



Bessemer City Pedestrian Plan Update



Kimley»Horn

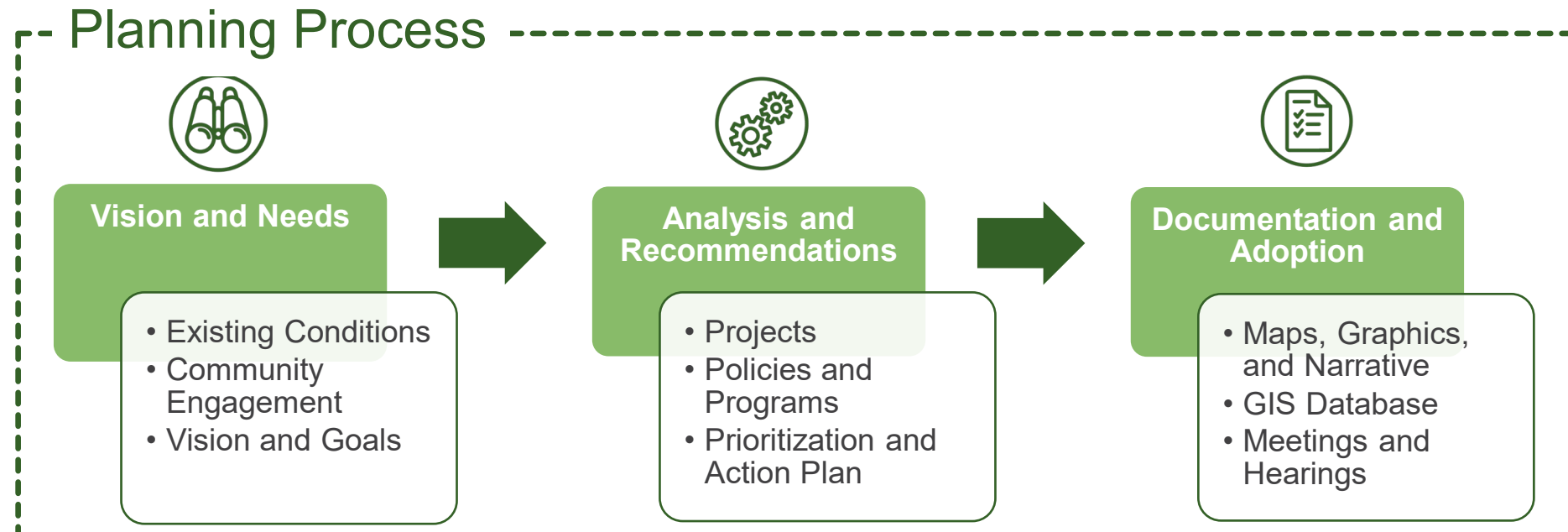
Existing Conditions Summary

March 29, 2021

Bessemer City Pedestrian Plan Update

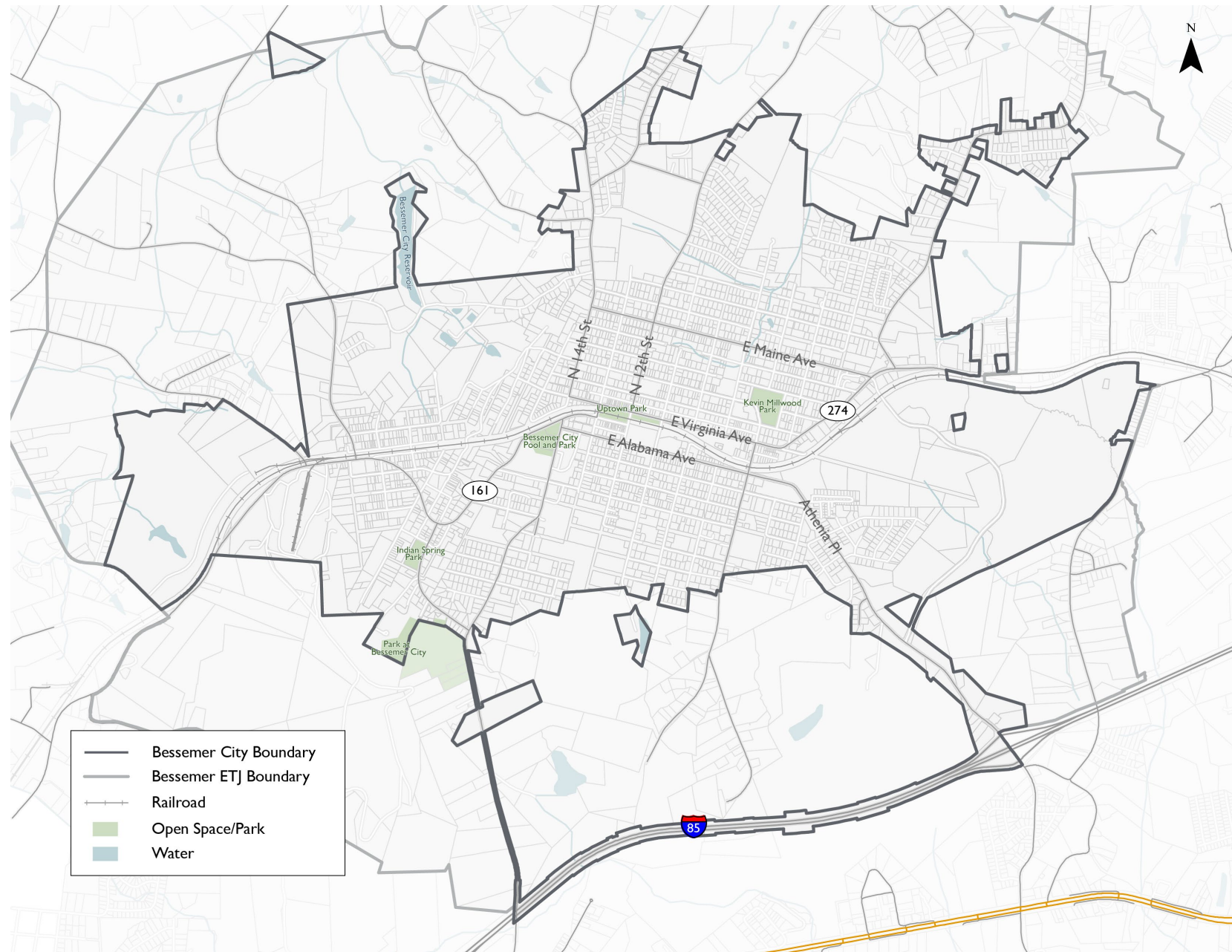
The Existing Conditions Summary provides an inventory of current conditions as they relate to pedestrian mobility in Bessemer City. This content is a preliminary step to update the City's pedestrian plan and provide a blueprint for identifying and prioritizing future pedestrian initiatives. The GIS data within this document was provided by the City, NCDOT, and Gaston County unless otherwise stated. Information in the Existing Conditions Summary will be repurposed for use in the final report for the Pedestrian Plan Update. The summary is organized around the following subjects:

- Demographics
- Equity Analysis
- Physical Conditions
- Assets, Challenges, and Corridor Inventory
- Previous Plan Review



Study Area

Bessemer City is in Gaston County along I-85, NC 274, and NC 161. Nestled between Gastonia and the Appalachian foothills of western North Carolina, Bessemer City is approximately 5.23 square miles. The Pedestrian Plan Update study area includes the city limits as well as the extraterritorial jurisdiction.



Demographics



Demographic Data Sources

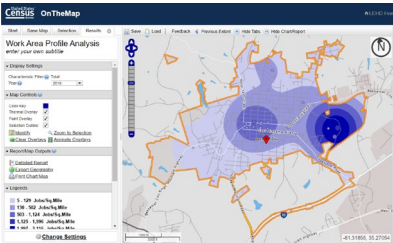
The Existing Conditions Summary relies on three industry-standard data sources a primary means to analyze the demographic context of Bessemer City’s pedestrian network.



ESRI Business Analyst: This subscription-based tool uses US Census data to make yearly estimates and projections of a variety of demographic measures such as population, median household income, education, race, and more. This data is used for City-level estimates.



American Community Survey (ACS) 2019 5-Year Estimates: This free U.S. Census Bureau data source publishes yearly estimates for a variety of demographic variables, estimated over the previous five years (2014-2019). This data is available by Census block group and is used in the equity analysis mapping portion of this report.



U.S. Census LEHD OnTheMap: This data tool is used to provide employment data by sector and to identify the total number of jobs available in Bessemer City. Data from this source is used for City-level estimates related to employment. The most recently available data is from 2018.

At A Glance

The demographic makeup of Bessemer City is critical when considering walking as a means of active transportation in the community.

This data helps to better understand the needs of the community in Bessemer City, therefore appropriately tailoring the recommendations of the final plan to this community.

