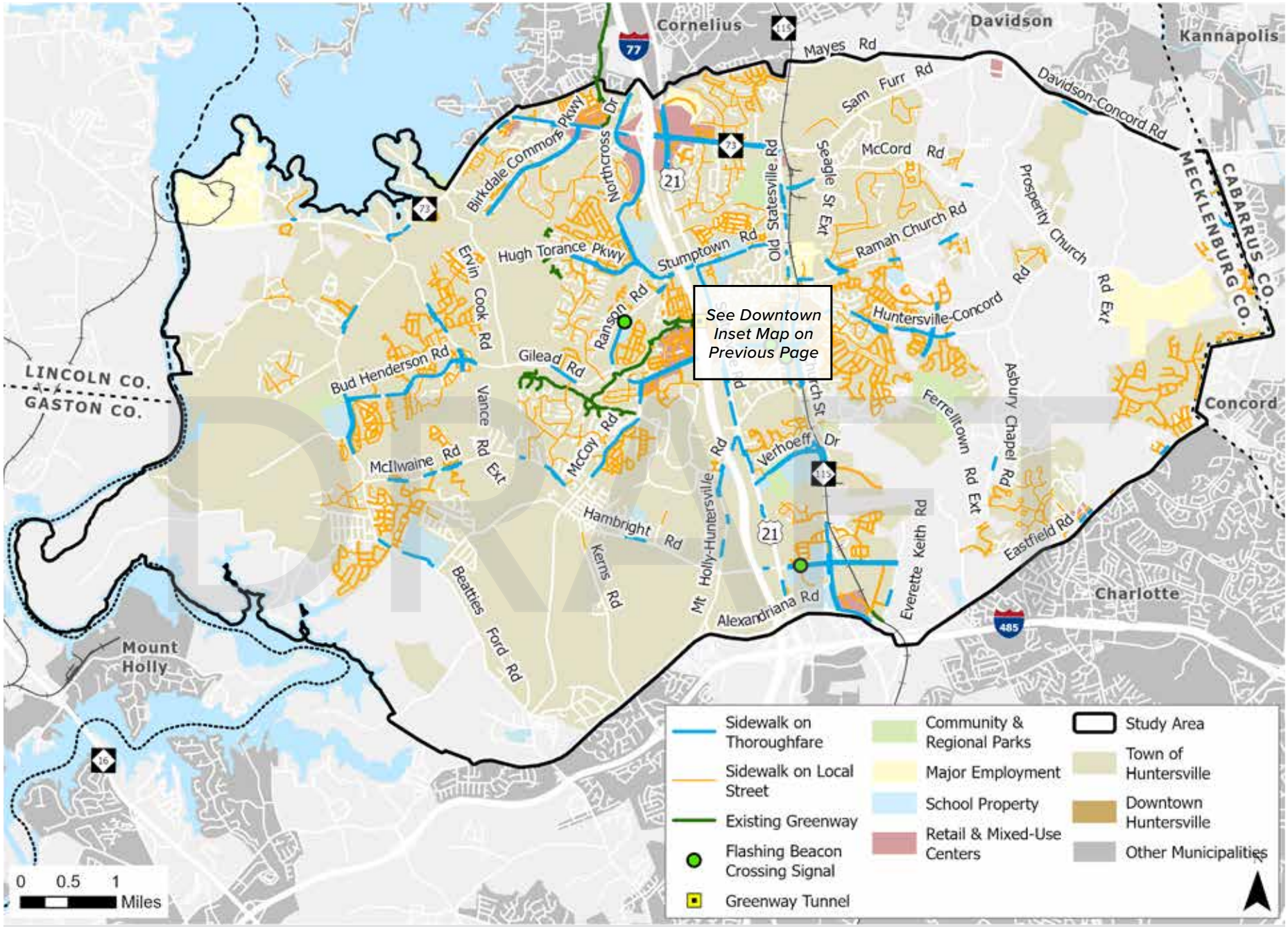


Figure 2.21. Existing Pedestrian Infrastructure (Source: Town of Huntersville)

2.8.5 Existing Bicycle Facility Network

Huntersville's bicycle network is consists of bicycle lanes and greenways. There are approximately 12.4 miles of bike lanes in Huntersville, of which 4.4 miles are on local roads and the remaining 8.0 are along thoroughfares. Of the eight miles along thoroughfares, 1.1 miles of those are only on one side of the road. As stated in the previous section on pedestrian infrastructure, there is approximately 4.0 miles of greenways in Huntersville. Existing bicycle infrastructure is shown in Figure 2.22 at right (Central Huntersville, and Figure 2.23 (all of Huntersville) on the following page.

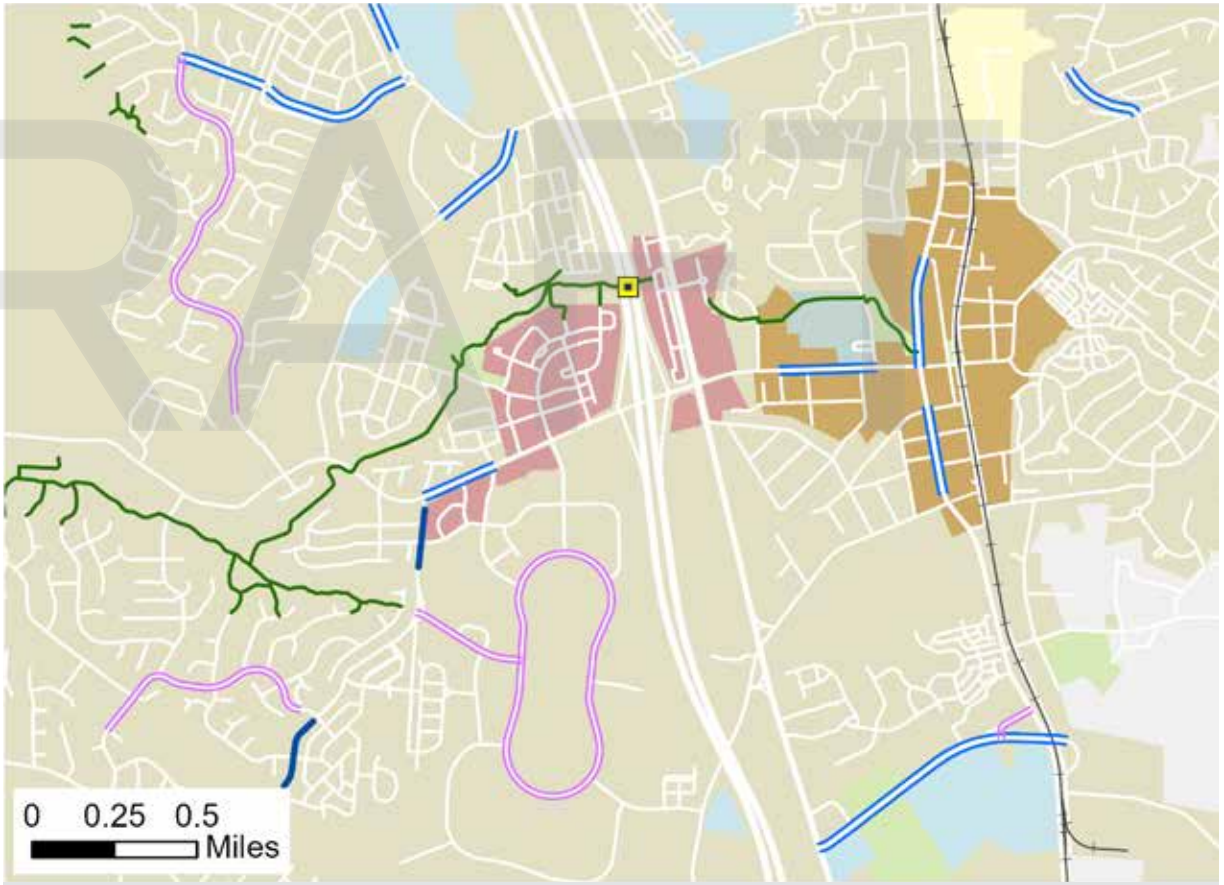


Figure 2.22. Downtown Inset of Existing Bicycle Infrastructure

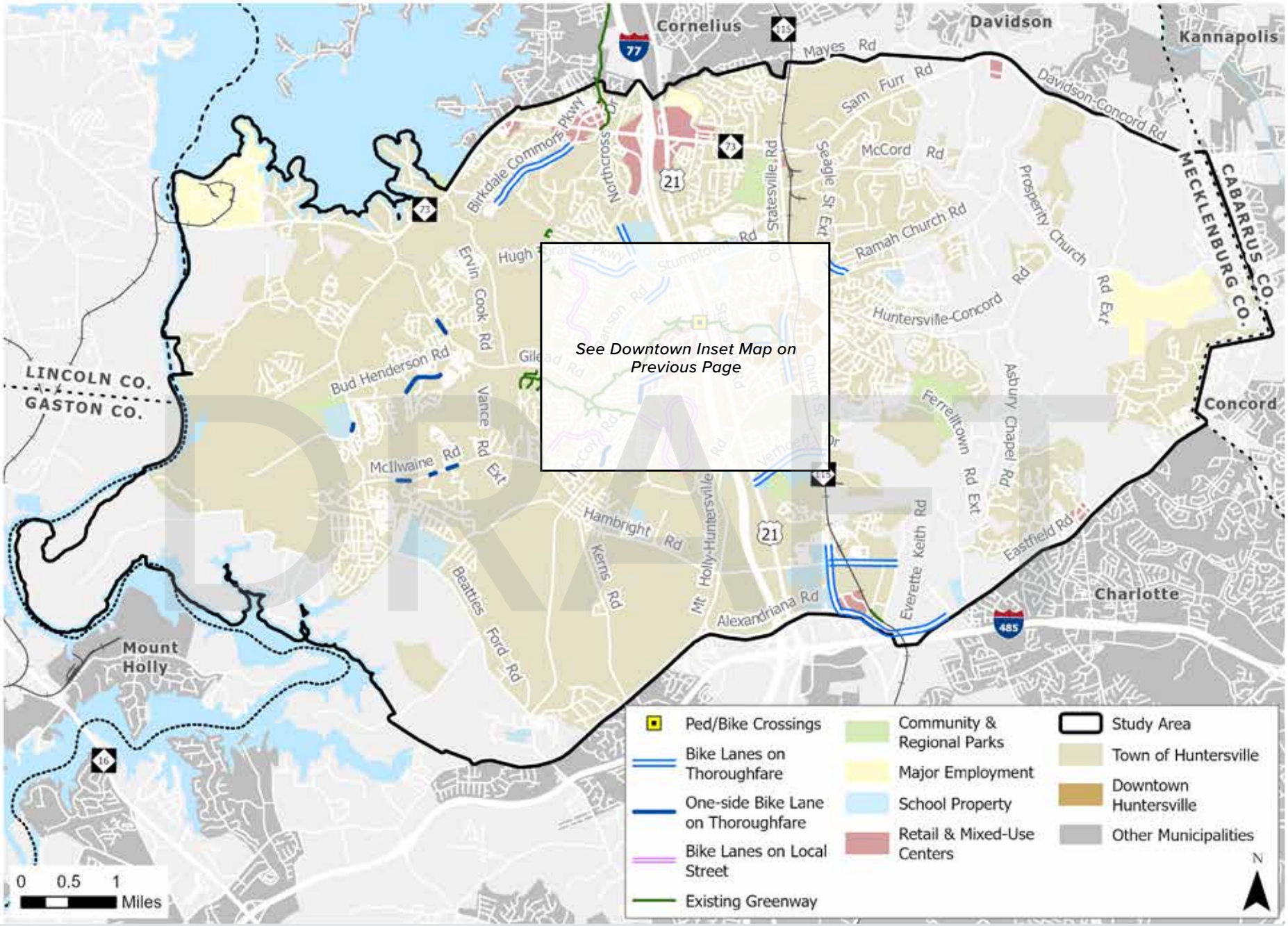


Figure 2.23. Existing Bicycle Infrastructure (Source: Town of Huntersville)

2.9 Transit Network

Public transportation in Huntersville and throughout Mecklenburg County is provided by Charlotte Area Transit System (CATS). Service focuses on the regional connections that link the Town with Uptown Charlotte and the larger CATS system. CATS has several routes that reach Huntersville— three express buses and three North Meck Village Rider routes (Figure 2.25, on following page) carry commuters from Charlotte to Huntersville:

- The Northcross Express (48X)
- Huntersville Express (63X)
- North Mecklenburg Express (77X)
- Routes 97 (Village Rider—Cornelius)
- Route 98 (Village Rider—McCoy Rd)
- Route 99 (Village Rider—Huntersville)

There are 70 transit stops focused along Hambright Road, McCoy Road, Gilead Road, and NC 115 which intersects with the historic downtown.

In addition to these fixed route services, CATS's microtransit service (on-demand transit service) was launched in February 2025 and will eventually replace the local Village Rider routes in Summer of 2025. The service area for "CATS Micro," as this service has been named, is shown in Figure 2.24, at right. For more information on CATS Micro, visit: https://www.charlottenc.gov/CATS/CATS-Micro

Figure 2.24. CATS Microtransit Service Zone Map (Source: CATS Micro)

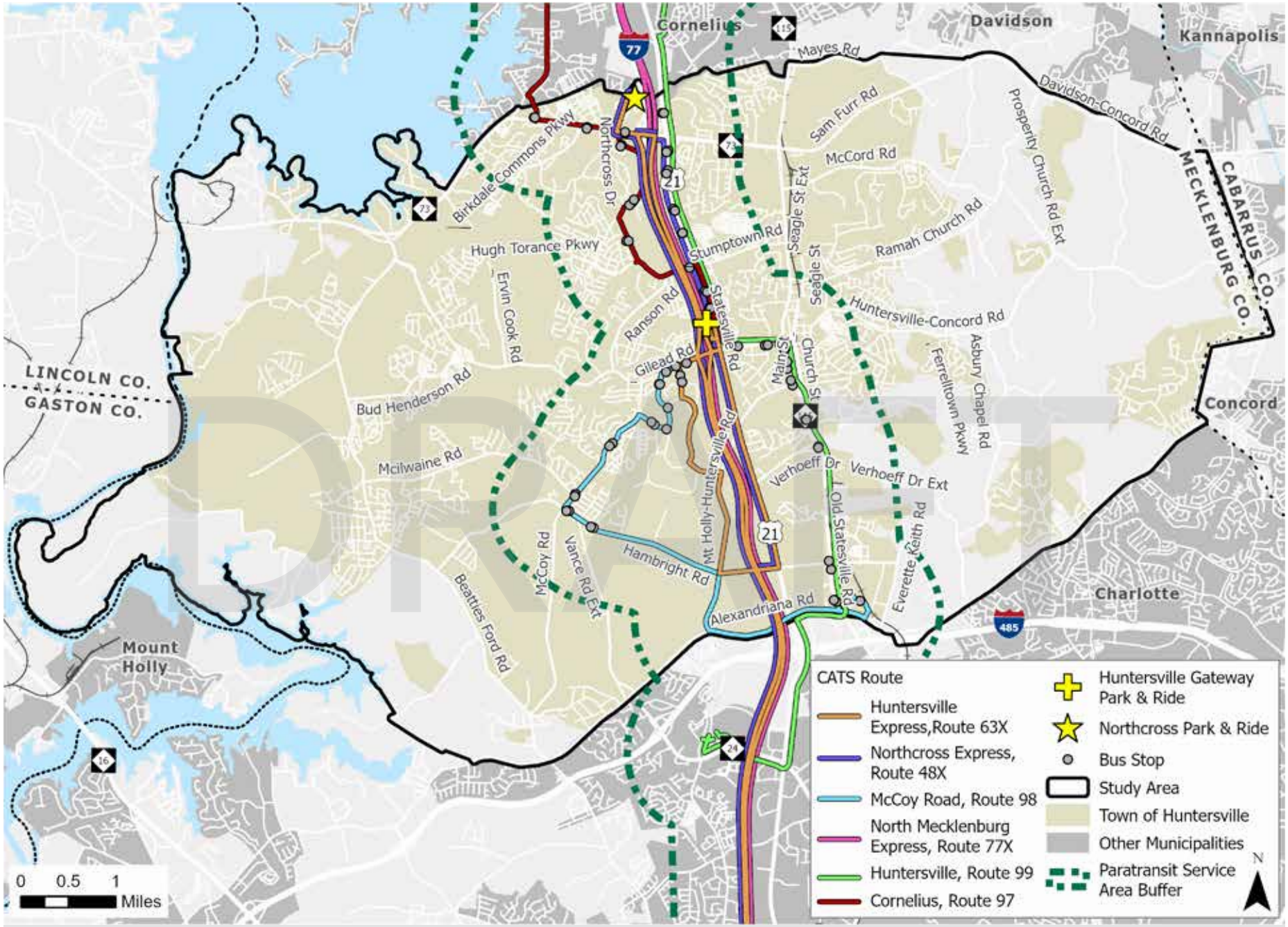
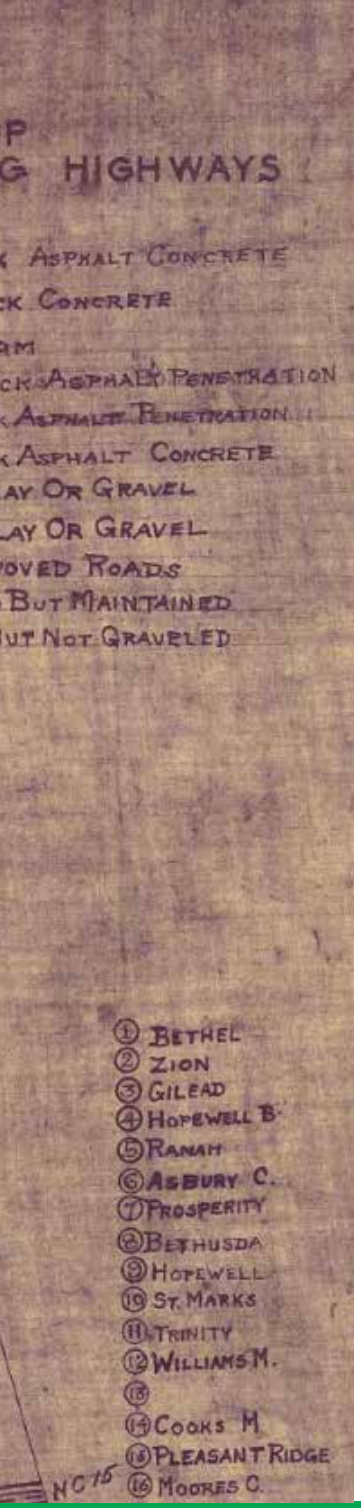


Figure 2.25. Charlotte Area Transit System (CATS) Bus Routes in Huntersville (Source: Mecklenburg County Open Mapping, https://maps.mecknc.gov/openmapping/data.html)

Road Map of Mecklenburg Highways, 1926



CHAPTER 3

Network Gap & Connectivity Analyses

3.1 Complete Streets Assessment

The network of main thoroughfares in Huntersville (which for the purpose of this analysis included all roads designated in the CTP as a boulevard, major thoroughfare, or minor thoroughfare, as well as existing roads that serve as collectors) was assessed for the presence of pedestrian and bicycle facilities that form the basis for functioning as "Complete Streets" (refer back to page 2 for a definition of Complete Streets).

Most of the thoroughfares (70.2%) in Huntersville do not have any bike or pedestrian facilities. The summary of the findings for the presence of Complete Streets elements is shown in Table 3.1, below. Figures 3.1 and 3.2 depict the spatial distribution of these Complete Streets elements.

Table 3.1. Complete Streets Inventory

Complete Streets Elements Present	Existing Mileage	% of Thoroughfare Mileage
Sidewalks & Bike Lanes	7.0	7.5%
Sidewalks & Bike Lane on One Side	1.5	1.6%
Sidewalks Only	18.5	19.7%
Bike Lanes Only	0.9	1.0.%
No Bike Lanes or Sidewalks	65.9	70.2%
TOTAL	**93.8**	**100%**

In the Downtown Huntersville area, there is a good network of Complete Streets paired with sections of sidewalks only. However, there are significant gaps in Complete Streets elements as one moves in any direction out of the Downtown area, making Downtown relatively inaccessible for people traveling by foot or bicycle.

The next section on the following pages examines the gaps in Complete Streets more closely.

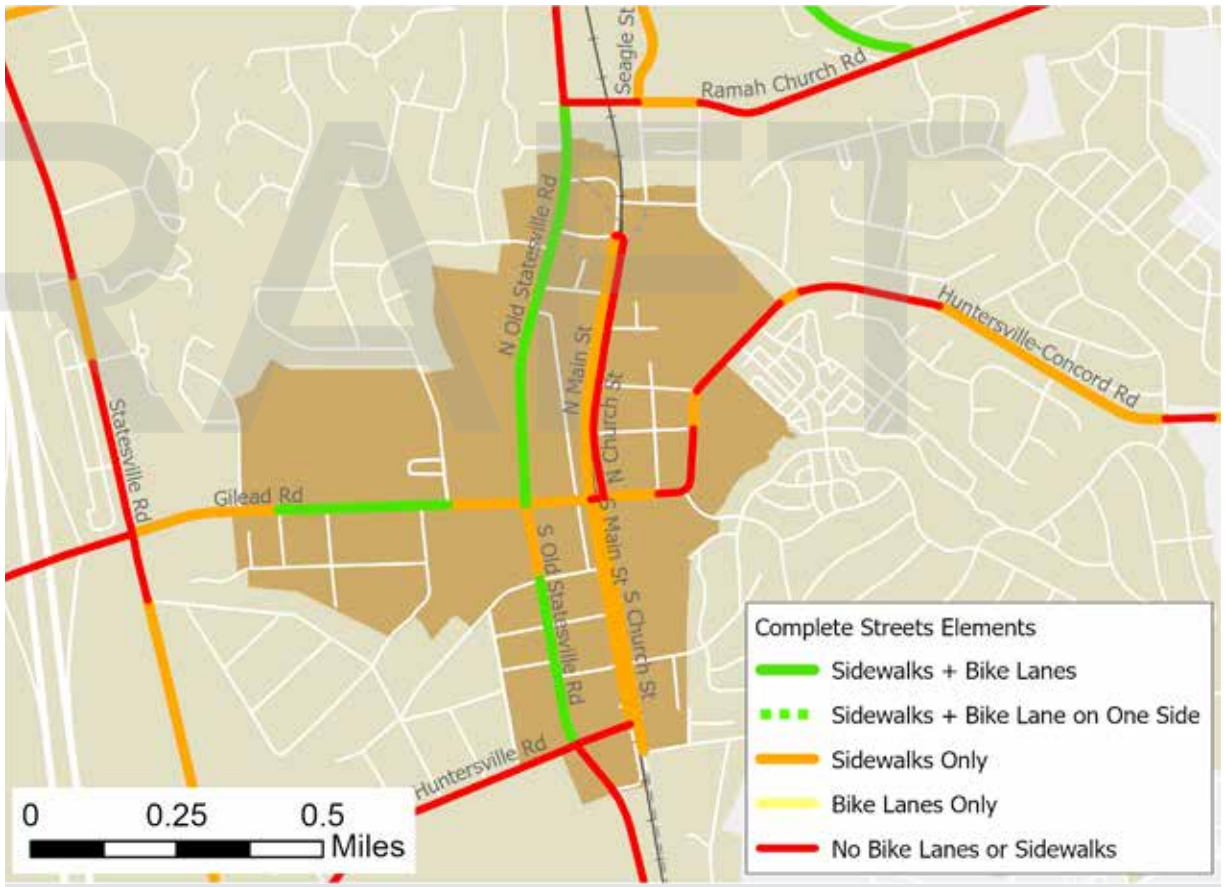


Figure 3.1. Downtown Inset of Complete Streets Analysis

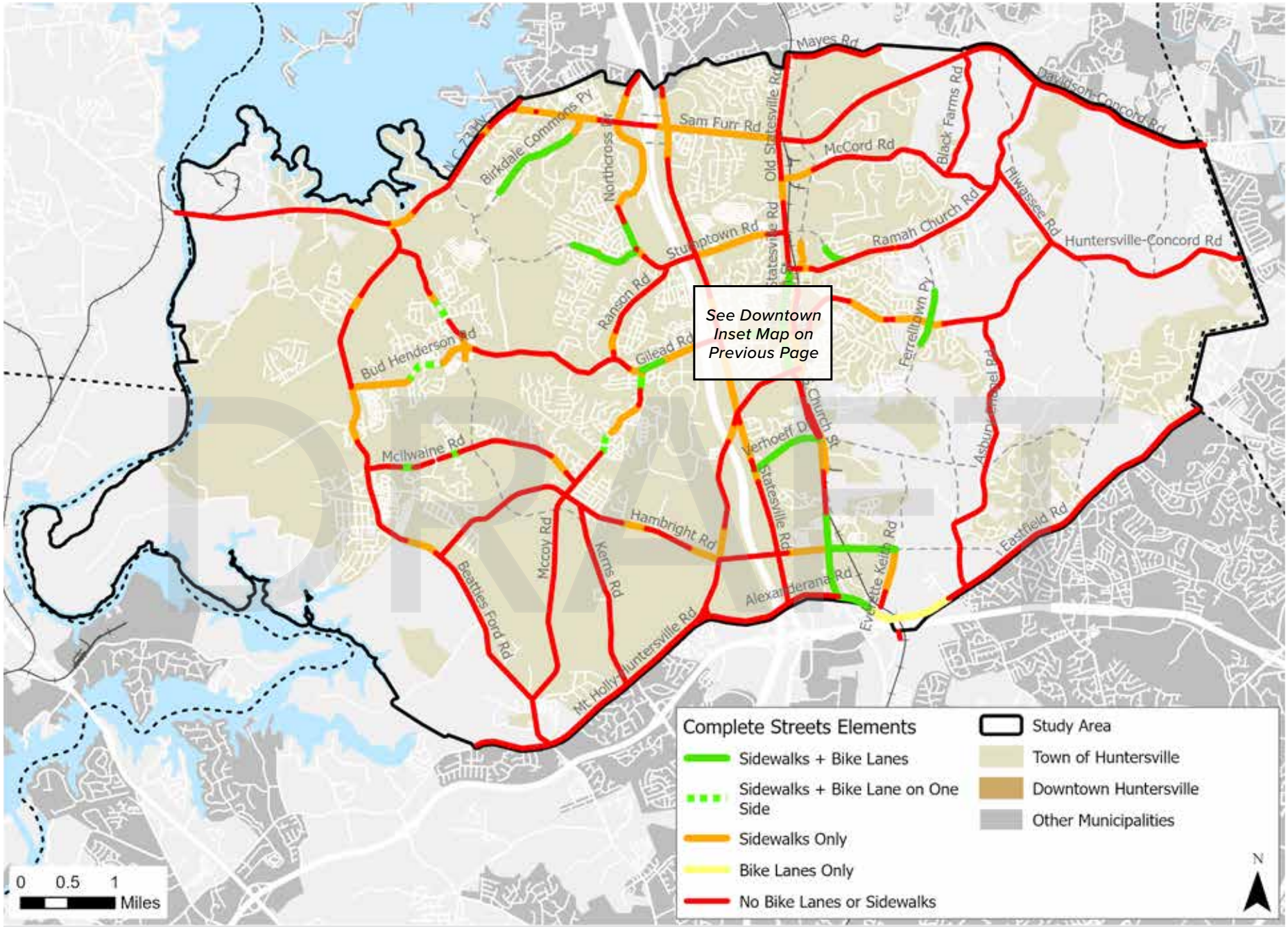


Figure 3.2. Complete Streets Analysis (Source: Town of Huntersville)

3.2 Pedestrian & Bicycle Network Gap Assessment

Given that the majority of thoroughfares (70%) are not Complete Streets, and there is a significant amount of improvements needed to create a more connected network of Complete Streets, an analysis of the gaps in pedestrian and bicycle facilities was conducted to identify priority gaps that, if filled, would provide connections to key destinations.

The analysis scored and ranked the gaps based on how many key destinations— schools, parks, transit stops, retail centers, and major employers—were within a quarter-mile of the gap. A quarter-mile distance was used, as this is the average distance a pedestrian is willing to walk to these types of destinations (bicyclists are typically willing to go further but a quarter-mile is still a commonly used measure to use for identifying gaps).

The analysis identified 34.0 miles of thoroughfares with neither sidewalks or bike lanes that are gaps in the network connecting to key destinations. There are approximately, 6.35 miles of multi-use paths (MUPs) recommended to fill gaps near schools and 3.54 miles of MUPs recommended to fill gaps connecting to parks.

There are long stretches on US 21 and NC 115 where there are frequent transit stops, but no pedestrian or bicycle infrastructure. Of the 34.0 miles of key gaps in the network, 12.34 miles included gaps to transit stops. The results of the gap assessment are shown in Figures 3.3 (Downtown Huntersville) and 3.4 (all of Huntersville).

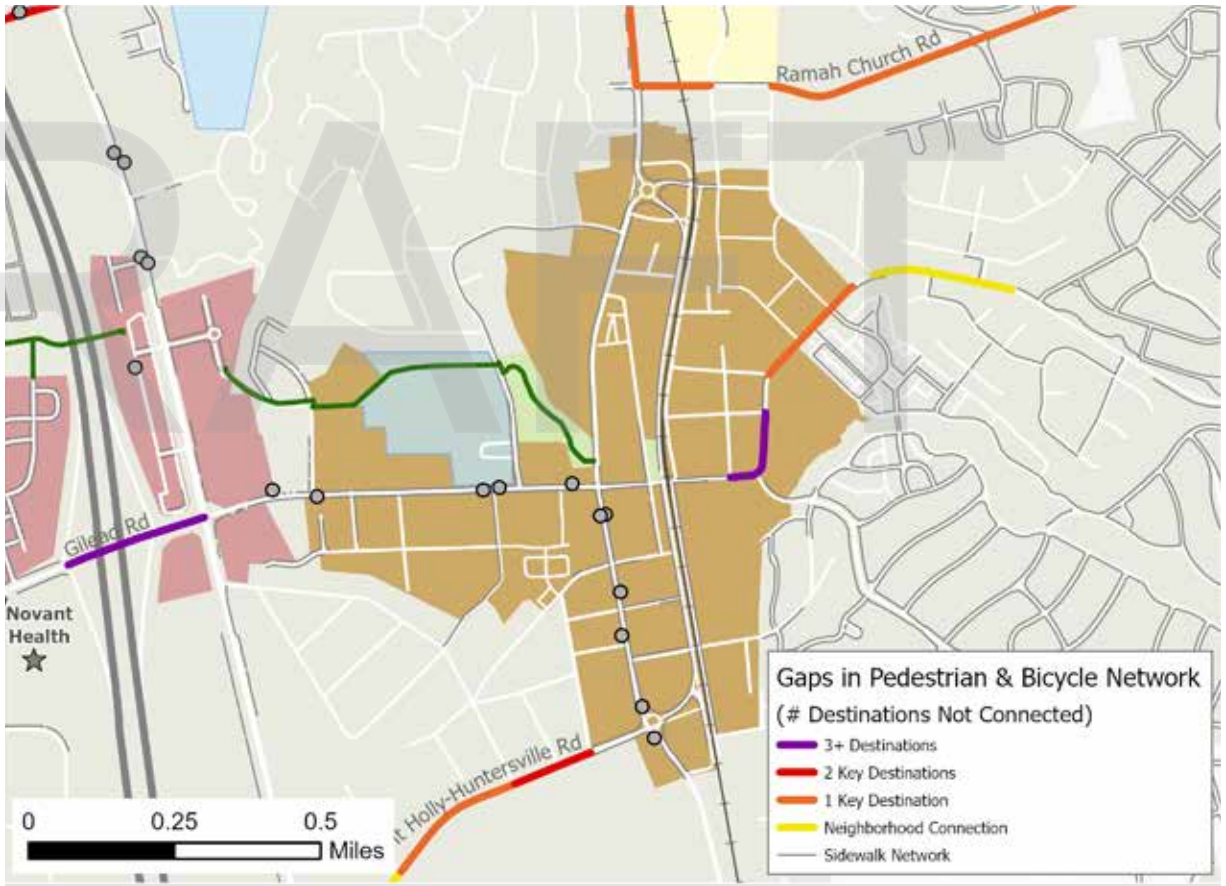


Figure 3.3. Downtown Inset of Gaps in the Pedestrian and Bicycle Infrastructure

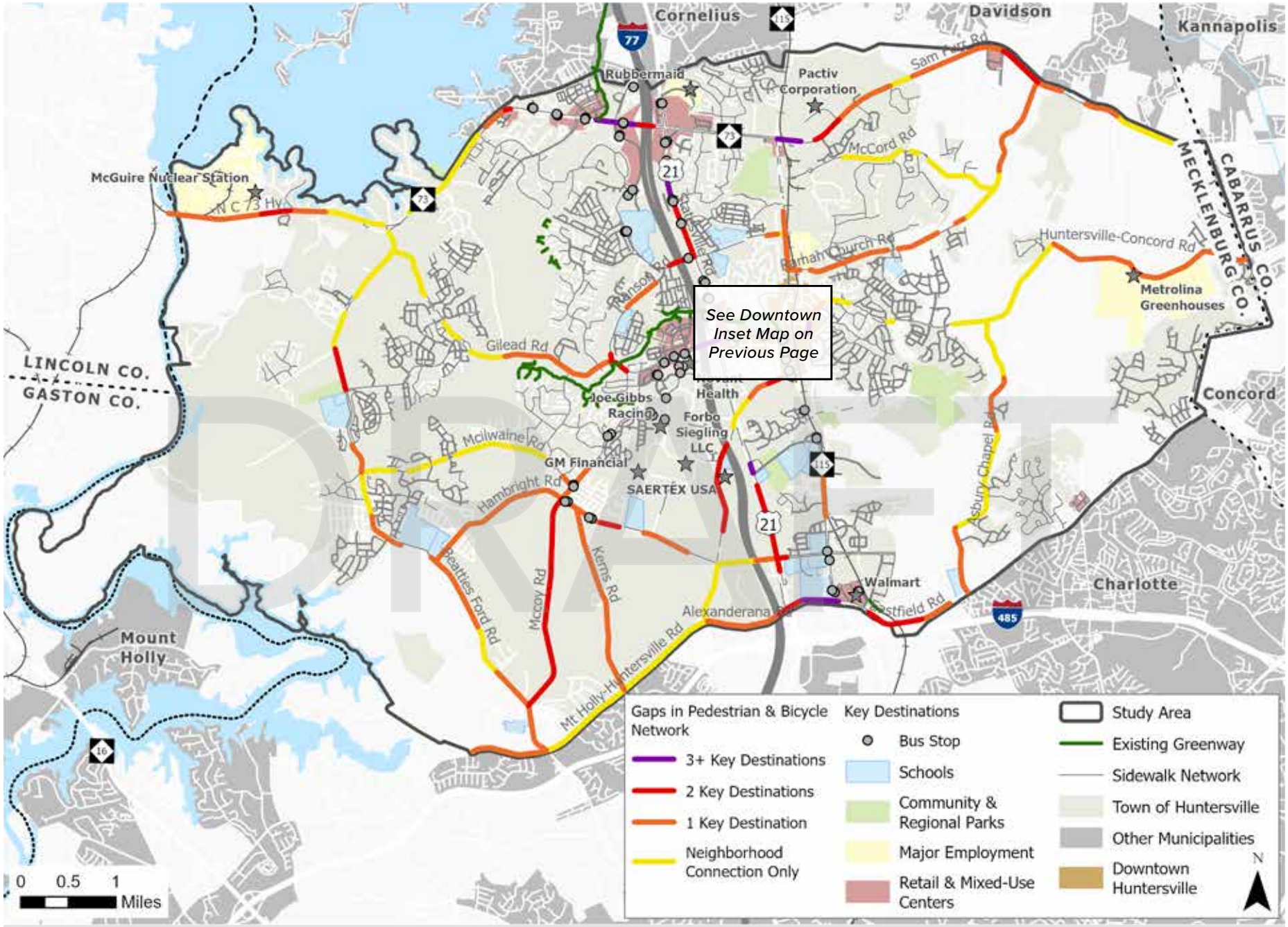


Figure 3.4. Gaps in the Pedestrian and Bicycle Infrastructure (Source: Town of Huntersville)

3.3 Bicycle Plan Recommendations

In 2020, Huntersville adopted its *Bike Plan Update*, which includes bicycle facility recommendations for the entire roadway network in Huntersville. The plan's recommendations were reviewed as a starting point for the recommended facilities to fill the gaps identified in the previous section. There are a total of 298.2 miles of bicycle facilities proposed in the Huntersville *Bike Plan Update* in 2020 (see Table 3.2, below and Figure 3.5 on the following page).

Table 3.2. Bicycle Facility* Inventory & Progress on *Bike Plan Update* Recommendations

Facility Type	Existing (Miles)	Proposed (Miles)	Completed Since Bike Plan Adoption (Miles)
Bike-Ped Connector	0	2.7	0
Bike Boulevard	0	90.8	0
Paved Shoulder	0	10.5	0
Bike Lanes	12.6	0	0.2
Buffered Bike Lanes	0	19.2	0
Separated Bike Lanes	0	6.6	0
Sidepath	0	88.8	0.2
Greenways	3.25	79.6	1.4
TOTAL	**15.65**	**298.2**	**1.8**

The *Bike Plan Update* of 2020 recommended a variety of bicycle facility types, ranging from signed "bike boulevards" along quiet neighborhood streets to fully separated bike lanes on busier thoroughfares. The primary facility type recommended on thoroughfares is sidepaths, with 88.8 miles recommended. The *Bike Plan Update* prioritized six projects for near-term implementation. Since the update, none of these projects have been completed. Project 5, a proposed sidepath, is being partially built as a current sidewalk project and Project 6 is in the NCDOT TIP for construction in 2026. The six priority projects are:

1. **Stumptown Road**: sidepath between Hugh Torance Parkway and NC 115
2. **Mt Holly-Huntersville Road/Reese Boulevard**: sidepath between the business park loop and NC 115
3. **Bike + Ped Connections**: short sidepaths between and within Monteith Park, Shepherds Vineyard, Ashton Acres, North Mecklenburg Park, Northcross Downs, Hamptons
4. **Huntersville-Concord Road**: sidepath between Downtown Huntersville and Asbury Chapel Road
5. **McCoy Road**: sidepath between Gilead Road and Hambright Road
6. **The Park-Huntersville**: a greenway between McCoy Road and Mt. Holly Huntersville Road

The Town should continue to prioritize funding to implement/construct these projects.

Bicycle Facility Types

- **BIKE BOULEVARD**. A bicycle boulevard is a low-stress shared roadway that is designed to offer priority for bicyclists operating within a roadway shared with motor vehicle traffic.
- **BIKE LANES**. Bike lanes designate an exclusive space for bicyclists through the use of pavement markings and signage.
- **BUFFERED BIKE LANES**. Buffered bike lanes are conventional bike lanes with a painted buffer between the bike lane and the travel lane.
- **SEPARATED BIKE LANES**. Separated Bike Lanes are dedicated bikeways that use a concrete curb, plastic posts, or other vertical elements to provide separation from motor vehicle traffic.
- **BIKE + PED CONNECTOR.** A bicycle + pedestrian connector (bike + ped connector) is a multi-use path that connects bicycle and/or pedestrian facilities across short distances. Imagine a short connection from a residential neighborhood to a nearby greenway.
- **PAVED SHOULDERS**. Paved shoulders on the edge of roadways can be enhanced to serve as a functional space for bicyclists.
- **SIDEPATH**. A sidepath is a multi-use path along a roadway that provides a travel area—for bicyclists and pedestrians—separate from motorized traffic.
- **GREENWAY**. A greenway is a multi-use that is not along a roadway, but instead along utility corridors, railroad alignments, and greenway/stream corridors.
- **CROSSING IMPROVEMENTS**. Roadway crossings represent a key safety challenge for bicyclists, especially at non-signalized intersections, greenway crossings, or across streets lacking bicycle and pedestrian infrastructure.