Total Population

Source: ESRI



5,375
(2010)



5,591
(2020)

Total Jobs

Source: LEHD



1,142
(2010)



2,039
(2018)

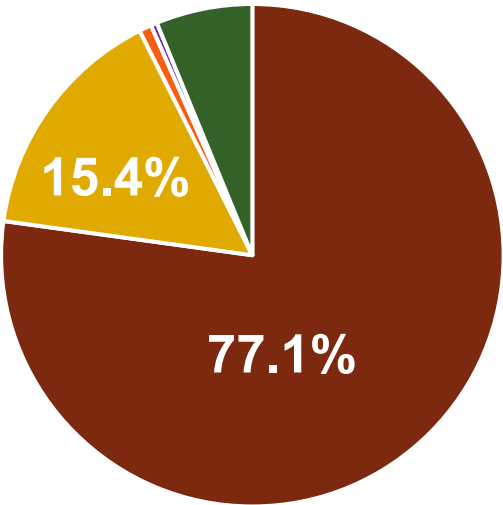
Minority Population

Source: ESRI

20.2%
(2010)

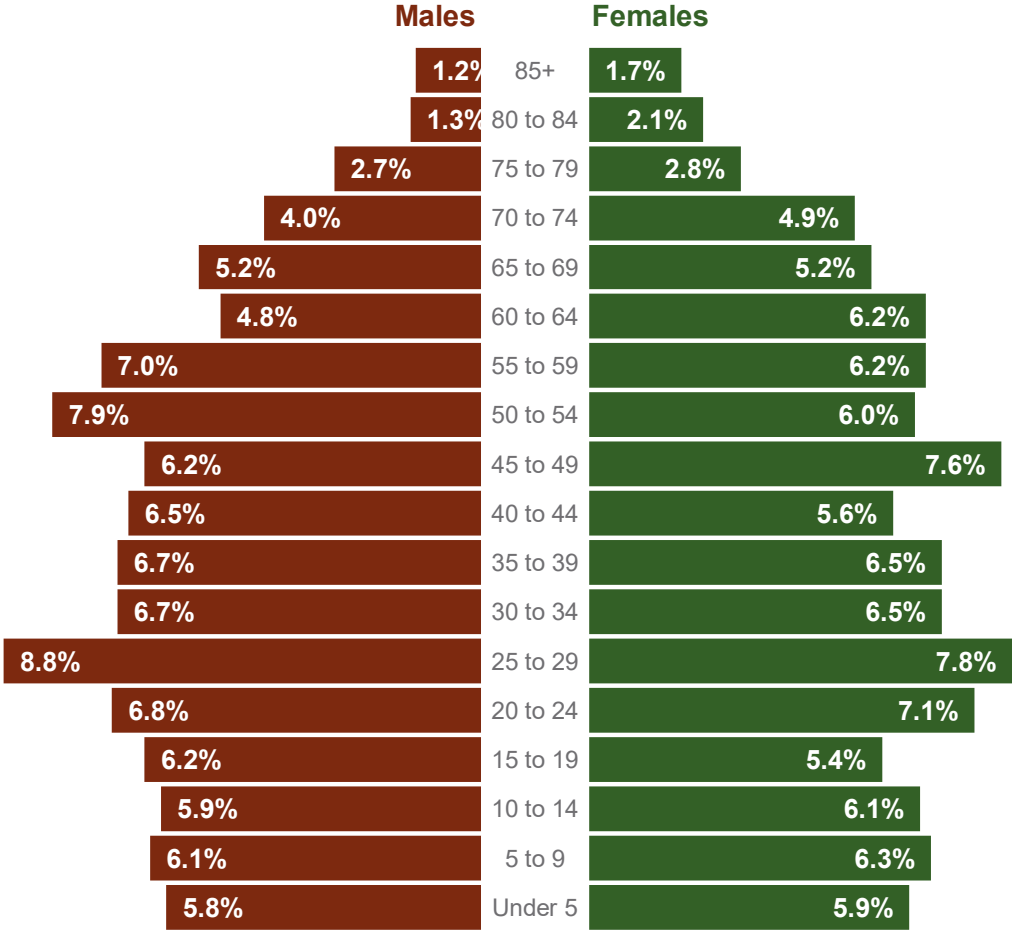


22.9%
(2020)



- White
- African American
- Asian/Pacific Islander
- Native American
- Other

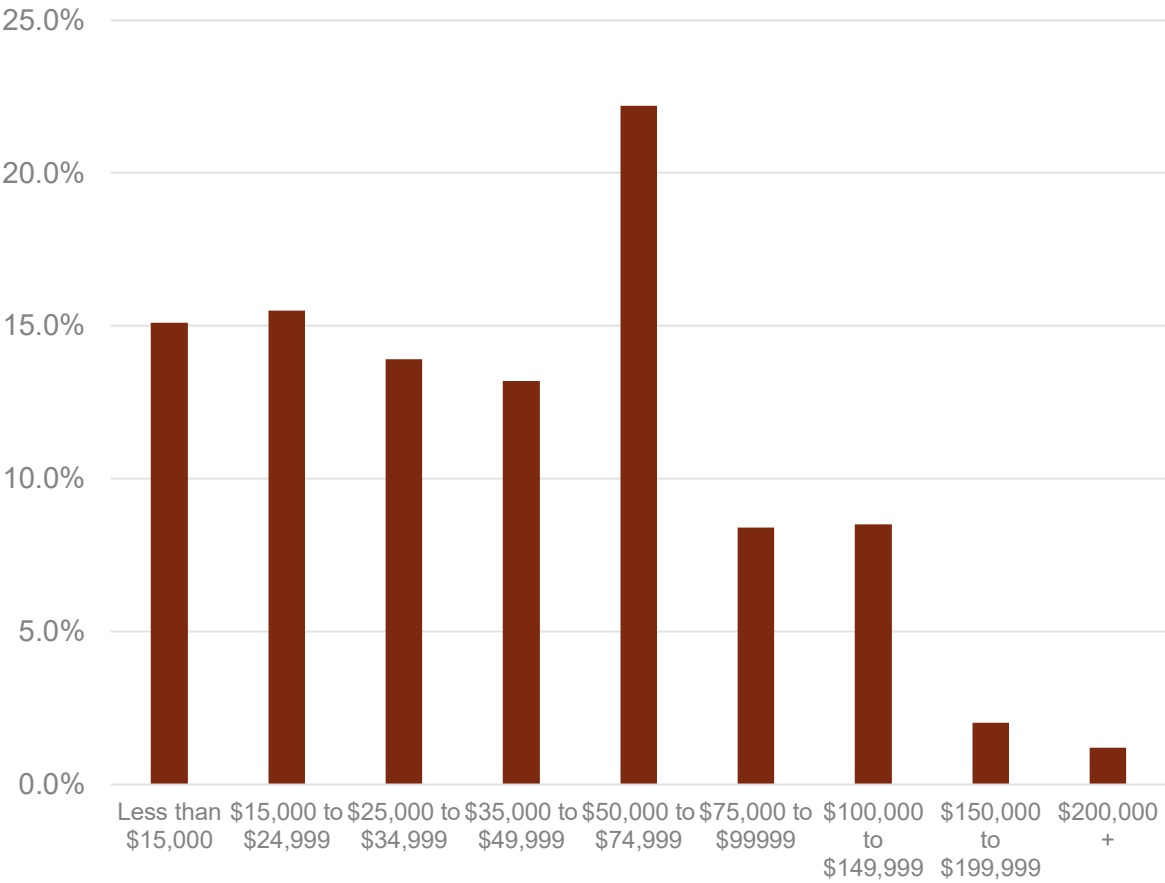
Age Distribution



Bessemer City Median Age: 38.2

Source: ESRI

Household Income



Bessemer City Median Income: \$40,714
Kings Mountain: \$39,195
North Carolina: \$54,602

Source: ESRI

Commuting Patterns



Source: LEHD

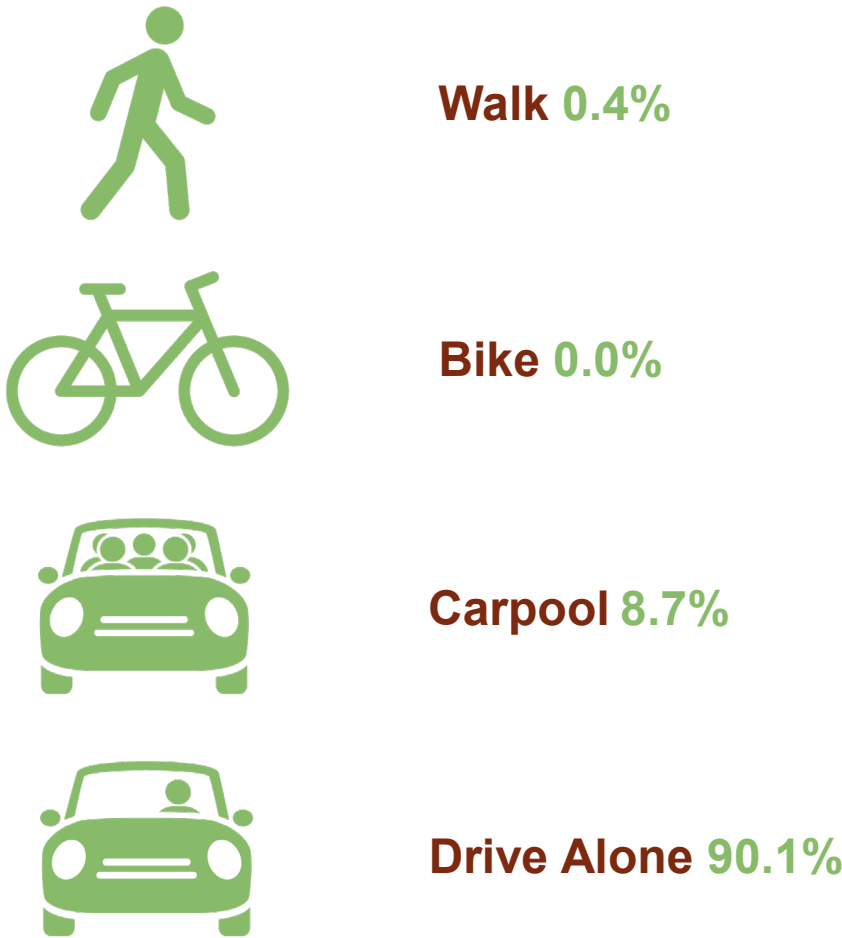
Top Industries (2018):

- 1. Manufacturing: **55.4%**
- 2. Administration & Support, Waste Management & Remediation: **9.5%**
- 3. Educational Services: **9.0%**

Source: LEHD

Commuting to Work:

Source: ESRI



Equity Analysis

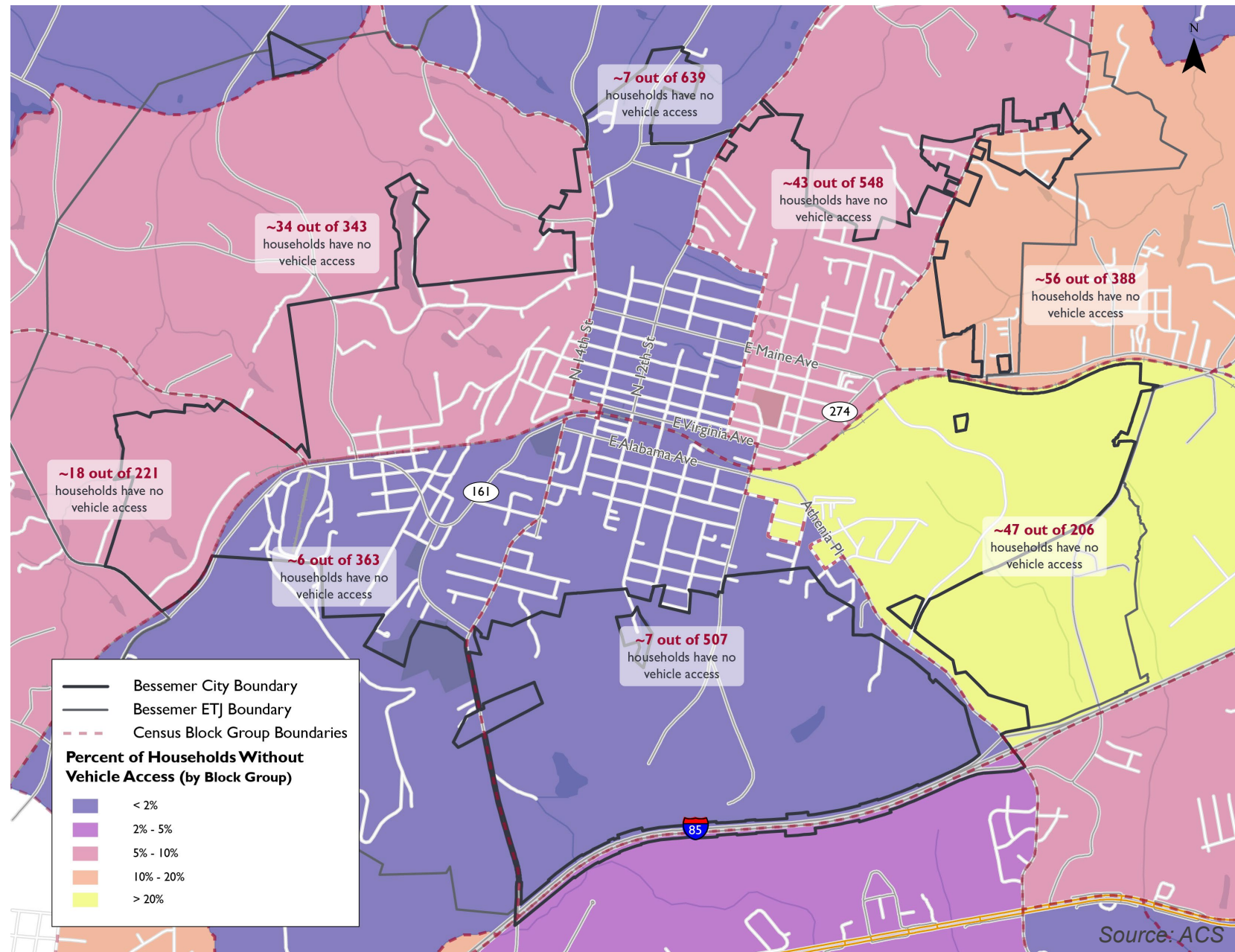


No Vehicle Households

This map shows the percentage of households without access to a vehicle. The information is shown by block group from the ACS 2019 5-year estimates.

The residential area with the highest percentage of households without access to a vehicle is between Athenia Place/Edgewood Road and NC 274, where 22.8% of households have no access to a vehicle.

Within Bessemer City, more than 200 households do not have access to a vehicle.

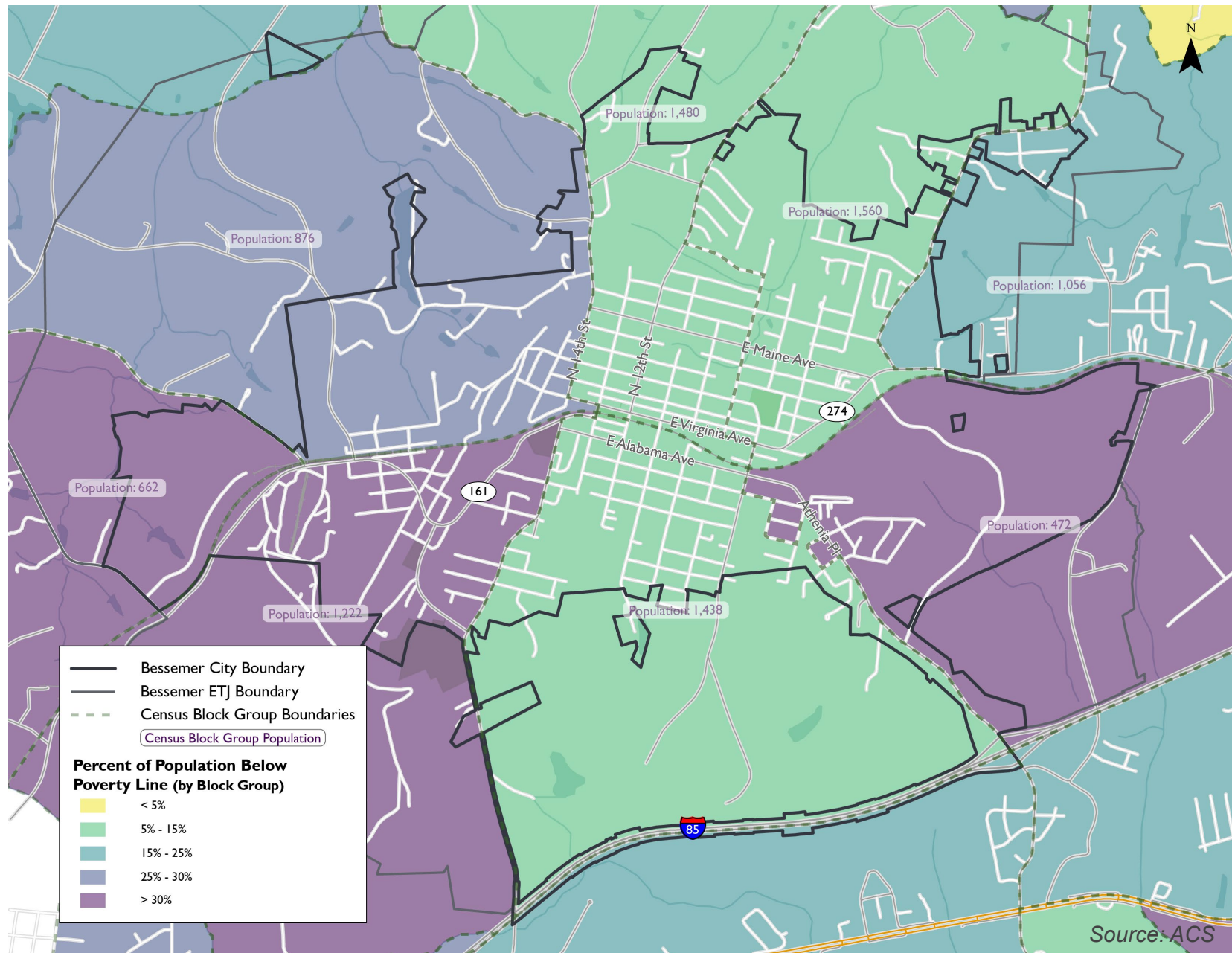


Individuals in Poverty

The percentage of individuals in poverty correlates with households that do not have access to a vehicle.

The largest percentages of individuals in poverty are in the eastern part of the city between Athenia Place/Edgewood Road and NC 274 (34.3% of the population below poverty) and in the southwestern part of the city (more than 30% of the population below poverty).

Based on Census estimates, approximately 1,676 individuals in Bessemer City live in poverty.