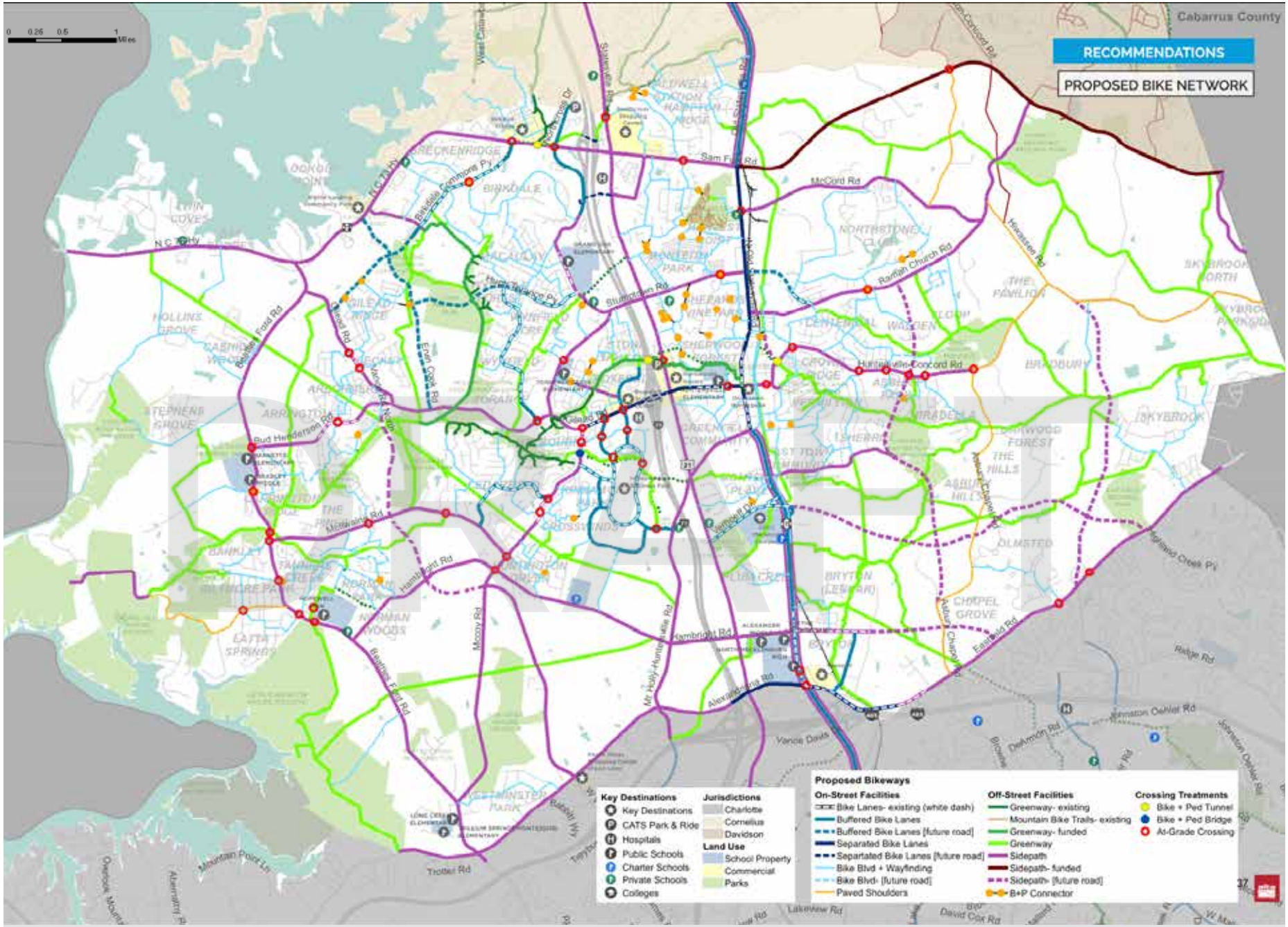


Figure 3.5. Huntersville *Bike Plan Update*'s Proposed Bike Network (Source: Town of Huntersville)

3.4 Constraints & Barriers Analysis

In addition to identifying the gaps in bike and pedestrian infrastructure, an analysis of barriers to bike and pedestrian travel was conducted. The major barriers identified include bridges, both small and large, the "Red Line" railroad (formerly owned by Norfolk Southern), Interstate 77, and multiple high-speed corridors, as shown in Figure 3.6 on the following page. The bridges lack sidewalks for pedestrians to safely cross without walking within the road and do not include bicycle facilities. The 2020 *Bike Plan Update* proposes 20 bicycle facilities along road segments or creeks that cross or pass under 20 bridges. Some of these bridges have already been built or updated. The remaining of these bridges need to be assessed to determine their feasibility to accommodate the proposed bike and/or pedestrian facility (Table 3.3, at right).

The railroad that is adjacent to NC 115 creates another east-west barrier towards the eastern edge of the Town. The eastern and western sides of the Town are separated due to the lack of pedestrian and bicycle facilities. There are approximately seven projects with railroad crossings proposed from the *Bike Plan Update*. These crossings will need to be coordinated with Norfolk Southern. There is also a portion of the proposed greenway to run adjacent to the active rail line, which will need additional coordination.

Interstate 77 bisects the Town north-south with three interchanges and two road crossings that lack bike and pedestrian facilities. The 2020 *Bike Plan Update* proposes four facilities on the bridges and two greenways that go underneath the interstate. Interstate 77 includes a toll road, with both the toll portion and free portion of the interstate having access on certain interchanges. Hambright Road is an entry/exit for toll users only. Gilead Road and Sam Furr Road provide access for non-toll vehicles. These interchanges all have proposed bicycle facilities and will need to be designed carefully to provide maximum safety considerations for vehicles entering and exiting the interstate at high vehicular speeds.

Speed limits are the most ubiquitous constraint to the pedestrian and bicycle network. Crossing or riding along roadways with high speeds are potentially hazardous. The National Highway Traffic Safety Administration (NHTSA) states that a crash involving a vehicle going 30 mph has a 50% likelihood of resulting in a serious fatal injury for a pedestrian, with that likelihood increasing as speed increases.[1] Most of the high-speed corridors are proposed to accommodate a bicycle facility or, in the case of Gilead Road, users could be served by a greenway going underneath Interstate 77 that connects to the corridor. All of the roads with speeds of 35 mph or higher are maintained by NCDOT.

1 National Highway Traffic Safety Administration (2018) TRAFFIC SAFETY FACTS: Pedestrian and Bicyclist Data Analysis. Washington, DC: NHTSA Office of Behavioral Safety Research.

Table 3.3. Summary of Existing and Proposed Multimodal Facilities on Bridges

No.	Roadway	Bridge Crosses Over	Proposed Facility Type on Bridge
1	Sam Furr Rd	Interstate 77	Sidepaths and sidewalks with future new interchange
2	Devonshire Rd	McDowell Creek	Sidewalk (existing)
3	Black Farms Rd	Ramah Creek	Sidepath (possible greenway under bridge)
4	Ramah Church Rd	Ramah Creek	Sidepath (possible greenway under bridge)
5	McAuley Rd	Ramah Creek	None
6	Huntersville-Concord Rd	Ramah Creek	Sidepath (possible greenway under bridge)
7	Stumptown Rd	Interstate 77	Sidepaths
8	Bud Henderson Rd	McDowell Creek Tributary 2	Sidepaths
9	Gilead Rd	McDowell Creek	Sidepath (greenway under bridge)
10	McCoy Rd	Torrence Creek	Sidepath (future greenway under bridge)
11	Gilead Rd	Interstate 77	Sidepath/sidewalk (under construction)
12	Asbury Chapel Rd	South Prong Clarke Creek	Sidepath (possible greenway under bridge)
13	Beatties Ford Rd	McDowell Creek	Sidepath (possible greenway under bridge)
14	McIlwaine Rd	McDowell Creek Tributary 1	Sidepaths
15	US-21	Mt. Holly-Huntersville Rd	Sidepaths (sidepaths under bridge)
16	Mt Holly-Huntersville Rd	Interstate 77	Sidepaths
17	Neck Rd	McDowell Creek	Sidepath
18	McCoy Rd	Gar Creek	Sidepaths (possible greenway under bridge)
19	Hambright Rd	Interstate 77	Sidepaths
20	Hambright Rd	Railroad	Sidepaths
21	Alexandriana Rd	Interstate 77	Sidepaths
22	Eastfield Rd	Railroad	Sidepaths

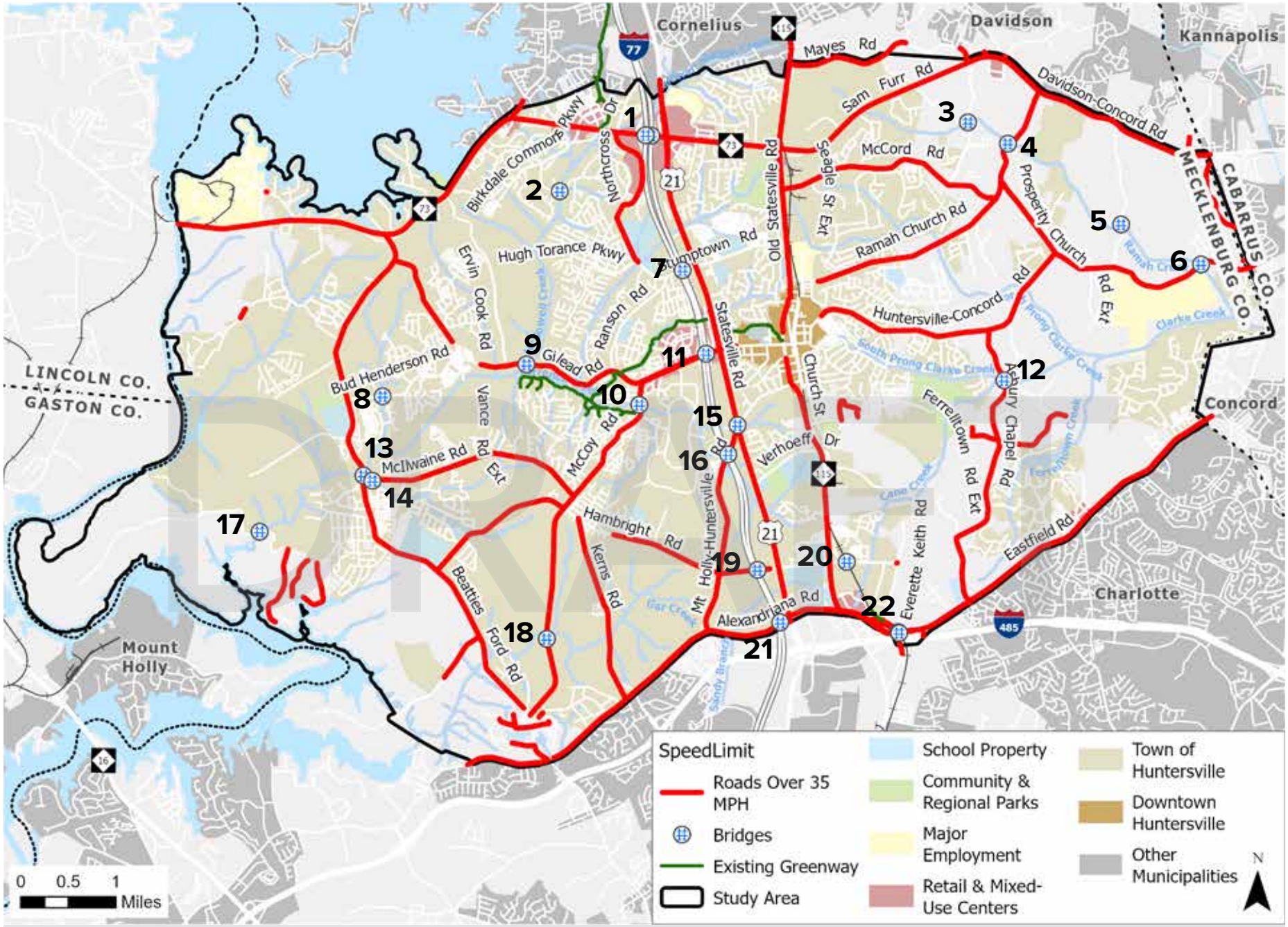


Figure 3.6. Constraints for Pedestrians and Bicycles (Source: Town of Huntersville)

3.5 Roadway Gap Analysis

North/South Connectivity & Gaps

The Town's street network is organized around a north-south axis of high-capacity roadways that serve substantial regional flows of traffic to and from Charlotte. These include 11.69 miles of Interstate 77, and 6.2 miles of US 21. Together these routes directly connect three of the six Mixed-Use Centers identified in the Town's Comprehensive Plan Future Land Use Map (Figure 3.7). These three north-south routes are also paralleled by the freight railroad line, historically operated by Norfolk Southern, but recently purchased by the City of Charlotte.

Within Town limits there are interstate interchanges at NC 73 (Sam Furr Rd) and Gilead Road and Hambright Road. US 21 and NC 115 provide the highest level of access to the Town's roadway network in the north/south direction, whereas the interstate accommodates a greater share of regional through-traffic.

NC 115 is approximately one mile to the east of US 21 and directly connects the Future Land Use Map's other three Mixed Use Centers, and access to Interstate 485 to the south. Main Street parallels NC 115 for one mile to provide additional north/south accessibility to the Downtown Huntersville mixed-use area. Mt. Holly-Huntersville Road is the only north/south route to cross the interstate barrier, connecting Downtown Huntersville to the southwest portion of the Town, and to the future Mixed-Use Center area that is currently undeveloped.

To the west, Beatties Ford Road provides north/south access to areas designated in the Future Land Use Map as Transitional and Rural, while Asbury Chapel Road serves similar areas to the east. These are two-lane Minor Thoroughfares that serve rural land uses. Otherwise, there is limited north-south connectivity west of I-77 in the "Community Core" or "Transition" areas, as there is not a single, connected corridor through the core, like US 21 or NC 115 on the east side. The Comprehensive Transportation Plan recommends new minor thoroughfares, Vance Road and Ervin Cook Rd, to improve north-south connectivity on the west side of town.

On the east side of town, there is limited north-south connectivity outside of the "Community Core." Ferrelltown Parkway and Prosperity Road are recommended future minor thoroughfares that could provide vital north-south connectivity to I-485 for eastern Huntersville. Future development will require completion of these roadways to provide north/south mobility and connections to existing east/west routes.

East/West Connectivity & Gaps

Limited east/west connectivity is a trade-off for the efficient mobility offered by the interstate. Six roadways cross I-77 and the Norfolk Southern rail line. Of these, only NC 73, located at the Town's northern edge, crosses the entirety of the incorporated Town limits and beyond to neighboring jurisdictions. As a multi-lane, divided Boulevard, this road offers the most direct and highest capacity east/west service.

Stumptown Road and Gilead Road are Minor Thoroughfares that offer additional connections between the Town's northern and central Mixed-Use Centers. These roadways serve local east/west traffic. The CTP recommends Hugh Torance Parkway, a Minor Thoroughfare, to extend westward through the Wynfield Forest neighborhood across McDowell Creek.

Hambright Road currently transitions from a Minor Thoroughfare in the west to a Major Thoroughfare east of Mt. Holly-Huntersville Road, and ends at Everette Keith Road, just east of its crossing of the railroad. This terminus leaves an approximately one-mile gap between Hambright Road and the next north/south corridor, Eastfield Road. The CTP recommends completing this gap as a Major Thoroughfare to accommodate traffic from development in this future Mixed-Use area.

At the Town's southern edge, Mount Holly-Huntersville Road/Alexandriana Road/Eastfield Road provides additional east/west connections on a Major Thoroughfare to serve the southern Mixed-Use Centers. East/West roadways are generally connecting people to the highways to get south to Charlotte or north to Mooresville.

Figure 3.7 shows the street network in the Town, and future roadway connections, with the average number of daily vehicular trips displayed to reflect relative traffic patterns.

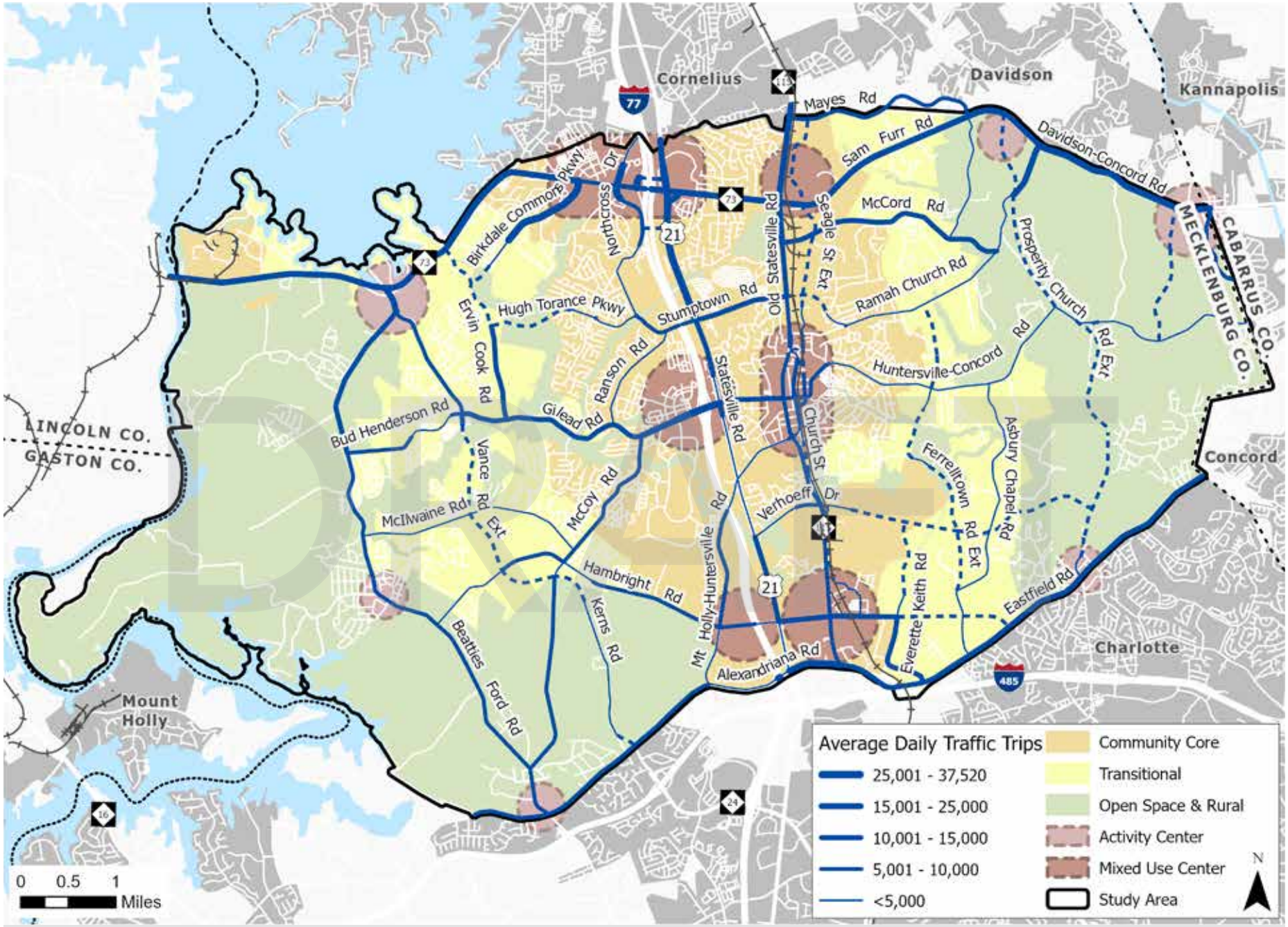


Figure 3.7. Average daily traffic counts in Huntersville (Source: Replica Dashboard accessed 6/10/24. https://studio.replicahq.com/)

3.6 Thoroughfare Plan Build-Out

Prior to the Comprehensive Transportation Plan (CTP), the long-range transportation plan was called the Thoroughfare Plan (TP), and it was maintained by the Charlotte-Mecklenburg Metropolitan Planning Organization/Mecklenburg-Union Metropolitan Planning Organization (MUMPO), which were precursors to the Charlotte Regional Transportation Planning Organization (CRTPO). Previous Thoroughfares Plans were reviewed to assess how much progress has been made on building out the long-range vision for the thoroughfare network in Huntersville. The first TP to cover all of Huntersville and all of Mecklenburg County) dates back to 1988, (see Figure 3.8, at right).

The population of Huntersville in 1988 was less than 3,000 people. Since then, the Town has grown more than 20 fold to over 65,000 people, yet no new thoroughfares were built between 1988 and 1997 (see Figure 3.9 on the following page), when the population exploded by 6 fold to nearly 25,000. The first section of Birkdale Commons Parkway was built in 1997, and it was subsequently extended with new residential developments in 2002 and 2017. This thoroughfare was not part of the 1988 TP, nor was Ferrelltown Parkway, which shows up in the 2002 TP. A small section of Ferrelltown Parkway has been built in 2019, with more planned to connect to Ramah Church Road by 2026.

The sections of thoroughfares from the 1988 TP that have been built include:

- Hugh Torance Parkway (shown as an extension of Stumptown Road in the 1988 TP), between Stumptown Road and Wynfield Creek Parkway,
- A new Gilead Road connection to Bud Henderson Road
- An extension of Stumptown Road off of Ramah Church Rd, and
- An extension of Hambright Road between NC 115 and Everette Keith Road

These new thoroughfares, built since 1997, amounts to 1.6 miles, while the population has more than doubled again to over 65,000.

Figure 3.8. 1988 Charlotte-Mecklenburg Thoroughfare Plan (Source: Town of Huntersville)

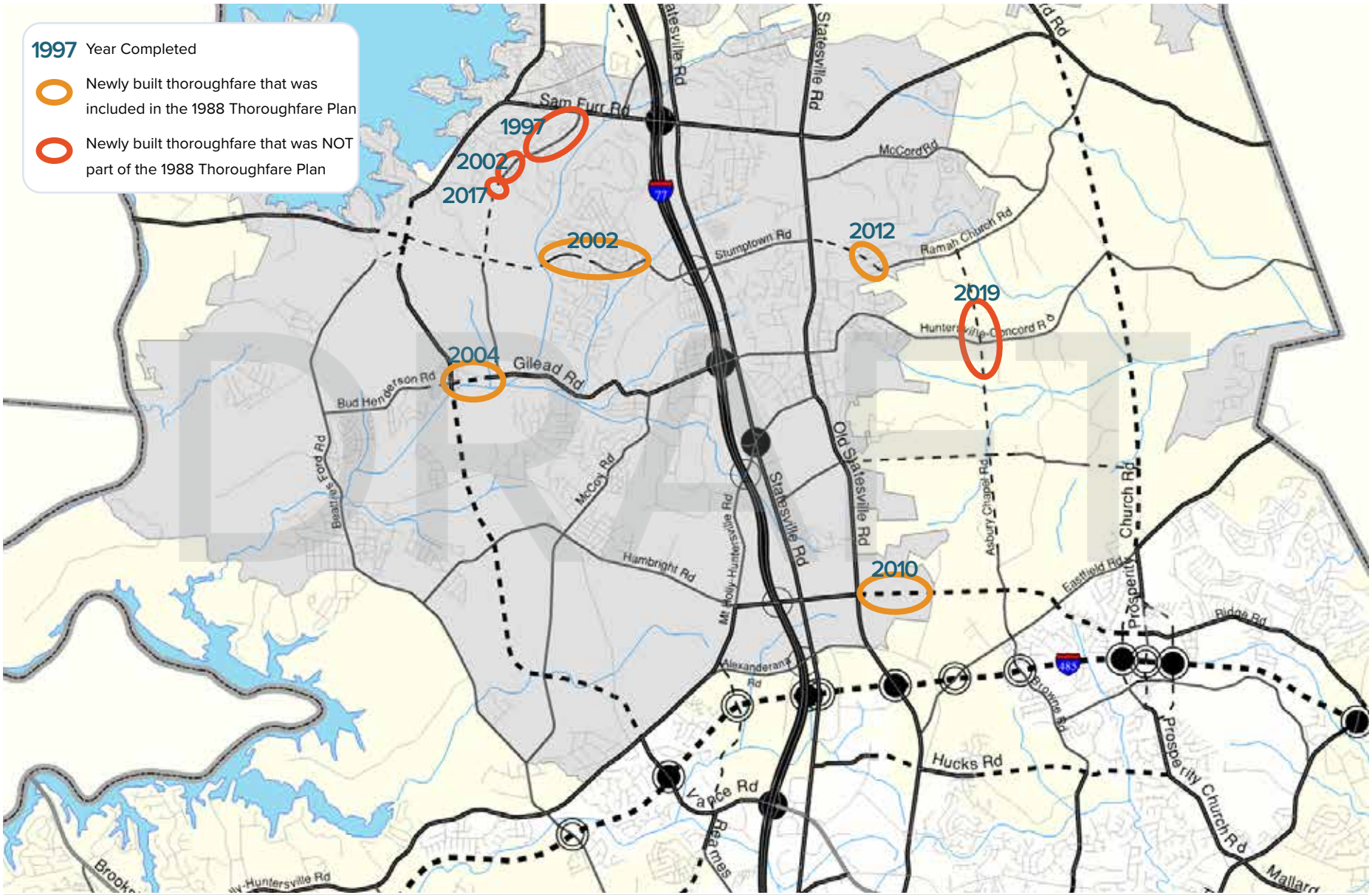


Figure 3.9. 2002 Mecklenburg-Union Metropolitan Planning Organization Thoroughfare Plan (Source: Town of Huntersville)

3.6 Traffic Growth Analysis

The North Carolina Department of Transportation (NCDOT) maintains a database of historic traffic counts along its roadways. These were analyzed for existing thoroughfares to understand how vehicular travel demand has changed as the Town has grown. NCDOT's traffic count station locations are shown in Figure 3.10 at right, and the figures on the following pages summarize the traffic count trends since 2002 for existing roadways:

Boulevards
NC 73
US 21
Gilead Road (west of US 21)
Kerns Road (future Vance Road extension)
Major Thoroughfares
NC 115
Mt Holly-Huntersville Road (west of US 21)
Hambright road (Mt Holly-Huntersville Road to Everette Keith Rd)
Minor Thoroughfares
Beatties Ford Road
Bud Henderson Road
Hambright Road (west of Mt Holly-Huntersville Road
McCoy Road
Stumptown Road
Ramah Church Road
Gilead Road (east US 21)
Huntersville-Concord Road
McCord Road
Mayes Road

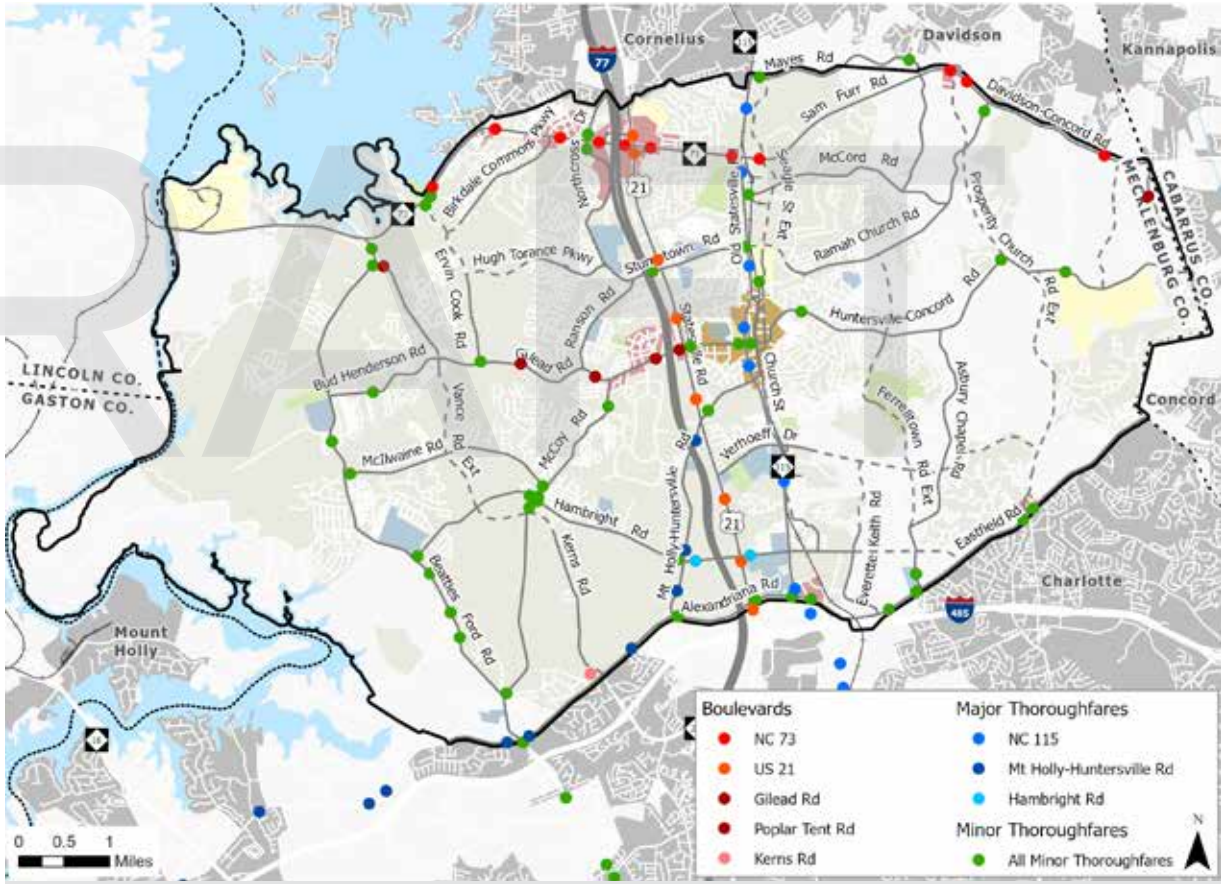


Figure 3.10. NCDOT Traffic Count Stations (Source: https://www.arcgis.com/apps/webappviewer/index.html?id=964881960f0549de8c3583bf46ef5ed4)

These graphs depict traffic counts along segments of major roadways in Huntersville. Each graph also shows the traffic projections for the corridor for the year 2050, based on the Metrolina Regional Traffic Model (MRM) that the Charlotte Regional Transportation Planning Organization maintains.

The graphs show that across a number of major corridors, the traffic counts are relatively stable on any given section over the time period from 2002 to 2022, when the Town's population grew from about 25,000 to over 60,000. The major jumps in traffic counts are seen on sections of roadways that were widened (e.g., NC 73 east of Birkdale) and then traffic counts increased and approached the new capacity limit. This phenomenon is referred to as induced demand, where roadway widening increases capacity, but does not eliminate congestion because traffic grows to meet the new capacity threshold, and congestion returns again at the new capacity limit.

There is a diminishing ability to continue to meet capacity demand by widening roads, as the availability of land decreases with new development, and the cost of right-of-way increases. Creating opportunities for alternative modes of transportation, in the form of bicycle and pedestrian investments can offer improved access and mobility options in places where further roadway widening is not a viable option.

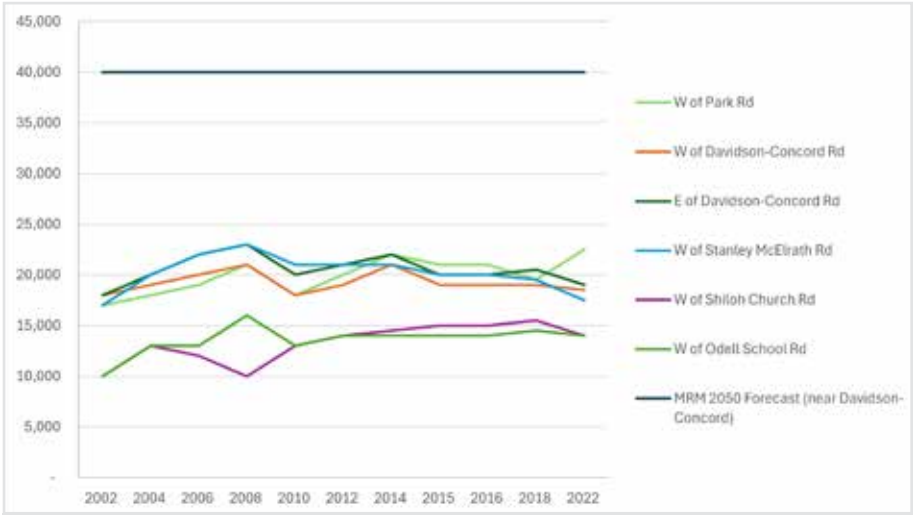


Figure 3.12. Average daily traffic counts on NC 73, east of NC 115, 2002-2022 (Source: same as Figure 3.10)

Figure 3.11. Average daily traffic counts on NC 73, west of West Catawba Avenue, 2002-2023 (Source: same as Figure 3.10)

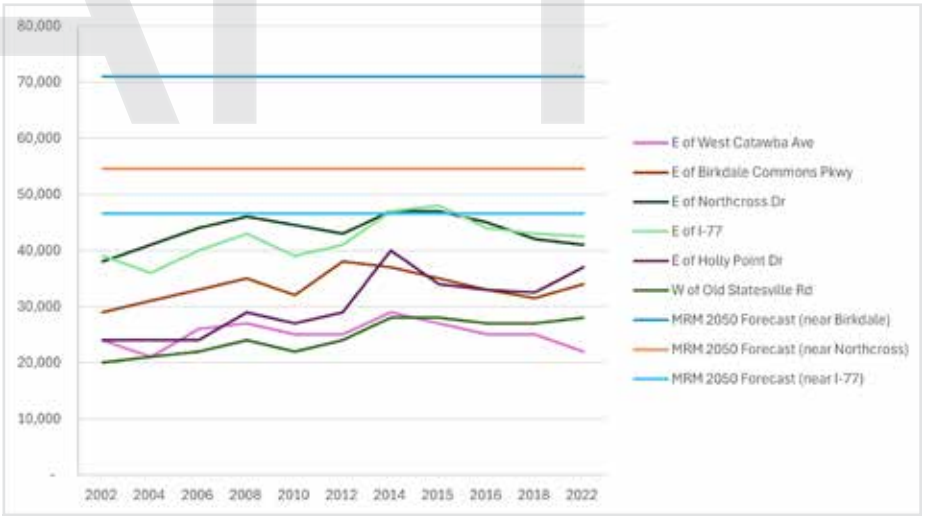


Figure 3.13. Average Annual Daily Traffic (AADT) counts on NC 73, between West Catawba Avenue and NC 115, 2002-2022 (Source: same as Figure 3.10)

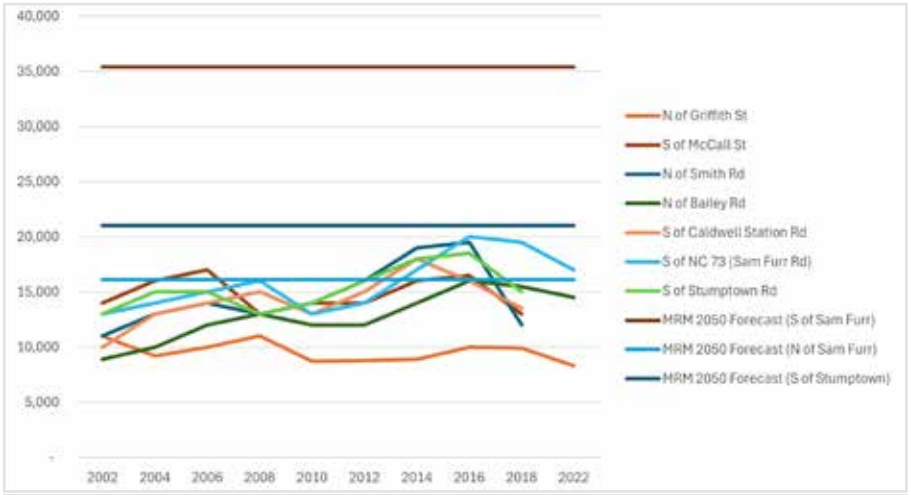


Figure 3.14. Average daily traffic counts on NC 115, north of Ramah Church Road, 2002-2023 (Source: same as Figure 3.10)

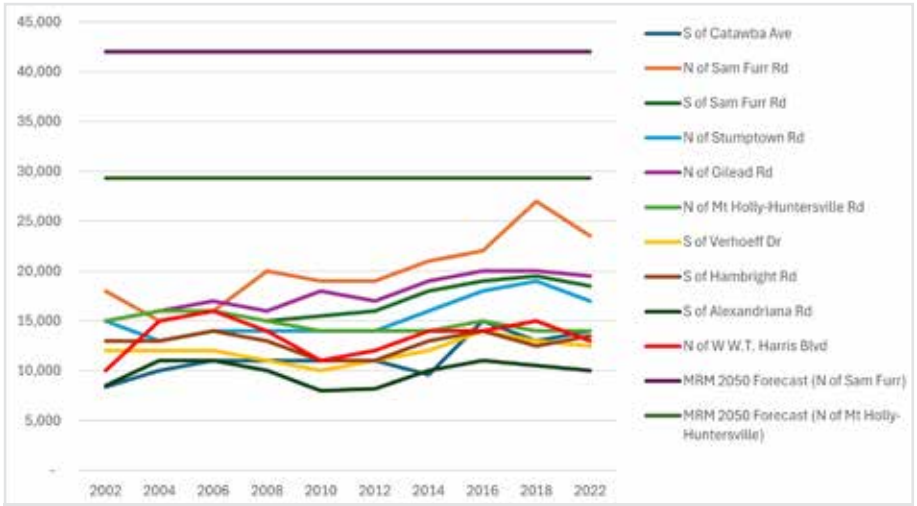


Figure 3.16. Average daily traffic counts on US 21, 2002-2022 (Source: same as Figure 3.10)

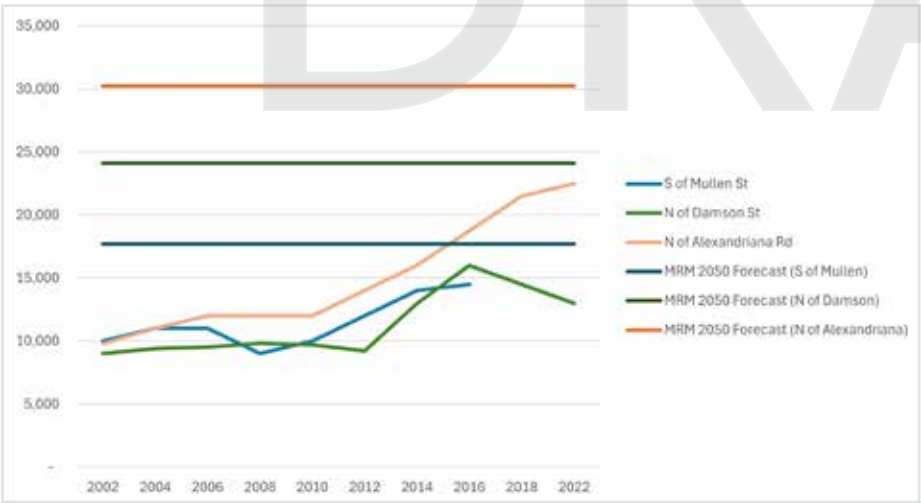


Figure 3.15. Average daily traffic counts on NC 115, south of Gilead Road, 2002-2022 (Source: same as Figure 3.10)

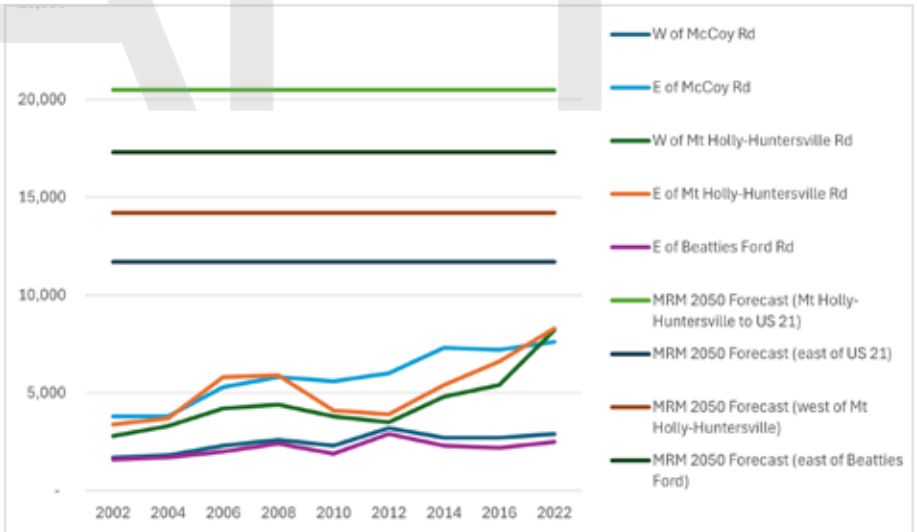


Figure 3.17. Average daily traffic counts on Hambright Road, 2002-2022 (Source: same as Figure 3.10)

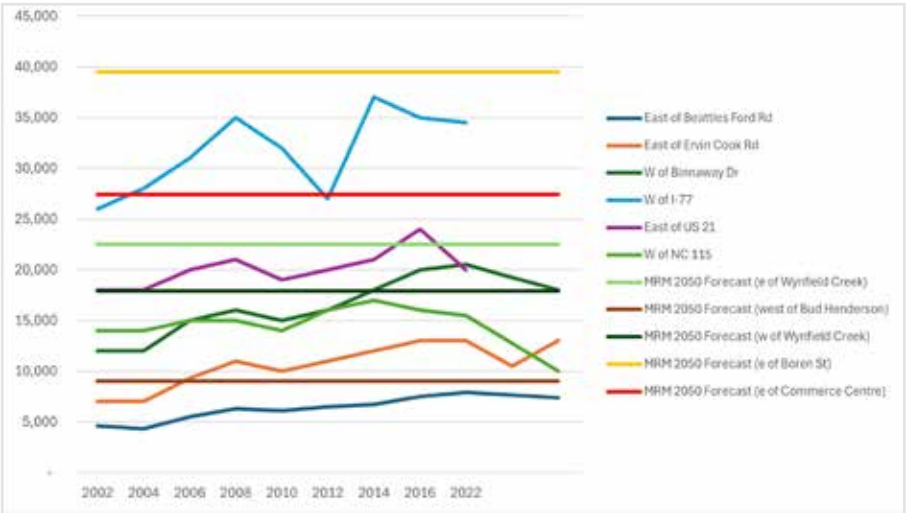


Figure 3.18. Average daily traffic counts on Gilead Road, 2002-2023 (Source: same as Figure 3.10)

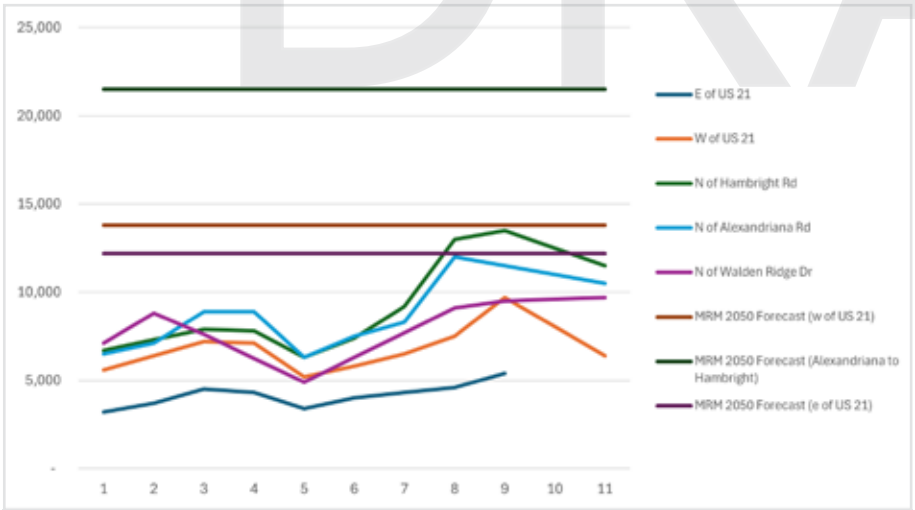
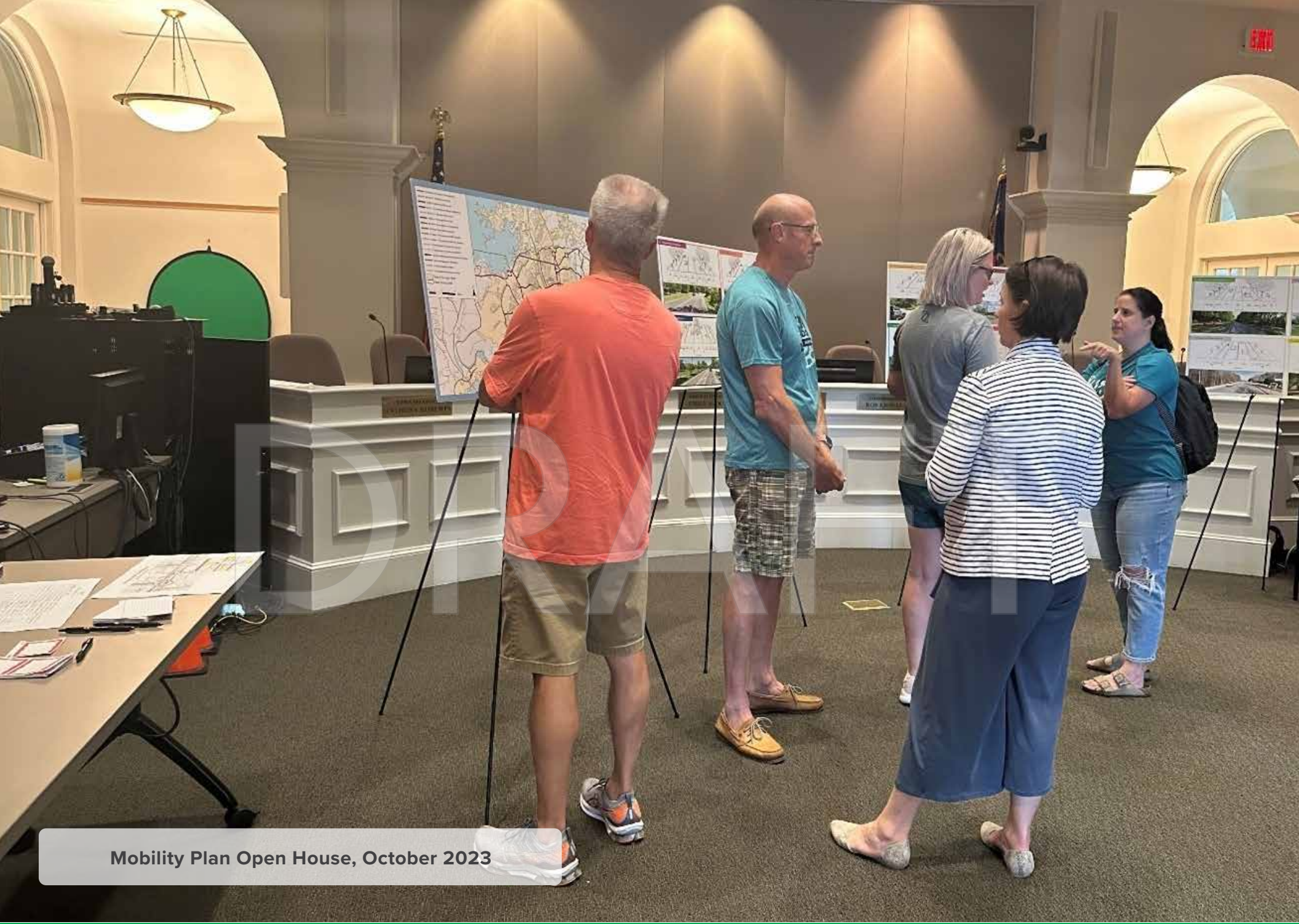


Figure 3.19. Average daily traffic counts on Mt Holly-Huntersville Road, 2002-2022 (Source: same as Figure 3.10)



Mobility Plan Open House, October 2023

CHAPTER 4

Community Outreach & Engagement

4. COMMUNITY OUTREACH & ENGAGEMENT

Crafting a vision for mobility requires a continuous and inclusive process. It needs a thoughtful approach to engaging the community and empowering stakeholders. The community engagement process was based on collaborative planning and consensus building to provide a deep understanding of local dynamics and community expectations. This chapter summarizes the Community Engagement process and highlights some of the events that took place during project development.