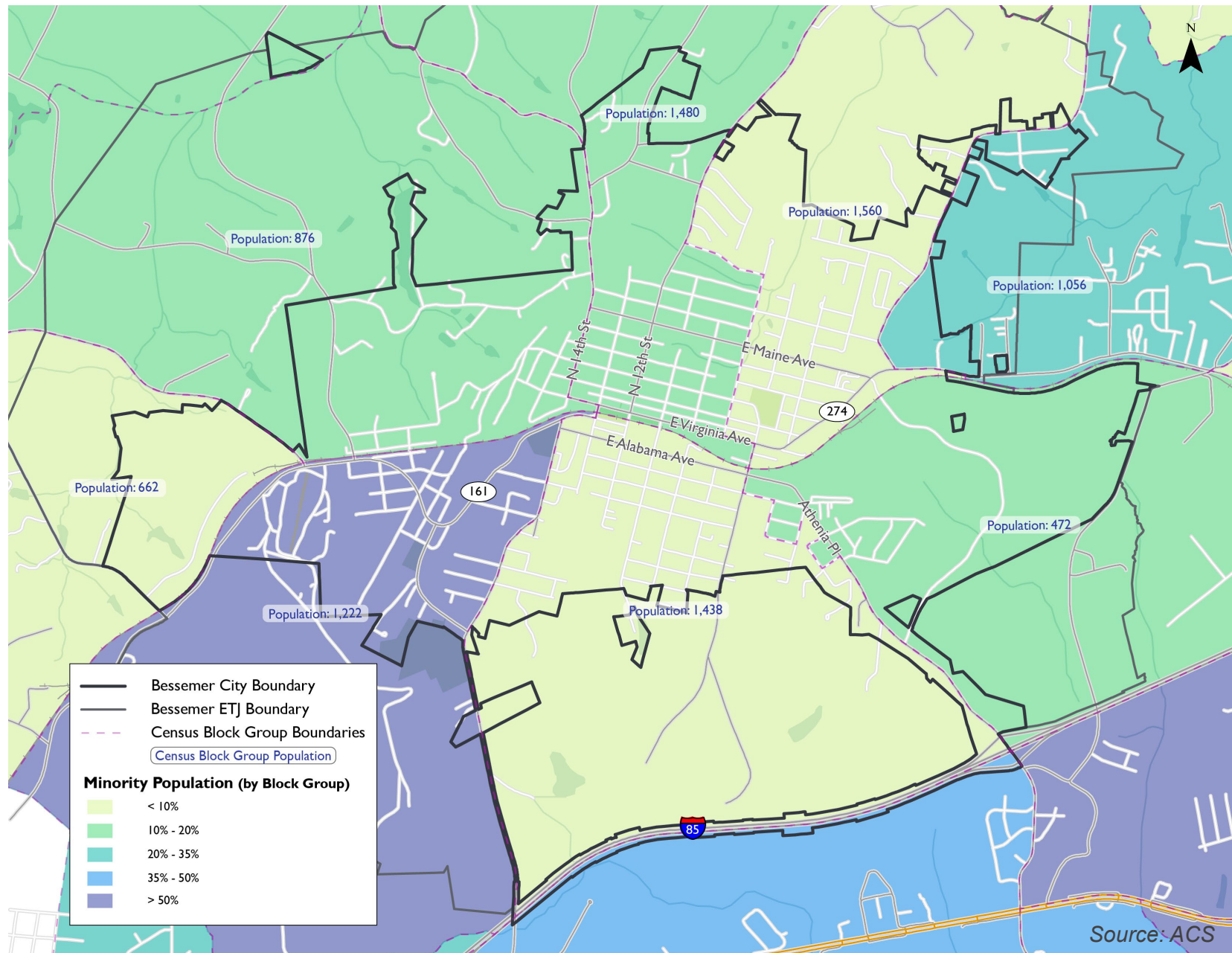


Minority Population

The percent minority population in Bessemer City is 22.9% (15.4% Black or African American; 0.8% Asian; 0.4% Native American; 3.8% some other race; and 2.4% two or more races).

This map shows only the racial minorities in Bessemer City and does not include ethnic minorities such as the Hispanic population due to data availability from ACS.

While not shown in this figure, approximately 6.7% of the population in Bessemer City identifies as Hispanic.



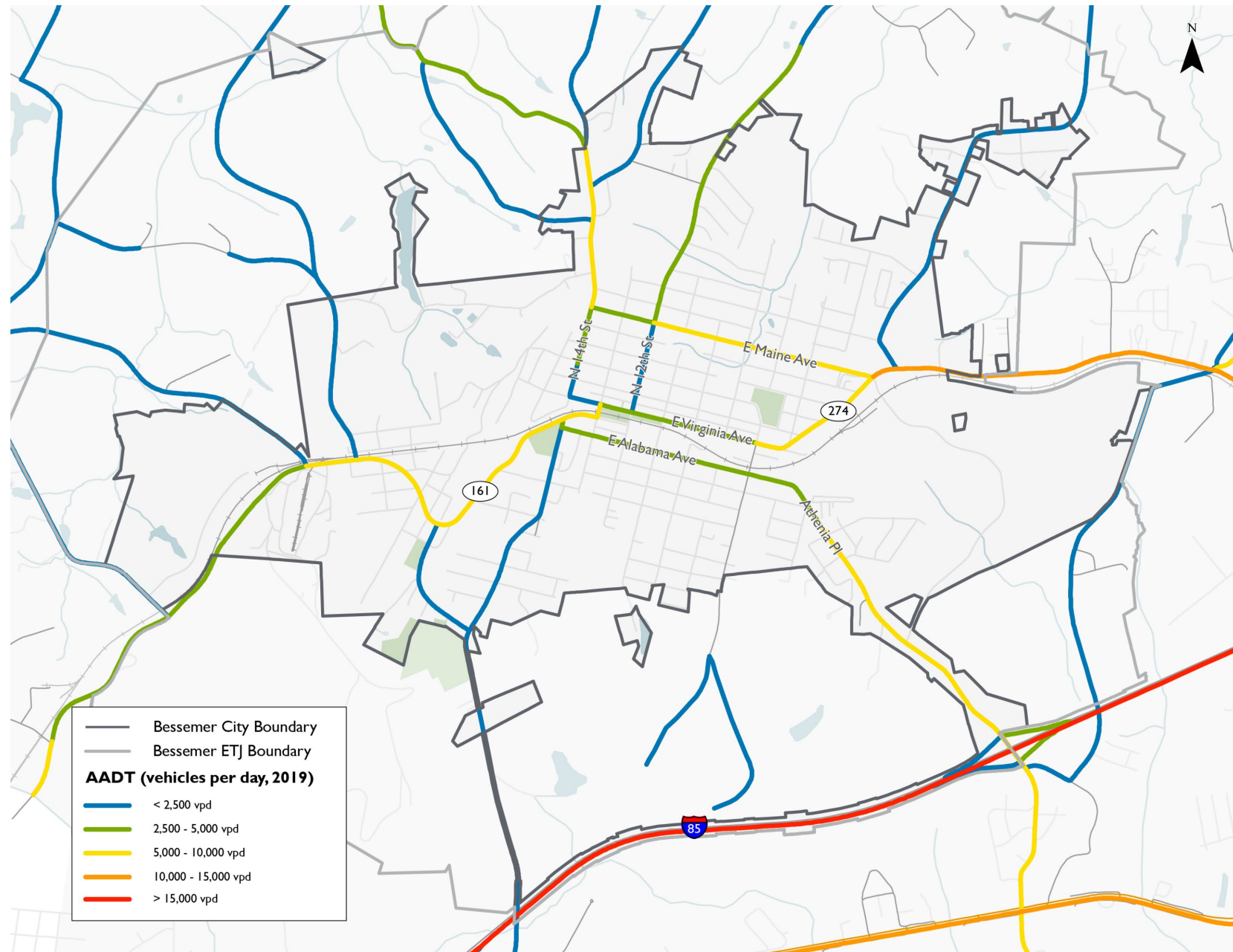
Physical Conditions



Annual Average Daily Traffic (AADT)