A multi-faceted approach was used to gather input, and to reach the community at large. The public outreach events included:

- Technical Committee meetings
- Community survey in English and Spanish
- Community Focus Groups
- Open House

4.1 Technical Committee Meetings

The TC was composed of staff from the following agencies: Town of Huntersville, Charlotte Regional Transportation Planning Organization (CRTPO), North Carolina Department of Transportation (NCDOT) Transportation Planning Division (TPD), NCDOT Integrated Mobility Division, and Division 10 and Charlotte Area Transit System (CATS).

The TC met three times during the project development; the committee provided guidance regarding the community engagement, development of prioritization criteria, and development of the multimodal network.

4.2 Community Survey

The first phase of the project focused on a community survey that drew more than 500 responses.

The responses helped establishing community preferences and priorities. This information was used to inform the recommendations and project prioritization process.

The survey indicated that it is important for the community to experience less traffic congestion, to have more opportunities to walk and to establish more greenway connections through Town (Figure 4.1).

Overall, the respondents indicated that they support enhancing and improving mobility options for all, with more people on foot, bikes, and buses and fewer cars on the road. This was followed by becoming the most livable town in the region (Figure 4.2).

When the community was asked about transportation priorities, the top three responses were safety, speed and relieving rush hour congestion (Table 4.1).

The respondents were also asked to rank in order of most important to least important, the considerations that were critical in responding to transportation challenges. The most frequently selected top priority was “improved traffic flow,” followed by “I can connect to important destinations in town” (Table 4.2).

The responses to all survey questions can be found in Appendix B, starting on page 123.

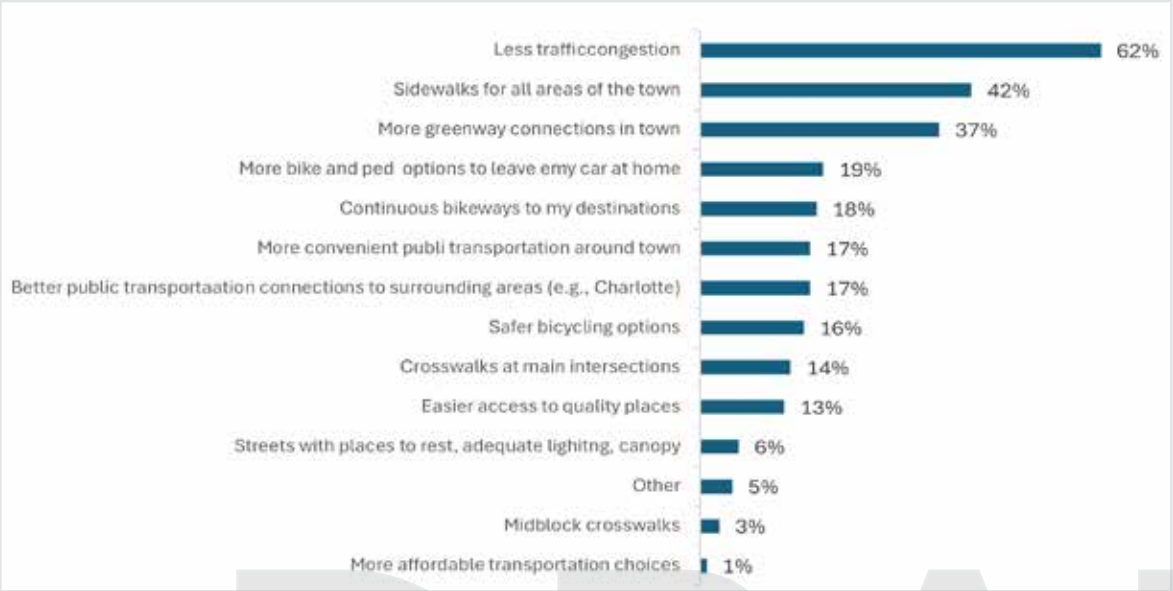


Figure 4.1. Three desired changes to improve travel in Huntersville (N=414)

Table 4.1. Transportation Project Priorities (N=213)

Transportation Project Priorities	Rank
Safety (reducing crashes, providing more separation between pedestrians/bicyclists and vehicles)	1
Speed (improving travel times)	2
Relieving rush hour congestion	3
Multimodal opportunities	4
Broadest impact across Town	5
Appearance	6
Cost	7

Figure 4.2. Why Respondents Support Investment in Active Transportation in Huntersville (N=356)

Table 4.2. Important Considerations for New Transportation Challenges (N=206)

Most important consideration for you in responding to new transportation challenges	Rank
Improved traffic flow, less traffic backup at traffic signals	1
I can connect to important destinations in Town	2
I can safely walk or bike to my destinations	3
The transportation options give me access to jobs, medical services, schools	4
All the members of the community have access to similar transportation options	5
My transportation choices help reduce greenhouse gases and address climate change	6
I have access to new technologies, such as driving electric vehicles or autonomous vehicles	7

4.3 Community Focus Groups

The survey effort was complimented with two community focus group sessions held on May 23, 2023, that attracted more than 40 people.

The focus group sessions provided an opportunity to confirm the community priorities expressed in the survey, to help the Town identify projects and investment strategies.

Participants were asked to rank their priorities for project funding considerations—what a project would affect or aspects of the project itself mattered most (Figure 4.3). The participants had three options to select from, top, medium, and low priorities. When the afternoon and evening participants votes were combined, the most important consideration was Connectivity/Mobility, Quality of Life and Congestion followed this top priority. Safety was the medium priority most commonly followed by Connectivity/Mobility. This shows that the attendees consider connectivity/ mobility options as the most important aspects of the mobility plan.

The attendees were asked to rank their priorities for types of transportation projects as well as priority funding considerations (Figure 4.4). Overall, there seemed to be great interest in improving connectivity for bicyclists and pedestrians.

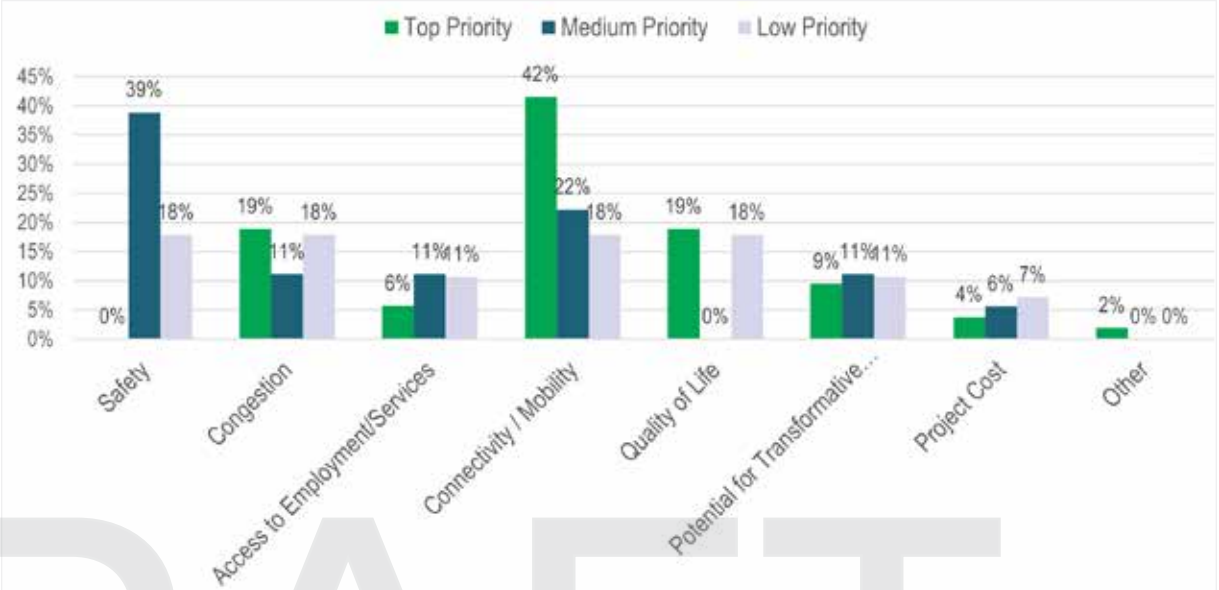


Figure 4.3. Priority Funding Considerations (N=41)

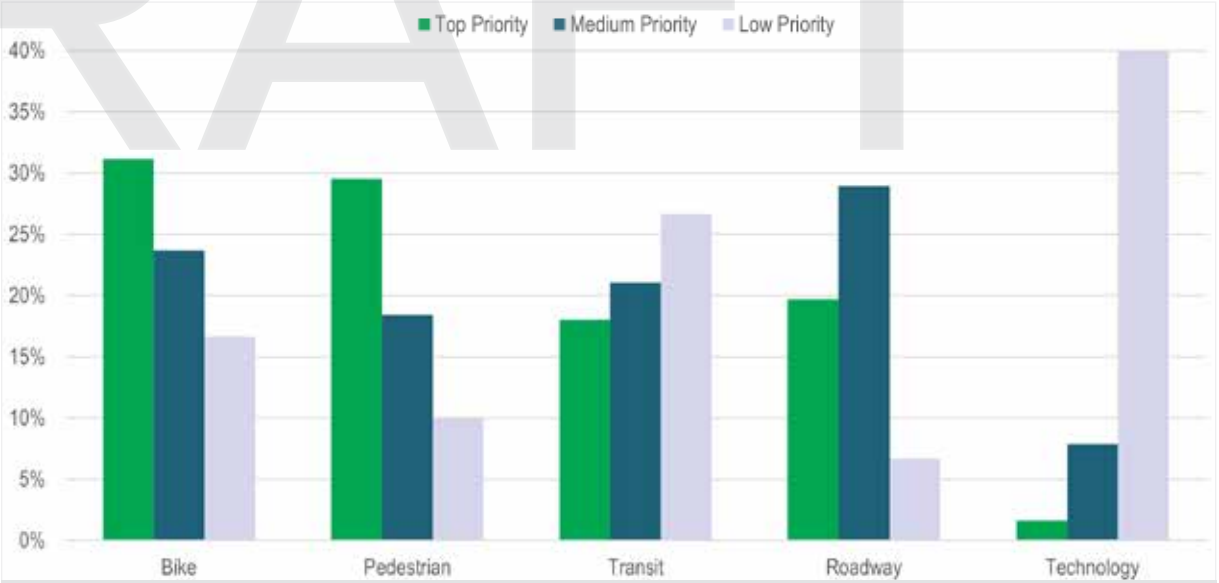


Figure 4.4. Priority Project Type Preferences (N=41)

4.4 Open House

An open house was held on October 4, 2023. The purpose of the open house was to present multimodal solutions developed to address the mobility needs and preferences identified through earlier rounds of analysis and public engagement. This informational session drew 25 participants.

Members of the public reviewed the cross-sections developed to retrofit the existing roads and design future roads to create a network of Complete Streets (Figure 4.5).

The meeting included a presentation explaining the importance of the priority process, and the scores considered to rank projects. Overall, the attendees were interested in the types of multimodal facilities proposed for each cross-section and in some cases, they wanted to understand the impacts to properties along those corridors.

This public engagement effort bolstered the survey results, where support for multimodal infrastructure was expressed, and provided citizens with the opportunity to elaborate on their specific needs and priorities for the future design of the transportation network in Huntersville.

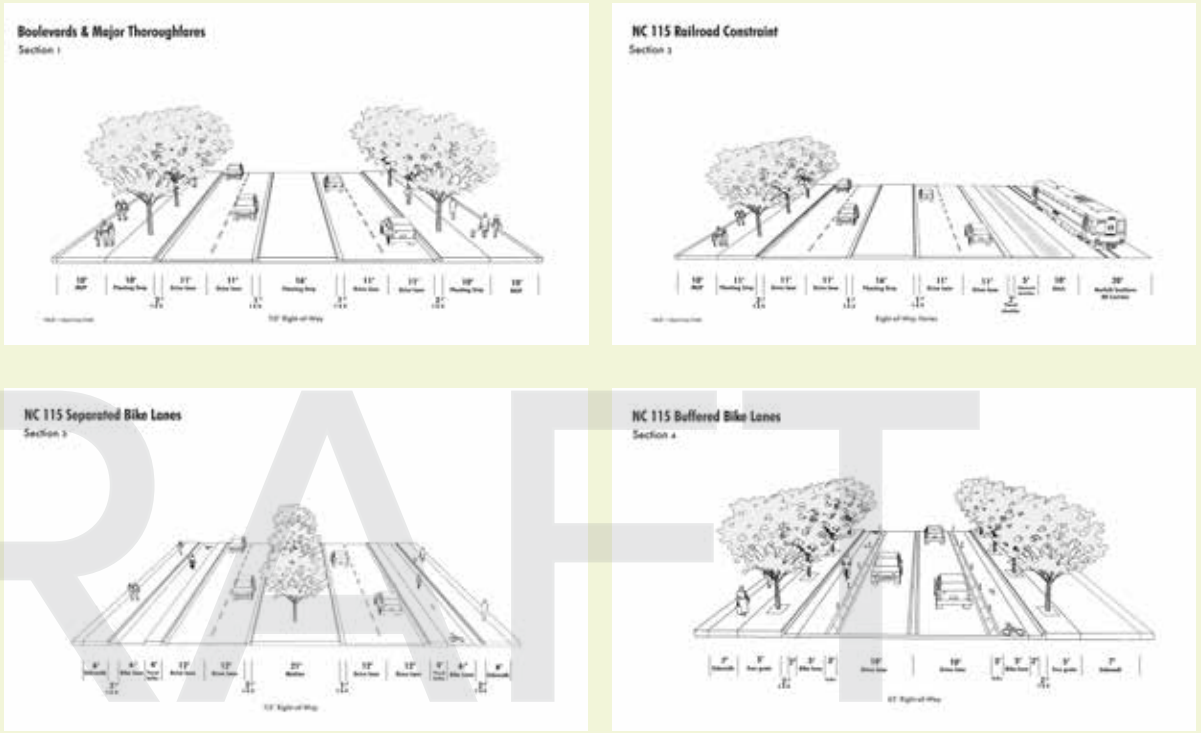
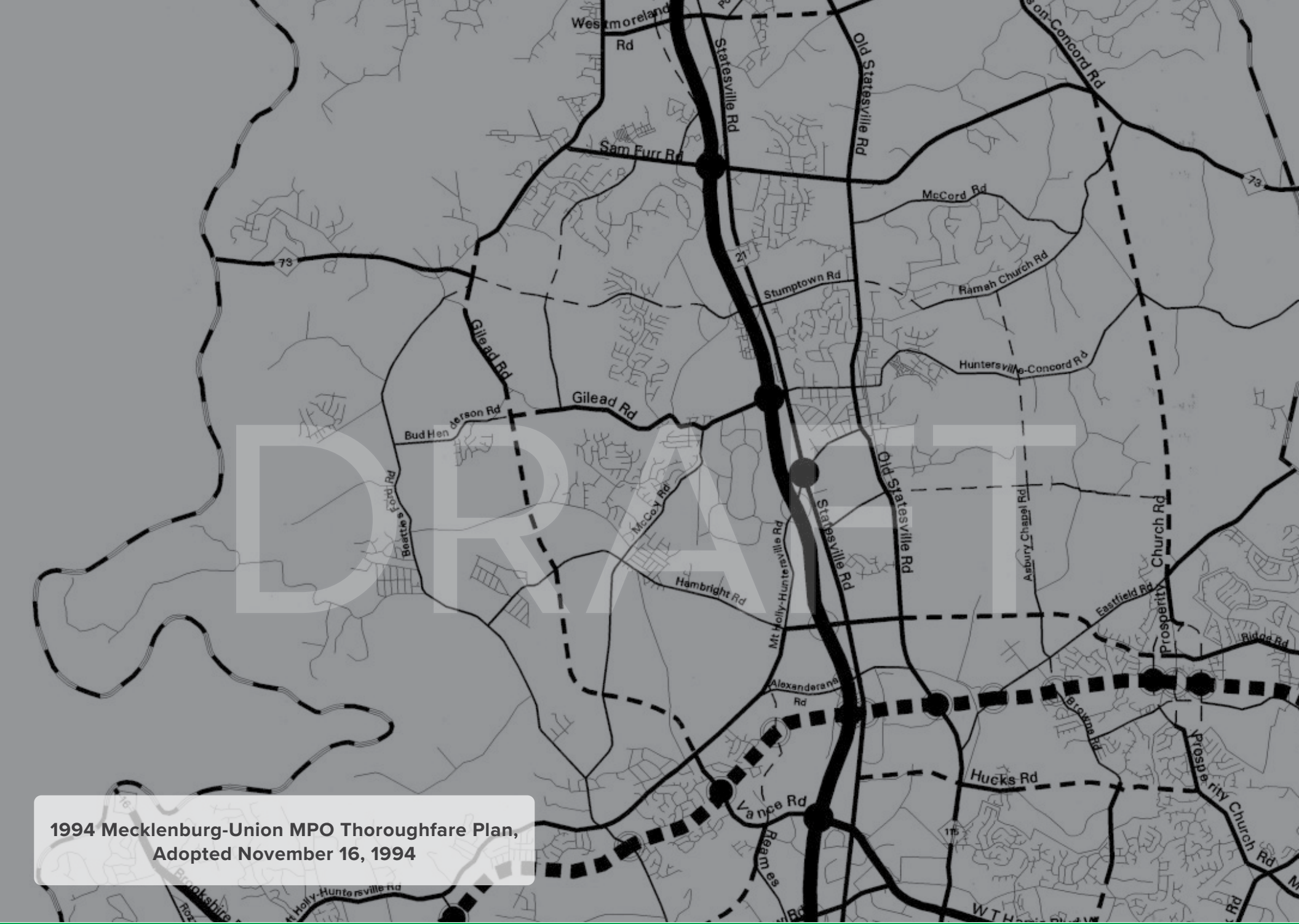


Figure 4.5. Poster with draft cross-sections shared at Open House



1994 Mecklenburg-Union MPO Thoroughfare Plan, Adopted November 16, 1994

CHAPTER 5

Connectivity & Multimodal Network

5.1 Roadway Typology-Land Use Matrix

Traffic patterns, roadway capacity, and existing land use typologies were reviewed to inform the design of cross-sections for the network of boulevards, major thoroughfares, and minor thoroughfares in Huntersville. Multimodal elements are included in each cross-section to ensure each roadway is developed as a "Complete Street." Figure 5.1 shows the Comprehensive Transportation Plan (CTP) street network overlayed over the future land use characters from the *Huntersville 2040 Community Plan* that forms the basis for the matrix of roadway typologies and land use characters in Table 5.1, Table 5.2, and Table 5.3 on the following pages.

The plan includes fifteen cross-sections that incorporate multimodal elements and specifies number of vehicle lane for all the boulevards and thoroughfares in the CTP network, as well as additional local roads that operate as thoroughfares. In essence, this plan acts as a guide for the Town to determine where to improve our network, and how to improve it.

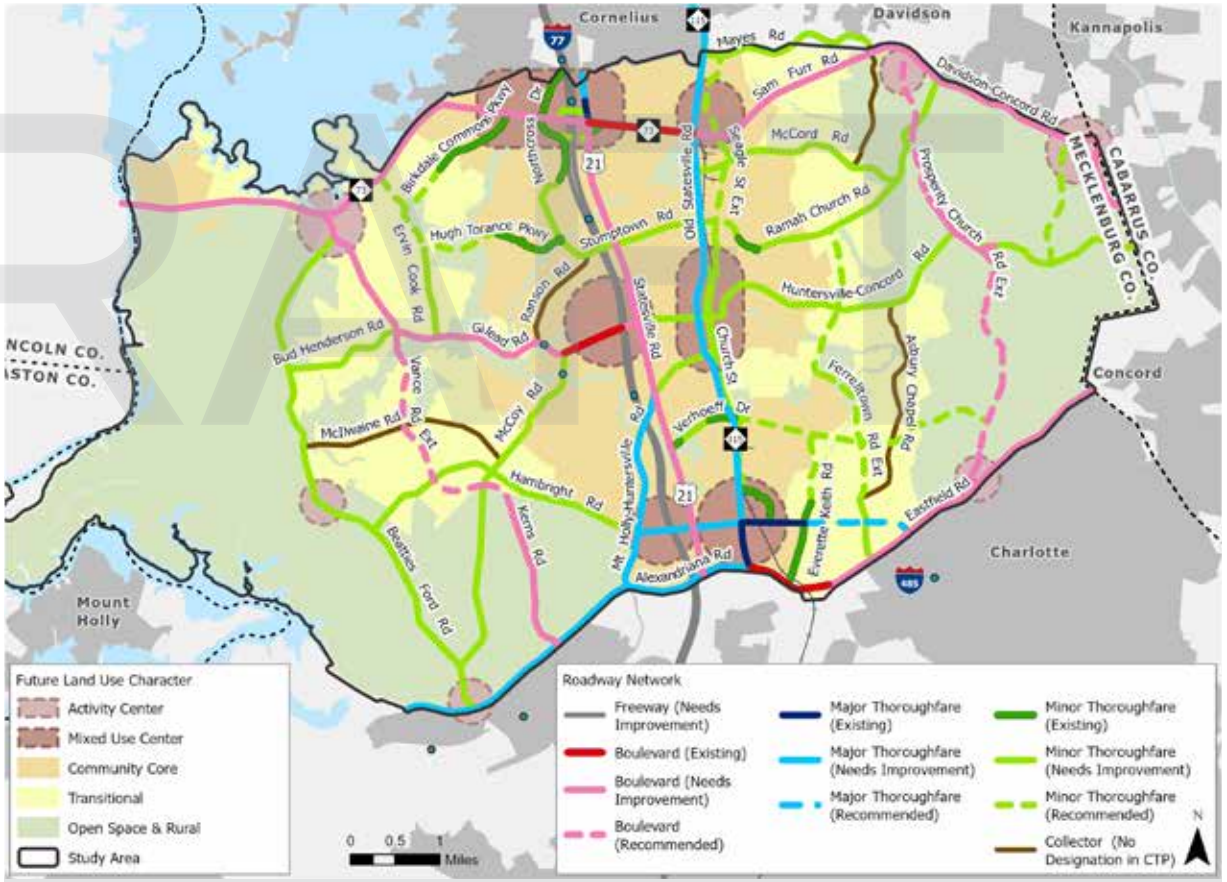


Figure 5.1. CTP Network over the Future Land Use Characters from the *2040 Plan*

Table 5.1. CTP Classification and Land Characterization Matrix – Boulevards

Land Character	Boulevards				
	Roadway	**Extents**	**Current AADT**	**Future AADT**	**Recommended Cross-Section (approximate capacity)**
Community Core	NC 73	Norman View Ln to Kenton Dr	20,000	44,500	4-lanes boulevard (36,800)
	NC 73	Ranger Trail to w of Old Statesville	23,000	34,100	4-lane boulevard (36,800)
	NC 73	Maple Branch Dr to Oak Farm Ln	15,000	31,800	4-lane boulevard (36,800)
	US 21	Holly Point to Stumptown Rd	5,700	32,100	4-lane boulevard (36,800)
	US 21	Stumptown Rd to Shiv Dr	11,000	34,000	4-lane boulevard (36,800)
	US 21	Dallas St to Alexandriana Rd	4,000	33,600	4-lane boulevard (36,800)
	Gilead Rd	Wynfield Creek Pkwy to Boren St	15,000	22,500	4-lane boulevard (36,800)
Transition	NC 73	W Brown Mill Rd to W. Norman View Ln	20,000	39,900	4-lane boulevard (36,800)
	NC 73	Oak Farm Ln to w of Black Farm Rd	15,000	30,800	4-lane boulevard (36,800)
	Gilead Rd	NC 73 to Bud Henderson Rd	8,000	9,000	2-lane boulevard (18,300)
	Gilead Rd	Vance Rd to Wynfield Creek Pkwy	12,000	17,900	2-lane boulevard (18,300)
	Vance Rd extension	Gilead Rd to McCoy Rd	Future road	No data	2-lane boulevard (18,300)
Open Space & Rural	NC 73	Lincoln Co. Line to Brown Mill Rd	20,000	35,500	4-lane boulevard (36,800)
	NC 73	W of Black Farm Rd to Cabarrus Co. Line	15,000	39,000	4-lane boulevard (36,800)
	Kerns Rd (future Vance Rd extension)	McCoy Rd to Mt. Holly-Huntersville Rd	500	16,700	2-lane boulevard (18,300)
	Prosperity Church Rd	North Creek Village Dr to Rocky Ford Club Rd	Future road	No data	2-lane boulevard (18,300)
	Poplar Tent Rd	NC 73 to Huntersville-Concord Rd	10,500	30,600	4-lane boulevard (36,800)
Mixed-Use Centers, since they occur across all other character areas, have their own attributes and may require more nuanced application/design of cross-sections					
Mixed-Use Center	NC 73	Kenton Dr to Ranger Trail	36,000	71,000	4-6 lane boulevard (55,300)
	NC 73	W of Old Statesville to e of Parr Dr	19,000	34,900	4-lane boulevard (36,800)
	US 21	Shiv Dr to Dallas St	11,000	19,600	4-lane boulevard (36,800)
	US 21	Northcross Center Ct to Holly Point	16,000	42,000	4-lane boulevard (36,800)
	Gilead Rd	Boren St to Commerce Centre Dr	29,000	39,500	4-lane boulevard (36,800)
	Prosperity Church Rd	NC 73 to North Creek Village Dr	200	No data	2-lane boulevard (18,300)
	Prosperity Church Rd	Eastfield Rd to Rocky Ford Club Rd	700	No data	2-lane boulevard (18,300)

Table 5.2. CTP Classification and Land Characterization Matrix – Major Thoroughfares

Land Character	Major Thoroughfares				
	Roadway	**Extents**	**Current AADT**	**Future AADT**	**Recommended Cross-Section (approximate capacity)**
Core	NC 115	Mayes Rd to Caldwell Station Rd	13,500	16,100	2 lanes with left turn lane (18,300)
	NC 115	NC 73 to Ramah Church Rd	15,000	27,700	2 lanes with left turn lane (18,300)*
	NC 115	S of Mt. Holly-Huntersville Rd to Damson Dr	13,000	24,100	2 lanes with left turn lane (18,300)*
	Mt. Holly-Huntersville Rd	US 21 to n of Hambright Rd	11,500	13,800	2 lanes with left turn lane (18,300)
	Mt. Holly-Huntersville Rd	S of Hambright Rd to Alexandriana Rd	10,500	21,500	4-lane boulevard (36,800)
Transition	Hambright Rd extension	Everette Keith Rd to Eastfield Rd	Future road	No data	2 lanes with left turn lane (18,300)
Rural	None				
Mixed-Use Centers, since they occur across all other character areas, have their own attributes and may require more nuanced application and/or design of cross-sections					
Mixed-Use Center	NC 115	Caldwell Station Rd to NC 73	13,500	16,100	2 lanes with left turn lane (18,300)
	NC 115	Ramah Church Rd to s of Mt. Holly-Huntersville Rd	11,500	19,400	2 lanes*
	NC 115	Damson Dr to Alexandriana Rd/Eastfield Rd	22,500	30,200	4 lanes (36,800)
	Mt. Holly-Huntersville Rd	N of Hambright Rd to s of Hambright Rd	11,000	21,500	4 lanes (36,800)
	Hambright Rd	Mt. Holly-Huntersville Rd to US 21	8,300	20,500	2 lanes with left turn lane (18,300)
	Hambright Rd	US 21 to NC 115	7,000	11,700	2 lanes with left turn lane (18,300)
	Hambright Rd	NC 115 to Everette Keith Rd	No Data	No Data	4 lanes (36,800)

* Four-lane boulevard could be considered if parallel route on east side of railroad tracks (Church Street/Seagle Street extension) is not built. This paired capacity strategy was employed with the NC 115 and Main Street pair between the roundabouts, which allowed NC 115 to remain 2-lanes throughout Downtown Huntersville.

Table 5.3. CTP Classification and Land Characterization Matrix – Minor Thoroughfares

Land Character	Minor Thoroughfares				
	Roadway	**Extents**	**Current AADT**	**Future AADT**	**Recommended Cross-Section (approximate capacity)**
Community Core	Birkdale Commons Pkwy	David Kenney Farm Rd to Sandowne Ln	No data	11,600	2 lanes with left turn lane (18,300)
	Church/Meacham Farm Rd extension	Holbrooks Rd to terminus s of Commerce Station Dr	No data	No data	2 lanes with left turn lane (18,300)
	Church/Seagle St extension	N or Ramah Church Rd	No data	No data	2 lanes with left turn lane (18,300)
	Gilead Rd	Commerce Centre Dr to Hillcrest Dr	10,000	27,400	2 lanes with left turn lane (18,300)
	Hambright Rd	Mt Holly-Huntersville Rd to Swansboro Ln	8,200	14,200	2 lanes with left turn lane (18,300)
	Hugh Torance Pkwy	Stumptown Rd to Wynfield Creek Pkwy	No data	No data	2 lanes with left turn lane (18,300)
	Huntersville-Concord Rd	Glendale Dr to Bellington Dr	8,100	20,800	2 lanes with left turn lane (18,300)
	McCord Rd	NC 115 to Northstone Dr	6,300	15,700	2 lanes with left turn lane (18,300)
	McCoy Rd	Gilead Rd to Windy Lea Ln	11,000	16,700	2 lanes with left turn lane (18,300)
	Mt. Holly-Huntersville Rd	NC 115 to US 21	5,400	12,200	2 lanes with left turn lane (18,300)
	Northcross Dr	Hugh McAuley Rd to NC 73	11,500	17,400	2 lanes with left turn lane (18,300)
	Ramah Church Rd	NC 115 to Fred Brown Rd	10,000	19,000	2 lanes with left turn lane (18,300)
	Ranson Rd	Stumptown Rd to Gilead Rd	No data	11,100	2 lanes with left turn lane (18,300)
	Stumptown Rd	Northcross Dr to NC 115	13,000	22,700	2 lanes with left turn lane (18,300)
	Verhoeff Rd	US 21 to NC 115	1,500	12,200	2 lanes with left turn lane (18,300)
Transition	Birkdale Commons Pkwy	Sandowne Ln to Boat Hold Alley	No data	No data	2 lanes with left turn lane (18,300)
	Bud Henderson Rd	Beatties Ford Rd to Gilead Rd	4,700	7,700	2 lanes with left turn lane (18,300)
	Ervin Cook Rd	Gilead Rd to NC 73	50	No data	2 lanes with left turn lane (18,300)
	Everette Keith Rd	Future Verhoeff Dr to Eastfield Rd	No data	Future road	2 lanes with left turn lane (18,300)
	Ferrelltown Pkwy	Ramah Church Rd to Eastfield Rd	5,300	22,800	2 lanes with left turn lane (18,300)
	Hambright Rd	Swansboro Ln to Montecarlo Dr	7,600	17,300	2 lanes with left turn lane (18,300)
	Hugh Torance Pkwy	Wynfield Creek Pkwy to Ervin Cook Rd	Future road	Future road	2 lanes with left turn lane (18,300)
	Huntersville-Concord Rd	Bellington Dr to e of Sims Rd	No data	17,500	2 lanes with left turn lane (18,300)
	McCoy Rd	Windy Lea Ln to s of Hambright Rd	9,200	24,400	2 lanes with left turn lane (18,300)

Table 5.3. CTP Classification and Land Characterization Matrix – Minor Thoroughfares (continued from previous page)

Land Character	Minor Thoroughfares				
	Roadway	**Extents**	**Current AADT**	**Future AADT**	**Recommended Cross-Section (approximate capacity)**
Transition	McIlwaine Rd	Beatties Ford Rd to McCoy Rd	5,700	6,900	2 lanes with left turn lane (18,300)
	McCord Rd	Northstone Dr to Black Farms Rd	6,300	15,700	2 lanes with left turn lane (18,300)
	Ramah Church Rd	Fred Brown Rd to Mac Wood Rd	No data	14,400	2 lanes with left turn lane (18,300)
	Verhoeff Dr	Everette Keith Rd to e of Asbury Chapel Rd	Future road	No data	2 lanes with left turn lane (18,300)
Open Space & Rural	Beatties Ford Rd	Gilead Rd to McCoy Rd	9,700	16,800	2 lanes
	McCoy Rd	S of Hambright Rd to Beatties Ford Rd	2,800	4,900	2 lanes
	Huntersville-Concord Rd	E of Sims Rd to Poplar Tent Rd	4,300	13,100	2 lanes
	Verhoeff Dr	E of Asbury Chapel Rd	Future road	Future road	2 lanes
	Future NC 73 to Huntersville-Concord Rd connection	NC 73 to Huntersville-Concord Rd	Future road	Future road	2 lanes
	Hambright Rd	Montecarlo Dr to Beatties Ford Rd	2,500	8,200	2 lanes with left turn lane (18,300)
	Ramah Church Rd	Mac Wood Rd to NC 73	4,300	23,300	2 lanes with left turn lane (18,300)
Mixed-Use Centers, since they occur across all other character areas, have their own attributes and may require more nuanced application/design of cross-sections					
Mixed-Use Center	Beatties Ford Rd	McCoy Rd Mt Holly-Huntersville Rd	10,500	20,200	4 lanes (36,800)
	Birkdale Commons Pkwy	E of David Kenney Farm Rd to NC 73	No data	11,600	4 lanes (36,800)
	Northcross Dr	S of NC 73 Cornelius Town limit	11,500	17,400	4 lanes (36,800)
	Gilead Rd	Hillcrest Dr to NC 115	10,000	27,400	2 lanes with left turn lane (18,300)
	Huntersville-Concord Rd	NC 115 to Glendale Dr	8,600	21,500	2 lanes with left turn lane (18,300)
	Main St	Fourth St to Mt Holly-Huntersville Rd	No data	15,500	2 lanes
	Church St	Fourth St to Dellwood Dr	No data	No data	2 lanes
	Meacham Farm Rd	Shady Canyon to Hambright Rd	No data	No data	2 lanes
	Seagle St extension	S of NC 73 to Coach Ln	Future road	Future road	2 lanes with left turn lane (18,300)

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5.2 Cross-Sections

The cross-sections were developed taking into consideration the surrounding land uses and future development character, as identified in the *2040 Community Plan*, as well as traffic projections from the *2050 Metropolitan Transportation Plan*. In some cases, the roadways will require a retrofit of bicycle and pedestrian facilities, while other recommendations will be pursued as part of a new project, such as widening or new roadway construction. The intent of the cross-sections is to define the number of lanes and provide multimodal options on every key corridor throughout the entire network and to expand the mobility options for all members of the community. These cross-sections build upon recommendations made as part of prior planning efforts, specifically the *2040 Community Plan* and 2020 *Bike Plan Update*.

The cross-sections include multiple components that, combined, make up a Complete Streets approach to transportation network planning, which include vehicular, pedestrian and bicycle components. Cross-sections also include planting strips that are required by the Town's Zoning Ordinance. Figure 5.2, at right, illustrates and defines the Complete Streets components the Town desires.

All the proposed cross-sections include accommodations for both bicycles and pedestrians. Table 5.4 outlines the various bicycle and pedestrian facilities that are in the cross-sections.