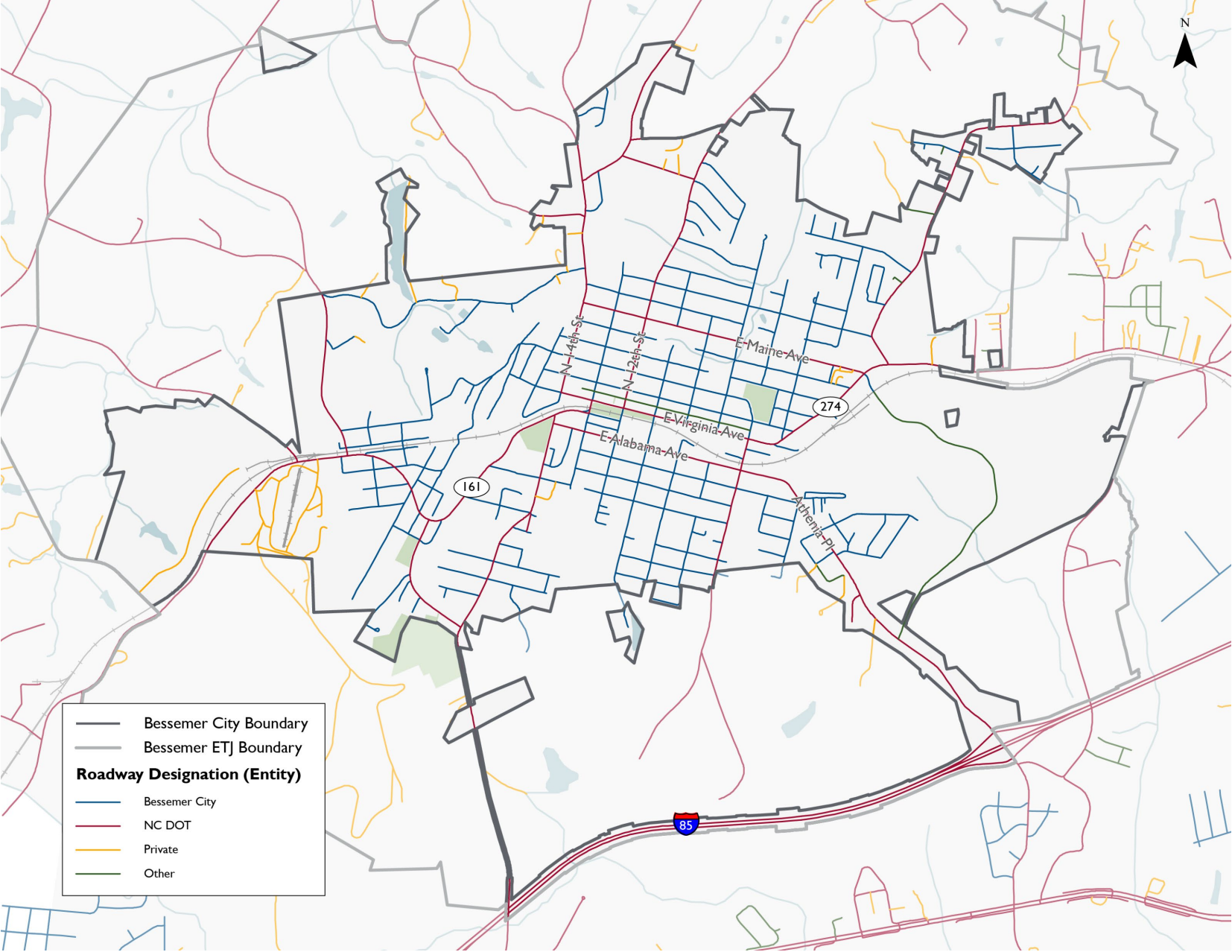
Heavily traveled corridors present challenges for pedestrians in Bessemer City. In addition to I-85, the eastern portion of NC 274 (Gastonia Hwy) and E Maine Ave are the heaviest traveled roads within the City's limits. On average, 13,000 and 8,200 cars, respectively, travel these corridors each day. Another heavily traveled corridor in Downtown is Edgewood Road/ Athenia Place with between 6,300 and 8,100 cars each day.

Notably, AADT is not always available for smaller, local roads.



Roadway Designation

This map shows the entities responsible for maintaining the roads in Bessemer City. When considering improvements to the pedestrian system, it will be important to consider and coordinate with the entity responsible for the maintenance of and investment in each facility.

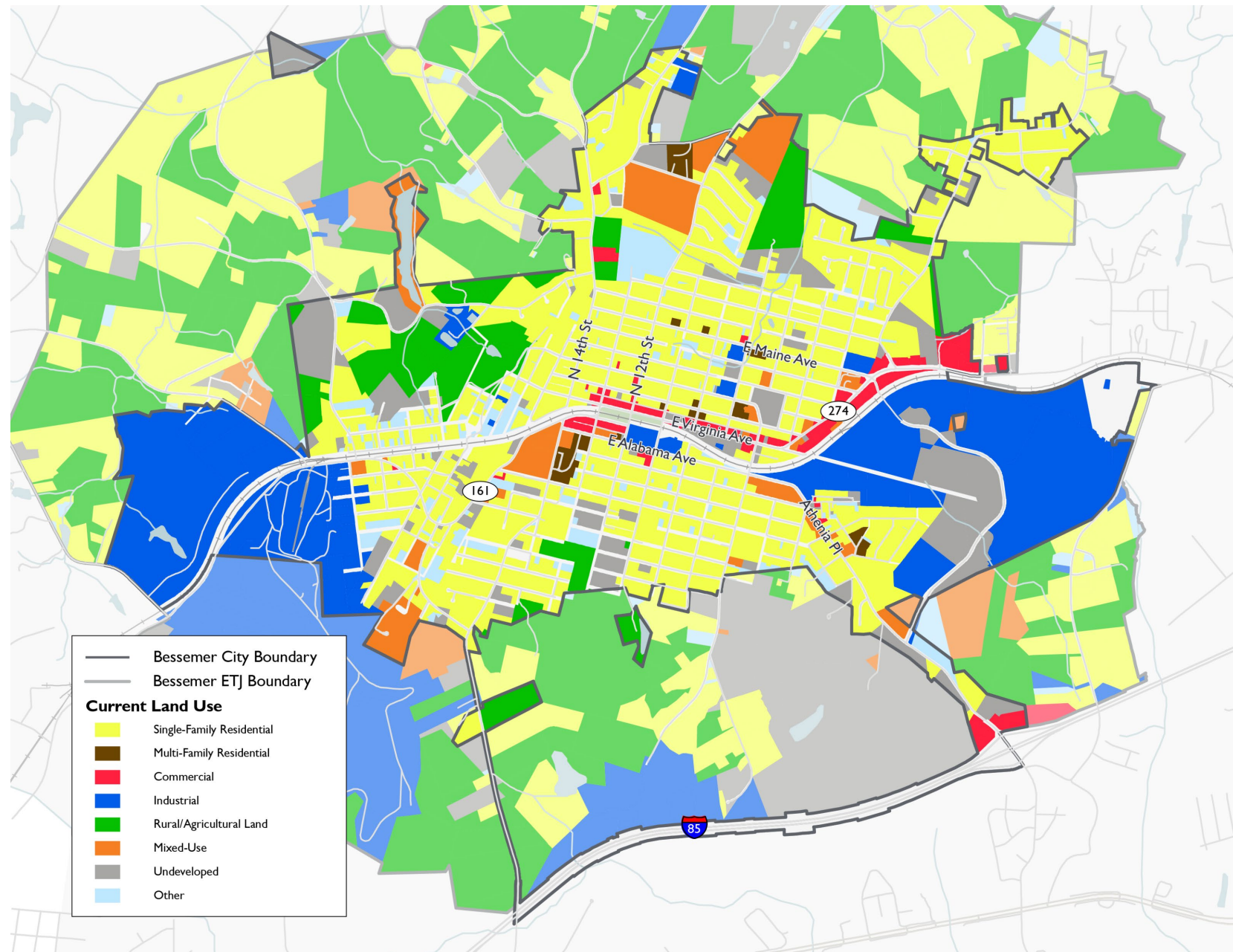


Current Land Use

The most common land use types in Bessemer City are single-family residential and rural/agricultural land. Commercial activity is clustered along the eastern edge of the City along NC 274.

Industrial land is common at the eastern and western ends of the City along NC 274 and NC 161.

Land use is an important when deciding where pedestrian improvements are needed. Heavily-trafficked commercial or residential areas may need more pedestrian facilities than agricultural or industrial areas.