Cross-Section Components

1. Median/Center turn lanes – Boulevards and Major Thoroughfares include medians that should include plantings. Other roads, such as some minor thoroughfares, may have a center turn lanes (as shown below) to allow for property access.
2. Travel Lanes – Travel lanes are for vehicular travel. Travel lanes are typically 10-12-feet wide, with some exceptions.
3. On-Street Bike Facility – There are several different on-street bicycle facilities incorporated into the cross sections (the majority of cross-sections are designed with multi-use paths (MUPs) as an off-street alternative, see #6).
4. Curb and Gutter – Most streets in the Town include curb and gutter; some minor thoroughfares in transition and rural areas include paved/unpaved shoulders and ditches.
5. Planting Strip – Planting strips create a buffer between the roadway and adjacent pedestrian space and provides space for trees and, potentially pedestrian amenities and/or transit amenities. Planting strip recommendations are generally 10-feet wide but vary based on context. Planting strips may also be grassed ditches to handle stormwater.
6. Pedestrian/Multi-Use Path – This includes both sidewalks and multi-use paths (MUPs, which also serve as bicycle facilities). Information about sidewalks, MUPs, and bicycle facilities is included in Table 5.4 on following page.
7. On-Street Parking – (On-street parking is not shown in the graphic.) On-street parking is generally not permitted on any of these roadways, but could be incorporated in appropriate contexts to be d

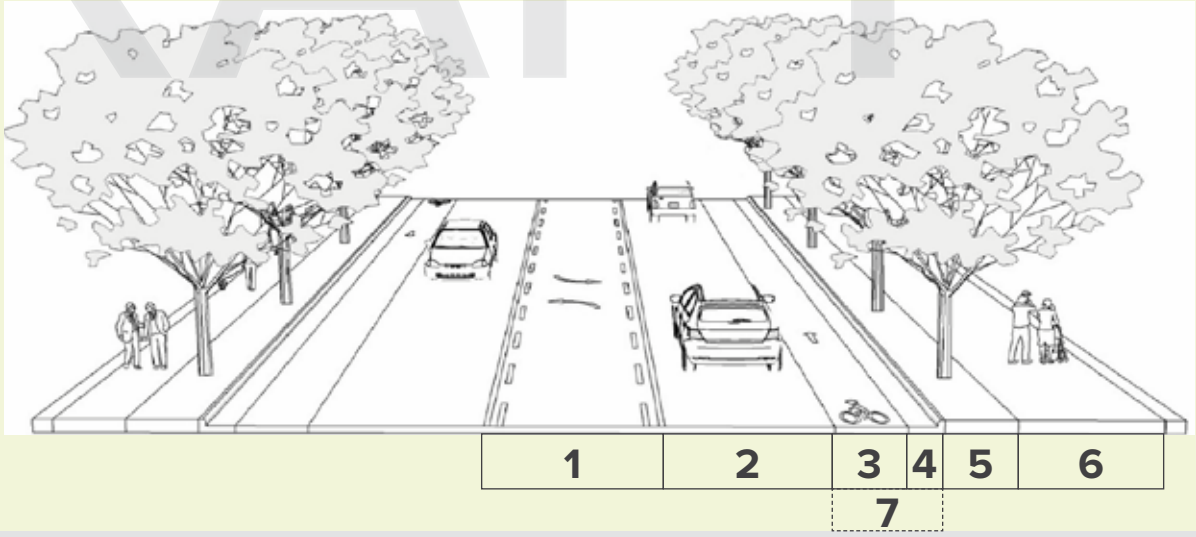
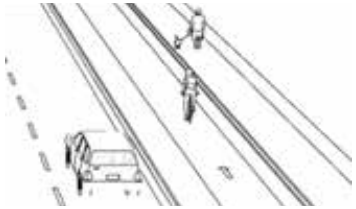
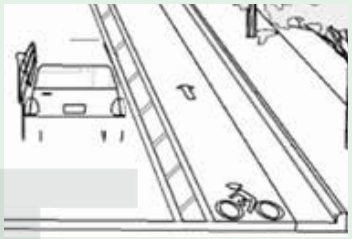
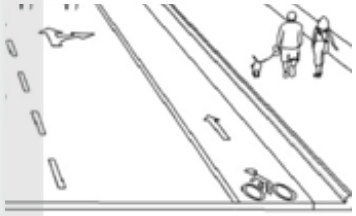
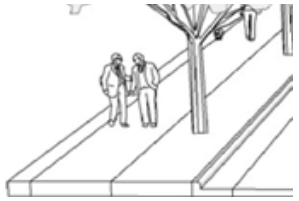


Figure 5.2. Cross-Section Diagram

Detailed diagrams for each of the fifteen cross-sections begin on the following pages. The cross-sections are organized by CTP Roadway Classification:

- Boulevards
  1. Core Boulevard
  2. Rural Boulevard
- Major Thoroughfares
  3. Core Thoroughfare
  4. Major Thoroughfare – Railroad Constraint
- Minor Thoroughfares
  5. Transition Thoroughfare
  6. Rural Thoroughfare
  7. Thoroughfare through Mixed-Use & Activity Centers
  8. Minor Thoroughfare – Railroad Constraint
- Special Case Cross-Sections
  9. NC 115 Buffered Bike Lanes
  10. NC 115 Standard Bike Lanes
  11. Thoroughfare – Multi-Use Path Retrofit
  12. Northcross Drive Retrofit
  13. Church St – Vermillion Village
  14. Bud Henderson Retrofit
  15. Eastfield/Alexandriana/Mt Holly-Huntersville

Table 5.4. Bicycle and Pedestrian Street Facility Types

Facility Name	Description	Example
Separated Bike Lanes	A separated bicycle lane is an exclusive bike facility that combines the user experience of a separated path with the on-street infrastructure of a conventional bike lane. A separated bicycle lane is physically separated from motor traffic and distinct from the sidewalk. Details on the design standards for separated bike lanes (and other bike facilities) can be found in the Urban Bikeway Design Guide. [1]	
Buffered Bike Lanes	Buffered bike lanes are conventional bicycle lanes paired with a designated buffer space separating the bicycle lane from the adjacent motor vehicle travel lane and/or parking lane. The buffer is marked by two solid white lines and diagonal hatching.	
Standard Bike Lanes	Standard bike lanes designate an exclusive space for bicyclists using pavement markings and signage. The standard bike lane is located adjacent to motor vehicle travel lanes and flows in the same direction as motor vehicle traffic.	
Multi-use Path	Multi-use paths are physically separated from the roadway, and are intended to be used by pedestrians, bicyclists, runners, and other non-motorized users. Standard multi-use path widths are 10-feet but can be as wide as 12-feet along The Seam. A multi-use path can connect to the on-street system at end points of the trail as well as midpoints depending on the length and location.	
Sidewalk	Minimum sidewalk widths in the Town are 6-feet, but can vary based on context and constraints. In most cases, the Town prefers wider sidewalks, especially in Downtown.	

1 National Association of City Transportation Officials (NACTO). (2014). Urban Bikeway Design Guide. https://nacto.org/publication/urban-bikeway-design-guide/

Boulevards

1. Core Boulevard

Boulevards include NC 73, US 21, a portion of Gilead Road, the future Vance Road, and future Prosperity Church Road. As outlined in roadway classification and land use matrix in Table 5.1 on page 67, there are two types of boulevard cross-sections recommended, a four-lane boulevard, and a two-lane boulevard, depending on the future traffic projections and land use context.

As the name suggests, the four-lane, "core boulevard" (Figure 5.3) is appropriate in the Town's Community Core and Mixed-Use Centers, as well as Transitional areas with higher traffic volumes—NC 73, US 21, and Gilead Road. Details on the components of the core boulevard are outlined in Table 5.5.

Table 5.5. Core Boulevard Components

Component	Description
Median/Center Turn Lanes	23-foot planting strip median and turn lanes, as needed
Travel Lanes	Four, 11-foot travel lanes.
Curb and Gutter	Included
On-Street Parking	None
Planting Strip	10-foot planting strip along both sides
Pedestrian Facility	10-foot multi-use path on both sides
Bike Facility	The 10-foot multi-use path also serves as the bike facility.

Core Boulevard

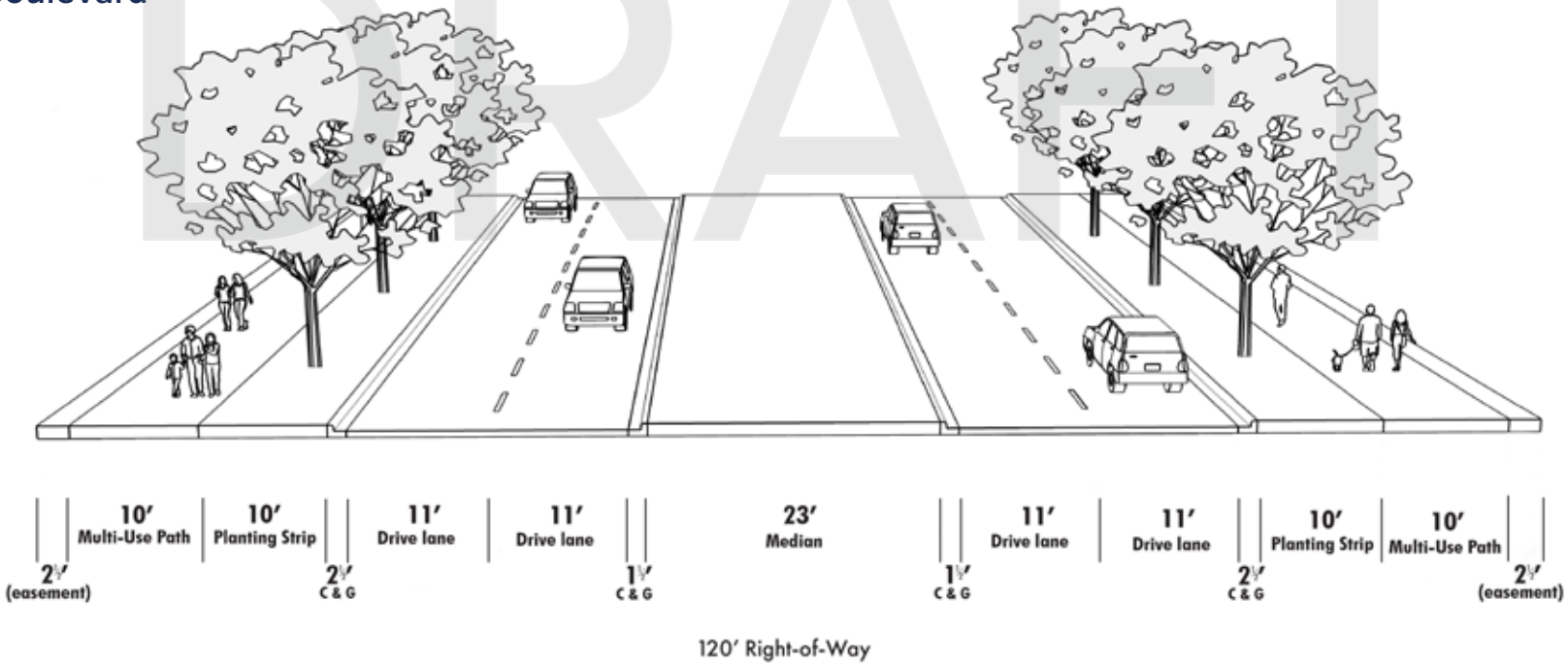


Figure 5.3. Core Boulevard Cross-Section. (Diagram not to scale.)

Boulevards

2. Rural Boulevard

The rural boulevard (Figure 5.4) is appropriate in the Rural areas and Transitional with lower traffic volume projections. Gilead Road west of Wynfield Creek Parkway, and northward toward NC 73, along with the rural north-south corridors of Vance Road extension and Prosperity Church Road extension are recommended to be rural boulevards. Details on the components of the rural boulevard are outlined in Table 5.6.

Table 5.6. Rural Boulevard Components

Component	Description
Median/Center Turn Lanes	40-foot planting strip median that can accommodate additional travel lanes in the future. In the near-term a double row of small trees and turn lanes, as needed.
Travel Lanes	Two, 11-foot travel lanes.
Curb and Gutter	Included
On-Street Parking	None
Planting Strip	A 10-foot planting strip is appropriate along both sides of the road for this cross-section
Pedestrian Facility	A 10-foot multi-use path on both sides of the road.
Bike Facility	The 10-foot multi-use path also serves as the bike facility.

Rural Boulevard

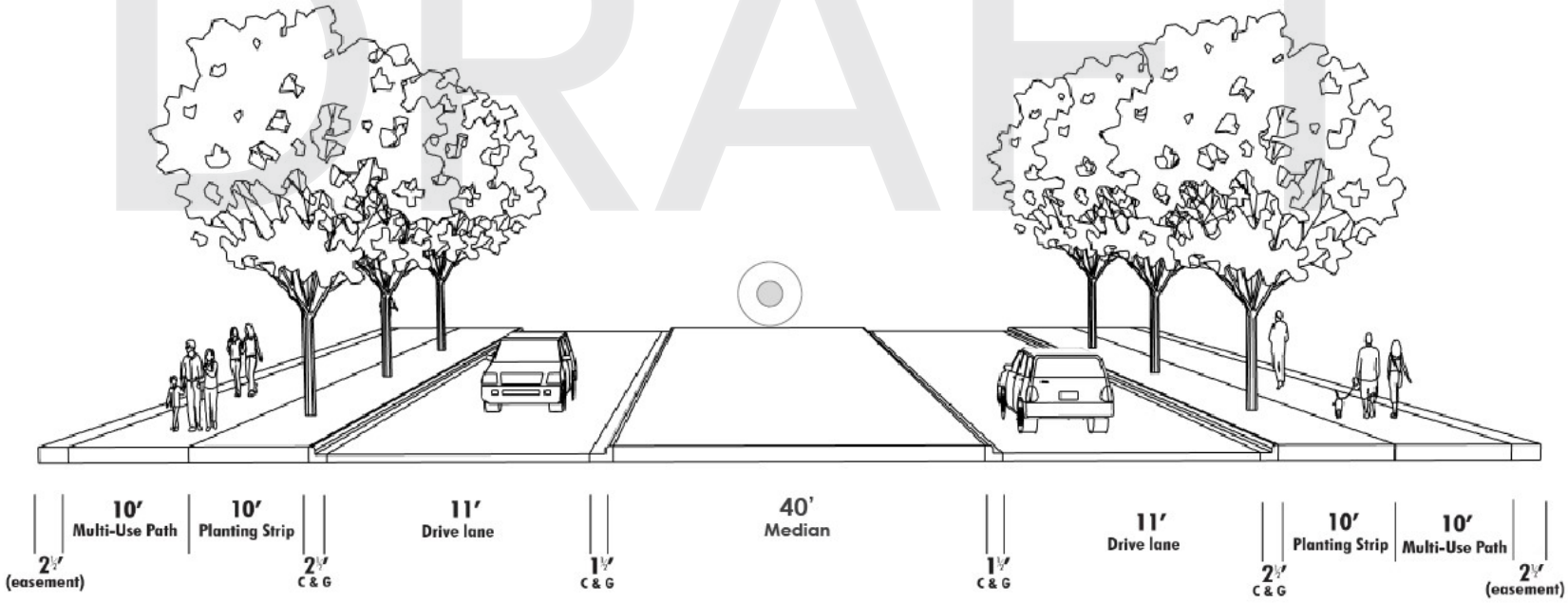


Figure 5.4. Rural Boulevard Cross-Section. (Diagram not to scale.)

Major Thoroughfares

3. Core Thoroughfare

There are only three roads classified as Major Thoroughfares—Old Statesville Road (NC 115), Mount Holly-Huntersville Road (west of US 21), and Hambright Road (east of Mount Holly-Huntersville Road). A three-lane cross-section is recommended for the sections that are projected to have relatively lower traffic volumes in the future—Mount Holly-Huntersville Road, between US 21 and Hambright Road; Hambright Road, east of Everette Keith Road; and NC 115, between McCord Road and Ramah Church Road and between Mt Holly-Huntersville Road and Damson St. The four-lane, Core Boulevard is applied to sections with higher projected volumes.)

The Core Thoroughfare cross-section (Figure 5.5) is also recommended for minor thoroughfares in the Community Core, including Stumptown Road, McCord Road, Ramah Church Road, Huntersville-Concord Road, McIlwaine Road, Bud Henderson Road, McCoy Road, Hambright Road (west of US 21), Asbury Chapel Road, Everette Keith Road, and Ervin Cook Road, Hugh Torrance Road, and Verhoeff Drive extension. See Figure 5.18 and Figure 5.19 on pages 90 and 91, respectively to see map of where this cross-section (and all others) is applied.

Table 5.7. Core Thoroughfare Components

Component	Description
Median/Center Turn Lanes	This cross-section does not include a median but does include one 11-foot center turn lane.
Travel Lanes	Minor thoroughfares (core) include two 11-foot drive lanes.
Curb and Gutter	Included
On-Street Parking	None
Planting Strip	A 10-foot planting strip is appropriate along both sides of this cross-section to allow for street trees.
Pedestrian Facility	A 10-foot multi-use path on both sides of this cross-section is appropriate.
Bike Facility	The 10-foot multi-use path also serves as the bike facility.

Core Thoroughfare

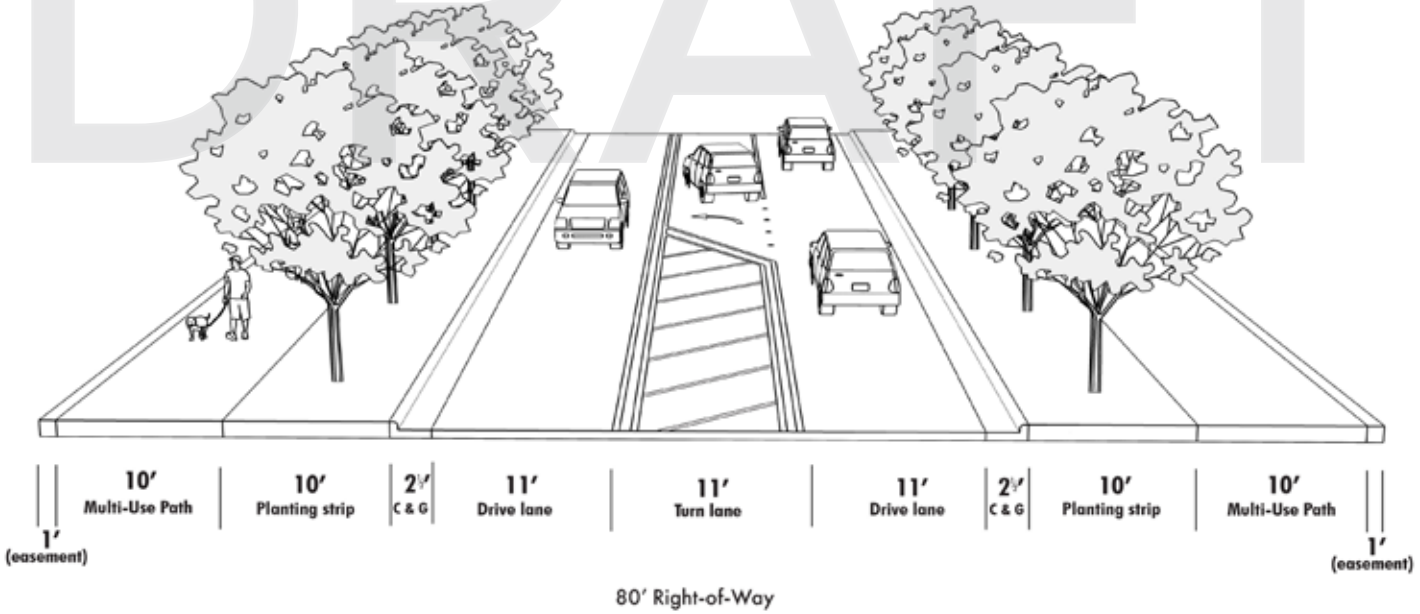


Figure 5.5. Core Thoroughfare Cross-Section. (Diagram not to scale.)

Major Thoroughfares

4. Major Thoroughfare – Railroad Constraint

The Major Thoroughfare – Railroad Constraint cross-section (Figure 5.6) is designed to deliver all the Complete Street elements of the Core Thoroughfare, but without the multi-use path on the east side due to the limited ability to impact the railroad right-of-way. This cross-section is designated for NC 115 from NC 73 to the Cornelius Town Limits. Table 5.7 details the components of the Major Thoroughfare – Railroad Constraint cross-section.

Table 5.8. Major Thoroughfare – Railroad Constraint Components

Component	Description
Median/Center Turn Lanes	This cross-section includes a 23-foot planting strip median that can accommodate a small tree and turn lanes.
Travel Lanes	This cross-section includes four, 11-foot travel lanes.
Curb and Gutter	Included on both the median and western outside lane, and a 5-foot unpaved shoulder is required on the east side.
On-Street Parking	None
Planting Strip	An 11-foot planting strip is appropriate along the west side of this cross-section and a variable width ditch is required on the east side.
Pedestrian Facility	A 10-foot multi-use path is appropriate on the west side of this cross-section.
Bike Facility	The 10-foot multi-use path also serves as the bike facility.

Major Thoroughfare –Railroad Constraint

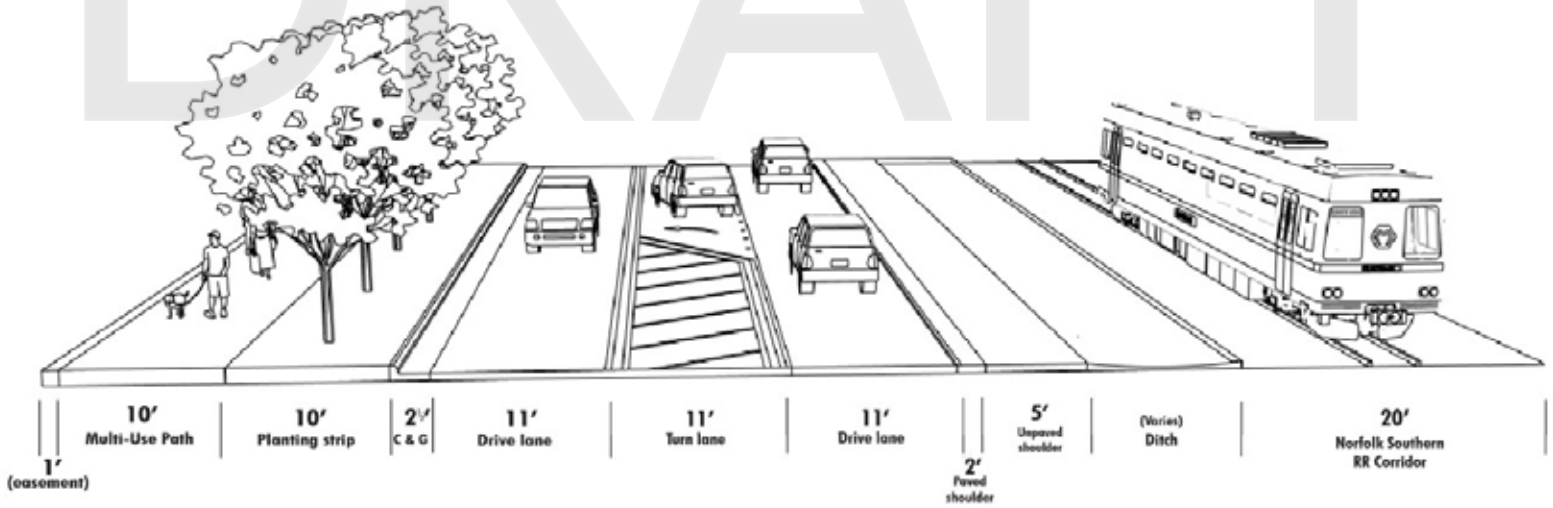


Figure 5.6. Major Thoroughfare – Railroad Constraint. (Diagram not to scale.)

Minor Thoroughfares

5. Transitional Thoroughfare

As thoroughfares transition to less intense land uses, the recommended cross-section is a two- or three-lane thoroughfare with a multi-use path on only one side. Non-motorized traffic (bicyclists and pedestrians) are expected to be low enough to not require multimodal facilities on both sides of the street, and the traffic volumes should be low enough that crossing the street to the multi-use path will not be difficult. Ensuring that safe crossing signals, like rectangular rapid flashing beacons, or other similar treatments, should be a

This cross-section (Figure 5.7) applies to sections of the following roads, in the Transition and/or Open Space and Rural character areas: Beatties Ford Road, Huntersville-Concord Road, Ramah Church Road, Black Farms Road, Verhoeff Dr.

Table 5.9. Transitional Thoroughfare Components

Component	Description
Median/Center Turn Lanes	This cross-section does not include a median but does include an 11-foot center turn lane, where needed.
Travel Lanes	This cross-section includes two 11-foot drive lanes.
Curb and Gutter	Curb and gutter are not included. A 2-foot paved and 4-foot unpaved shoulder, and a 10-foot ditch for drainage is included on both sides of the road.
On-Street Parking	None
Planting Strip	A 10-foot planting strip is required on one side of the road (the same side as the multi-use path).
Pedestrian Facility	A 10-foot multi-use path is appropriate along one side. The side that the multi-use path should be built on is determined based on context and is indicated in the project database for each roadway where this cross-section occurs.
Bike Facility	The 10-foot multi-use path also serves as the bike facility.

Transitional Thoroughfare

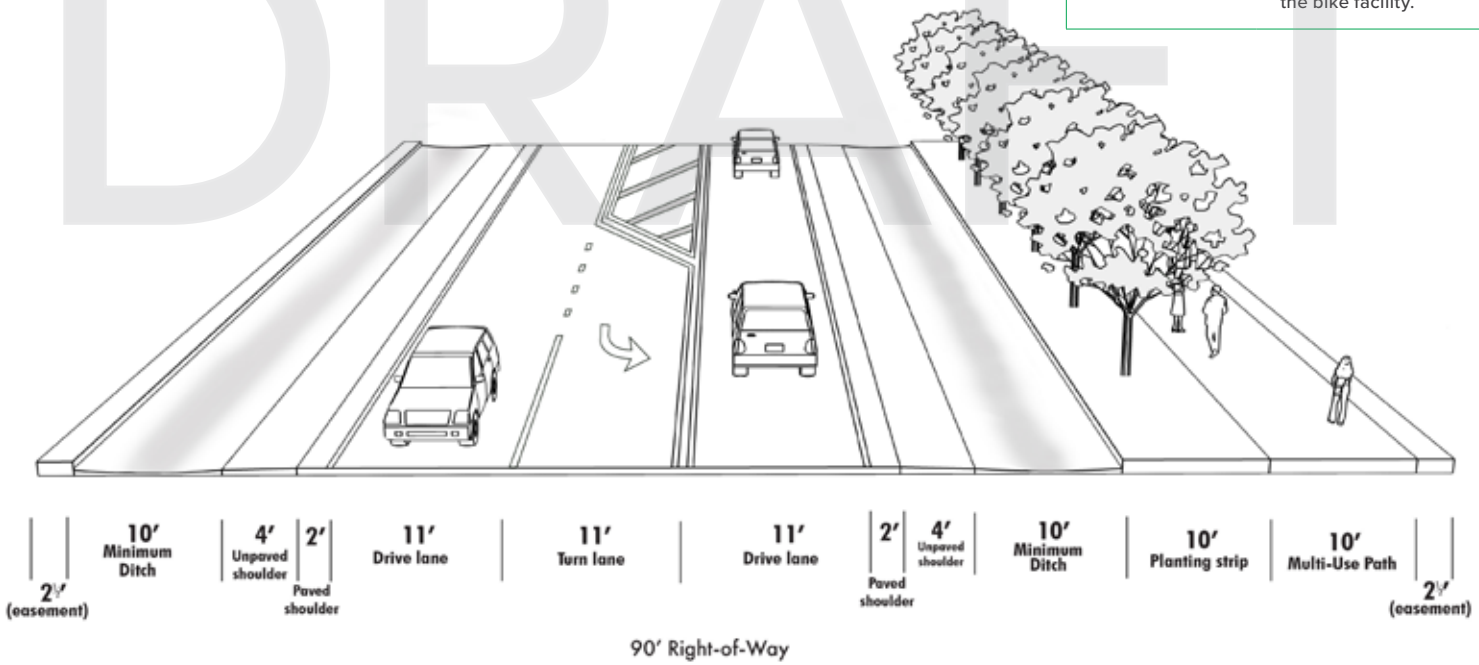


Figure 5.7. Transitional Thoroughfare Cross-Section. (Diagram not to scale.)

Minor Thoroughfares

6. Rural Thoroughfare

The two-lane, rural thoroughfare is designed for the rural character areas of Huntersville, particularly those with sensitive environments or protected watersheds. This cross-section (Figure 5.8) is designed to provide all the elements of a Complete Street within a minimal right-of-way to reduce the impact to these sensitive rural contexts.

This cross-section applies to Beatties Farm Road (south of Hambright Road), McCoy Road (south of Hambright Road), Huntersville-Concord Road (east of Hiwassee Road), and the future Huntersville-Concord Road to NC 73 connector road (east of McAuley Road).

Table 5.10. Rural Thoroughfare Components

Component	Description
Median/Center Turn Lanes	None
Travel Lanes	This cross section includes two, 11-foot drive lanes.
Curb and Gutter	Curb and gutter are not included. A 2-foot paved and 4-foot unpaved shoulder, and a 10-foot ditch for drainage is included on both sides of the road.
On-Street Parking	None
Planting Strip	A 10-foot planting strip is required on one side of the road (the same side as the multi-use path).
Pedestrian Facility	A 10-foot multi-use path is appropriate along one side. The side that the multi-use path should be built on is determined based on context and is indicated in the project database for each roadway where this cross-section occurs.
Bike Facility	The 10-foot multi-use path also serves as the bike facility.

Rural Thoroughfare

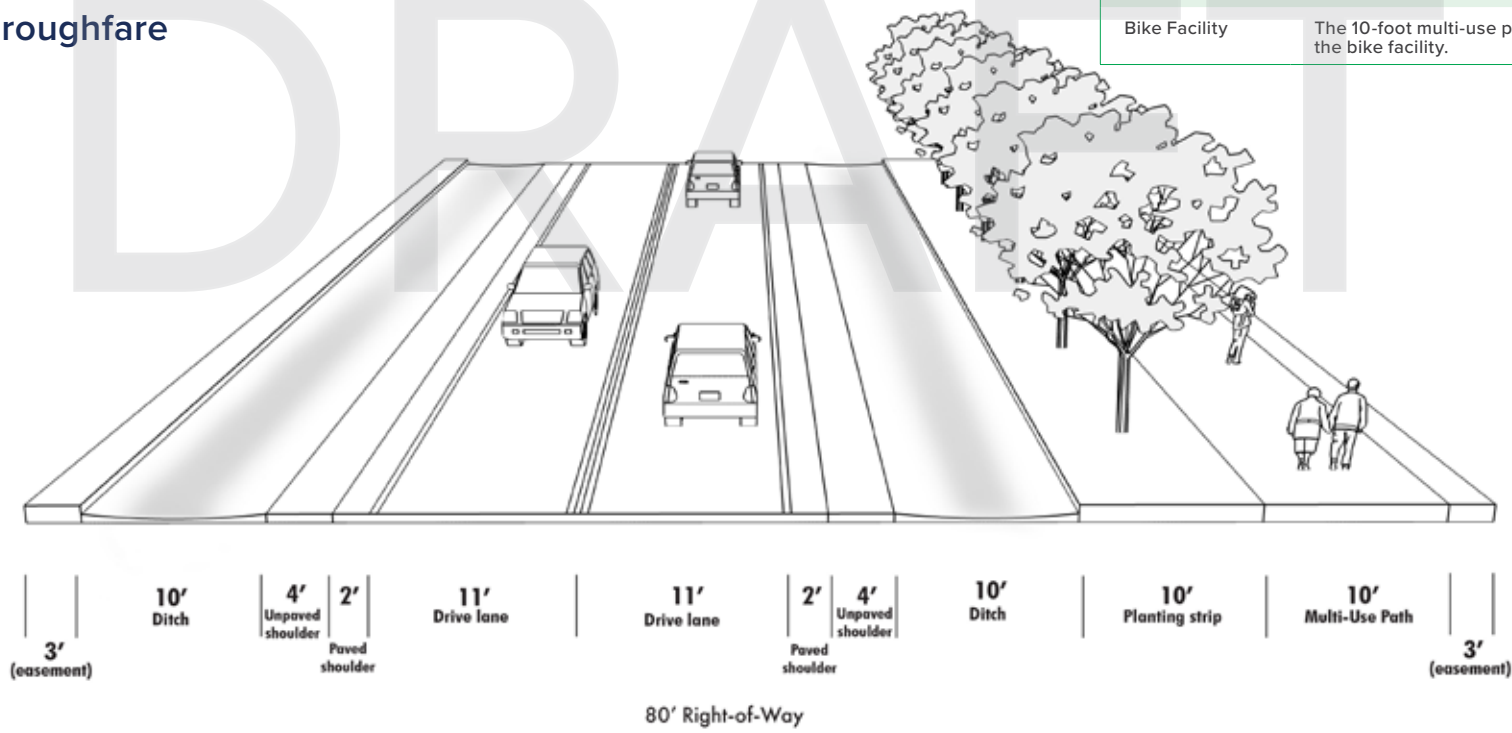


Figure 5.8. Rural Thoroughfare Cross-Section. (Diagram not to scale.)

Minor Thoroughfares

7. Thoroughfare through Mixed-Use & Activity Centers

The mixed-use activity centers are a setting that will require considerable context-sensitive design. The cross-section shown here (Figure 5.9) reflects the basic components as thoroughfares move through Mixed-Use and Activity Centers.

Table 5.11. Thoroughfare through Mixed-Use/Activity Centers Components

Component	Description
Median/Center Turn Lanes	This cross-section does not include a median but does include two 11-foot center turn lanes.
Travel Lanes	This cross-section includes two 11-foot drive lanes.
Curb and Gutter	Included
On-Street Parking	None
Planting Strip	A 7-foot planting strip is required on both sides of this cross-section. Tree placement should follow NCDOT clear zone requirements.
Pedestrian Facility	A 10-foot multi-use path is appropriate along both sides of this cross-section.
Bike Facility	The 10-foot multi-use path also serves as the bike facility.

Thoroughfare through Mixed-Use/Activity Centers

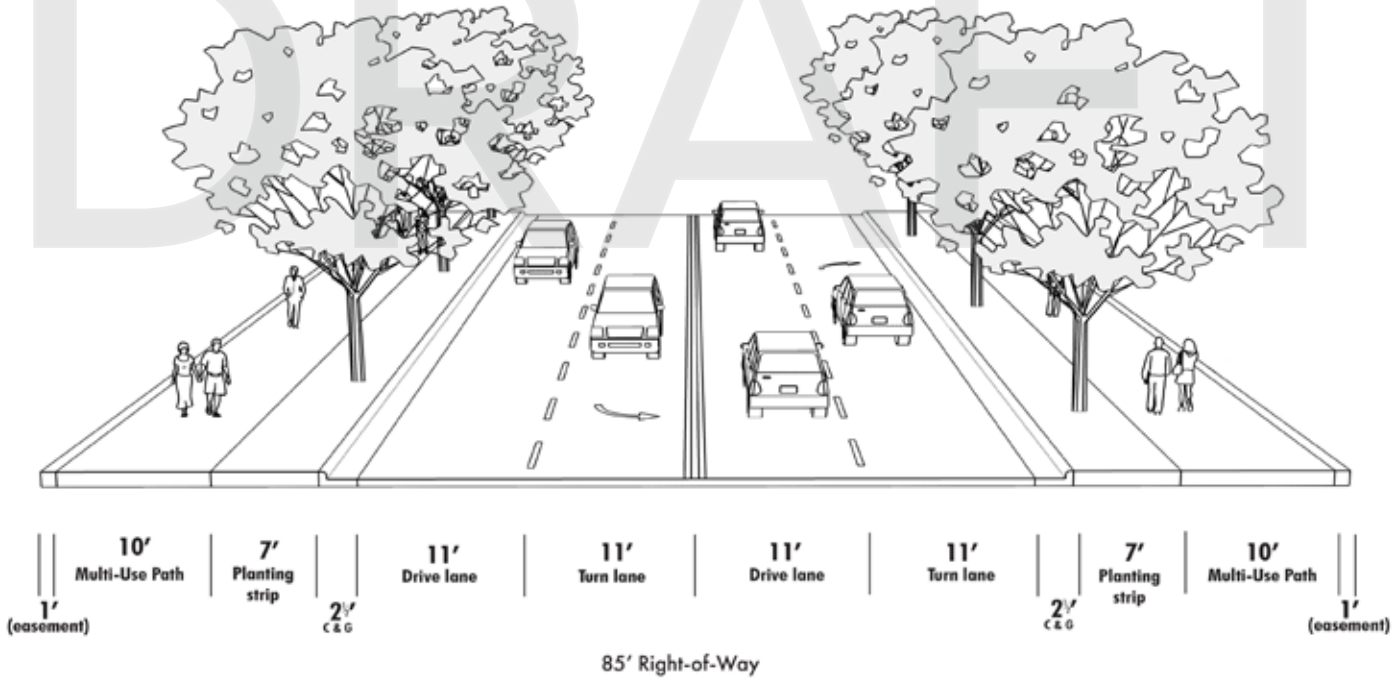


Figure 5.9. Thoroughfare through Mixed-Use/Activity Centers Cross-Section. (Diagram not to scale.)

Minor Thoroughfares

8. Minor Thoroughfare – Railroad Constraint

The Minor Thoroughfare - Railroad Constraint cross-section (Figure 5.10) applies to Church Street south of Fourth Street and on southward where Church Street turns into Meacham Farm Road south of Verhoeff Drive. This corridor is immediately adjacent to the Charlotte-owned (formerly Norfolk Southern) railroad tracks so it is designed with a multi-use path on the east side of the road to provide separated space for bicyclists and pedestrians that is outside of the roadway and has minimum impacts to the railroad right-of-way.

Table 5.12. Minor Thoroughfare – Railroad Constraint Components

Component	Description
Median/Center Turn Lanes	None
Travel Lanes	This cross-section includes two, 11-foot drive lanes.
Curb and Gutter	Included
On-Street Parking	None
Planting Strip	A variable width planting strip is required on one side of this cross-section.
Pedestrian Facility	A 12-foot multi-use path (referred to as "The Seam") is located on the same side as the planting strip.
Bike Facility	The 12-foot multi-use path also serves as the bike facility.

Minor Thoroughfare – Railroad Constraint

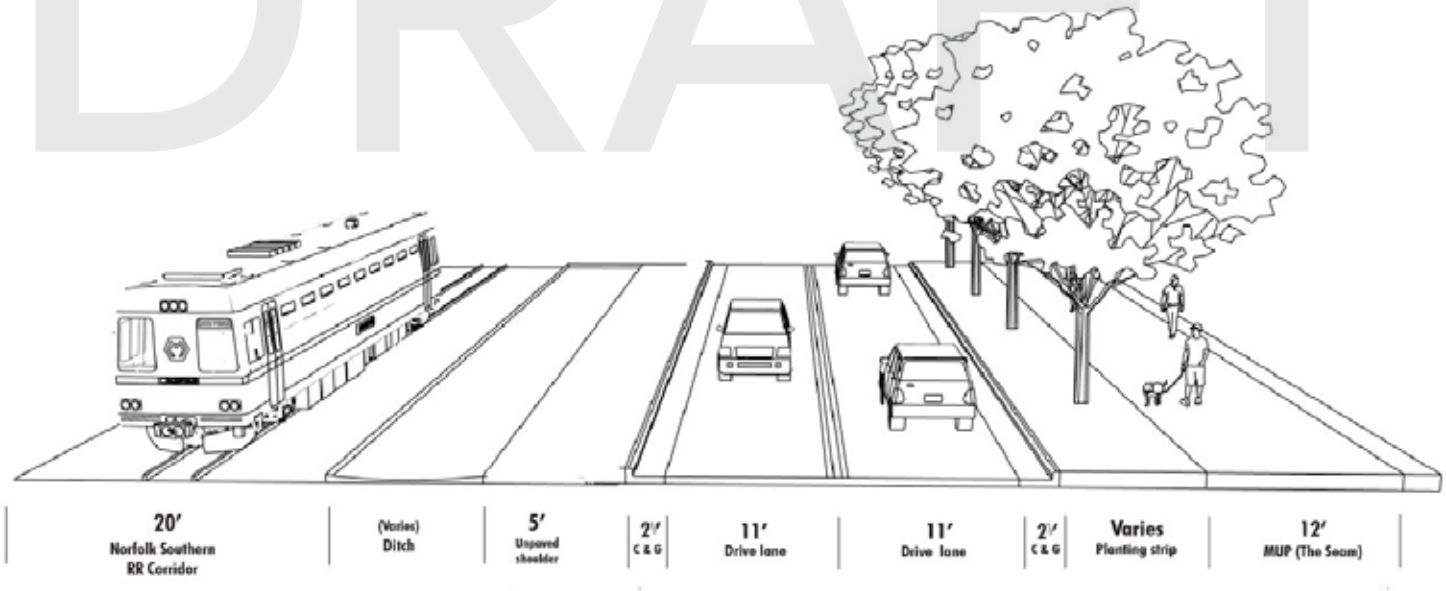


Figure 5.10. Minor Thoroughfare – Railroad Constraint Cross-Section. (Diagram not to scale.)

Special Case Cross-Sections

9. NC 115 – Buffered Bike Lanes

NC 115 traverses very distinct land use characters that called for special a range of context-sensitive cross-sections. As NC 115 enters into the core of Downtown Huntersville, there is an opportunity to re-stripe the pavement to reduce the travel lane widths and create buffered bike lanes (Figure 5.11). This treatment can be applied between Maxwell Avenue and Mullen Street.

While this treatment works within the existing curb lines, if the opportunity to reconstruct the road arises, fully separated bike facilities and on-street parking should be incorporated. Table 5.13 details the components of the NC 115 – Buffered Bike Lanes cross-section.

Table 5.13. NC 115 – Buffered Bike Lanes Components

Component	Description
Median/Center Turn Lanes	None
Travel Lanes	This cross-section includes two, 10-foot travel lanes through this section.
Curb and Gutter	Included
On-Street Parking	None (Possibly in future)
Planting Strip	A 5-foot planting strip should be included in this cross-section with space for trees in grates.
Pedestrian Facility	A 7-foot sidewalk on both sides of the road.
Bike Facility	This cross-section should include a buffered bicycle lane in both directions, which includes a 4- to 5-foot bike lane and a 2- to 3-foot striped buffer to separate bicyclists from motor vehicular traffic.

NC 115 Buffered Bike Lanes

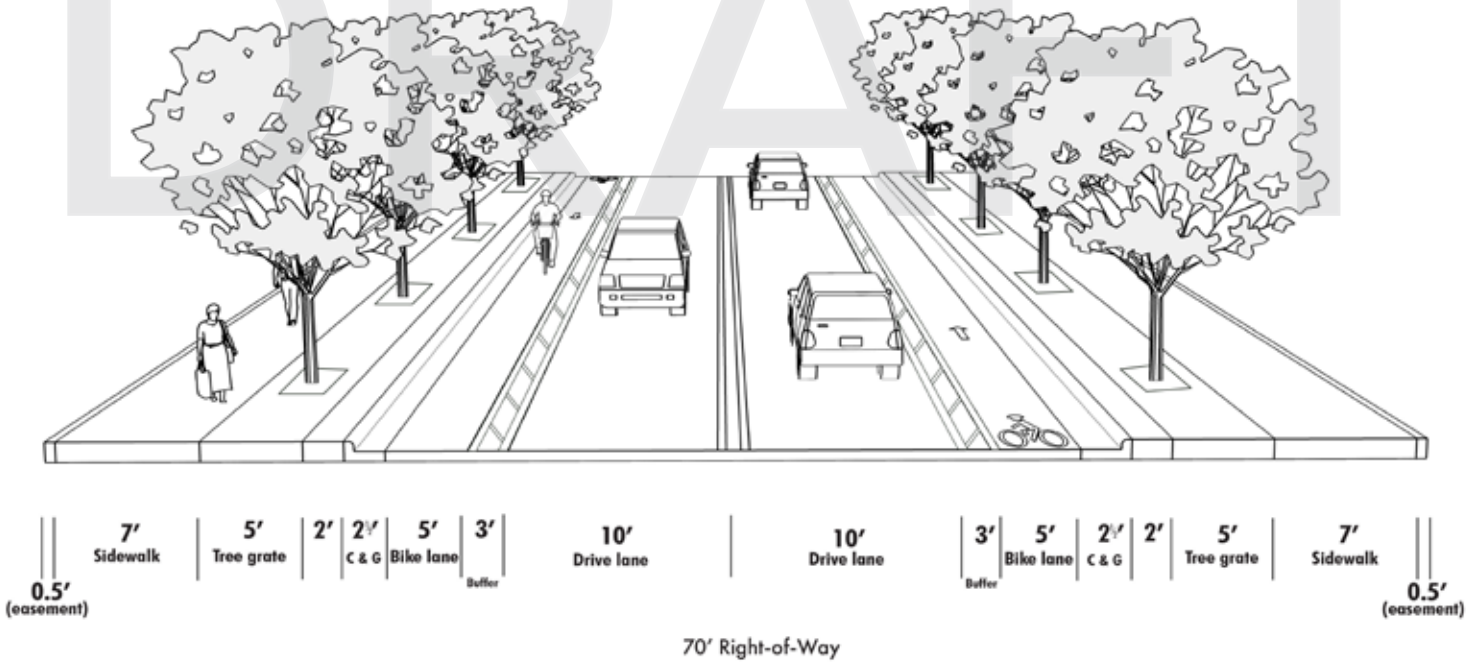


Figure 5.11. NC 115 – Buffered Bike Lanes Cross-Section. (Diagram not to scale.)

Special Case Cross-Sections

10. NC 115 – Standard Bike Lanes

The recently rebuilt sections of NC 115 just inside of the roundabouts, from Ramah Church Road to Maxwell Avenue, and from Mount Holly-Huntersville Road to Mullen Street, have been with standard bike lanes, similar to what is shown in Figure 5.12, below.

Similar to the NC 115 – Buffered Bike Lanes section, if there are opportunities to redesign these sections and separate the bike lanes from the automotive traffic, either with on-street parking or a raised barrier, that should be pursued.

Table 5.14. NC 115 – Standard Bike Lanes Components

Component	Description
Median/Center Turn Lanes	None
Travel Lanes	This cross-section includes four, 11-foot travel lanes.
Curb and Gutter	Included
On-Street Parking	None (Possibly in future)
Planting Strip	A planting strip is not required along this cross-section.
Pedestrian Facility	This cross-section includes a 6- foot sidewalk on both sides of the road.
Bike Facility	This cross-section includes a 5-foot bicycle lane in both directions.

NC 115 – Standard Bike Lanes

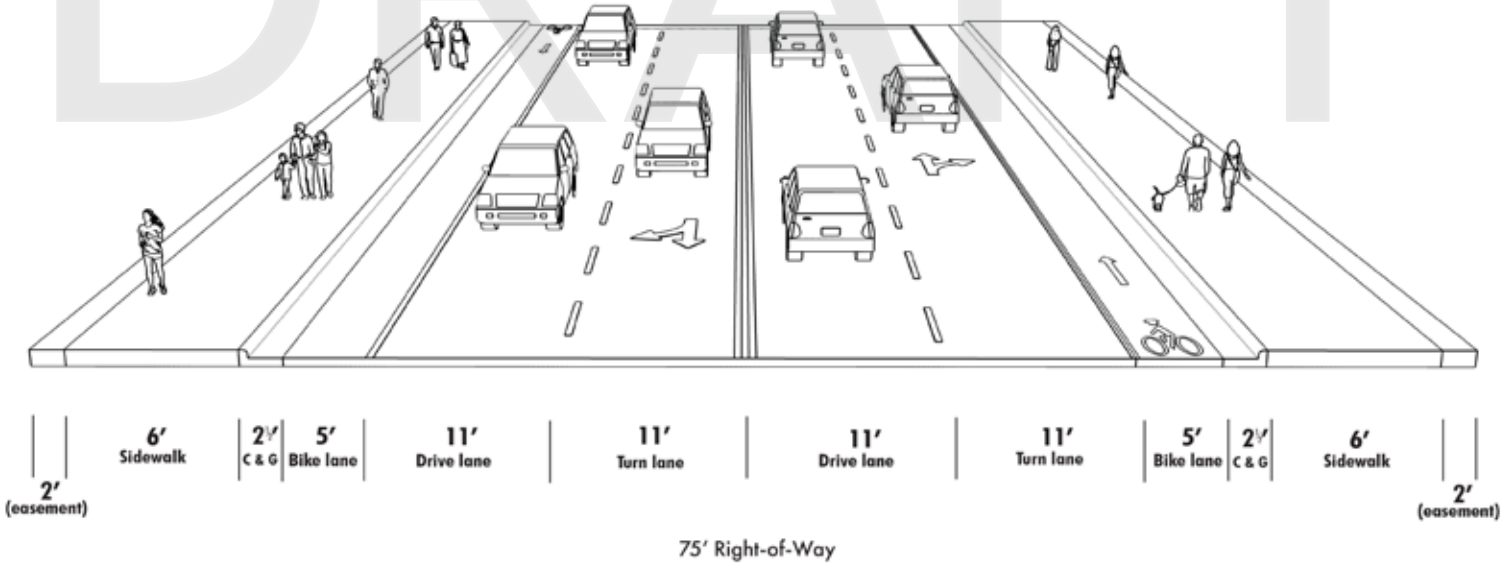


Figure 5.12. NC 115 – Standard Bike Lanes Cross-Section. (Diagram not to scale.)

Special Case Cross-Sections

11. Thoroughfare – Multi-Use Path Retrofit

This multimodal retrofit cross-section (Figure 5.13) is designed to proved a multi-use path on corridors that already have sidewalks and bike lanes. This will create space for bicyclists that is separated from automotive traffic. This is recommended for corridors where the traffic speeds and volumes are high enough that bicyclists of all ages and abilities may not feel safe riding in a bike lane. It is also applied to corridors that are connections between greenway, where it higher bicycle (and pedestrian) traffic is anticipated.

Table 5.15. Thoroughfare – Multi-Use Path Retrofit Components

Component	Description
Median/Center Turn Lanes	This cross-section does not include a median but does include an intermittent 10-foot center turn lane as needed.
Travel Lanes	This cross-section includes two 11-foot drive lanes.
Curb and Gutter	Included
On-Street Parking	None
Planting Strip	A 5-foot planting strip exists on one side of the road and planting strip of variable width (7-10 feet) is required on the other side.
Pedestrian Facility	This cross-section applies to roadways that already have sidewalks and bike lanes and the recommendation is that one side of the street shall be retrofitted to have an expanded planting strip to accommodate street trees and the 5-foot sidewalk shall be widened to be a multi-use path of 10-feet or 8-feet in constrained areas. This change will allow for safer bike travel for all ages and abilities that is separated from vehicular travel.
Bike Facility	5-foot standard bike lanes are existing along this cross-section.

Thoroughfare – Multi-Use Path Retrofit

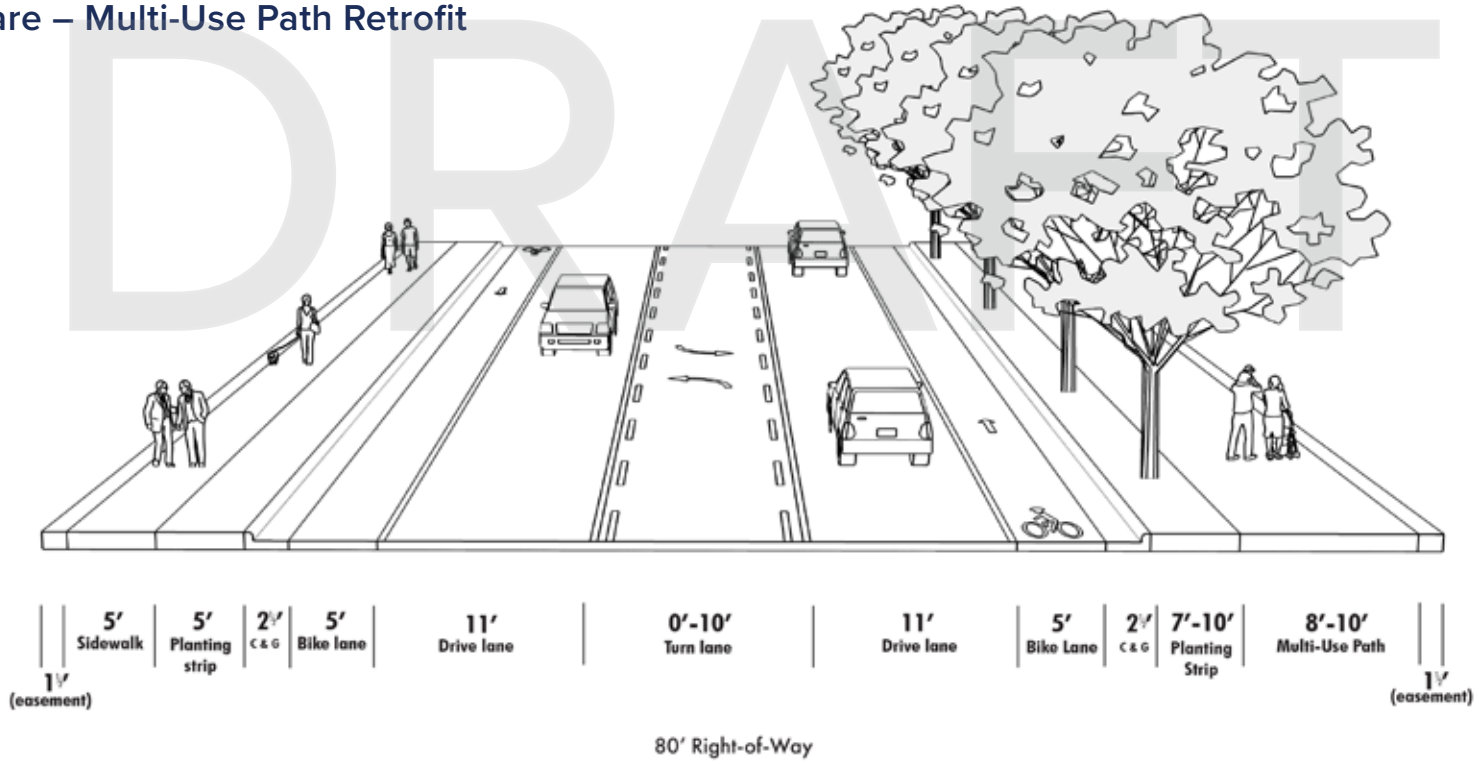


Figure 5.13. Thoroughfare – Multi-Use Path Retrofit Cross-Section. (Diagram not to scale.)

Special Case Cross-Sections

12. Northcross Drive Retrofit

Northcross Drive is constrained by the I-77 corridor to the east, and sidewalks have been built on either side. Retrofitting buffered bike lanes can be a near-term Complete Streets solution to add bicycle facilities to the corridor. This cross-section (Figure 5.14) applies to Northcross Drive between Cascade Loop and Andy Drive.

In the long term, widening the west side sidewalk to be a multi-use path may be an option (see Minor Thoroughfare Multi-Use Path Retrofit Cross-Section on previous page).

Table 5.16. Northcross Drive Retrofit Components

Component	Description
Median/Center Turn Lanes	None
Travel Lanes	This cross-section includes two 11-foot drive lanes.
Curb and Gutter	Included
On-Street Parking	None
Planting Strip	A variable planting strip is required on both sides of this cross-section.
Pedestrian Facility	5-foot sidewalks exist on both sides of this cross-section.
Bike Facility	Northcross Drive (south of NC 73) should include a 5-foot bicycle lane in both directions, buffered from vehicular traffic by a two-foot paved and striped buffer. The road should be re-striped to reallocate the extra space in the wide travel lanes (currently 18-feet) to become buffered bike lanes

Northcross Drive Retrofit

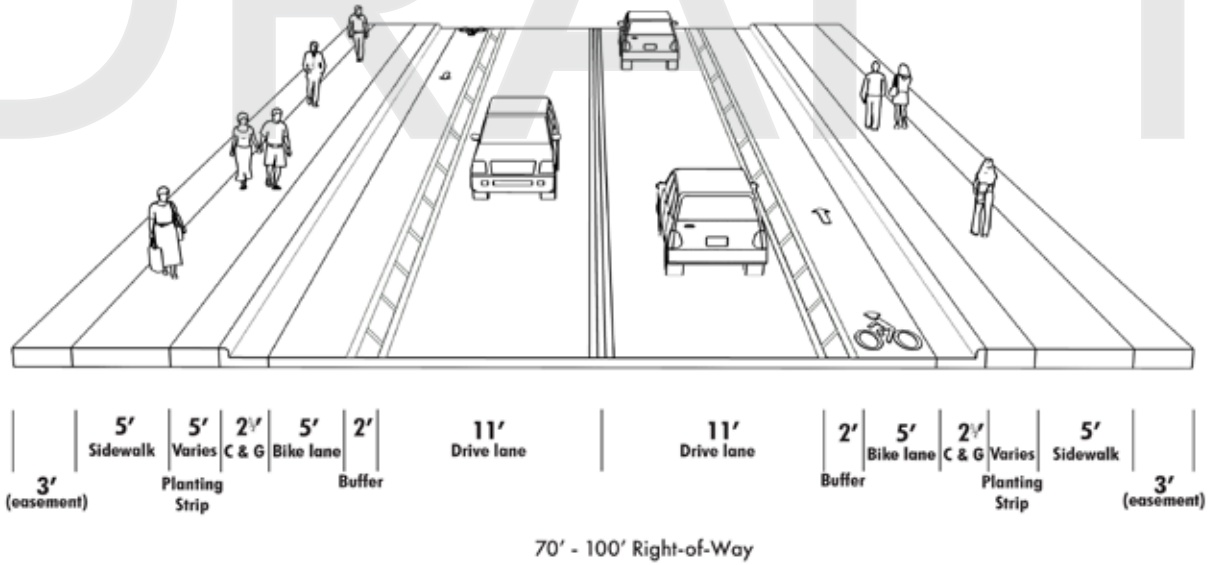


Figure 5.14. Northcross Drive Retrofit Cross-Section. (Diagram not to scale.)

Special Case Cross-Sections

13. Church Street – Vermillion Village

The Church Street - Vermillion cross-section (Figure 5.15) is being built in the Vermillion Village development north of Huntersville-Concord Road. This section of Church Street will connect up to Seagle Street at Fourth Street. This version of a minor thoroughfare includes on-street parking and could be applied in similar mixed-use contexts as future development occurs.

Table 5.17. Church Street – Vermillion Village Components

Component	Description
Median/Center Turn Lanes	None
Travel Lanes	Two 10-foot drive lanes.
Curb and Gutter	Included
On-Street Parking	This cross-section includes 7-foot on-street parking lanes on both sides of the street.
Planting Strip	A 5-foot planting strip is required on one side of this cross-section.
Pedestrian Facility	A 5-foot sidewalk should be located on the same side as the 5-foot planting strip, and a 10-foot multi-use path should be located on the opposite side of the street.
Bike Facility	The 10-foot multi-use path also serves as the bike facility.

Church Street – Vermillion Village

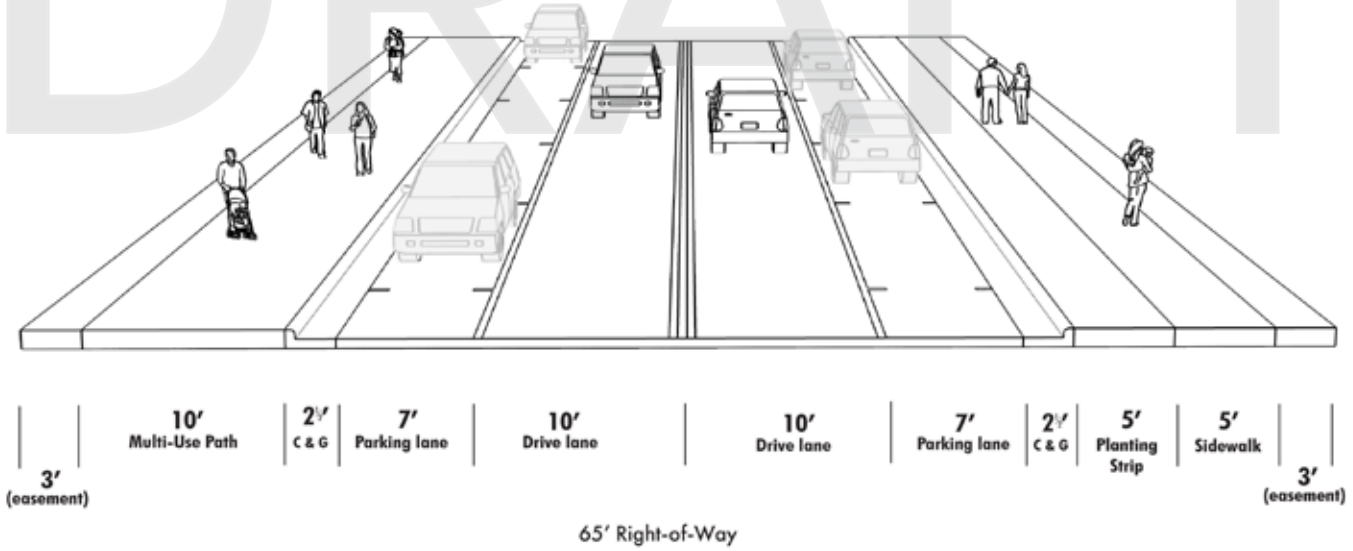


Figure 5.15. Church Street – Vermillion Village Cross-Section. (Diagram not to scale.)

Special Case Cross-Sections

14. Bud Henderson Retrofit

A small section of Bud Henderson Road was built with only 5-foot sidewalks and no bicycle facilities. In order to provide consistent, connected facilities, these 5-foot sidewalks should be widened to 10-foot multi-use paths, but given the right-of-way constraints with the surrounding houses, these multi-use paths would have to be at the back of curb, without a planted strip in between in order to minimize impacts to the surrounding properties. This constrained retrofit cross-section (Figure 5.16) is only applied to Bud Henderson Road between Old Bud Henderson Road and Vance Road.

Table 5.18. Bud Henderson Retrofit Components

Component	Description
Median/Center Turn Lanes	This cross-section does not include a median but does include an 11-foot center turn lanes.
Travel Lanes	This cross-section includes two 11-foot drive lanes.
Curb and Gutter	Included
On-Street Parking	None
Planting Strip	Planting strips are to be removed to provide space for the multi-use paths. The current 5-foot planting strips are inadequate for trees.
Pedestrian Facility	A 10-foot multi-use path should be located on both sides of this cross-section.
Bike Facility	The 10-foot multi-use path also serves as the bike facility.

Bud Henderson Retrofit

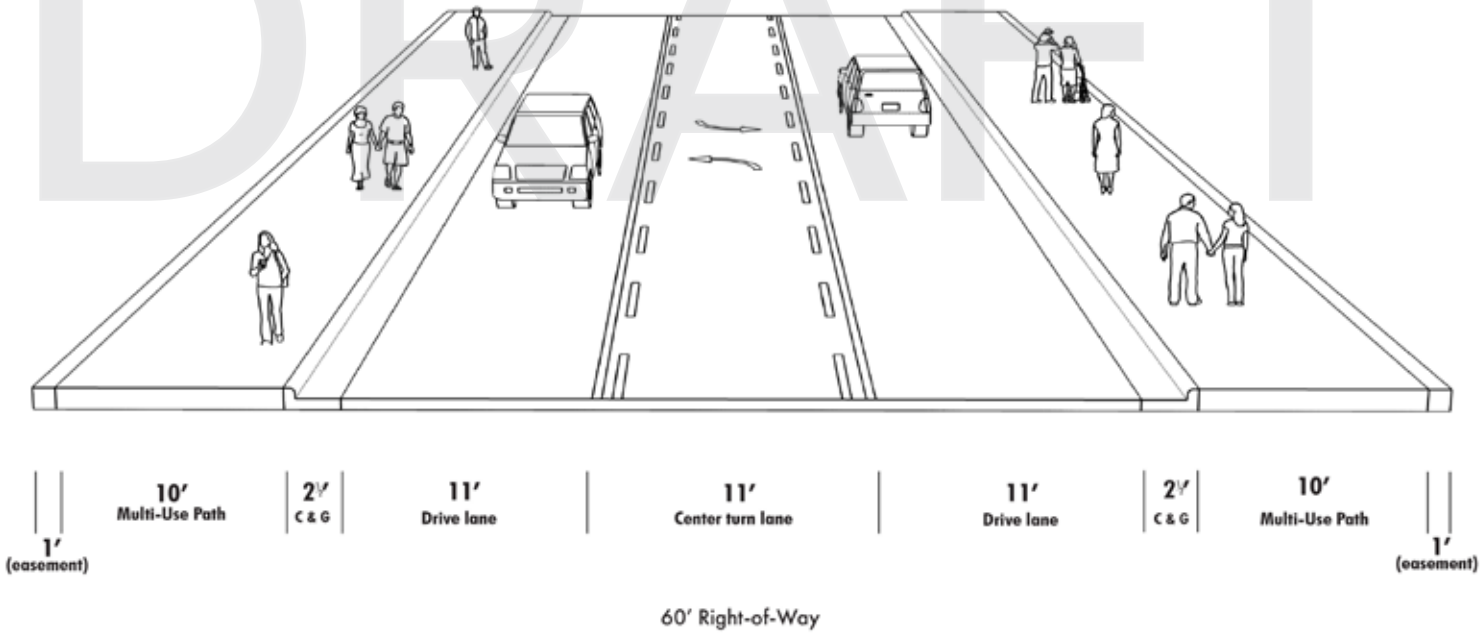


Figure 5.16. Bud Henderson Retrofit Cross-Section. (Diagram not to scale.)

Special Case Cross-Sections

15. Eastfield/Alexandriana/Mt Holly-Huntersville

The majority of Eastfield/Alexandriana/Mt Holly-Huntersville Roads are within Charlotte's jurisdiction (Charlotte Department of Transportation). The cross-section shown below is from the Charlotte Street Map, adopted in 2022.[1]

The intent of this cross-section (Figure 5.17) is to communicate that the Town will require a 10-foot multi-use path and 10-foot planting strip on the Huntersville side of the right-of-way to complement the condition within Charlotte's jurisdiction.

1 https://www.arcgis.com/apps/webappviewer/index.html?id=07aa32663a3e4a84aab2d2c434b1d09e

Table 5.19. Eastfield/Alexandriana/Mt Holly-Huntersville Components

Component	Description
Median/Center Turn Lanes	This cross-section includes a planted median/center turn lane
Travel Lanes	This cross-section includes four, 11-foot drive lanes.
Curb and Gutter	Included
On-Street Parking	None
Planting Strip	A planting strip is included on both sides.
Pedestrian Facility	A 12-foot multi-use path is included on both sides of this cross-section.
Bike Facility	The 12-foot multi-use path also serves as the bike facility.

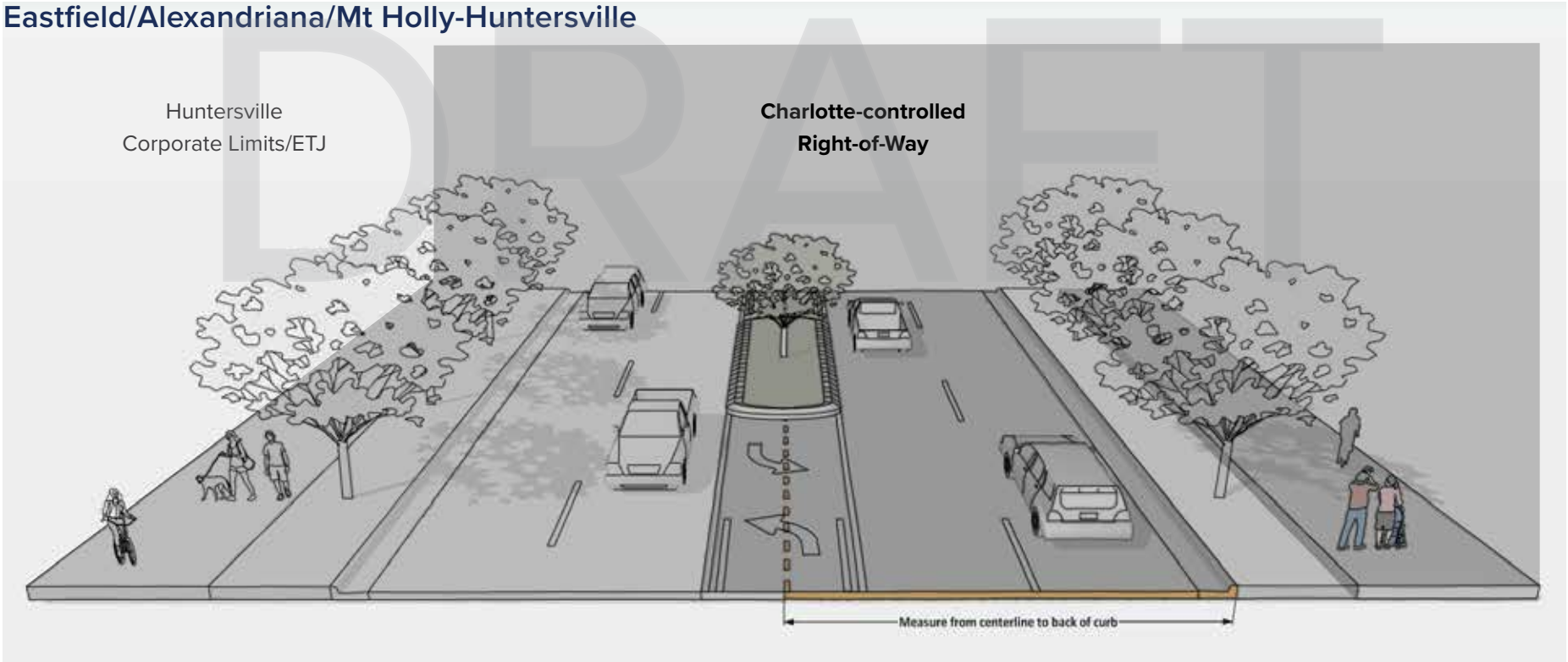


Figure 5.17. Eastfield/Alexandriana/Mt Holly-Huntersville Cross-Section. (Diagram not to scale.)

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5.3 Thoroughfare Network Maps

Figures 5.18 and 5.19, at right and on the following page, show where the cross-sections are applied across the CTP network and local thoroughfares. Of particular note is the recommended application of thoroughfare cross-sections to local roads that already operate as such: Ranson Road, McIlwaine Road, Asbury Chapel Road, and Black Farms Road. These roads already operate as collectors, connecting smaller neighborhood roads to higher order roads, so their design should be consistent with the rest of the network of thoroughfares.

One other noted recommendation, reflected in Figure 5.18 at right, is the realignment of South Church Street to align with Walters Street on the north of Huntersville-Concord Road. This recommendation is carried over from previous planning efforts the Town has conducted, and is designed to provide more distance between the intersection of Church Street and Huntersville-Concord Road, in order to improve the operation of the intersection.

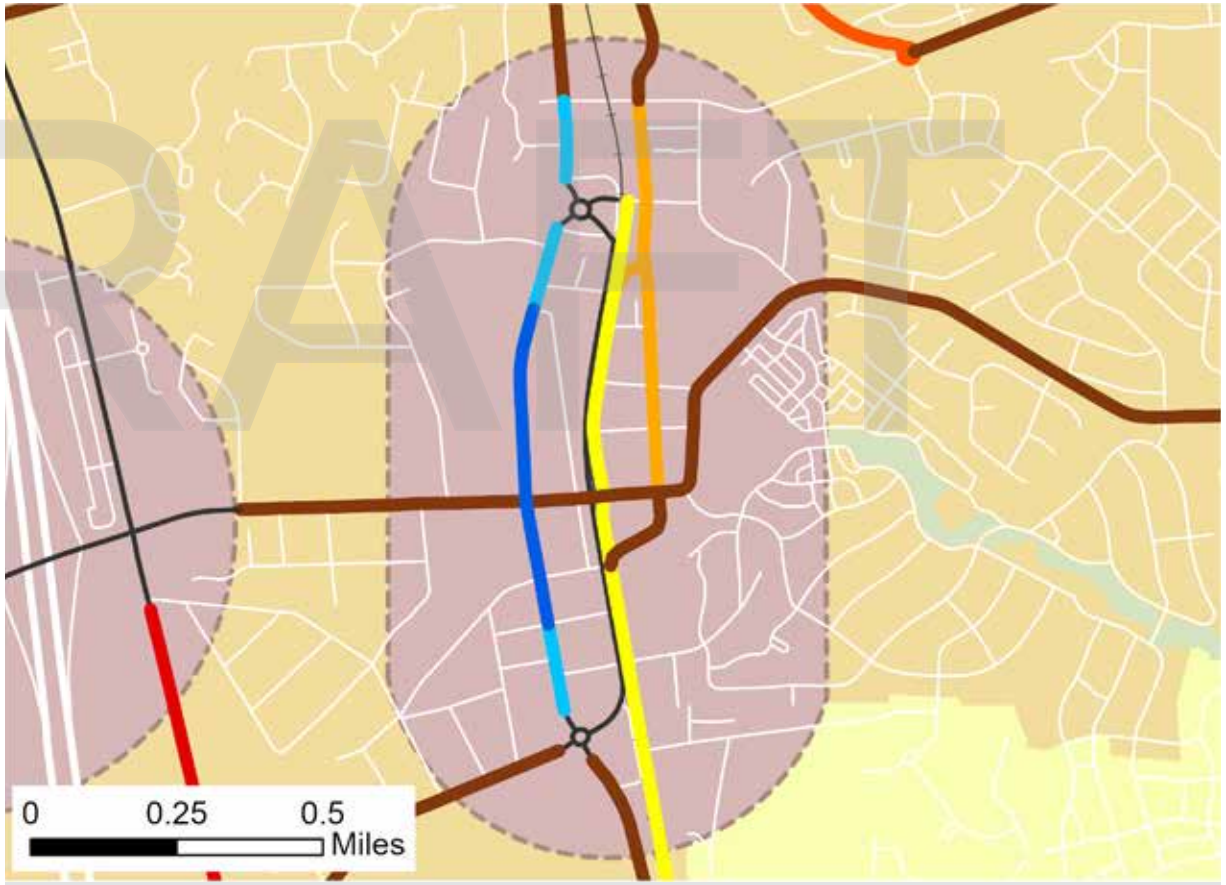

Figure 5.18. Downtown Inset of Cross-Section Recommendations

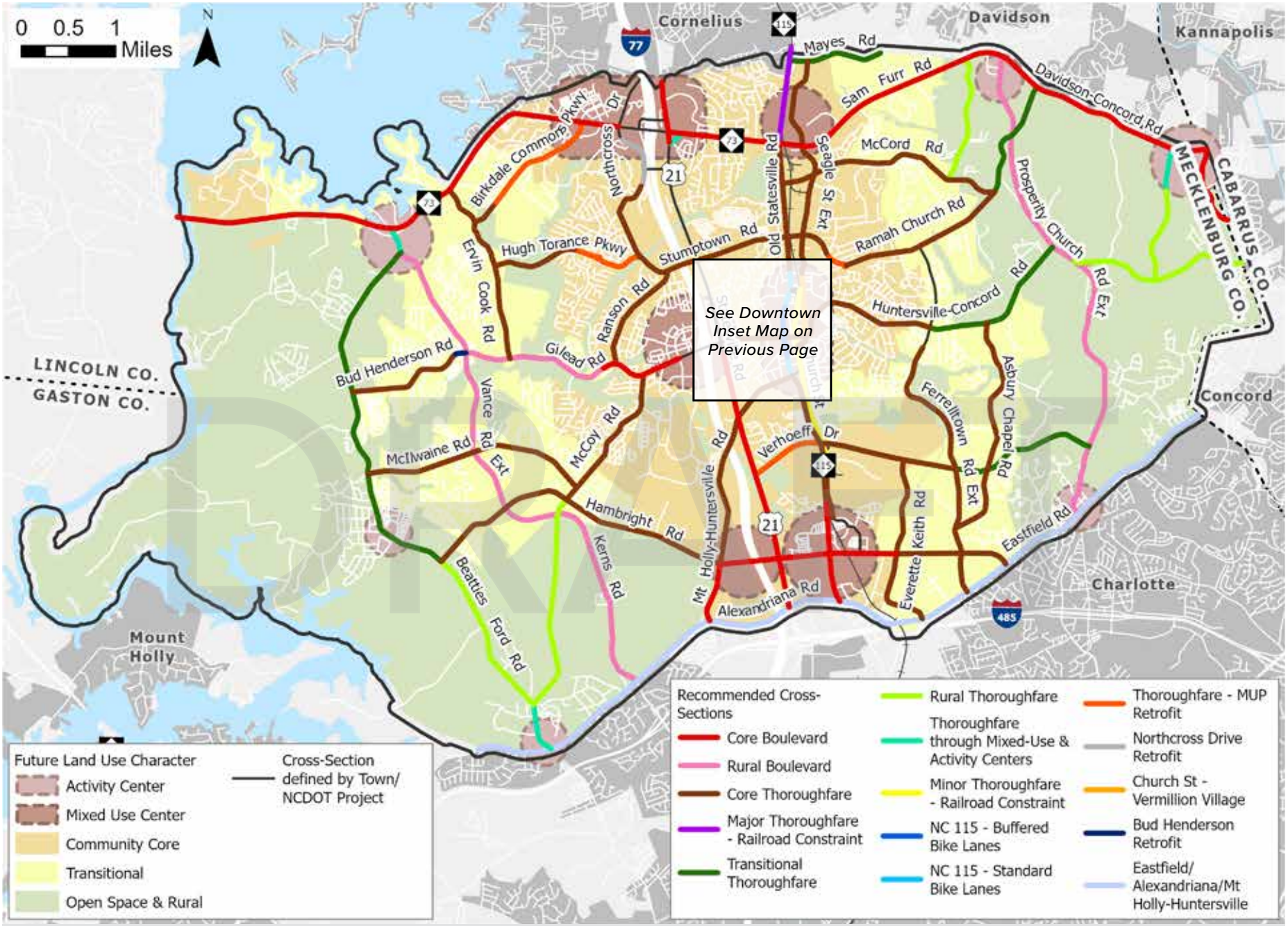

Figure 5.19. Cross-Sections Recommendations for CTP Network and Local Thoroughfares

5.4 Online Multimodal Street Map

A digital version of the thoroughfare network map was created as a public resource and reference about the recommended cross-sections. The multimodal street map provides information that can help residents and developers understand the multimodal vision for the Town's main roadways. The online database can be accessed through the Town's website here: Town of Huntersville. Users can click on any of the street segments in the map to reveal the details of the recommended cross-section (Figure 5.20), as well as the image of the cross-section (identical to those in Section 5.2 of this report).

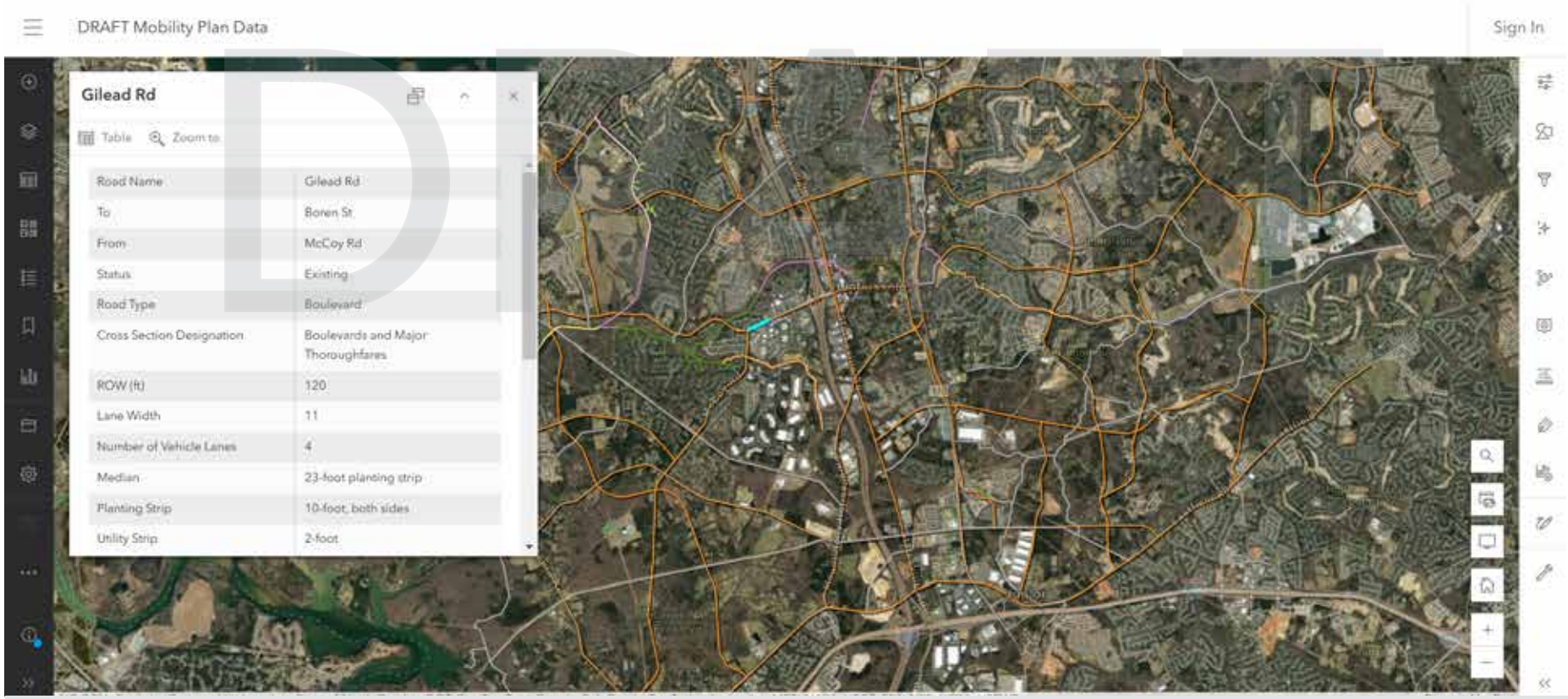

Figure 5.20. Online Multimodal Street Map

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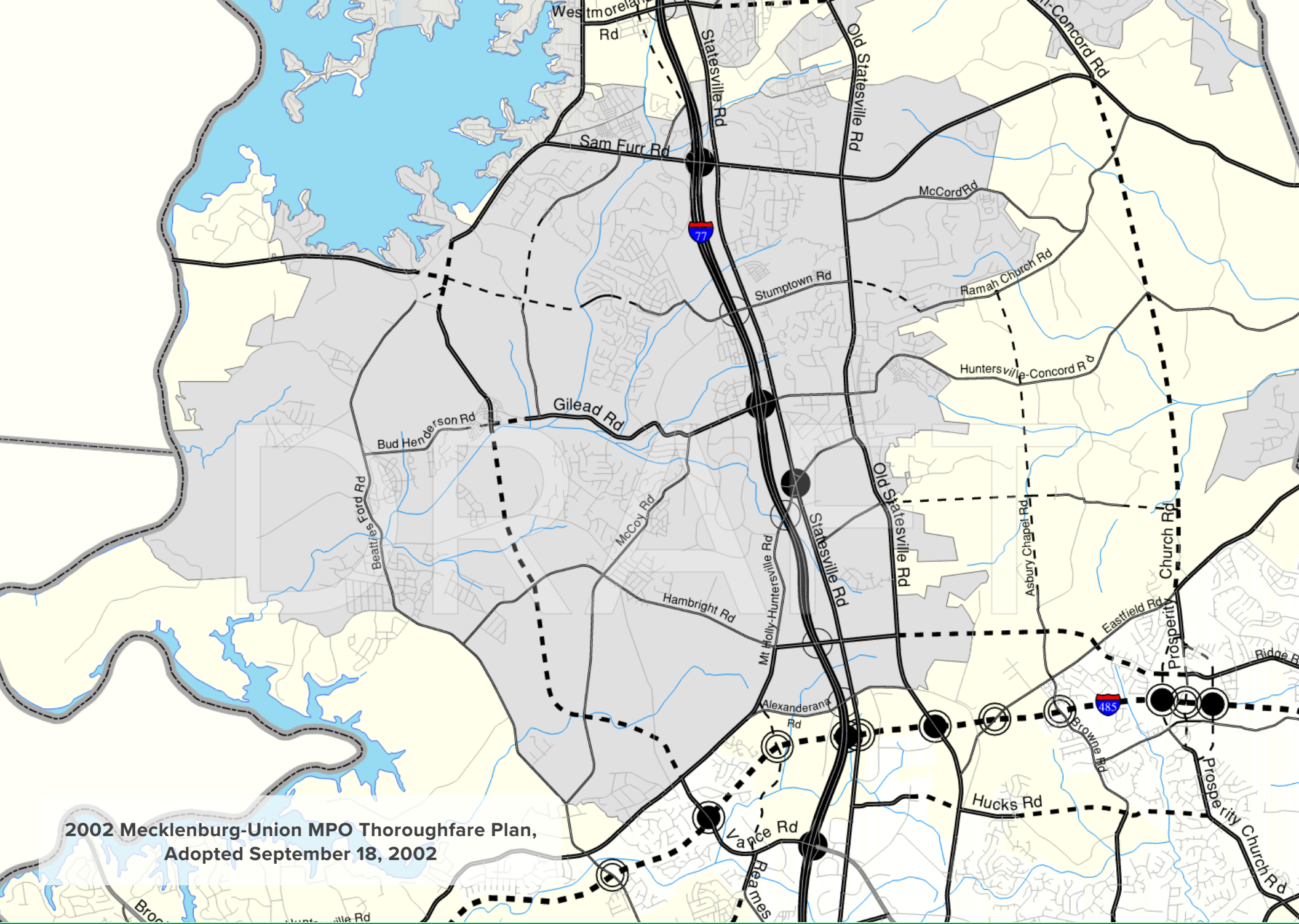


2002 Mecklenburg-Union MPO Thoroughfare Plan, Adopted September 18, 2002

CHAPTER 6

Recommendations, Mobility Strategies & Action Plan

6. RECOMMENDATIONS, MOBILITY STRATEGIES & ACTION PLAN

The Town of Huntersville has developed a vision to enhance mobility options for all people and all travel modes in Huntersville. In addition to implementing recommended projects, there are a number of strategies and steps that the Town can take to help advance mobility options in Huntersville. This Chapter details the recommendations, implementation strategies, and action steps necessary to reach the goal of safe and accessible mobility choices for all.

Vision

» Our vision is to have a transportation network that integrates land uses; offers choices to safely connect pedestrians, bicyclists, transit riders, and motor vehicles to the community; and meets the needs for all users.

Goal

Safe & Accessible Mobility Choices for All.

6.1 Recommended Projects

The entire thoroughfare network was evaluated and separated into segments that can be built/implemented as discrete projects based on logical termini and intersections, as well as based on the implementation step necessary to build the recommended cross-section. For instance, some corridors may have to be rebuilt to widen and add additional lanes and multimodal elements, while other corridors may only need to have a multi-use path built in order to realize the recommended cross-section. Figure 6.1 on the following page shows the transportation network based on the project implementation type, and Table 6.1 on pages 98 through 101 details the implementation step for each project.