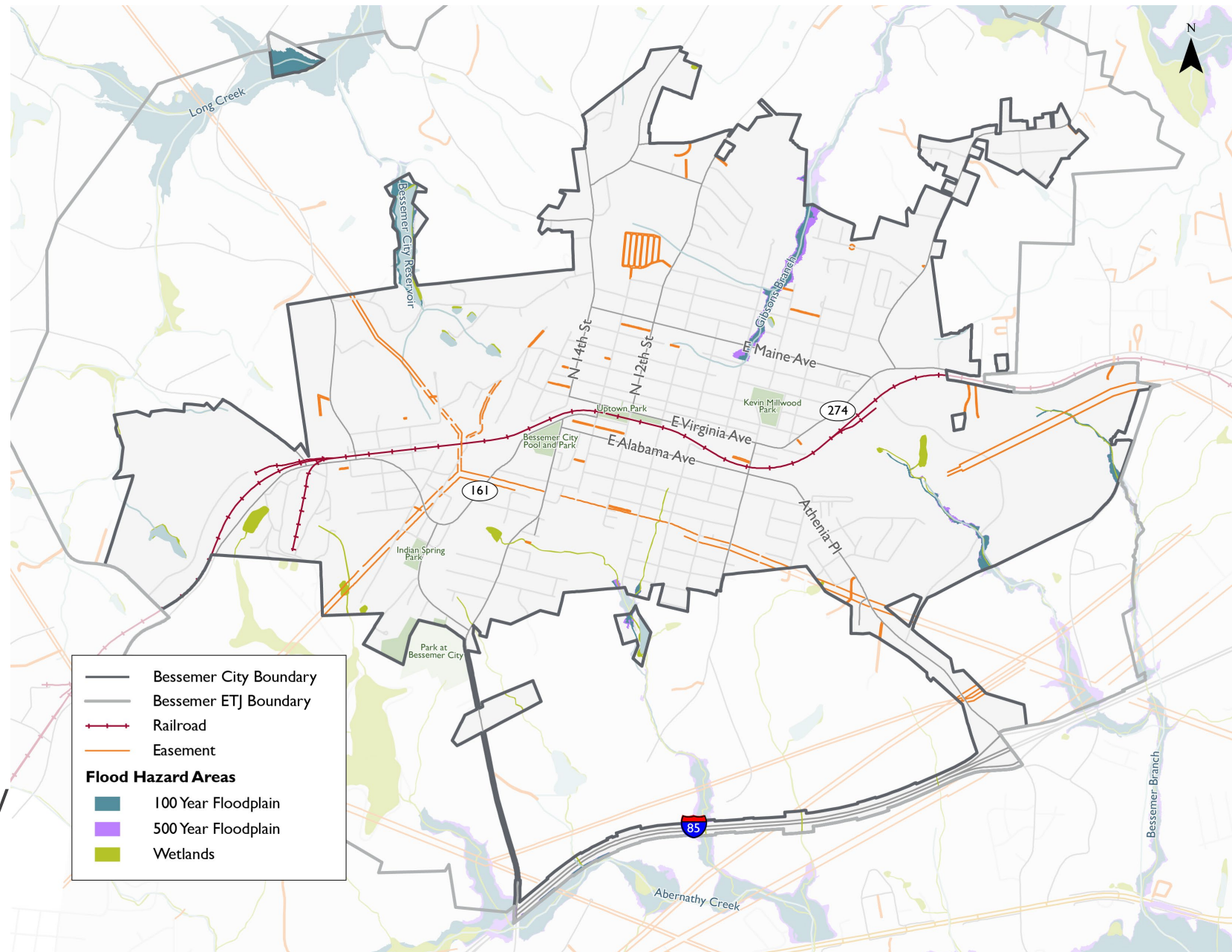


Other Physical Considerations

The FEMA 100-Year and 500-Year Floodplains for the creeks in Bessemer City should be considered as they may present development challenges.

The presence of a major rail corridor that bisects Bessemer City is especially important to consider, as crossings are limited and the tracks can be a barrier to pedestrian connectivity in the city.

Existing utility easements are also shown here, as they may present right-of-way opportunities for future trail connections. The City is currently (as of March 2021) compiling a comprehensive inventory of utility easements.

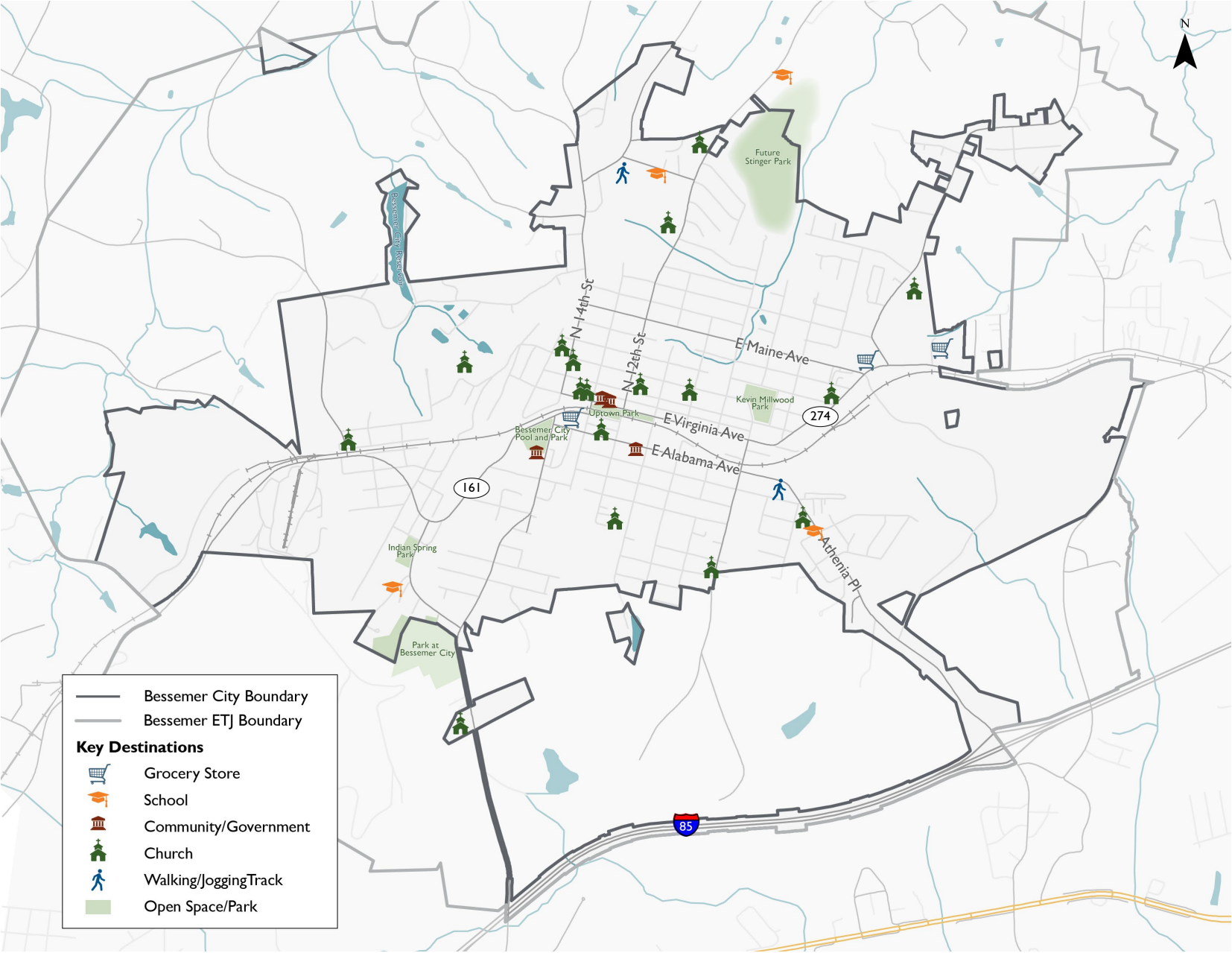


Key Destinations

Schools, parks, and other key destinations are important to highlight when considering pedestrian connectivity and mobility.

Ideally, pedestrian infrastructure would help connect these points to encourage residents and visitors to walk between these destinations.

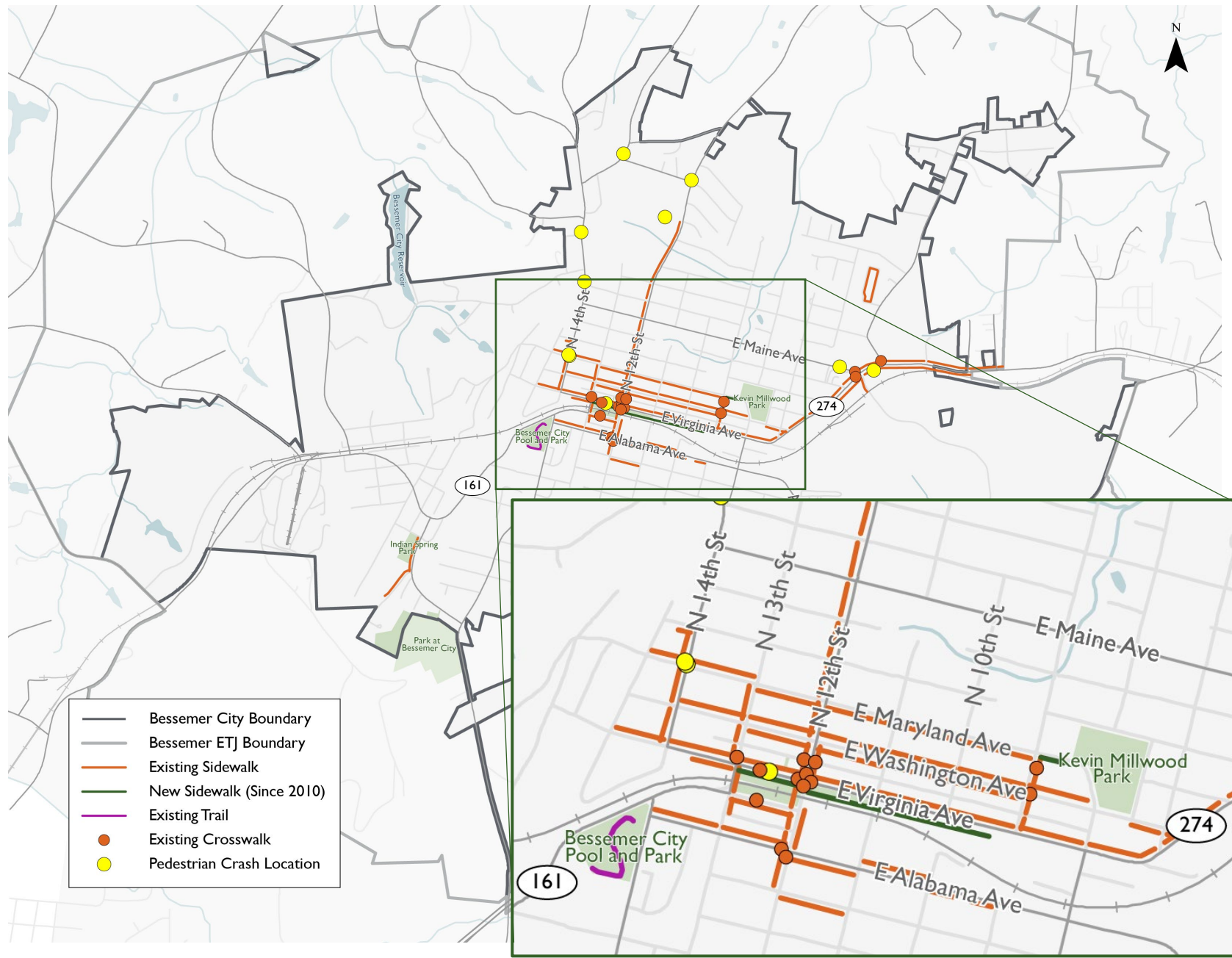
This map identifies more than 30 destinations, including grocery stores, schools, civic buildings, churches, and parks.



Pedestrian Facilities

The existing sidewalk network is primarily concentrated around Downtown Bessemer City with a few scattered sidewalks around schools, residential areas, and commercial development. Approximately 7.5 miles of existing sidewalk exist throughout Bessemer City.

Between 2007 and 2019, 10 pedestrian crashes in the city were reported by NCDOT. As shown in the map, these crashes occurred along and north of NC 274.



Assets, Challenges, and Corridor Inventory



Assets and Challenges

A key part of the planning process involves identifying areas of opportunities and specific challenges to walking in Bessemer City. Referred to here as Assets and Challenges, these features were determined based on fieldwork analysis, guidance from the City, and input from the Steering Committee.



Assets

Bessemer City has numerous assets that can contribute to the growth of the City's pedestrian network. These assets include characteristics of the community as well as attractive local destinations where residents and visitors gather.

- Bessemer City's street grid pattern supports walkability.
- Downtown businesses cater to pedestrians.
- Existing sidewalks and crosswalks connect many areas of the city, especially near Downtown.



Challenges

Understanding the pedestrian constraints in Bessemer City will help identify improvements that enhance safety and access for pedestrians of all ages and abilities.

- Outside of Downtown, existing sidewalks and crosswalks are sparse, as are ADA curb ramps.
- The railroad poses a major barrier to pedestrian connectivity in the city due to limited crossings.
- Resources are constrained.

Corridor Inventory

An inventory of key corridors was conducted to provide a more detailed look at selected corridors as a supplement to the broader understanding of pedestrian facilities through the study area. This table below describes characteristics of key corridors. The assessment on the following slides shows

	Roadway Width	Cross Section	Speed Limit	Annual Average Daily Traffic (AADT)	Curb & Gutter	Sidewalk Coverage	Sidewalk Condition	Sidewalk Widths
Alabama Ave / Athenia Pl / Edgewood Rd	24 ft	2-lane undivided	35 mph	2,700 to 8,100 vpd	Mostly No	Limited	Fair	4 to 5 ft
NC 161	24 ft	2-lane undivided	35 mph	4,400 to 5,800 vpd	No	None	N/A	N/A
Virginia Ave / NC 274	24 to 75 ft	2-lane to 6-lane	35 mph	4,500 to 13,000 vpd	Mostly Yes	Complete	Good	3.5 to 7 ft
Maine Ave	24 ft	2-lane undivided	35 mph	4,800 to 8,200 vpd	No	None	N/A	N/A
Washington Ave	30 ft	2-lane unmarked	35 mph	Data not available	Yes	Complete	Fair	3.5 to 4 ft
12th St	24 to 33 ft	2-lane undivided	35 mph	1,900 to 4,600 vpd	Mostly No	Complete	Fair	3.5 to 6 ft
14th St	24 to 30 ft	2-lane undivided	35 mph	2,000 to 6,100 vpd	Mostly No	Limited	Poor	3 to 4 ft

Alabama Avenue / Athenia Place / Edgewood Road

Existing Context

This 2.1-mile section is a key corridor in Bessemer City, connecting the southern side of Downtown directly to I-85. Five blocks of sidewalks exist along Alabama Avenue; however, many are disconnected or in poor condition. Few sidewalks exist in Bessemer City south of the railroad tracks, limiting pedestrian connectivity.

Assessment

The following characteristics have been observed and present a challenge to walking along the corridor.

Lack of Sidewalks or Connectivity	Poor Crossings	Narrow/Worn Sidewalks	Low Visibility	High Traffic Road
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NC 161

Existing Context

NC 161 connects Bessemer City through Kings Mountain to the state line. Approximately two miles of NC 161 exists within the study area and carries 4,400 and 5,800 vehicles per day. The corridor provides access to Downtown, Bessemer City Park, Bessemer City Middle School, and other destinations on the west side of the City. No sidewalks exist along NC 161.

Assessment

The following characteristics have been observed and present a challenge to walking along the corridor.

Lack of Sidewalks or Connectivity	Poor Crossings	Narrow/Worn Sidewalks	Low Visibility	High Traffic Road
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Virginia Avenue / NC 274

Existing Context

Virginia Avenue and NC 274 stretches from the heart of Bessemer City to I-85. Businesses along the corridor range from small Downtown shops to large retailers to industrial/warehouse sites near the interstate. Continuous sidewalks mostly exist along the entire corridor, including new sidewalks constructed since 2010. However, the few gaps in the network and lack of safe crossing exist.

Assessment

The following characteristics have been observed and present a challenge to walking along the corridor.

Lack of
Sidewalks or
Connectivity

Poor Crossings

Narrow/Worn
Sidewalks

Low Visibility

High Traffic
Road



Maine Avenue

Existing Context

Maine Avenue is an important cross-City connector, stretching from N 14th Street to NC 274. Although its current land use is mostly single-family residential, the most recent zoning in Bessemer City classifies this corridor as mixed-use. This corridor currently lacks pedestrian facilities, but mixed-use development make sidewalks or crosswalks more important in the future. A lack of paved shoulders makes it especially difficult for pedestrians to walk along Maine Avenue.

Assessment

The following characteristics have been observed and present a challenge to walking along the corridor.

Lack of Sidewalks or Connectivity	Poor Crossings	Narrow/Worn Sidewalks	Low Visibility	High Traffic Road
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Washington Avenue

Existing Context

Washington Avenue is a great option for pedestrians due to its lower traffic volume and good sidewalk connectivity. The 1-mile corridor passes through a mostly residential area with a few churches and other destinations, including Kevin Millwood Park. The road closely parallels the commercial activity along Virginia Avenue.

Assessment

The following characteristics have been observed and present a challenge to walking along the corridor.

Lack of Sidewalks or Connectivity	Poor Crossings	Narrow/Worn Sidewalks	Low Visibility	High Traffic Road
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12th Street

Existing Context

12th Street is one of Bessemer City's main north-south routes, connecting Downtown to Bessemer City High School (BCHS) and Bessemer City Central Elementary, as well as to residential areas south of Downtown. Existing pedestrian facilities are present along the west side of 12th Street from Georgia Avenue to the entrance to the BCHS parking lot at Chadwick Court. The railroad tracks pose an additional barrier to pedestrians in this corridor.

Assessment

The following characteristics have been observed and present a challenge to walking along the corridor.

Lack of
Sidewalks or
Connectivity

Poor Crossings

Narrow/Worn
Sidewalks

Low Visibility

High Traffic
Road



14th Street

Existing Context

14th Street is another important north-south connector in Bessemer City. It connects mostly residential areas and a few churches along a 1-mile corridor between Downtown and the City's northern boundary. The only sidewalks present in this corridor are near Downtown on the west side of the street from Virginia Avenue to Ohio Avenue. A notable concentration of pedestrian crashes have been reported along this corridor.

Assessment

The following characteristics have been observed and present a challenge to walking along the corridor.

Lack of
Sidewalks or
Connectivity

Poor Crossings

Narrow/Worn
Sidewalks

Low Visibility

High Traffic
Road



Previous Plan Review



Bessemer City Pedestrian Plan (2010)

Bessemer City developed its original Pedestrian Plan in 2010 to articulate the City's vision of being a more pedestrian-friendly city. Plan development included a physical survey, mapping and analysis of existing facilities, community engagement including stakeholder interviews and a public meeting, and finally a report with prioritized project recommendations. The Plan also recommends revisions to City ordinances and supporting policies.

Goals

- Walkability/connectivity
- Vitality
- Aesthetics/identity
- Make Bessemer City a regional destination for visitors and businesses

Key Recommendations

- Proposed and estimated costs for 27 new sidewalk projects (including Alabama Ave/Athenia Pl/Edgewood Rd, Maine Ave, NC 161, and Southridge Pkwy), 26 trail projects, and 42 crosswalks
- Recommended programs such as community walking events, an adopt a sidewalk/trail program, and crossing guards




Small Area Plan for Downtown (2009)

Bessemer City's Small Area Plan for Downtown aims to provide a plan to revitalize the City's enviable downtown core. The SAP makes recommendations to help build on Bessemer City's strong urban "bones" (including its intact street grid system, a variety of authentic local businesses, and a distinct historic small-town Downtown) to make it a more attractive place for residents, businesses, and visitors.

Key Recommendations

- Expand Downtown boundaries
- Extend streetscaping and establish new trails/bike paths/sidewalks
- Improve and program open space
- Improve landscape maintenance
- Establish a continuous sidewalk connection across the railroad tracks along 12th Street, including significant landscaping and lighting
- Establish a Historic District



Draft Small Area Plan for Downtown 04
Adopted on August 09

Bessemer City has an enviable downtown core full of locally owned shops, markets, bars, offices, restaurants, a health clinic, and a drug store with a soda fountain. Even with a handful of vacant storefronts and part-time/seasonal office users, it is a fairly active place that local residents clearly value. In fact, the desire to have a vibrant downtown core was stated repeatedly by the citizens of Bessemer City throughout the Community Planning Process. To many, the center of town is, at least in part, what gives Bessemer City its small town character. As such, it is where the bulk of the city's investment in redevelopment should be focused.