The types of implementation projects include:

- **Complete Streets Reconstruction –** requires a full rebuild of an existing roadway to add additional lanes, multi-use paths, landscaping and drainage/ curb & gutter.
- **New Road Reconstruction –** requires building a new road on new right-of-way
- **Add Multi-Use Path(s) –** only requires the addition of multi-use path on one or both sides of an existing road
- **Re-striping –** only requires re-striping the pavement to reallocate space to create buffered bike lanes
- **Add Multimodal Facilities to Bridge –** requires bridge replacement to incorporate multimodal facilities

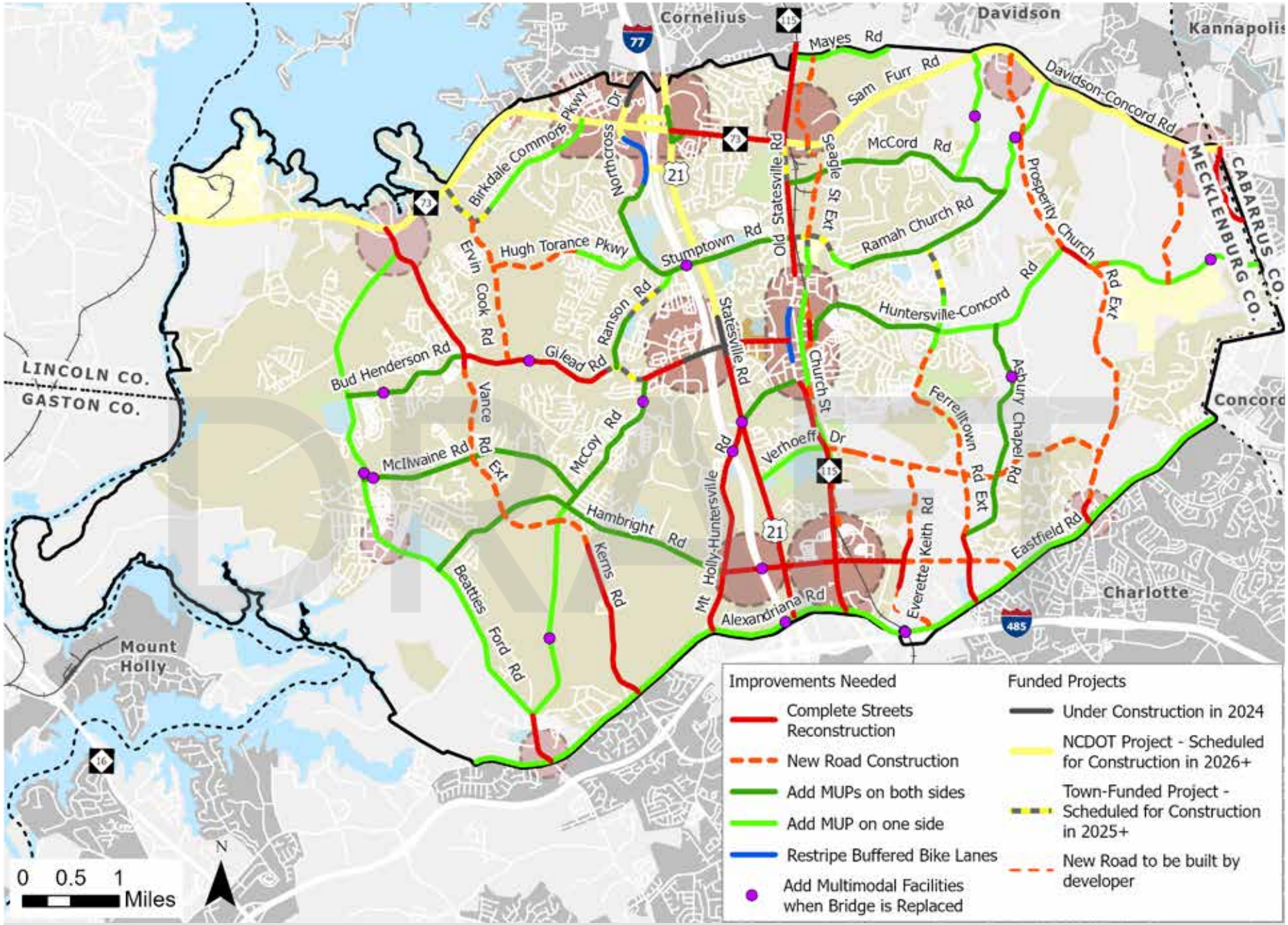


Figure 6.1. Implementation Step to Create Recommended Cross-Sections

Table 6.1. Project Implementation Table

Project	Roadway	Start/End	Cross-Section	Project Type
		FUNDED PROJECTS UNDERWAY		
	NC 73	Lincoln County Line/Beatties Ford Rd	Core Boulevard	NCDOT Funded Project (R-5721A)
	NC 73	Beatties Ford Rd/Catawba Ave	Core Boulevard	NCDOT Funded Project (R-5721B)
	NC 73 (Sam Furr Rd)	Catawba Ave/Northcross Dr	Core Boulevard	NCDOT Funded Project (U-5765)
	NC 73 (Sam Furr Rd)	Northcross Dr/US 21 (Statesville Rd)	Core Boulevard	NCDOT Funded Project (U-5715)
	NC 73 (Sam Furr Rd)	Old Statesville Rd/Davidson-Concord Rd	Core Boulevard	NCDOT Funded Project (U-2632AB)
	NC 73 (Davidson-Concord Rd)	Davidson-Concord Rd/ Poplar Tent Rd	Core Boulevard	NCDOT Funded Project (R-5706A)
	Northcross Dr	Pinnacle Cross Dr/Northpointe Executive Park Dr	Core Thoroughfare	NCDOT Funded Project (U-5765)
	US 21 (Statesville Rd)	Arahova Dr/Holly Point Dr	Core Boulevard	NCDOT Funded Project (U-5771)
	US 21 (Statesville Rd)	Arahova Dr/Dallas St	Core Boulevard	NCDOT Funded Project (U-5114)
	US 21 (Statesville Rd)	Northcross Center Ct/Westmoreland Rd	Core Boulevard	NCDOT Funded Project (U-5767)
	Northcross Dr Extension	Northpointe Executive Dr/Eagleridge Way Ln	Core Thoroughfare	NCDOT Funded Project (U-5108)
	Ervin Cook Rd/Birkdale Commons Pkwy/Oliver Hager Rd Connection	Existing Birkdale Commons Pkwy/Oliver Hager Rd	Core Thoroughfares	Town Funded Project
	Gilead Rd	Wynfield Creek Pkwy/McCoy Rd	Core Boulevard	Town Funded Project
	NC 115 (Old Statesville Rd)	NC 73 (Sam Furr Rd)/McCord Rd	Core Boulevard	Town Funded Project
	Ranson Rd	Hunton Ln/Hightower Oak St	Core Thoroughfare	Town Funded Project
	Stumptown Rd	NC 115 (Old Statesville Rd)/Aberfeld Rd	Core Thoroughfare	Town Funded Project
	NC 115 (Old Statesville Rd)	Ramah Church Rd/Maxwell Ave	NC 115 - Standard Bike Lanes	Recently Completed
	NC 115 (Old Statesville Rd)	Mullen St/Mt Holly-Huntersville Rd	NC 115 - Standard Bike Lanes	Recently Completed
		COMPLETE STREETS RECONSTRUCTION PROJECTS		
1	Asbury Chapel Rd	Trails End Ln/Eastfield Rd	Core Thoroughfare	Complete Streets Reconstruction
2	Beatties Ford Rd	NC-73/Gilead Rd	Thoroughfare through MU/Activity Centers	Complete Streets Reconstruction
3	Beatties Ford Rd	Mt Holly-Huntersville Rd/McCoy Rd	Thoroughfare through MU/Activity Centers	Complete Streets Reconstruction
4	Everette Keith Rd	Hambright Rd/Eastfield Rd	Core Thoroughfare	Complete Streets Reconstruction
5	Gilead Rd	Beatties Ford Rd /Bud Henderson Rd	Rural Boulevard	Complete Streets Reconstruction
6	Gilead Rd	Bud Henderson Rd/ Wynfield Creek Pkwy	Rural Boulevard	Complete Streets Reconstruction
7	Gilead Rd	McCoy Rd/ I-77 ramps	Core Boulevard	Complete Streets Reconstruction
8	Gilead Rd	Commerce Centre Dr/NC 115 (Old Statesville Rd)	Core Thoroughfare	Complete Streets Reconstruction
9	Hambright Rd	Mt Holly-Huntersville Rd/Statesville Rd	Core Boulevard	Complete Streets Reconstruction
10	Hambright Rd	Statesville Rd/Old Statesville Rd	Core Boulevard	Complete Streets Reconstruction

Table 6.1. Project Implementation Table (continued from previous page)

Project	Roadway	Start/End	Cross-Section	Project Type
		COMPLETE STREETS RECONSTRUCTION PROJECTS (continued from previous page)		
11	Hambright Rd	Old Statesville Rd/Everette Keith Rd	Core Boulevard	Complete Streets Reconstruction
12	Kerns Rd (Vance Rd Extension)	Mt Holly-Huntersville Rd/Vance Rd Extension	Core Boulevard	Complete Streets Reconstruction
13	Mt Holly-Huntersville Rd	Hambright Rd/Statesville Rd	Core Thoroughfare	Complete Streets Reconstruction
14	Mt Holly-Huntersville Rd	Northlake Centre Pkwy/Hambright Rd	Core Boulevard	Complete Streets Reconstruction
15	NC 73 (Sam Furr Rd)	Statesville Rd/Old Statesville Rd	Core Boulevard	Complete Streets Reconstruction
16	NC 115 (Old Statesville Rd)	Mayes Rd/NC 73 (Sam Furr Rd)	Major Thoroughfare – Railroad Constraint	Complete Streets Reconstruction
17	NC 115 (Old Statesville Rd)	McCord Rd/Ramah Church Rd	Core Thoroughfare	Complete Streets Reconstruction
18	NC 115 (Old Statesville Rd)	Mt Holly-Huntersville Rd/Verhoeff Dr	Core Thoroughfare	Complete Streets Reconstruction
19	NC 115 (Old Statesville Rd)	Verhoeff Dr/Stoney Station Pkwy	Core Thoroughfare	Complete Streets Reconstruction
20	Poplar Tent Rd	NC 73 (Davidson-Concord Rd)/Huntersville-Concord Rd	Core Boulevard	Complete Streets Reconstruction
21	US 21 (Statesville Rd)	Holly Point Dr/Caldwell Creek Dr	Core Boulevard	Complete Streets Reconstruction
22	US 21 (Statesville Rd)	Northcross Center Dr/NC 73 (Sam Furr Rd)	Core Boulevard	Complete Streets Reconstruction
23	US 21 (Statesville Rd)	Dallas St/Mt Holly-Huntersville Rd	Core Boulevard	Complete Streets Reconstruction
24	US 21 (Statesville Rd)	Mt Holly-Huntersville Rd/Verhoeff Dr	Core Boulevard	Complete Streets Reconstruction
25	US 21 (Statesville Rd)	Verhoeff Dr/Hambright Rd	Core Boulevard	Complete Streets Reconstruction
26	US 21 (Statesville Rd)	Hambright Rd/Alexandriana Rd	Core Boulevard	Complete Streets Reconstruction
		NEW ROAD CONSTRUCTION PROJECTS		
27	Birkdale Commons Pkwy	Oliver Hager Rd/Tigers Paw Rd	Core Thoroughfare	New Road Construction
28	Church St	Dellwood Dr/Holbrooks Rd	Minor Thoroughfare – Railroad Constraint	New Road Construction
29	Church St Realignment	Huntersville-Concord Rd/near Greenway St	Core Thoroughfare	New Road Construction
30	Ervin Cook Rd	Gilead Rd/Birkdale Commons Pkwy	Core Thoroughfare	New Road Construction
31	Everette Keith Rd	Verhoeff Dr Extension/Hambright Rd	Core Thoroughfare	New Road Construction
32	Ferrelltown Pkwy	Ramah Church Rd/Keyes Meadow Way	Core Thoroughfare	New Road Construction
33	Ferrelltown Pkwy	Hugh Dixon Way/Asbury Chapel Rd	Core Thoroughfare	New Road Construction
34	Hambright Rd	Everette Keith Rd/Asbury Chapel Rd	Core Thoroughfare	New Road Construction
35	Hambright Rd	Asbury Chapel Rd/Eastfield Rd	Core Thoroughfare	New Road Construction
36	Hugh Torance Pkwy	East of Cool Meadow Dr/Wynfield Creek Pkwy	Core Thoroughfare	New Road Construction
37	Huntersville-Concord Rd - Davidson-Concord Conn	Huntersville-Concord Rd/Future Activity Center	Rural Thoroughfare	New Road Construction
38	Huntersville-Concord Rd – Davidson-Concord Connection	Davidson-Concord Rd/Future Activity Center	Thoroughfare through MU/Activity Centers	New Road Construction

Table 6.1. Project Implementation Table (continued from previous page)

Project	Roadway	Start/End	Cross-Section	Project Type
		NEW ROAD CONSTRUCTION PROJECTS (continued from previous page)		
39	Meacham Farm Rd Extension	S terminus of Meacham Farm Rd/Winding Gorge Dr	Core Thoroughfare	New Road Construction
40	Prosperity Church Rd Ext	NC 73 (Sam Furr Rd)Ramah Church Rd	Rural Boulevard	New Road Construction
41	Prosperity Church Rd Ext	Ramah Church Rd/Huntersville-Concord Rd	Rural Boulevard	New Road Construction
42	Prosperity Church Rd Ext	Huntersville-Concord Rd/Eastfield Rd	Rural Boulevard	New Road Construction
43	Seagle St Extension	Mayes Rd/NC 73 (Sam Furr Rd)	Core Thoroughfare	New Road Construction
44	Seagle St Extension	McCord Rd/Ramah Church Rd	Core Thoroughfare	New Road Construction
45	Vance Rd Extension	Bud Henderson Rd/Hambright Rd	Rural Boulevard	New Road Construction
46	Vance Rd Extension	Hambright Rd/Kerns Rd	Rural Boulevard	New Road Construction
47	Verhoeff Dr Extension	NC 115 (Old Statesville Rd)/Asbury Chapel Rd	Core Thoroughfare	New Road Construction
48	Verhoeff Dr Extension	Asbury Chapel Rd/Prosperity Church Rd Ext	Transitional Thoroughfare	New Road Construction
		ADDING MULTI-USE PATHs (MUPs) PROJECTS		
49	Alexandriana Rd	Mt Holly-Huntersville Rd/NC 115 (Old Statesville Rd)	Eastfield/Alexandriana/Mt Holly-Huntersville	Add MUP on one side
50	Asbury Chapel Rd	Huntersville-Concord Rd/Trails End Ln	Transitional Thoroughfare	Add MUPs to one side
51	Beatties Ford Rd	Hambright Rd/McCoy	Rural Thoroughfare	Add MUP on one side
52	Beatties Ford Rd	Gilead Rd/Bud Henderson Rd	Transitional Thoroughfare	Add MUP on one side
53	Beatties Ford Rd	Bud Henderson Rd/Hambright Rd	Transitional Thoroughfare	Add MUP on one side
54	Birkdale Commons Pkwy	NC 73 (Sam Furr Rd)/Tigers Paw Rd	Thoroughfare – MUP Retrofit	Retrofit MUP
55	Black Farms Rd	NC 73 (Sam Furr Rd/McCord Rd	Rural Thoroughfare	Add MUP on one side
56	Bud Henderson Rd	Beatties Ford Rd/Old Bud Henderson Rd	Core Thoroughfare	Add MUPs on both sides
57	Bud Henderson Rd	Old Bud Henderson Rd/Vance Rd Ext	Bud Henderson Retrofit	Add MUPs to both sides
58	Church St	4th St/Dellwood Dr	Minor Thoroughfare – Railroad Constraint	Complete Streets Reconstruction
59	Church St/Meacham Farm Rd	Holbrooks Rd/S terminus of Meacham Farm Rd	Minor Thoroughfare – Railroad Constraint	Complete Streets Reconstruction
60	Eastfield Rd	NC 115 (Old Statesville Rd)/Poplar Tent Rd	Eastfield/Alexandriana/Mt Holly-Huntersville	Add MUP on one side
61	Hambright Rd	Beatties Ford Rd/McCoy Rd	Core Thoroughfare	Add MUPs to both sides
62	Hambright Rd	McCoy Rd/Mt Holly-Huntersville Rd	Core Thoroughfare	Add MUPs to both sides
63	Holly Point Dr	NC 73 (Sam Furr Rd)/US 21 (Statesville Rd)	Thoroughfare through MU/Activity Centers	Add MUPs on both sides

Table 6.1. Project Implementation Table (continued from previous page)

Project	Roadway	Start/End	Cross-Section	Project Type
		ADDING MULTI-USE PATHs (MUPs) PROJECTS (**continued from previous page**)		
64	Hugh Torance Pkwy	Wynfield Creek Pkwy/Stumptown Rd	Thoroughfare – MUP Retrofit	Retrofit MUPs
65	Huntersville-Concord Rd	NC 115 (Old Statesville Rd)/Ferrelltown Pkwy	Core Thoroughfare	Add MUPs to both sides
66	Huntersville-Concord Rd	Ferrelltown Pkwy/Hiwassee Rd	Transitional Thoroughfare	Add MUPs on one side
67	Huntersville-Concord Rd	Prosperity Church Rd Ext/Poplar Tent Rd	Rural Thoroughfare	Add MUP on one side
68	Mayes Rd	Caldwell Station Rd/Westmoreland Rd	Transitional Thoroughfare	Add MUP on Huntersville side
69	McCord Rd	NC 115 (Old Statesville Rd)/Ramah Church Rd	Core Thoroughfare	Add MUPs to both sides
70	McCoy Rd	Beatties Ford Rd/Hambright Rd	Rural Thoroughfare	Add MUP on one side
71	McCoy Rd	Hambright Rd/Gilead Rd	Rural Thoroughfare	Add MUP on one side
72	McIlwaine Rd	Beatties Ford Rd/McCoy Rd	Core Thoroughfare	Add MUPs to both sides
73	Meacham Farm Rd/Bryton Pkwy	Winding Gorge Dr	Thoroughfare – MUP Retrofit	Retrofit MUPs
74	Mt Holly-Huntersville Rd	Beatties Ford Rd/Alexandriana Rd	Eastfield/Alexandriana/Mt Holly-Huntersville	Add MUP on one side
75	Mt Holly-Huntersville Rd	US 21 (Statesville Rd)/NC 115 (Old Statesville Rd)	Core Thoroughfare	Add MUPs on both sides
76	Northcross Dr	Hugh McAuley Rd/Cascade Loop	Thoroughfare – MUP Retrofit	Retrofit MUPs
77	Ramah Church Rd	Stumptown Rd/McCord Rd	Core Thoroughfare	Add MUPs to both sides
78	Ramah Church Rd	McCord Rd/NC 73 (Davidson-Concord Rd)	Transitional Thoroughfare	Add MUPs on one side
79	Ranson Rd	Hightower Oak St/Gilead Rd	Core Thoroughfare	Add MUPs to both sides
80	Seagle St	Hord Dr/Ramah Church Rd	Core Thoroughfare	Add MUP on both sides
81	Stumptown Rd	Hugh Torance Pkwy/US 21 (Statesville Rd)	Core Thoroughfare	Add MUPs on both sides
82	Stumptown Rd	US 21 (Statesville Rd)/NC 115 (Old Statesville Rd)	Core Thoroughfare	Add MUPs on both sides
83	Stumptown Rd	Aberfeld Rd/ Ramah Church Rd	Thoroughfare – MUP Retrofit	Retrofit MUPs
84	Verhoeff Dr	US 21 (Statesville Rd)/NC 115 (Old Statesville Rd)	Thoroughfare – MUP Retrofit	Retrofit MUPs
		RE-STRIPING PROJECTS		
85	NC 115 (Old Statesville Rd)	Maxwell Ave/Mullen St	NC 115 - Buffered Bike Lanes	Re-stripe Buffered Bike Lanes
86	Northcross Dr	Pinnacle Cross Dr/Cascade Loop	Northcross Dr Retrofit	Re-stripe Buffered Bike Lanes
		BRIDGE REPLACEMENT PROJECTS		
Multiple	See Figure 3.6 on page 49 and Table 3.3 on page 48 for locations & details		Various	Replace bridge and include multimodal facilities

6.2 Project Prioritization

With discrete projects defined, the next step y will then be scored based on prioritization criteria developed by the Technical Committee (TC). The TC worked to develop a means of scoring each project, so that the benefits of each project (in terms of safety, mobility, and quality of life issues) could be considered by Town residents and leadership. Many of the community priorities aligned with the Charlotte Regional Transportation Planning Organization (CRTPO) prioritization criteria, so the TC recommended using the a process similar to CRTPO's to score projects. Table 6.2 shows the criteria and the variables that relate to each of the criteria that will be used to score the projects identified in this plan.

The scored project list will then serve as a starting point for the Town to identify and prioritize investment to move these projects forward.

Table 6.2. Prioritization Criteria

Prioritization Criteria	Specific Variables for Each Criterion
Trip Generation and Connectivity	High, Moderate and Low Interest Destination
	Connections to Existing Facilities
	Adopted Plans and Policies
	Place-Making Amenities
	Demonstrated Need/Desire
Safety	Documented Safety Challenge
	Reduce Human Exposure
	Traffic Calming
	Vehicle Traffic
Health and Environment	Emission and Pollutant Reduction
	Social Equity
	Environmental Quality
	Health Equity
Feasibility and Cost	Effective Use of Federal Funds
	Amount of Available Funding Requested
	Local Match Commitment
	Right-of-Way Previously Acquired/ Available
	Cost-Benefit

6.3 Crossing Improvements

In addition to cross-section recommendations and corridor projects, this plan advanced recommendations for bike and pedestrian crossings, building off of locations identified in the 2020 *Bike Plan Update* for crossing improvements. The conceptual designs for three critical bicycle and pedestrian crossings were developed in order to advance the safety of the bike and pedestrian network. These three concepts also address barriers to multimodal travel that were identified in Section 3.4 on constraints and barriers (page 48).

6.3.1 Sam Furr Road Crossing

Figure 6.2 shows a concept for installing a pedestrian hybrid beacon on NC 73, west of NC 115, to provide safer connectivity to the greenway that is under construction through North Mecklenburg Park. This crossing will include a pedestrian hybrid beacon (PHB), also referred to as a HAWK signal, that signals to motor vehicles to stop when activated by a pedestrian. This crossing improvement will provide a critical safe connection between the quiet streets in Hampton Ridge and Knoxwood Drive and the park and greenway.

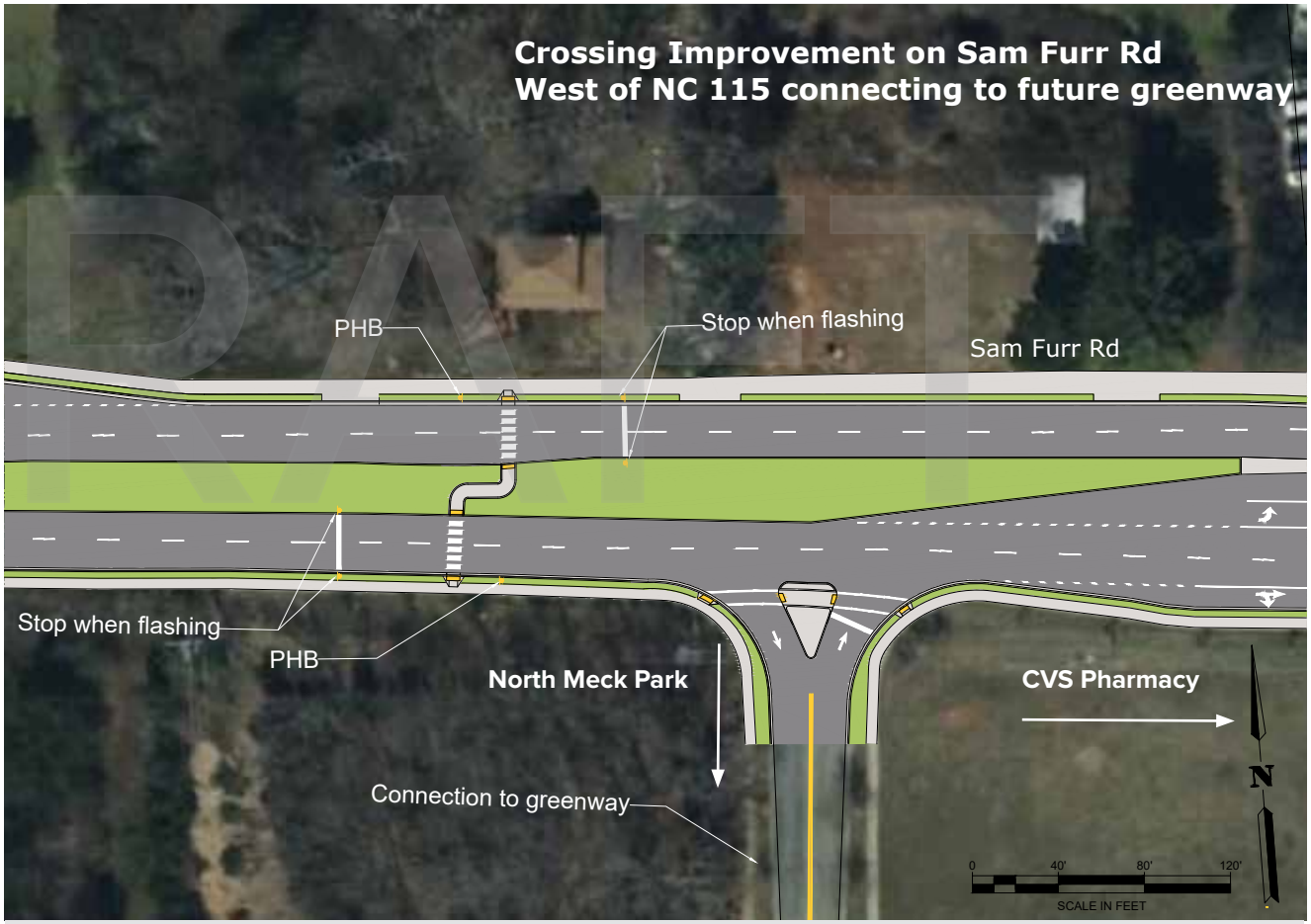


Figure 6.2. Conceptual design for crossing improvement to connect to North Mecklenburg Park and greenway.

6.3.2 Huntersville-Concord Road Crossing

Another crossing improvement is identified at the intersection of Church Street and Huntersville-Concord Road (Figure 6.3). This crossing is designed in anticipation of the Seam Trail being built along Church Street, and this crossing will provide improved safety and wayfinding for pedestrians and bicyclists as they travel north and south along this 60+ mile trail that when completed will stretch from Statesville, North Carolina, to the South Carolina border. It will also provide critical pedestrian connectivity between the future Red Line Station and Vermillion Village and the Pottstown neighborhood.

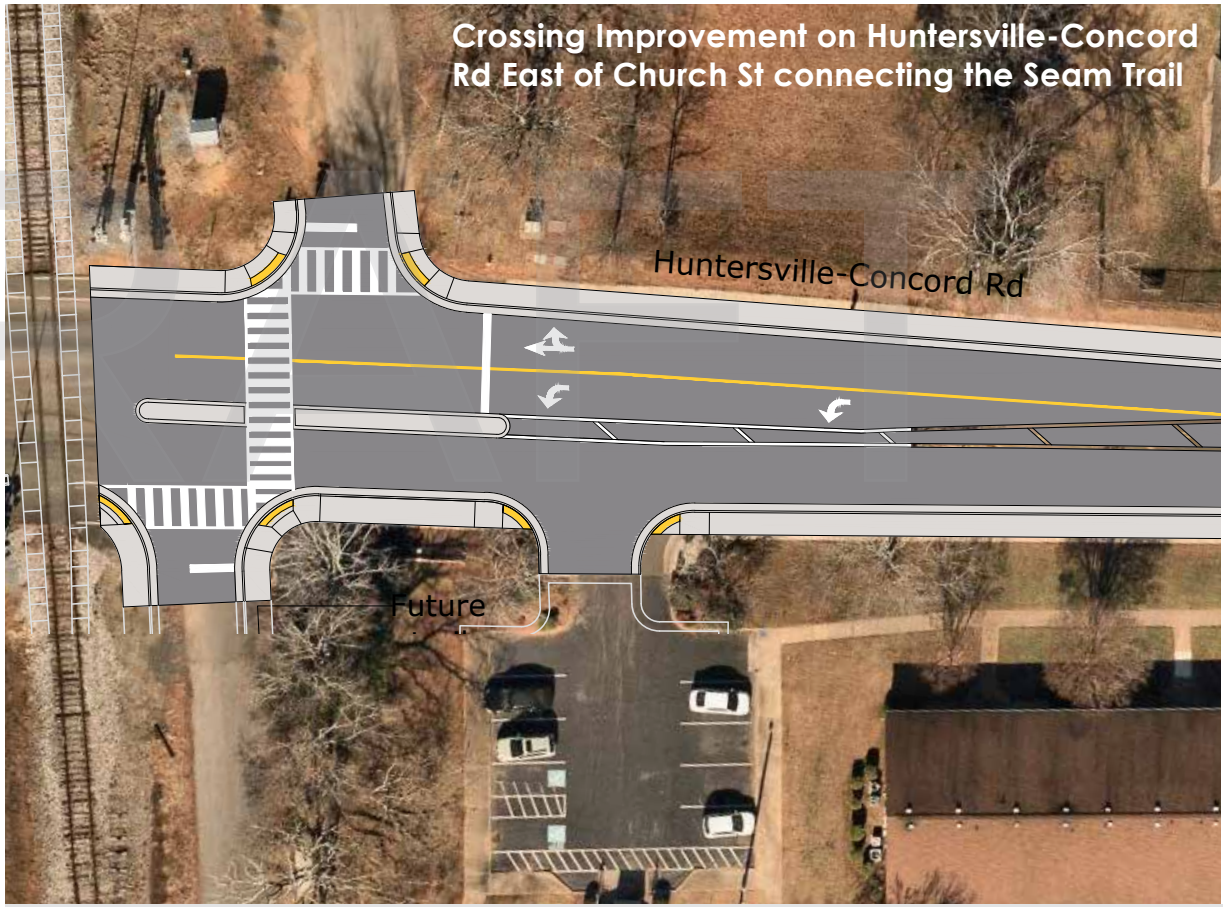


Figure 6.3. Conceptual design for crossing improvement for The Seam Trail along Church Street

6.3.3 Old Statesville Road Crossing

The third crossing improvement is identified near the intersection of Old Statesville Road (NC 115) and Preysing Street (Figure 6.4). This crossing is designed with a pedestrian hybrid beacon (PHB)to stop vehicular traffic. This recommended improvement is designed to address the safety concerns with the high number of students from North Mecklenburg High School who cross at this location on a daily basis.

Figure 6.4. Conceptual design for crossing improvement to connect to North Mecklenburg High School and Bryton shopping center

6.2 Mobility Strategies

The number of projects and costs to implement them far outpace the available funding to build the recommended projects. Building out the database in order to prioritize projects based on evolving needs and opportunities over time will be necessary to identify near-term priority projects, and a long-term playbook to work down the list. This section outlines strategies to guide the prioritization process and keep the momentum for project implementation:

Building Capacity through Network and Connectivity

Congestion occurs when the traffic demand exceeds the capacity of the roadway. Historically, the approach to congestion is to provide more capacity in the form of widening roads to add more travel lanes. This cumulative effect of this over many decades has been widening major highways and freeways to be four lanes or more in some of our heavily traveled areas. Rigorous analysis of the effectiveness of this approach in relieving congestion has revealed that widening of roadways has not resulted in less congestion. Instead, a phenomenon now known as “induced demand” has been identified, which is where increased capacity leads to increased demand and travel so congestion returns as the increased demand outpaces the added capacity shortly after a roadway project is complete.

An alternative approach to widening roads to add capacity is to build more capacity by increasing network connections in the form of new roadways

Huntersville can apply this approach by prioritizing new thoroughfare connections over widening existing roads. Reflecting on the fact that only 1.6 miles of new thoroughfares have been built since 1988 (see Section 3.6 Thoroughfare Plan Build-Out on page 52 for more details), it appears that the build-out of the thoroughfare network recommended in the Long Range Thoroughfare Plans and the Comprehensive Transportation Plans has not kept pace with the population growth and increasing travel demand in Huntersville. Focus should be on adding capacity and increasing connectivity to highways I-77 and I-485.

Additionally, Huntersville can improve the network by increasing connectivity. Huntersville’s Streets ordinance (See Figure 1.1 on page 2) requires connectivity between developments, which is critical to leveraging the capacity of the existing roadway network.

Building Multimodal Capacity

Building out the bicycle and pedestrian facility network also provides increased capacity to the transportation system. The bicycle and pedestrian infrastructure can connect people for short distance trips to key destinations and to transit services as well. Filling gaps identified in Section 3.2, on page 44, should be a priority.

In addition to building the infrastructure, updating the Traffic Impact Analysis (TIA) Ordinance, found within the Town of Huntersville’s Zoning Ordinance, should be prioritized to incorporate best practices related to Multi-Modal Level of Service (MMLOS), in addition to conventional vehicular Level of Service (LOS) analysis. This would allow the Town to identify shortfalls in the multimodal networks that would otherwise not be evaluated or considered in a conventional TIA process.

Additional multimodal strategies to pursue include:

- Accommodate bicyclists and pedestrians on new and existing roadway bridges, underpasses, and interchanges to minimize dangerous crossings and conflict points for vulnerable users.
- Require temporary traffic controls for pedestrian access during construction
  - » Adopt policy that applies Chapter 6 of the Manual on Uniform Traffic Control Devices (MUTCD) for Temporary traffic controls.
  - » Require construction plans to include traffic control plans for all modes of transportation.
- Develop a dedicated bicycle and pedestrian infrastructure and maintenance funding stream to maintain high-quality bicycle and pedestrian infrastructure over time.
- Enhance Safe Routes to School (SRTS)

- Develop a policy for Pedestrian Hybrid Beacon (PHB or HAWK) and Rectangular Rapid Flashing Beacon (RRFB) Installation at Intersections and Mid-block Crossings
- Identify best practices and possible locations in coordination with Charlotte Area Transit System (CATS) to address crossing needs at transit stops and major destinations.

Broadening the Culture and Mindset

As important as the planning and engineering is in creating a multimodal transportation network, so is cultivating the culture and mindset where residents want transportation options and expect the Town to provide them. Huntersville residents already possess the first part in wanting transportation options—the survey results from this plan and the *2040 Community Plan* bear that out (see Figure 6.5, at right).

Commitment to all modes and all users must also be embraced by municipal staff and officials. The question now is how to further grow the commitment to a more balanced transportation system.

Huntersville's peers are making strides to become safer and more accommodating for all modes. General trends and overarching themes include dedicated bicycle and pedestrian staffing and funding, shared mobility options, microtransit service, and investing in signature projects that generate energy within the community.

These initiatives would not only help meet the demand for more mode choices, but also encourage more residents to try different commute and travel patterns, educate officials and staff, and inspire community action in the Town to participate in events, and even garner support for local projects.

Measuring Progress

The best way to maintain momentum is to continue to monitor the progress regularly. Regular updates of how the plan is advancing should be provided. Some metrics to consider include:

- Miles of thoroughfares built
- Miles of multi-use paths built
- Number of priority projects built
- Bicycle and pedestrian counts to show how the facilities are being used

Regarding the last item, bicycle and pedestrian counts, this is critical to having better information on how people travel in Huntersville. Nationwide, communities collect data on vehicle movements, but rarely is data collected on bicycle and pedestrian use. Due to the lack of basic metrics, this means that what is not counted is not funded. Collecting more data can help to increase funding for and put in place better bicycle and pedestrian infrastructure. This is especially important in identifying areas of the highest need, which are ofter under-represented in public input.

An effective bike and pedestrian count program consists of two elements—continuous counts and spatial coverage counts. It is recommended that Huntersville initiate a bike and pedestrian count program that includes both of these elements. The Town of Chapel Hill has a count program that can serve as a model for Huntersville.

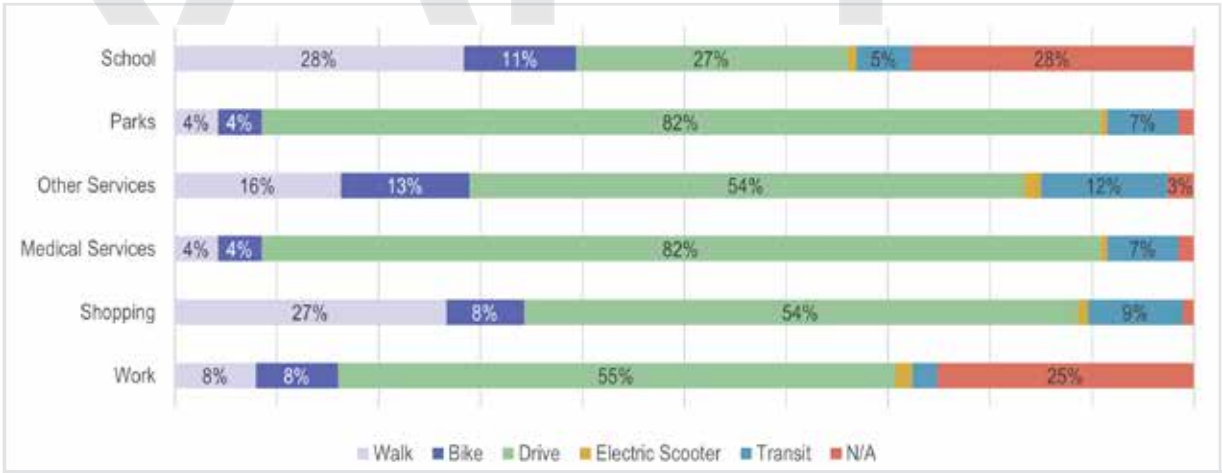


Figure 6.5. How would you like to travel around Huntersville? (N=465)

Adoption and Implementation of a Revised Complete Streets Policy

Complete Streets are streets that incorporate all modes of transportation to serve every person using the transportation network. The Town has adopted a policy consistent with Complete Streets, although a more formal adoption of a modified policy may be beneficial.

This Mobility Plan is the next step in implementing the Complete Streets Policy through the development and adoption of well-defined roadway cross-sections that incorporate bike and pedestrian facilities in every major roadway corridor.

The policy framework developed by the National Complete Streets Coalition is instrumental in guiding communities to craft robust Complete Streets policies that resonate with the unique needs and aspirations of their localities. The Policy Framework was substantially updated in 2018. It encapsulates a set of ten core policy elements that serve as foundational blocks for constructing policies that prioritize the safety and mobility of all citizens.

According to the Coalition's Framework, the Huntersville Complete Streets policy should include a commitment and vision; mandate coordination and adopt design guidance. The Town has successfully done so.

The Coalition's framework also calls for jurisdictions to prioritize improvements in under-served communities, conduct proactive land use planning, set criteria for choosing projects, and create a plan for implementation. Each of these functions is undertaken by Huntersville now, although there is no Complete Street Policy that encompasses these matters or expresses the Town's related commitments.

Lastly, the Coalition's framework calls for Complete Street policies to do the following, and for the respective jurisdiction to undertake the related actions. The Policy should apply to all projects and phases and be implemented as well in each respective program. This means that roadway preservation projects and resurfacing projects should also be assessed for possible reconfiguration to accommodate all modes. The Policy should also allow only clear exceptions. Some agencies define the exceptions (e.g., projects <$500,000 in cost) while other policies define a process (usually requiring a documented decision on the exception, signed by a department manager, or even elected officials). The Town should consider developing a policy for how exceptions will be handled, and updating the Zoning Ordinance accordingly. Finally, the Town should measure progress and report the progress to the public.

Land Use Policy

The transportation network facilitates development and connects people to key destinations. As such, its function and effectiveness are integrally linked with land use policy and decision-making. Land use policies that consolidate disparate uses and segregate them into zones create an auto-dependent transportation network. Similarly, transportation corridors designed to facilitate free-flow of vehicular traffic are challenging to integrate with a well-connected, vibrant, and diverse range of land uses that support alternative modes of transportation.

The Town of Huntersville is aware of the interdependency of land use and transportation planning and has updated its Comprehensive Plan and Zoning Ordinance accordingly. Many of the adopted Future Land Use Character Areas and corresponding Zoning Districts encourage a mix of uses and densities that support multimodal transportation. Further, the Land Use and Housing Policy recommendations of the *2040 Community Plan* concentrate growth in mixed-use nodes and activity centers, which substantiates the development of a diverse and robust transportation network in those areas. Additional recommendations to align mobility planning with Huntersville's land use vision include:

- Provide density bonuses along transit corridors.
- Consider the following amendments to off-street parking requirements:
  - » In addition to the existing square footage thresholds, factor in public transit accessibility, bicycle parking availability, pedestrian-friendly design, and other conditions that may reduce parking demand and space requirements.
  - » Shared parking strategies that allow adjacent commercial uses with different peak hours to share parking spaces.
  - » In Mixed-Use Centers, consider a more integrated approach that assumes users will walk to and from the different uses within the same development, thereby reducing overall parking demand and consolidating space requirements.
- Adopt policies and regulations that support quality workforce housing accessible to transit.
- Work with CATS to incentivize the use of public transportation by:
  - » Providing additional routes to Employment, Mixed-Use, and Activity Centers
  - » Educating the public that transit is often less expensive and faster than Single Occupant Vehicles (SOV) travel.
  - » Offering subsidies/discounts on passes.

6.3 Action Steps

Implementing the recommendations within this plan will require leadership and dedication to the Town's mobility vision by elected officials and citizens and a variety of agencies, organizations, and partners. The Town will not be able to accomplish the recommendations of this plan by acting alone; success will be realized through collaboration with state and federal agencies, neighboring communities, land owners, the private sector, and non-profit organizations. Equally critical, and perhaps more challenging, will be meeting the need for a recurring source of revenue. Even small amounts of local funding will be very useful and beneficial when matched with outside sources.

It is difficult to know what financial resources will be available at different time frames during the implementation of this plan. However, there are still important actions to take in advance of major investments, including key organizational steps and the development of strategic, lower-cost infrastructure projects. Following through on these priorities will allow the key local and regional partners to implement the larger list of projects of programs over time while taking advantage of strategic opportunities, as they arise.

The main ways to improve mobility conditions in Huntersville are through transportation facility construction and improvement, and policy/regulatory changes and evaluation. This section outlines the action steps and primary roles for key players in plan implementation and how they relate to one another. Specific action steps are provided below:

1. Update the Zoning Ordinance and the Engineering Standards and Procedures Manual to reflect new cross-sections
    - » Remove any cross-sections/plans/ordinances made void by the adoption of this Mobility Plan (Planning and Engineering Staff)
    - » Use these cross-sections to inform project submissions to future MTPs and subsequent STIP prioritization rounds
    - » Use this plan's prioritized list of projects as a starting point to identify projects for STIP, Discretionary Grant, and other funding sources
2. Submit amendments to the CTP to have the following roads classified as minor thoroughfares, in accordance with how they already operate in Huntersville's roadway network (Planning Staff, Town Board):
    - » Ranson Road
    - » Black Farms Road
    - » Asbury Chapel Road
    - » McIlwaine Road
3. Submit request to have the following roads classified as Minor Collectors in the Federal Aid System, in accordance with how they already operate in Huntersville's roadway network (Planning and Engineering Staff):
    - » Stumptown Road/Northcross Road
    - » Bud Henderson Road
    - » Hambright Road (west of McCoy Road)
    - » Kerns Road
    - » Verhoeff Road
    - » Ranson Road
    - » McCord Road
4. Identify appropriate funding opportunities for top priority projects (Planning Staff and Manager's Office). The Infrastructure Investment and Jobs Act (IIJA, also known as the Bipartisan Infrastructure Law or BIL) has allocated billions of dollars in the federal budget to transportation projects. Currently there are many opportunities through the US Department of Transportation (USDOT), Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) to apply for funding to improve mobility options for all. The Town should seek opportunities through discretionary and formula funding to complete its Mobility Plan.
5. Measure progress in implementing the recommended projects (Planning and Engineering Staff). The project list (Table 6.1 on pages 98 through 101) and Action Steps from this plan will be reviewed and updated annually

and recommendations for new projects will be developed at that time. At least annually, and prior to development of the town's capital improvement plan (CIP), Town staff will review project prioritization and actions and provide staff recommendations for the following fiscal year.

» An annual Planning Board meeting will be scheduled to review the recommended priority projects and proposed updates to the project list for the purpose of making a recommendation to the Town Board of Commissioners.

» Priority project and funding lists will be presented to the Town Board of Commissioners for Approval.

» Town Staff will pursue grants each year for priority projects based on the Town-board approved list of projects. For grant amounts under $50,000 for priority projects or programs, prior board approval will not be required assuming no local match is required or that matching funds have been previously approved.

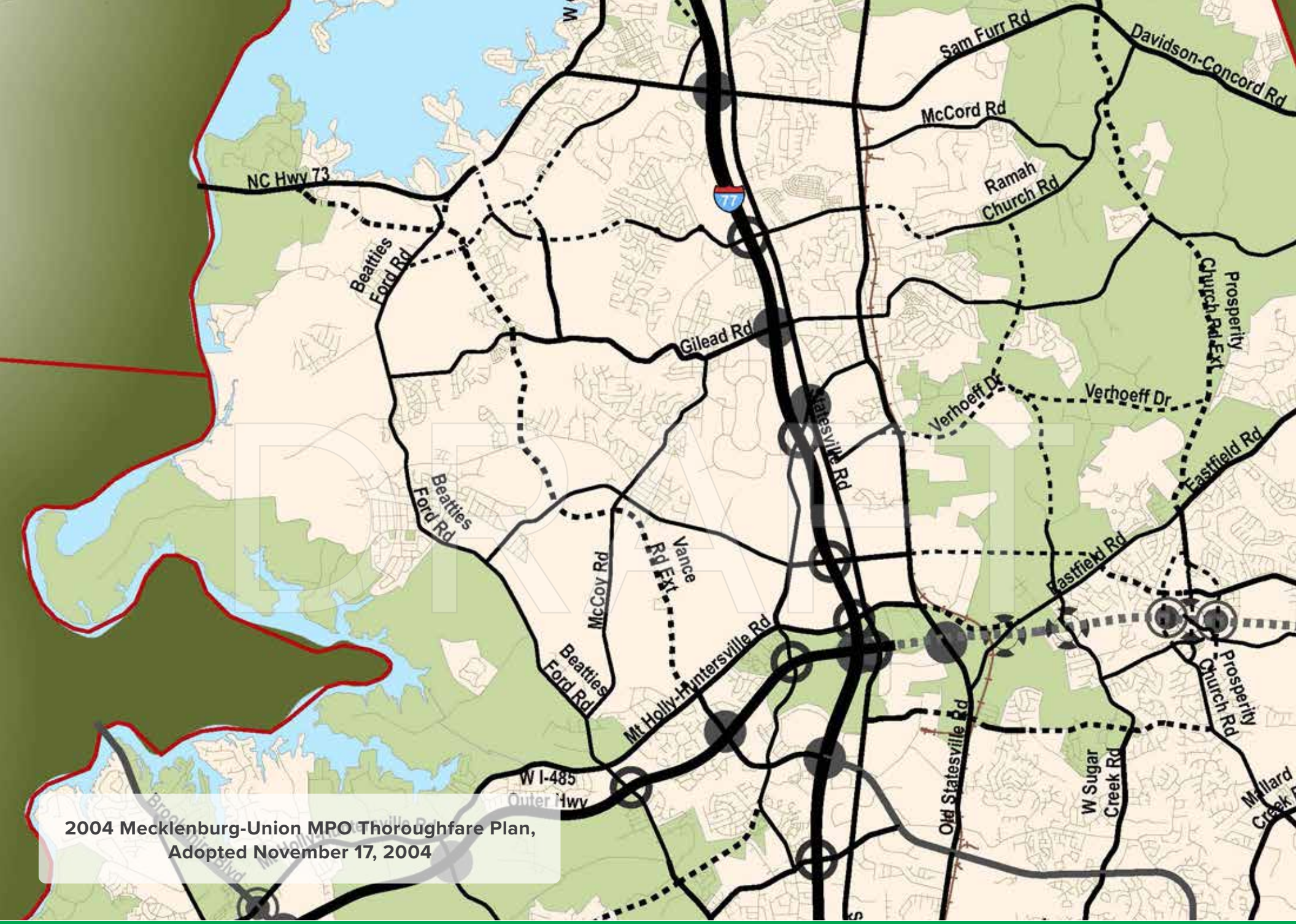
» Every five years a more comprehensive review of project status and prioritization should be considered.

» Every year an Action Plan for each annual list of priority projects will be developed by Town staff. The annual action plan should be populated with the current priority projects from the Mobility Plan. The action plan should include, but is not limited to the following elements:

1. Project / Policy Name:
2. Responsible Departments/Staff:
3. Funding sources:
4. Time Allocation:
5. Partners needed:
6. Board Action required:
7. Process for approval and implementation
8. Timeline to complete

Table 6.3. Action Steps

Time-frame	Action Step	Responsibility
After adoption	Update Zoning Ordinance and Engineering Standards & Procedures Manual	Planning & Engineering Departments
	Prioritize project list & Identify 10 Key Projects	Planning Department
Ongoing/ Immediate	Develop a bike/ped count program	Planning & Engineering Departments
	Update prioritization list	Planning Department
	Identify Funding for Priority Projects	Planning Department
	Measure Progress	Planning Department
Within year (or by FY26)	Update Complete Streets Policy	Planning & Engineering Departments
	Submit amendments to CTP	Planning Department
	Submit requests for Federal Aid System classification for additions roads	Planning Department
	Update TIA requirements to include multimodal elements	Planning & Engineering Departments



2004 Mecklenburg-Union MPO Thoroughfare Plan, Adopted November 17, 2004

Appendix A

Review of Existing Plans & Ordinances

Appendix A. Review of Existing Plans & Ordinances

Existing Plans

2050 Metropolitan Transportation Plan (MTP)

The Metropolitan Transportation Plan (MTP) serves as a comprehensive, long-range plan for transportation investments within the CRTPO region through the planning horizon year of 2050. The plan identifies transportation needs and projects for the three counties in the region served by the organization. Goal 2 of the plan is to "Promote an integrated, accessible, multimodal transportation system," and Goal 3 was to "Develop transportation plans and policies that improve quality of life for residents, are sensitive to significant features of the natural and human environment and encourage linkages between transportation and land use."

- Statesville Rd (US-21) – Widen from 2 to 4 lanes with median, wide outside lanes and sidewalk.
- Sam Furr Rd (NC 73) – Widen from ¾ lanes to 6 lanes with median, wide outside lines, and sidewalks. W. Catawba Ave to Northcross Dr
- Statesville Rd (US 21) widen 2 to 4 lanes with median and shared use path (Hambright Rd to Gilead Rd)
- Statesville Rd (US21) at Gilead Rd – Construct intersection improvements with bicycle and pedestrian connections
- Gilead Rd from Statesville Rd to Old Statesville Rd (US115) – widen from 3 lanes to 4 lanes with bike lanes and sidewalks.
- Gilead Rd from McCoy Rd to Wynfield Parkway – widen roadway from 2 to 4 lanes with median.
- I-77 at Gilead Rd – convert existing interchange to diverging diamond interchange with bike/pedestrian accommodations.
- I-77 at Sam Furr Rd (NC 73) – same as above
- Main Street from Old Statesville Rd (NC 115) at Mt Holly-Huntersville Rd to Ramah Church Rd—widen and realign roadway with bike lanes and sidewalks.
- NC73 from Vance Rd Ext to W. Catawba Ave – widen from 2 to 4 lanes with median, wide outside lanes, and sidewalks.
- Old Statesville Rd from Main St to Sam Furr Rd (NC73) – widen from 2 to 4 lanes with median bike lanes and sidewalks.
- Sam Furr Rd (NC73) from Old Statesville Rd to Davidson-Concord Rd – widen to multi-lanes.

Comprehensive Transportation Plan (CTP)

The Comprehensive Transportation Plan (CTP) is an inventory of envisioned transportation improvements within the planning area. The CTP was developed in conjunction with NCDOT to identify highway, bike/pedestrian, transit, and rail corridors that either need improvement or are recommended new facilities. The CTP is not fiscally constrained, identifying all potential improvements and serving as the basis for identifying specific project needs. The CTP includes a map of existing, needs improvement, and recommended on-road and multi-use pathways and identifies interchanges that need improvement.

Transportation Improvement Plan (TIP)

The Transportation Improvement Program (TIP) is adopted by the CRTPO and contains priority projects that have funding identified in the anticipated year of expenditure within the CRTPO planning area. The TIP is incorporated directly into NCDOT's 10-year STIP, and projects identified with committed funding in the first six years of the TIP are included in the MTP.

Beyond 77

The *Beyond 77 Plan* is a comprehensive evaluation of the long-term mobility vision for a 68-mile stretch of I-77 between Statesville, NC, and Rock Hill, SC, and considers all forms of transportation.[1] Six areas of emphasis were established to guide the study objectives: congestion management, connectivity with the parallel network, funding strategies, technology, multimodal recommendations, and land use coordination.

The *Beyond 77 Plan* aims to strengthen the multimodal network surrounding the interstate by providing a strategic, innovative, equitable, and comprehensive toolkit of strategies, policies, and programs to guide future mobility. The study covered the I-77 corridor from Exit 77 in Rock Hill, SC, to Exit 54 in Statesville, NC, and its area was defined to be a 3-mile radius from the interstate facility.

Over the course of extensive public engagements, there were 25,162 surveys completed, 3,012 comments received, and 431 event participants, which is especially notable because the study was conducted between January 2020 and January 2022 in the midst of the COVID-19 pandemic.

Huntersville was classified as part of the North Zone of the study, and the top five respondent preferences for where to improve were roadway design, traffic operations, safety, land use planning, and commuting options. Furthermore, Huntersville was identified as one of the areas of projected high density with a wide range of transportation needs, requiring more modes and connections in the long-term.

Short-Term Recommendations (2023-2026):

- PM-21: Land Use & Transportation Planning Policies
- PR-30: First Mile/Last Mile Spot Planning

Medium Term Recommendations (2026-2035):

- PI-14: Effective Micromobility Coordination

Long-Term Recommendations (2035-2050+)

- PI-9: Dedicated Bus Lanes
- PI-19: Complete Streets and Mobility Hubs
- PI-20: Greenways and Mobility Hubs
- PI-3: Improved Outer Suburb Connections (NC73)

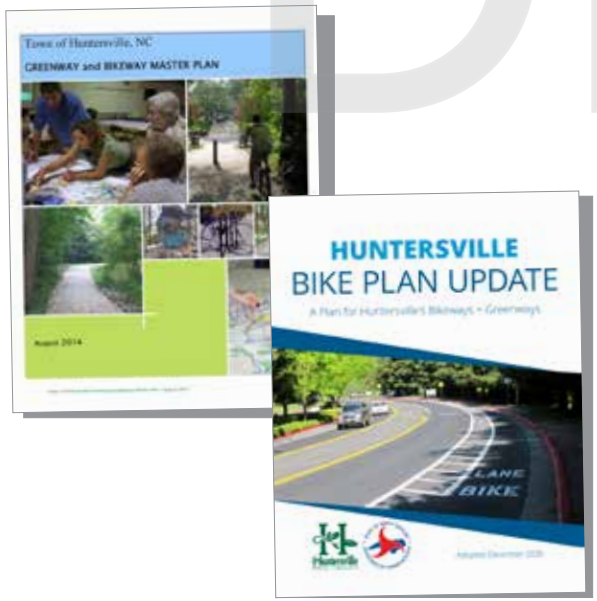
1 Beyond 77 - CRTPO. (2023, January 18). Retrieved March 15, 2023, from CRTPO - Charlotte Regional Transportation Planning Organization website: https://crtpo.org/projects-plans-programs/beyond-77/

CONNECT Beyond

CONNECT Beyond guides and coordinates future mobility investments and serves as a blueprint for implementation of an integrated public transportation network that combines high-capacity transit lines, enhanced bus services, local mobility options, and innovative technologies. *CONNECT Beyond* creates a total mobility network for the region, focusing on enhancing infrastructure and improving the multimodal transit network to increase transportation choices for all users.

Town of Huntersville Greenway and Bikeway Master Plan (2014)

This plan identified a core set of goals, strategies, and actions to work toward connecting the community through greenway and bikeway corridors. The plan is accompanied by a map that identifies existing and proposed greenways and bikeways by facility type. The plan incorporated the existing and proposed greenways as identified by other area plans including the *Mecklenburg County Greenway Plan*. The plan outlines facility types contextually appropriate for Huntersville and includes a set of ranking criteria for bikeways and greenways in order to identify project priorities.



Huntersville Bike Plan Update (2020)

This plan provides a framework for increased accessibility and safety for residents through a connected bikeway network. When the plan was created, there were 12.4 miles of bike lanes and 3.25 miles of greenways in Huntersville. The plan involved an equity, safety, and bicycle level of traffic stress (BLTS) analysis in order to determine the Town's needs and opportunities and create recommendations. The long-term vision for proposed bikeways included: 10.5 miles of paved shoulders, 90.8 miles of bike boulevards, 2.7 miles of bike-pedestrian connectors, 19.2 miles of buffered bike lanes, 6.6 miles of separated bike lands, 88.8 miles of side paths, and 79.6 miles of greenways. The plan also recommended the implementation of policies and programs to support biking in Huntersville ranging from engineering to education, community events, engagement, and planning. The plan even made recommendations regarding updating the Subdivision and Engineering Standards to reflect Complete Streets Policy in the Zoning Ordinance, adopting Bicycle Parking requirements, and revising Connectivity requirements.

2030 Comprehensive Huntersville Parks, Recreation & Open Space Master Plan (2020)

This plan identified gaps, engaged the community, prioritized goals, and created a 10-year plan for Huntersville to develop and progress their parks and open spaces, aiming to connect the Town, provide parks/recreation to the entire community, preserve parkland for future generations, and partner with public and private organizations to continue creating high quality facilities.[2] The plan outlined what development would need to occur to maintain the Town's goal level of service—355 additional acres of parkland, 33 new miles of trails, and 44,505 square feet of indoor recreation space.

2 Current Projects | Huntersville, NC. (2020). Huntersville.org. https://www.huntersville.org/167/Projects

Huntersville 2040 Community Plan

The *Huntersville 2040 Community Plan* serves to guide policy for land use, transportation, housing, open space preservation, and other aspects of residents' quality of life.[1] The planning process involved a year of public engagement and provided a thorough review of existing conditions in Huntersville along with proposed policy recommendations for land use and housing, economic vitality, downtown development, environment and open space, infrastructure and public services, and transportation. The plan identified linking land use with transportation, continued local transportation planning, the creation of a Mobility Plan, improving connectivity, increasing safety for bicyclists and pedestrians, and facilitating multimodal transportation as the key recommendations.

1 *Huntersville 2040 Community Plan Looking Forward Thinking Back*. (2020). Retrieved from https://www.huntersville.org/ImageRepository/Document?documentId=7085

2030 Transit Corridor System Plan

This plan integrates land-use planning and transit-oriented development (TOD) to outline the vision for multiple transit modes in five corridors, a series of improvements to bus service, and facility improvements to link the area's key centers of economic connectivity.[2] The plan covered 25 miles of commuter rail, 45 miles of light rail, 10 miles of streetcar, and expanded network of buses and other transit services. The North Corridor plans include building the LYNX Red Line and establishing MetroRAPID (bus rapid transit). The LYNX Red Line would be 25 miles of commuter rail line with 10 stations (including a Huntersville and Sam Furr station) and would include 9 park and ride lots; meanwhile, the MetroRAPID would utilize the I-77 express lanes and would provide direct service from 4 park and rides from Center City to Mount Mourne, which is right past the Mecklenburg County northern border into Iredell County.

2 *Charlotte Area Transit System Transit Vision 2030 Transit Corridor System Plan*. (n.d.). Retrieved from https://charlottenc.gov/cats/transit-planning/2030-plan/Documents/2030_Transit_Corridor_System_Plan.pdf

Coordinated Public Transit - Human Services Transportation Plan

The CPT-HSTP covers a nine-county region, spanning two states, and is a federally required plan for Section 5310 funding recipients. The plan identifies the needs of individuals with disabilities, older adults, and people with low incomes, providing a strategy to meet those needs and prioritizing transportation services for funding and implementation.

The plan recommended the following actions:

- Improve access to existing public transit stops.
- Pilot and implement mobility hubs at key station areas.
- Improve existing services—community transportation and on-demand transportation services.
- Upgrade bus stops with ADA accessible loading pads and walk access routes as part of roadway projects design and construction.

Lastly, North Mecklenburg and Iredell were identified as one of the future microtransit and first/last mile study areas, outlining two future mobility hubs on the border of Huntersville and Iredell County.

Regional Freight Mobility Plan

The Freight Plan is a multi-jurisdictional, public-private collaboration effort led by Centralina Regional Council (CRC) that documented the freight transportation system within the 14 counties of the Greater Charlotte Region (10 counties in North Carolina and 4 counties in South Carolina).[3] The plan included the following recommendations: to support opportunities for inter-modal terminal development and multimodal diversity and to identify corridors where nontraditional improvements may significantly reduce congestion.

3 Greater Charlotte Regional Freight Mobility Plan Prepared for. (n.d.). Retrieved from https://centralina.org/wp-content/uploads/2020/07/Greater-Charlotte-Regional-Freight-Mobility-Plan-2016.pdf

NC 73 Transportation/Land Use Corridor Plan

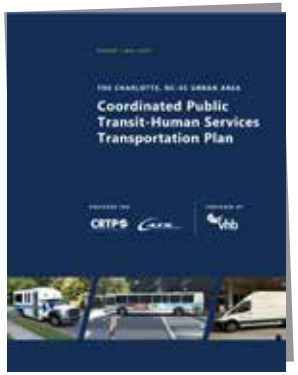
This plan was prepared for a 3.5 mile stretch of NC 73 from Davidson-Concord Road to Poplar Tent, traversing the jurisdictions of Davidson, Huntersville, and Cabarrus County.[4] The plan provides for a Central Business District that straddles both Huntersville and Davidson, allowing for commercial buildings ranging from 2 to 6 stories to be built. Around 100 acres of Huntersville fall within the plan area, containing a Research and Development District and a Neighborhood Center.

4 NC 73 Transportation / Land Use Corridor Plan | Huntersville, NC. (2020). Retrieved March 15, 2023, from Huntersville.org website: https://www.huntersville.org/921/NC-73-Transportation-Land-Use-Corridor-P

Town of Huntersville Strategic Economic Development Plan

The Strategic Economic Development Plan (SEDP) aimed to promote job creation and private investment while maintaining quality of life in the Town and analyzed the socioeconomic composition of the Town, its real estate market, and industries to form an implementation strategy. [5] The implementation strategy included discussing planned transportation improvements. The SEDP addressed the planned the Red Line Regional Rail (RLRR or Red Line) project, noting that there would be three station stops in Huntersville—Hambright Station, Downtown Station, and Sam Furr Station, which would attract potential investors and create new jobs. The Huntersville station was predicted to create 586 new jobs, and the creation of the Sam Furr Station would hasten industrial development in the northeast quadrant of Old Statesville and Sam Furr Road.

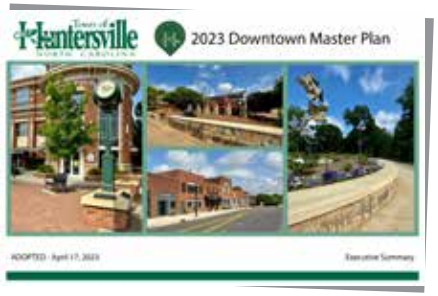
5 Strategic Economic Development Plan (SEDP) | Huntersville, NC. (2020). Retrieved March 15, 2023, from Huntersville.org website: https://www.huntersville.org/877/Strategic-Economic-Development-Plan-SEDP



Downtown Huntersville Plan

The Downtown Master Plan aimed to develop a set of sequenced and prioritized actions needed to build on past and current improvements by identifying general infrastructure needed to support the vision and describing the actions needed to reach the Town's goals. The plan analyzed existing conditions, relied on extensive engagement, and ultimately formed key recommendations and action items including:

- Continue collaboration with NCDOT to ensure roadway construction for the Main Street Improvement Program
- Establish Downtown Street Design Guidelines for new and pre-existing/retrofit street types.
- Create a Downtown Parking Plan, Bus Stop Improvement Plan, BRT and CRT Station Area Plan(s),
- Update Zoning Ordinance to incorporate more urban design guidelines and prepare for the future Huntersville hopes to achieve.



Town of Huntersville ADA Transition Plan (2021)

The ADA Transition Plan reviewed communications/information/facility signage, public buildings and spaces, and pedestrian facilities and public rights of way. In addition to a self-evaluation, the ADA Plan presented an improvement schedule and set goals for FY22 and for long-term implementation actions. The list of improvements with an estimated completion between FY24 and FY27 for pedestrian facilities and public rights of way included:

- Ferrelltown Parkway (extend from Keyes Meadow Way to Ramah Church Rd)
- Main Street (STIP Project U-5908)
- Gilead Road West (McCoy Road to Wynfield Creek Parkway)
- Arahova Roundabout (rebuild roundabout at the intersection of Arahova Drive at Boulder Park Drive)
- Stumptown Road Extension (to Aberfeld Road)
- NCDOT U-5114, US 21/Gilead Road (between US 21 and Commerce Centre Dr and between Dallas St and Compass St/Arahova Dr)
- NCDOT U-5771, US 21 Widening (Compass St/ Arahova Dr/ to Holly Point Dr)
- NCDOT R-2555B, W. Catawba Ave. (NC 73 to Jetton Rd)
- NCDOT I-5715, 1-77 at NC 73 Interchange (modify interchange to a split diamond)
- NCDOT R-2632AB, NC 73 (NC115 to Davidson-Concord Rd)
- NCDOT R-5706A, NC 73 (Davidson Concord Rd to Poplar Tent Rd)
- NCDOT R-5721A, NC 73 (Beatties Ford Rd to NC16)
- NCDOT U-5767, US 21 (Northcross Center Court to Westmoreland Rd)

Huntersville Zoning Ordinance

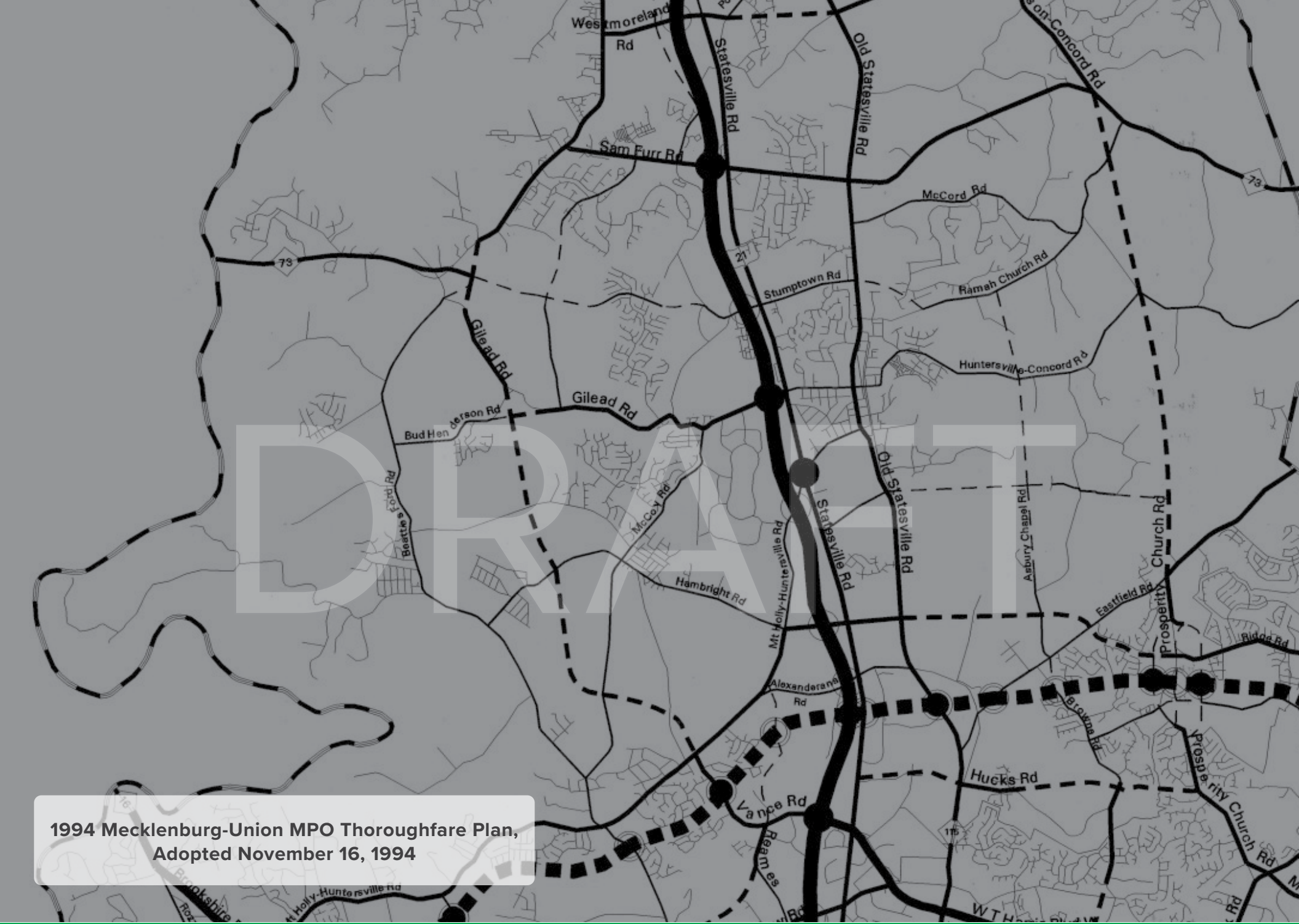
The Huntersville Zoning Ordinance aims to promote public health, safety, and general welfare by addressing public purposes including: to lessen congestion in streets, to secure safety from fire, panic, other dangers, to promote health and general welfare, to provide adequate light, to prevent overcrowding of land, to avoid undue concentration of population, to facilitate efficient, adequate, and economic provision of transportation, water, sewerage, schools, parks, and other requirements, to conserve the value of buildings, and to encourage appropriate use of land. A summary of the sections of the Zoning Ordinances that are directly applicable to the development of this mobility plan are detailed in Table A.1, at right and on the facing page.

Table A.1. Summary of Zoning Ordinances Relevant to Transportation Planning

Zoning Ordinance/ Section	Description	Permitted Use
Article 3.2.13 Transit-Oriented Development – Residential (TOD-R)	The transit-oriented residential district is established to support higher-density residential communities that include a rich mix of retail, restaurant, service, and small employment uses within a pedestrian village format. Land-consuming uses, such as large lot housing and large retail outlets are excluded from this district. The TOD-R may be located on developable and re-developable parcels generally found within the ½ mile catchment area of designated rapid transit station sites. Nothing in these regulations shall preclude application of the TOD-R beyond the ½ mile radius when site-specific development plans demonstrate efficient resident access to a rapid transit station. The district establishes a primarily residential village within a 10-minute walk of a designated rapid transit station that serves a residential population of sufficient size to constitute an origin and destination for purposes of rapid transit service.	TOD-Rs (by right) include: • Bed and breakfast inns • Boarding or rooming houses for up to 6 roomers • Dormitories • Family care home • Inns • Multi-family homes • Greenways • Single family homes • Transit stations 15 units per acre is the minimum average density, calculated by dividing total number of units planned by number of acres designated for residential use, net of streets.
Article 3.2.14 Transit Oriented Development Employment (TOD-E)	The transit-oriented employment district is established to accommodate general office uses and office support services in a highly pedestrianized setting. General office, characterized by 40 to 70 employees per acre, is the predominant use. Uses that employ relatively few workers, such as warehousing and distribution, are excluded from this district. The TOD-E may be located on developable parcels within the 1/2-mile catchment area of rapid transit stations. The district establishes an employment node within a 10-minute walk of a designated transit rapid station that serves a workforce of sufficient size to constitute a destination for purposes of rapid transit service.	TOD-E (by right) include: • Financial services • Greenways • Government offices • Inns • Offices • Professional, personal, technical services • Transit stations On existing streets, new buildings create transition in spacing, mass, scale, and street frontage from existing buildings to buildings in TOD-E. Mixed-use building resembles shopfront building type and has 2 occupiable stories, at least 50% of habitable these shall be residential, remainder commercial

Table A.1. Summary of Zoning Ordinances Relevant to Transportation Planning (continued)

Zoning Ordinance/ Section	Description	Permitted Use
Article 5. Streets	Streets incorporate appropriate accommodations for all modes of transportation including vehicles, pedestrians, bicyclists, and transit users, and may include user amenities such as shelters, benches, and bike racks. Must be bordered by sidewalks on both sides, lined with street trees on both sides, be public, interconnect within a development and with an adjoining development, and generally all buildings will be on the front of public streets.	Requires that all new streets and improvements to existing streets follow a defined, collaborative decision-making process.
Article 6. Off-Street Parking	Off-street parking areas should be designed to minimize breaks in the pedestrian environment along the public street and create safe and comfortable passage for pedestrians. Lots should not be behind buildings, uninterrupted areas of parking must be limited in size; lots are to be treated as enclosed rooms for cars, designed to allow pedestrians to move safely from vehicles to building, if commercial must be paved, and should maintain pedestrian comfort.	This section provides details on different types of parking areas and landscaping requirement, along with exceptions.
Article 7. Part B. Open Space	Identifies 5 types of open space: urban, agricultural, common, natural, and recreational. Open space is encouraged to be creative and flexible, accessible and emphasizing community identity.	All zoning districts except Rural require Urban Open Space to be incorporated into design that must meet agricultural, common, natural, or recreational typology. Defines the types of open space that are available to meet various zoning district standards.
Article 14. Traffic Impact Analysis	When TIA is required to determine the sufficiency of infrastructure, it must be prepared by a qualified traffic engineering consultant retained by applicant. TIAs aim to lessen congestion in the streets and to facilitate the efficient and adequate provision of transportation and other public services. Required for development expected to create 150 or more peak vehicle trips or 1500 or more daily vehicle trips.	Once Town makes a Determination of Need for a TIA, applicant can scope and then submit to staff 30 days prior to Town Board Public Hearing (rezoning) or as provided in Subdivision Ordinance.



1994 Mecklenburg-Union MPO Thoroughfare Plan, Adopted November 16, 1994

Appendix B

Public Engagement and Outreach Details

This Appendix presents the detailed results of the Community Engagement and Outreach task.

B.1 Travel Patterns

In order to understand respondents' travel patterns, they were asked how they currently travel around Huntersville (Figure B.1). As seen at right, regardless of the destination, driving was the most popular mode of travel around Huntersville across all destinations. There was also a decent percentage of individuals who answered that they walked to parks (16%).

Respondents were asked how they would like to travel around Huntersville (Figure B.2). More people wanted to walk to work, school, and other services than currently do walk to those destinations. There were also higher percentages of individuals who would like to bike to destinations than currently do bike to their destinations. This shows the importance of focusing on bicycling and pedestrian infrastructure and connectivity.

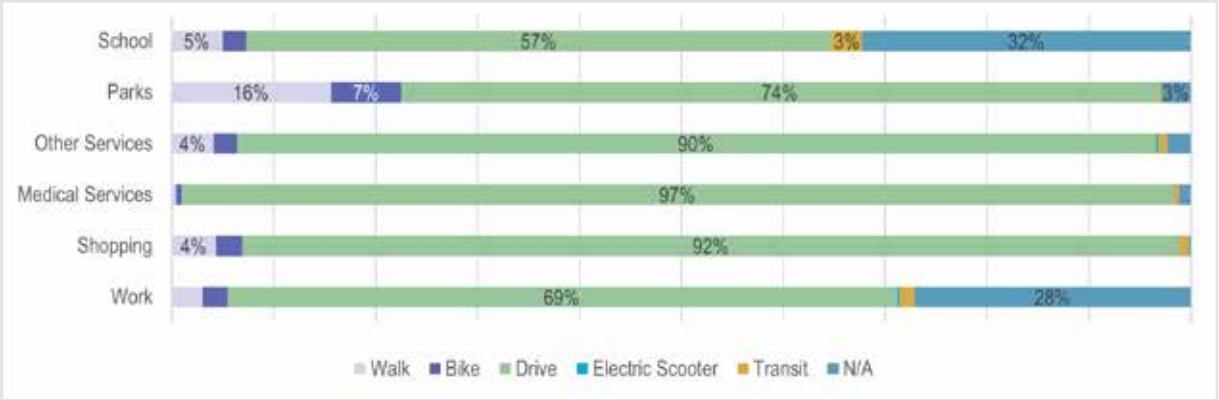


Figure B.1. How do you *currently* travel around Huntersville? (N=459)

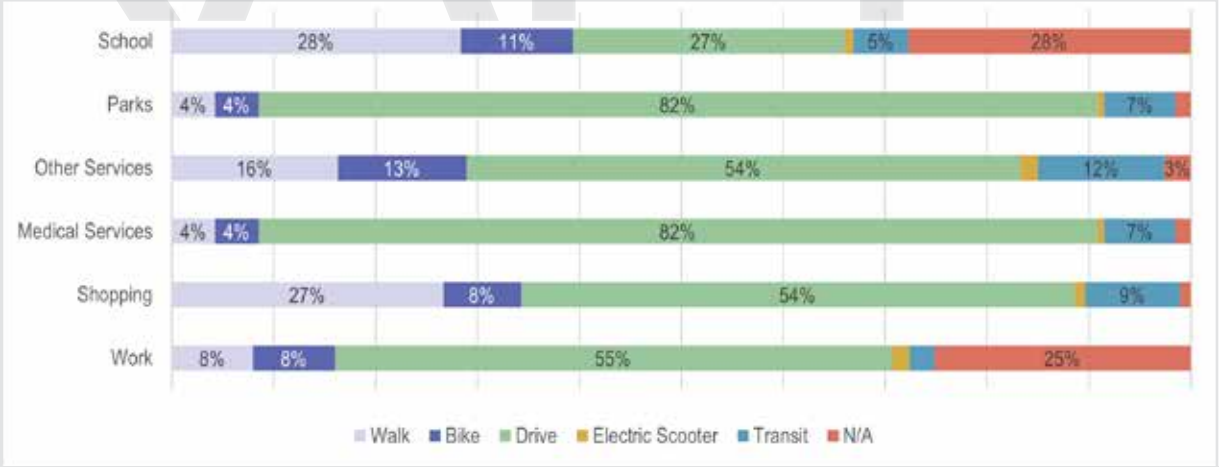


Figure B.2. How would you like to travel around Huntersville? (N=465)

Respondents were asked to identify the level of difficulty of travel for various modes (Figure B.3). The modes that were identified as “Very Difficult” were walking and biking, followed by transit. However, a high percentage of respondents did not know the level of difficulty for transit (40%).

Respondents were asked to reflect on the way that travel in Huntersville has changed over the last few years by mode as well (Figure B.4). As seen at right, driving was identified as having become more difficult. However, 39% of respondents said that walking has gotten easier and 36% say that walking has remained the same. Another 30% of respondents said that biking in Huntersville has gotten easier, which speaks volumes to the work that Huntersville has done over the last few years.

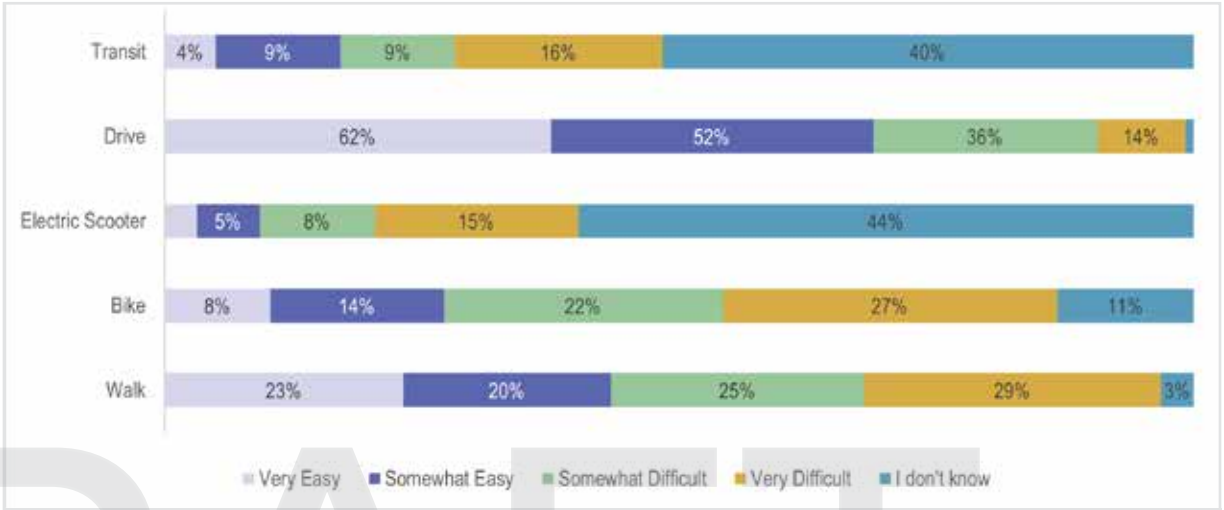


Figure B.3. How easy or difficult is it to travel in Huntersville for each of the travel modes? (N=704)

Figure B.4. Over the last few years, how has traveling in Huntersville changed for each mode? (N=634)

Respondents were asked how they made decisions about their mode choice in Huntersville (Figure B.5). Eighty percent (80%) of respondents answered that “travel time” was the most important factor in their mode choice decision, followed by “safety,” and “family needs.”

To further understand their responses regarding factors that contribute to mode choice, respondents were asked to identify two things that prevented them from taking other modes (Figure B.6 at right, and Figures B.7 and B.8 on the following page). In terms of barriers to walking, fifty-eight percent (58%) of respondents said that there were “not enough sidewalks and crosswalks,” and 44% of people said that “destinations are too far” and “sidewalks don’t connect to desired locations”. The top deterrents for Huntersville residents in regard to biking were safety and not enough bikeways. Respondents noted that they did not take transit in Huntersville because of “convenience/access to nearby stops” and “routes don’t take me where I need to go.”

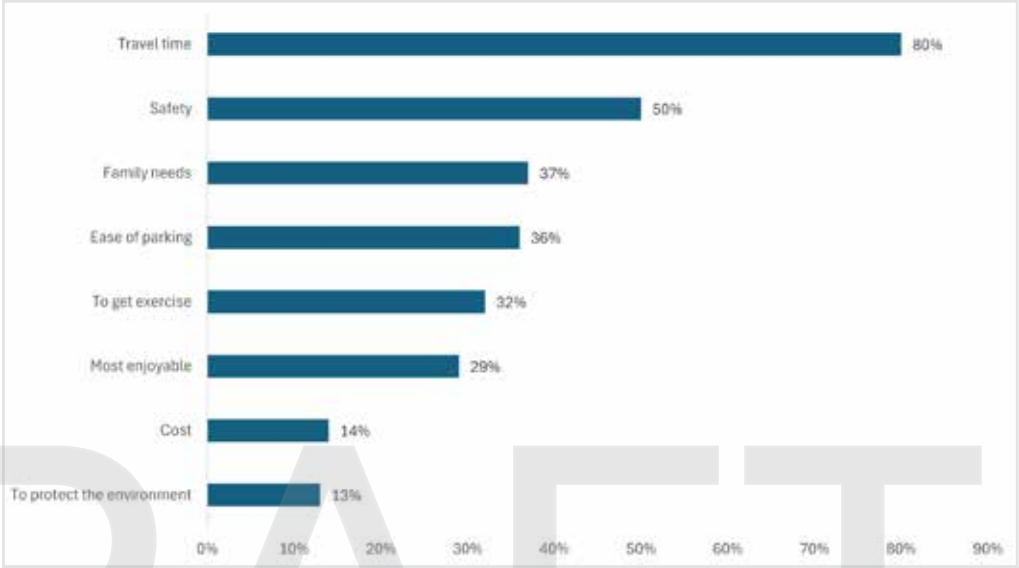


Figure B.5. How do you make decisions about how you travel (what mode you take, what route) in Huntersville? (N=406)

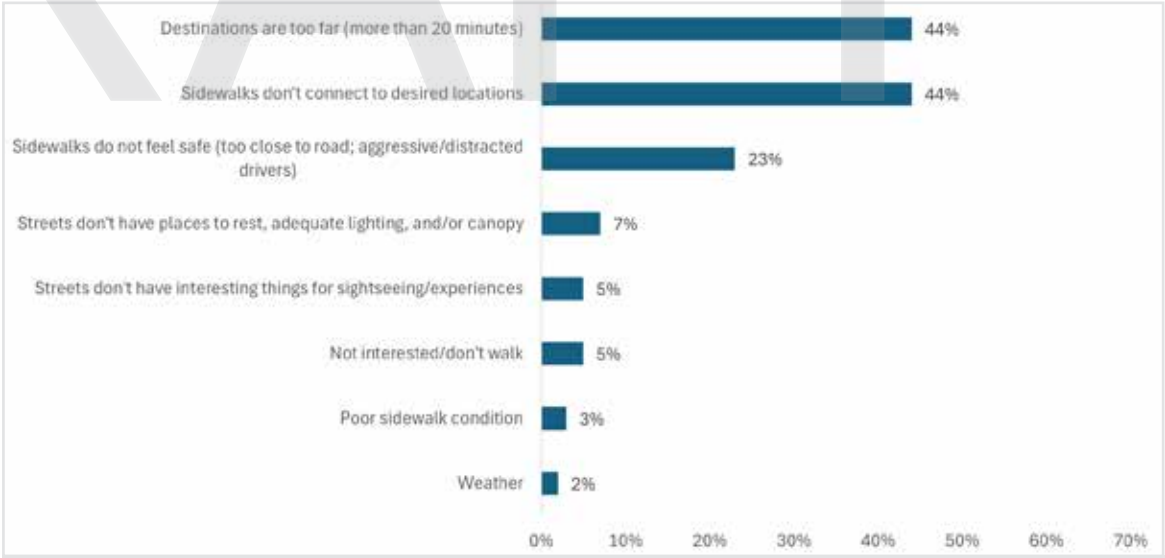


Figure B.6. What two things prevent you from walking in Huntersville? (N=423)

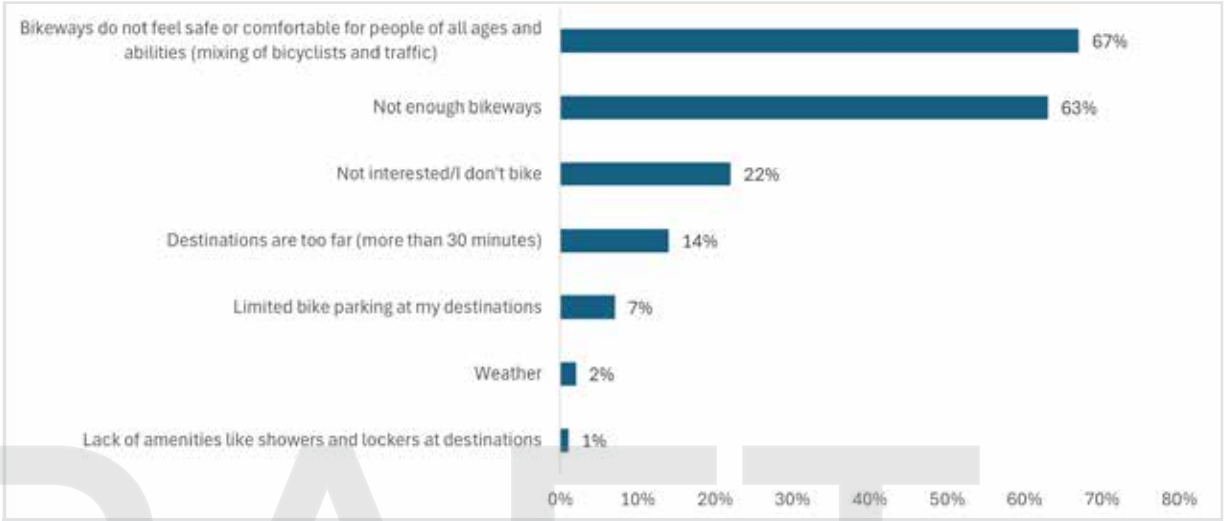


Figure B.7. What two things prevent you from biking in Huntersville? (N=415)

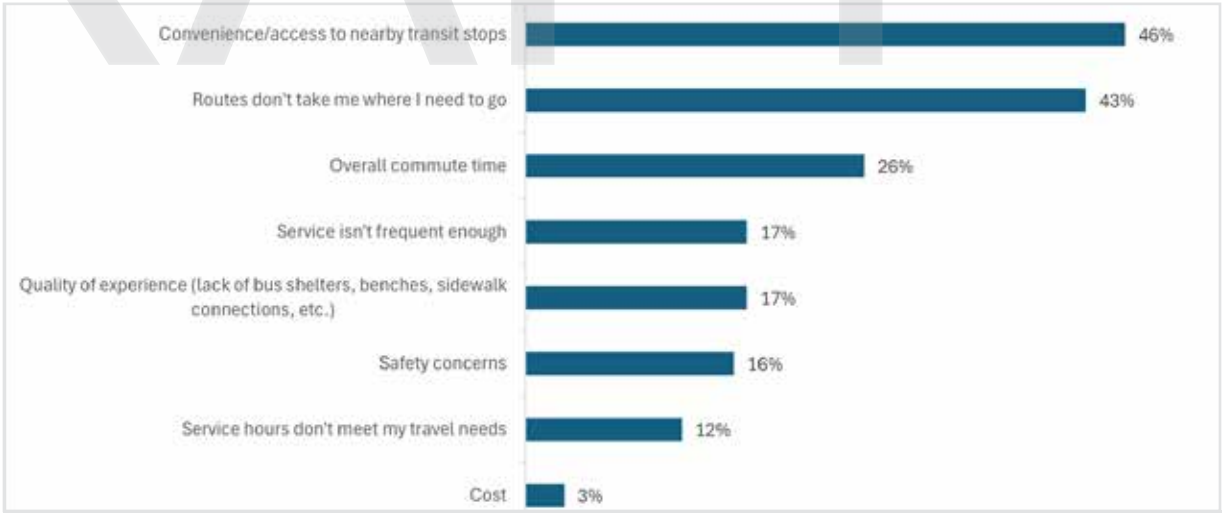


Figure B.8. What two things prevent you from taking transit in Huntersville? (N=382)

The respondents were given the opportunity to rate different features of the transportation network on a scale that included the following ratings: Excellent, Good, Fair, and Poor (Table B.1). None of the identified transportation features received a significant percentage of respondents who selected Excellent, but Air Quality was deemed as Good by 60% of the respondents. It seems as though the respondents perceive a lack of availability of multi-use paths and opportunities to cross, which hinder bicycle/pedestrian safety. The other most significantly rated Poor feature was the traffic flow on major streets, which lines up with previous answers pertaining to the change in driving over the last few years as becoming more difficult.

In order to understand household travel patterns more broadly, respondents were asked how many times members of households completed a variety of activities in the last 12 months (Table B.2). The majority of respondents did not have family members that used transit instead of driving, carpooled, walked over a mile to an essential service, or walked instead of driving.

Table B.1. How do you rate the following conditions in Huntersville? (N=417)

	Excellent	Good	Fair	Poor
Traffic flow on major streets	-	7%	35%	58%
Availability of greenways and sidewalks	3%	18%	46%	33%
Availability of bike lanes and multi-use paths along roadways	1%	6%	31%	61%
Transit service	1%	12%	46%	42%
Ease of public parking	4%	38%	42%	15%
Air quality	10%	60%	50%	5%
Opportunities to cross major roads	1%	16%	39%	43%
Drivers yielding to pedestrians in crosswalks	2%	21%	45%	32%
Pedestrian and bicycle safety	1%	9%	43%	47%

Table B.2. In the last 12 months, how many times have you or other household members done each of the following in Huntersville? (N=409)

	2+ times a week	2-4 times a month	Once a month or less	Not at all
Used bus, rail, or other public transportation instead of driving	3%	1%	9%	88%
Carpooled with other adults or children instead of driving alone	12%	17%	28%	44%
Walked or biked instead of driving	10%	13%	29%	48%
Walked more than 1 mile to get to essential services	3%	3%	9%	85%
Used a ridesharing service	1%	7%	33%	59%
Used the managed ("toll") lanes on I-77	16%	25%	25%	33%

B.2 Community Preferences for Transportation Planning

The survey hoped to gauge respondents' familiarity with various local, regional, and state plans/services (Table B.3). It seemed like while a significant percentage of people were "Somewhat familiar" with local infrastructure investments and development plans, respondents were not familiar with CATS service or NCDOT transportation plans.

The respondents were asked whether Huntersville should move toward funding more alternative modes of transportation, including walking, biking, and transit (Figure B.9). Over 2/3 of respondents said "Yes," they would like to see an investment shift towards supporting more active transportation.

Table B.3. How familiar do you consider yourself with each of the following? (N=409)

	Extremely familiar	Very familiar	Somewhat familiar	Not at all familiar
Town's investments in infrastructure	7%	11%	53%	29%
Town's plans for development and growth	8%	14%	57%	22%
Town's transportation plans	6%	8%	42%	44%
Town's budget	5%	9%	35%	51%
CATS transit service	2%	7%	35%	56%
NCDOT's transportation plan	4%	7%	40%	48%

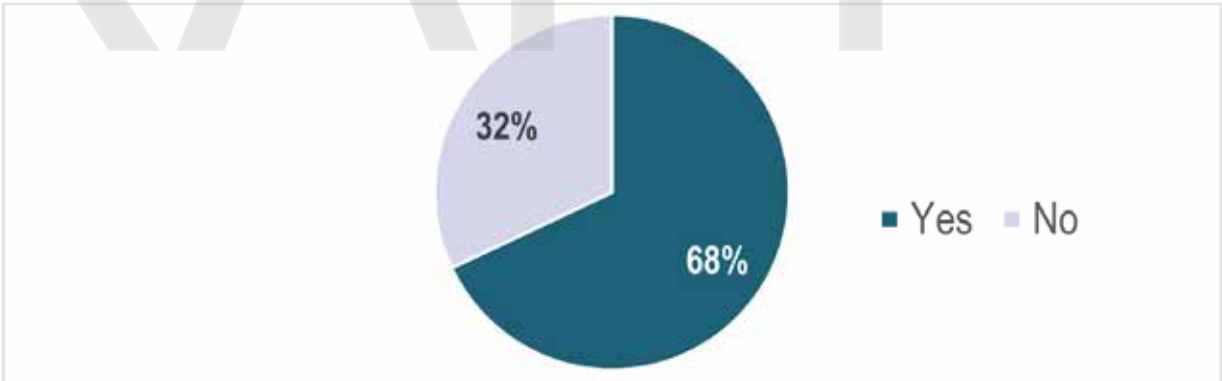


Figure B.9. Should the Town focus its limited transportation dollars to shift investment toward transportation modes that have been historically underfunded (walking, biking, and transit) to support more choices and options in how we travel? (N=385)

The survey asked folks to identify why they support active transportation investment (Figure B.10). The top reasons for supporting active transportation were: “More people on foot, bikes, buses mean fewer cars on the road,” which is synonymous with “relieving congestion” followed by “it supports the Town’s vision to become the most livable community in NC”.

When asked what type of projects the Town should focus its investments on, a majority of respondents were interested in having the Town focus funding on medium projects with different impacts in different parts of the Town (52%) followed by 30% who wanted to focus developing a large project with a high impact (Figure B.11).

Figure B.10. There are many reasons why the Town of Huntersville invests in transportation options for ALL residents, whether they choose to walk, bike, ride transit, or drive. The following statements describe some of the reasons why the Town works to increase the safety and comfort of those who walk, bike, and take transit. What are the most important reasons to you? (N=356)

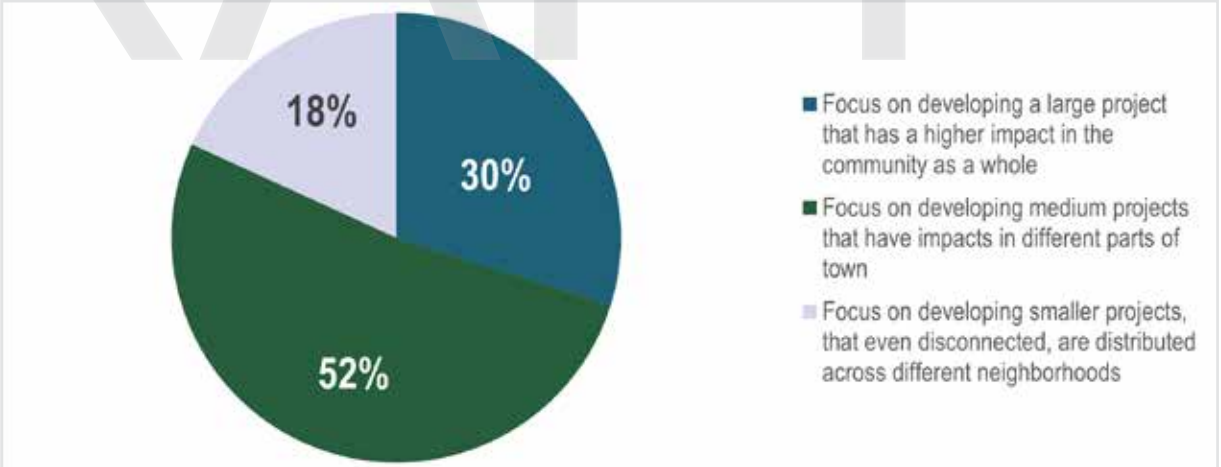


Figure B.11. With the goal of maximizing impact of investment, what would be your preference in regard to areas of investment? (N=383)

The respondents were asked to consider which emerging technologies they were excited about, and 51% of respondents said that trip-planning apps followed by app-driven transit services were the most exciting technologies (Figure B.12).

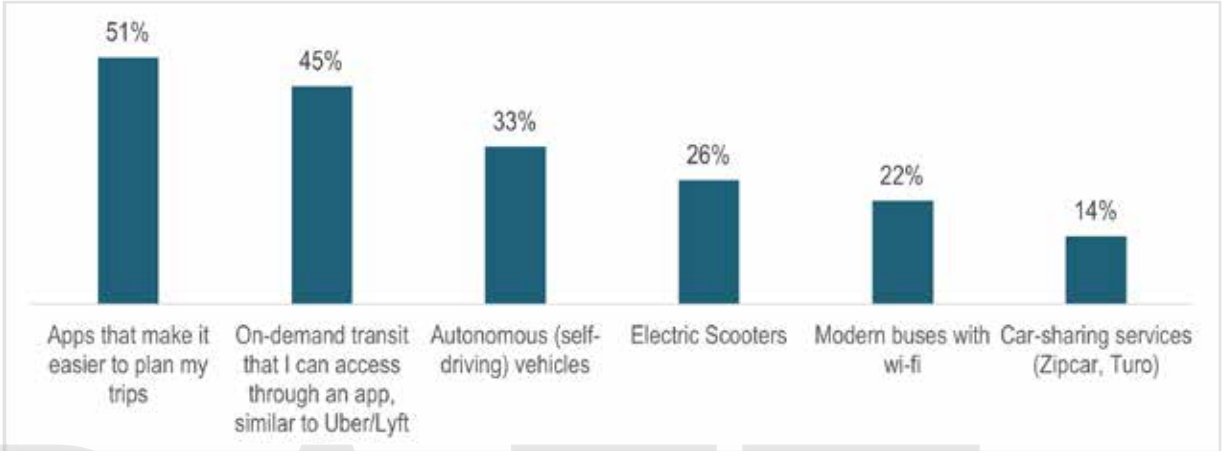


Figure B.12. What emerging technologies are you most excited about? (N=300)

B.3 Open Ended Questions

In addition to the ranking exercise, there were four questions posted on the boards for the public to comment on, which asked questions. The questions and responses are summarized in Table B.4.

Table B.4. Open Ended Question Summary

List any places you wish you could reach by walking/biking but can't currently:

- Downtown to/from....
  - » Asbury Chapel
  - » Rosedale
  - » Covington, Centennial Subdivisions
  - » East of the railroad tracks, East Huntersville
  - » No good connection to existing sidewalks
  - » Business Park
  - » Birkdale
- All of 115
- W. Gilead Road – connect to greenway/bike path North Meck Park
  - » McCord Road is dangerous and busy from Northstone to 115
  - » From Stumptown
- US-21
- Huntersville Athletic Park / HFFA
- Birkdale
  - » Zero paths from Lakemonte Commons
  - » No connectivity to Downtown
- Keep and expand Pottstown Park for greenway or nature preserve.
- Everywhere from Pottstown

List streets and intersections that you feel are unsafe to walk or bike on or along:

- Old Statesville Rd, NC 115
  - » The sidewalks lack a buffer
  - » Between Stumptown and Sam Furr
  - » To NC-115
- Beatties Ford Rd
- Statesville Rd
- Maxwell Avenue (Downtown)
- Birkdale Commons – you can't cross on 3 legs of the intersection
- Huntersville Concord Rd
  - » From Warfield to Downtown
  - » To Downtown
  - » From Hiwassee to 115
  - » Ferrelltown Parkway intersection
- US-21 – dense traffic and high speeds without sidewalks
- Gilead Rd and W. Gilead Rd
  - » West of I-77
  - » Highway-21 intersection (Town Hall)
- Route 73
- McCord Rd
- Gibson Park
  - » From Drake Hill to new Main St
- Exit 23 Crossing
- Northcross – Grand Oak to Birkdale
- Crossing Sam Furr
- Holbrooks Rd (section)
- Downtown to Asbury Chapel

List the streets you wish had a bike facility for you to ride along on it or next to it. List locations:

- East-West Transit Connectivity
- Gilead Rd (between Beatties Ford and Bud Henderson)
- NC-115
- Huntersville Concord Rd to Asbury Chapel
- Hambright
- Stumptown
- Statesville (from Sam Furr and Mt. Holly Huntersville to
- Old Statesville Rd
  - » Stumptown and north
  - » Add bike lane
  - » Between Gilead and Sam Furr
  - » Between Stumptown and Sam Furr
- McCord Rd (from Ramah to NC-115)
- Reese
- Gilead)
- US-21
- Downtown to Asbury Chapel – need continuous bike lane without gaps
- Holbrooks/Dellwood
- Church St. connection Ranson Rd
- Huntersville Concord to Asbury Chapel

List the streets and intersections where you encounter the most congestion:

- Gilead and
  - » Old Statesville
  - » US-21 - pedestrian access @ 21 and Exit 23 from east to west of Town
  - » At I-77
  - » Statesville
  - » Beatties Ford (PM rush hour)
  - » NC-115
  - » Sherwood
- Create more connections, not more widening. Widening leads to traffic
- Statesville and
  - » Stumptown
  - » Sam Furr
- Old Statesville and Ramah Church Rd
- Anywhere near Birkdale
- Stumptown connector off Ramah Church to NC-115 (build it now!)
- NC-73 and
  - » Birkdale (looking forward to Ramah Church being done)
  - » Northcross (backs up in both directions)
  - » From Catawba to Statesville Rd
- Please widen ALL the roads that will be constructed to build anything. Can't keep building and keep streets tiny and tight.

B.4 Map Comments

Maps of the transit network, roadway network, and bicycle and pedestrian network were shared with the public, and their comments on those maps were recorded directly onto the maps. Those comments are summarized below.

Transit Network Map

Figure B.13 shows the written comments received on the Transit Network Map, which are included a request for benches and coverings at the bus stops near Hambright and McCoy need

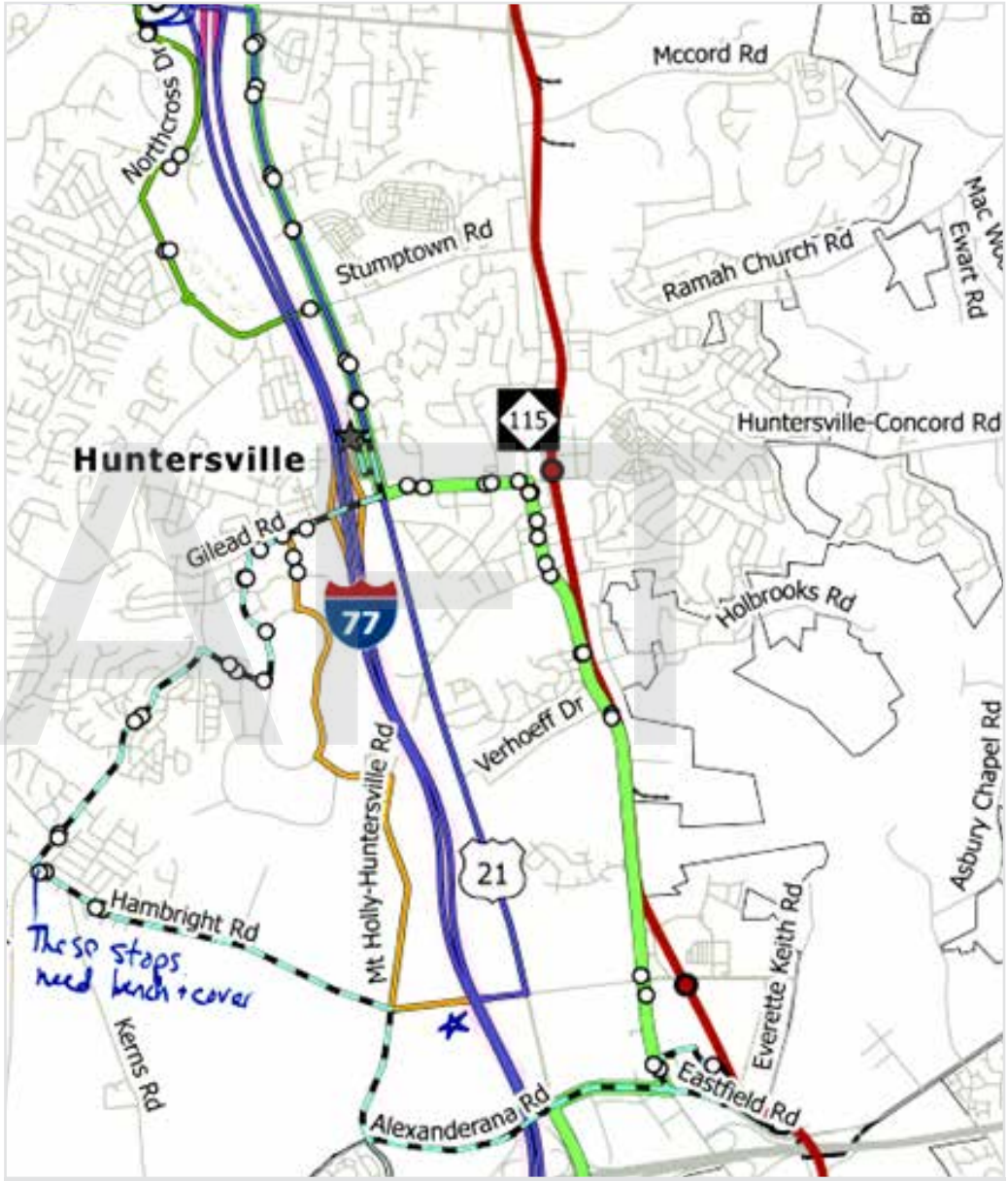


Figure B.13. Transit Network Map with Comments

Roadway Network Map

Most comments received on the Roadway Network Map (Figure B.14) were about congestion that has grown over the last decade. Bottlenecks along Beatties Ford Road and the northwestern section of Gilead Road were pointed out as problematic with the widening of NC-73.

Interest in Smart Street improvements in the Northcross area were specifically pointed out

There was interest in connecting the Birkdale neighborhood to local roads, such as Ervin Cook Road, where no connection currently exists, but such connections have been on the long-range transportation plan since the 1980s.

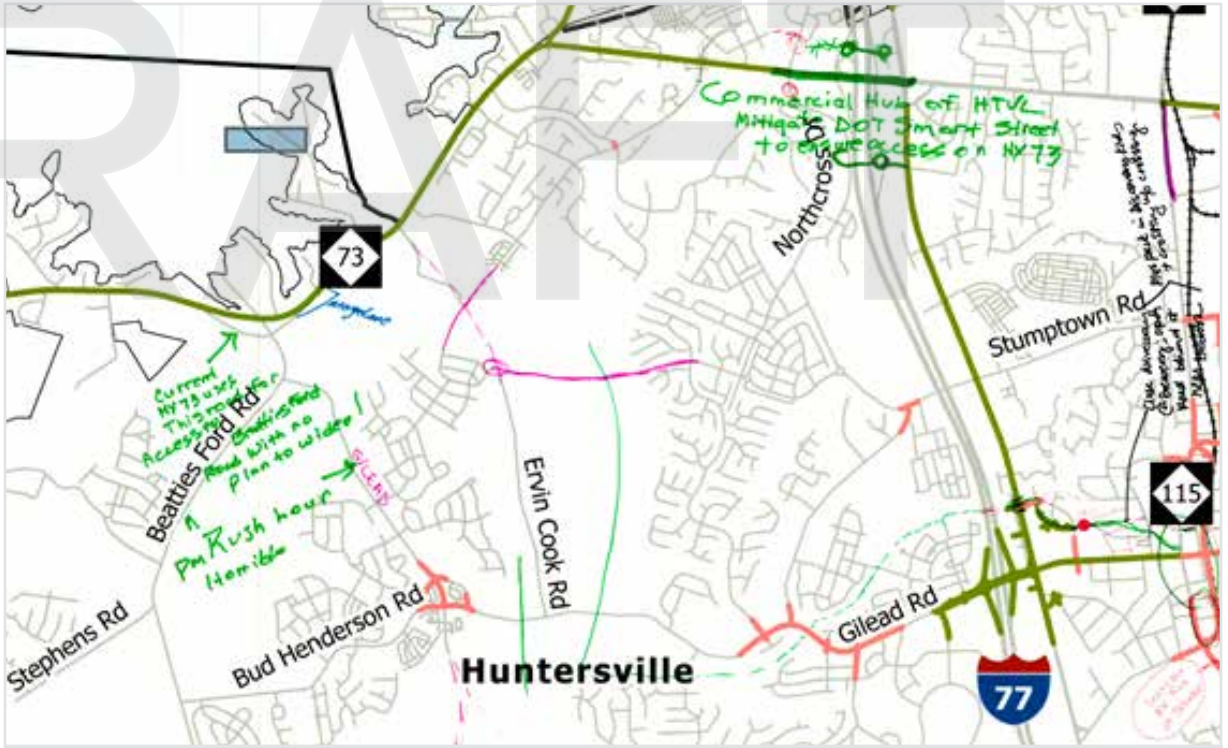


Figure B.14. Roadway Network Map with Comments

Bicycle and Pedestrian Network Map

Specific concerns about greenway alignments from a few participants are shown in Figure B.15. Most were concerned with pedestrian crossings where greenways meet major roadways, as well as the timeline of greenway openings.

Figure B.15. Bicycle and Pedestrian Network Map with Comments

Demographic Profile of Survey Respondents

In order to better understand the respondents' perspectives, the survey asked questions to capture their demographics. The following are the results. The number of respondents for each survey question is noted in parentheses in the figure titles, for example, there were 376 respondents to the question of "What is your race/ethnicity?" (N =376).

A large majority of respondents who identified as White/Caucasian (83%) and only 4% of respondents identified as Black/African American (Figure B.16).

The most represented age group, shown below, was 35–49-year-old (41%) followed by 50-64 (29%) and 65+ (20%) (Figure B.17).

A majority of respondents (60%) were women (Figure B.18).

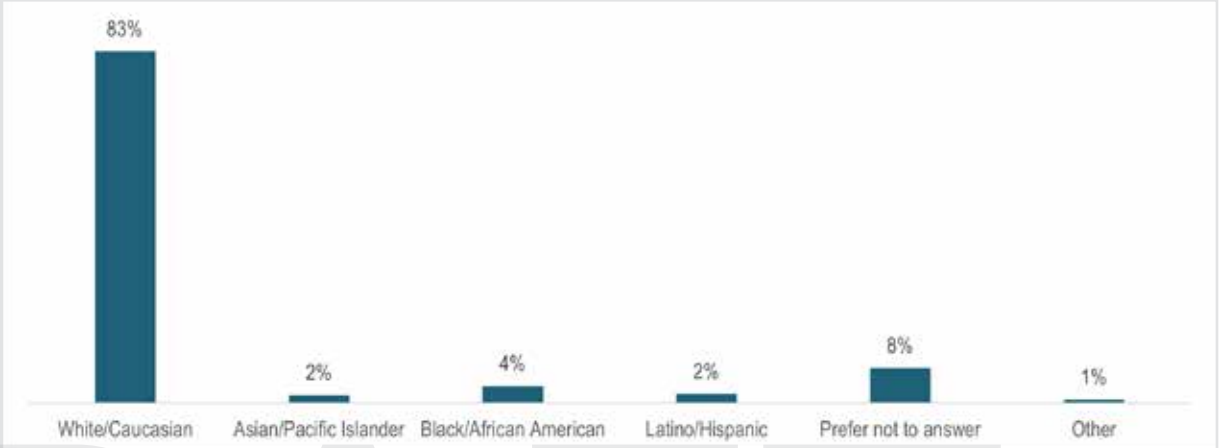


Figure B.16. What is your race/ethnicity? (N=376)

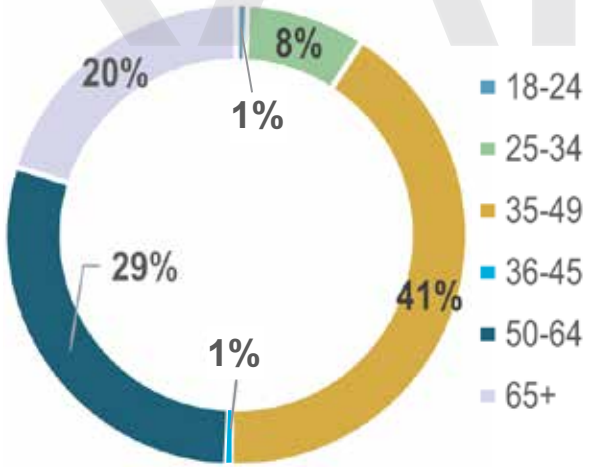


Figure B.17. What is your age? (N=369)

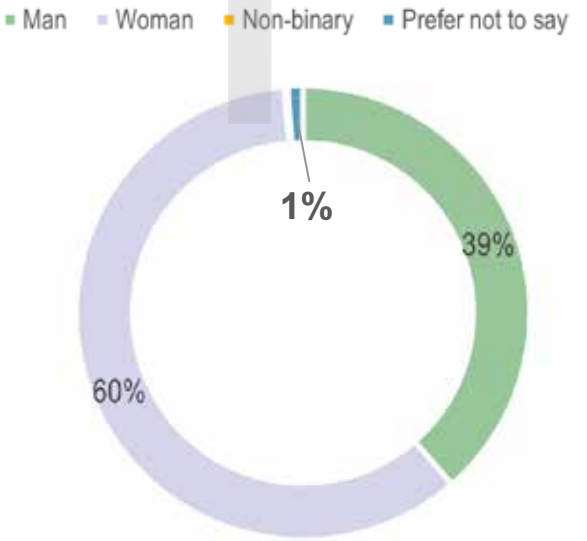


Figure B.18. What is your gender? (N=376)

A majority of survey respondents are employed, with only 2% being unemployed (Figure B.19).

The majority of respondents (60%) had household incomes of over $90,000. The median household income for Huntersville in 2021 was a little over $102,000 (Figure B.20).

The highest percentage (47%) of respondents had a bachelor's degree, followed by Master's degree (28%) (Figure B.21)

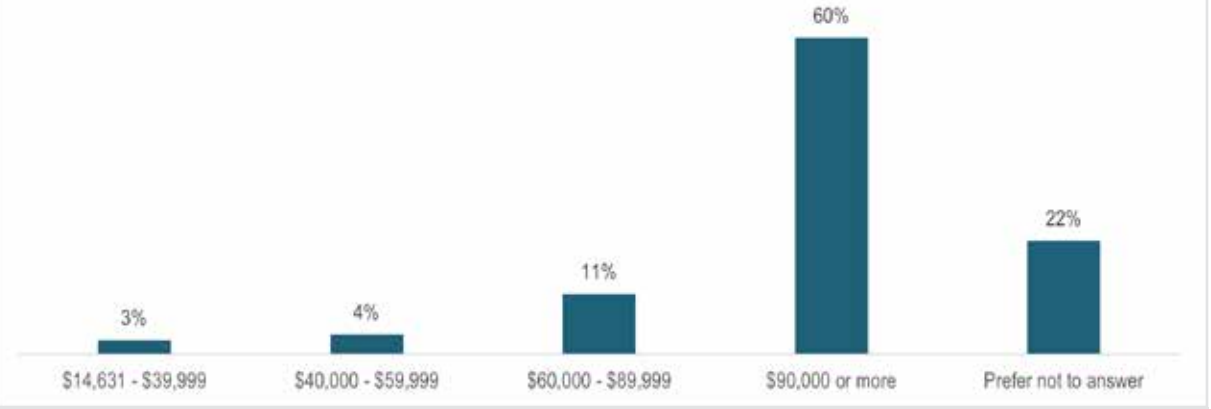


Figure B.20. What is your household income? (N=374)

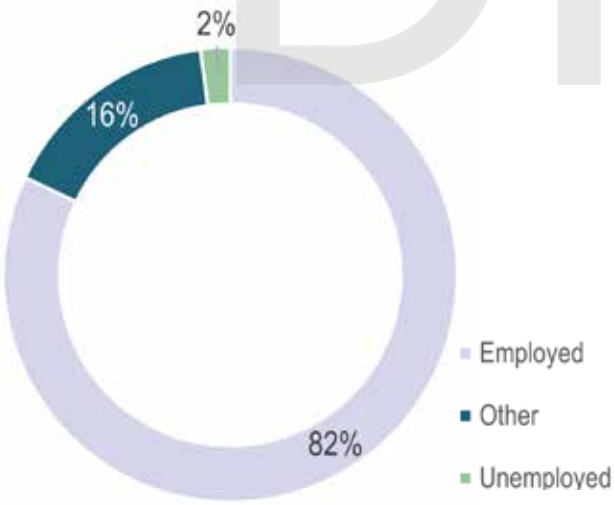


Figure B.19. What is your employment status? (N=333)

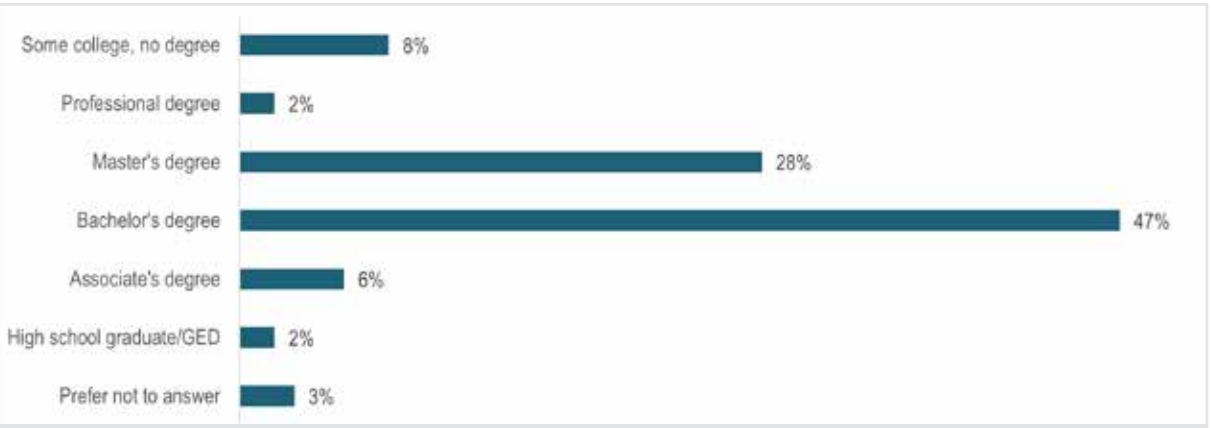


Figure B.21. What is the highest education level you have completed? (N=376)

The majority of respondents (57%) did not have children under the age of 16 in the household (Figure B.22).

Three-quarters of respondents live in households that do not include persons 65 years or older (Figure B.23)

Only a small percentage of respondents (9%) have access needs or physical, mental, or emotional conditions that impact their mobility (Figure B.24)

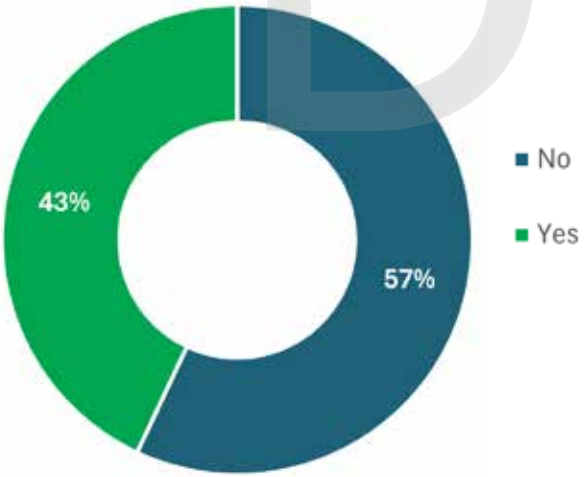


Figure B.22. Do any children under 16 live in your household? (N=369)

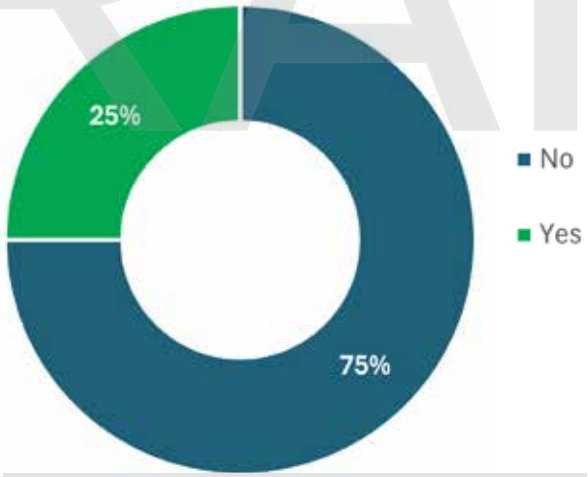


Figure B.23. Are any other members of your household aged 65 or older? (N=371)

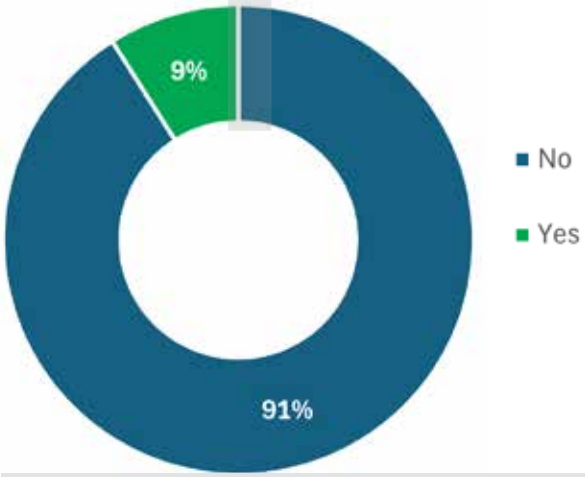


Figure B.24. Do you have any access needs or physical, mental, or emotional condition that impact your mobility? (N=368)

The majority of respondents were Huntersville residents (96%), 30% of which have lived in Huntersville for one to five years. About two-thirds of respondents have lived in Huntersville for more than five years (Figure B.25).

Over half of respondents live and work in Huntersville (Figure B.26). A fifth of all respondents live in Huntersville and work from home. Twenty-two percent work in Charlotte.

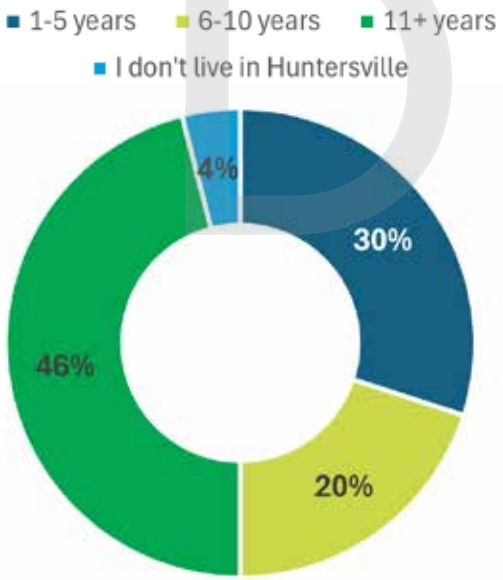


Figure B.25. How many years have you lived in Huntersville? (N=487)

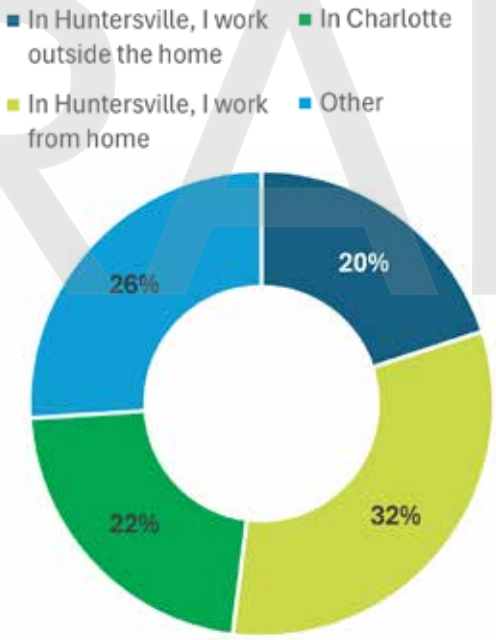


Figure B.26. Where do you work? (N=465)

HUNTERSVILLE
MOBILITY PLAN

April 2025

Town of Huntersville
NORTH CAROLINA