Like many downtown areas across the country, downtown Bessemer City has faded over the years, and is in need of an update. This observation comes at a time when people are increasingly interested in a less car-dependent way of living, where they can walk rather than drive. Many people seek to live in a place where their children can walk or bike to school, to a neighborhood pool, after school activities or to their friends' homes. Planners attempt to design mixed-use, pedestrian-oriented places to accommodate those desires, and they call it New Urbanism. Bessemer City embodies those characteristics. With its small size, intact grid system of streets, and mix of uses within a walkable distance from a downtown core, Bessemer City offers an authentic urbanism that newer communities can only emulate.

Consequently, the city has excellent urban "bones" to build upon. But to be competitive with newer developments in the region, downtown will need a facelift. Emphasis should be on improving the pedestrian character and experience of the city's downtown streets. To do so would recall the history of Bessemer City. As a textile town, people lived, worked, went to school and church, shopped and played all within a small walking distance. The railroad enabled much of this proximity, efficiently transporting goods and people in and out of the city center. Eventually, that supply chain became dominated by trucks (for goods) and cars (for people). Industries moved away from the center of town and closer to

- Expand Downtown Boundaries
- Extend Streetscaping & Establish New Trails/ Bike Paths/ Sidewalks
- Strengthen & Enforce Local Codes/ Design Ordinances
- Undertake Strategic Interventions
- Improve and Program Open Space
- Organize & Support Downtown Merchants and Service Providers
- Improve Landscape Maintenance

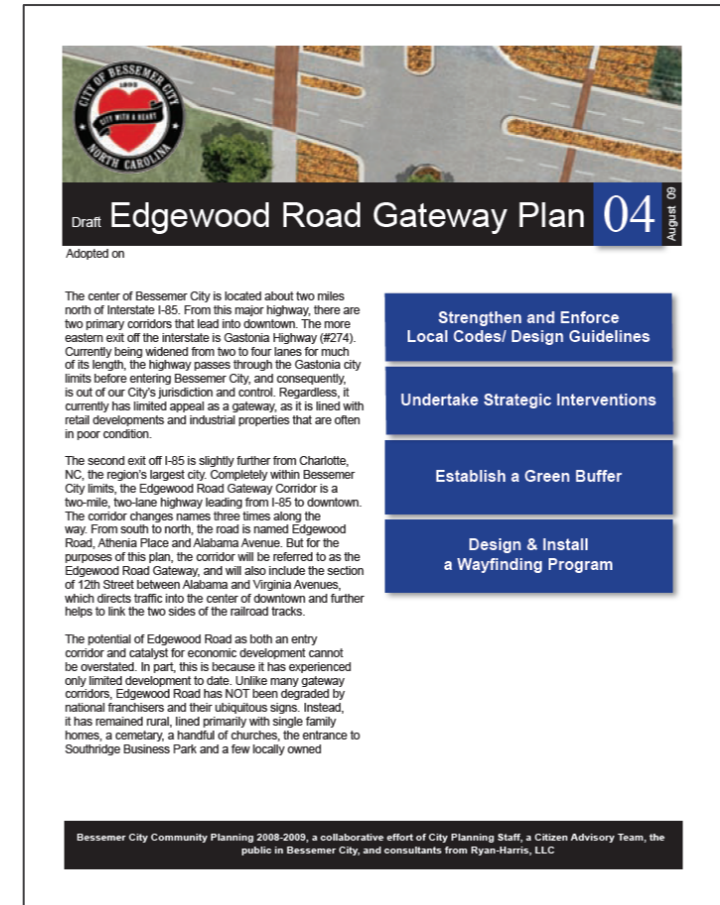
Bessemer City Community Planning 2008-2009, a collaborative effort of City Planning Staff, a Citizen Advisory Team, the public in Bessemer City, and consultants from Ryan-Harris, LLC

Edgewood Road Gateway Plan (2009)

The corridor of Edgewood Road / Athenia Place / Alabama Avenue (referred to as Edgewood Road Gateway) has the potential to be a catalyst for economic development in Bessemer City. The goal of the Plan was to help guide the development of the corridor to support this goal. The document makes recommendations surrounding four initiatives to shape this corridor.

Key Recommendations

- Limit and separate paving, driveways and parking areas; require planting strips to separate pedestrians from streets and parking lots
- Mark business/industrial growth area (Southridge Business Park); make it more pedestrian and bicycle friendly
 - Add a crosswalk once Southridge Parkway is expanded west of Edgewood Road, develop guidelines requiring sidewalks and bike lanes
- Improve intersection of Edgewood Road and 12th Street to include sidewalks, crosswalks and wayfinding
- Link and locate community assets with sign at 8th St and Edgewood Road
 - Establish wayfinding to City destinations
 - Sign should be accessible via sidewalks
 - Stamped and painted asphalt crosswalks near sign

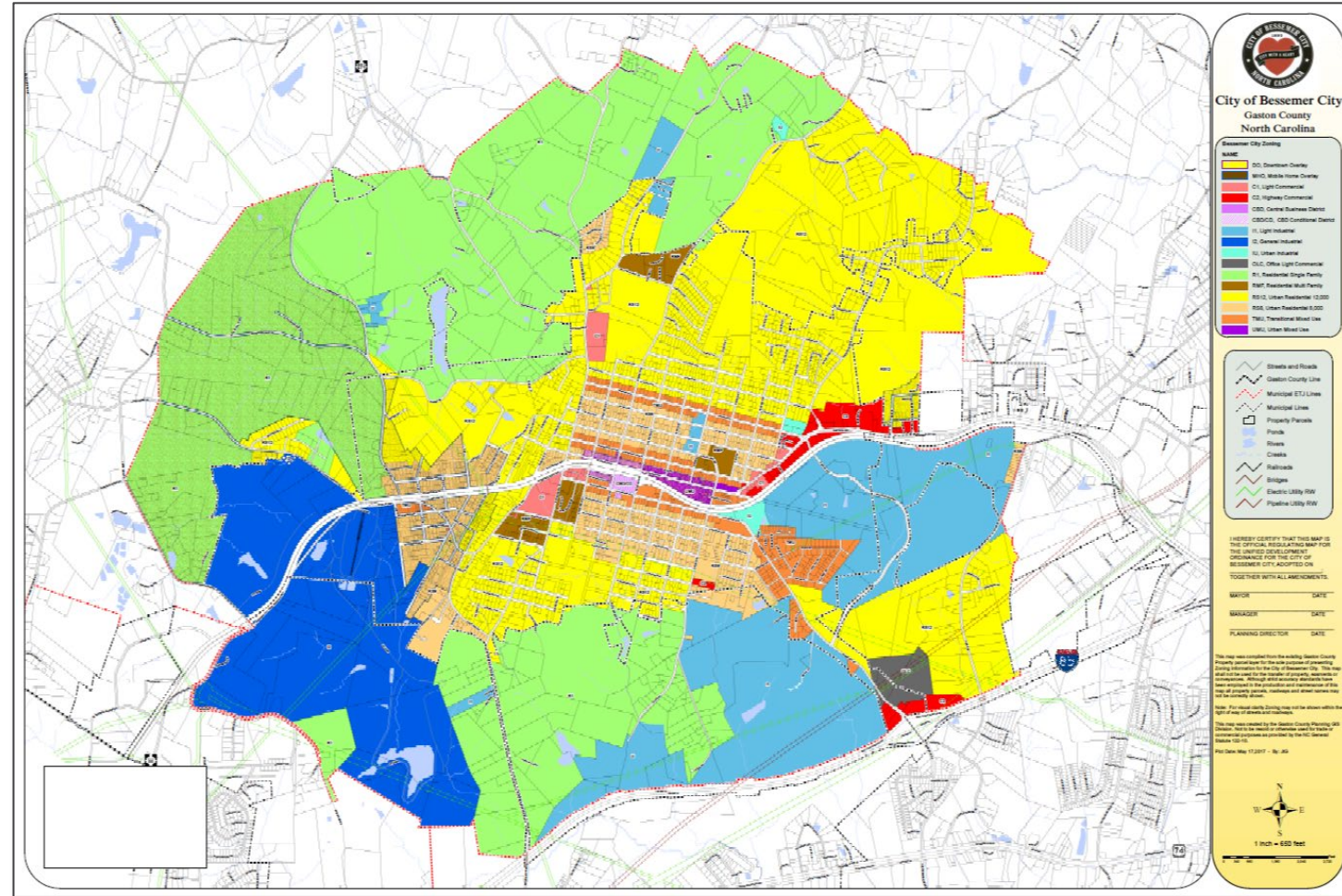


Unified Development Ordinance and Zoning Map (2018)

Bessemer City's Unified Development Ordinance (UDO) was last updated in 2018. This document outlines the zoning code for the City and its ETJ. Land is classified according to 16 districts with different development rules and intended land uses. The UDO is currently (as of March 2021) being updated.

Key Recommendations

- Sidewalks and greenstrips (discussed in section 9.18) are mandated in subdivisions and urban standards overlay (USO) districts.
- Sidewalks must be a minimum of 5 feet wide (arterials) or 4 feet (other streets).
- The Central Business District (CBD), Urban Mixed Use (UMU) and Traditional Downtown Overlay (TD) districts specifically mention pedestrian orientation.



GCLMPO Metropolitan Transportation Plan (2018)

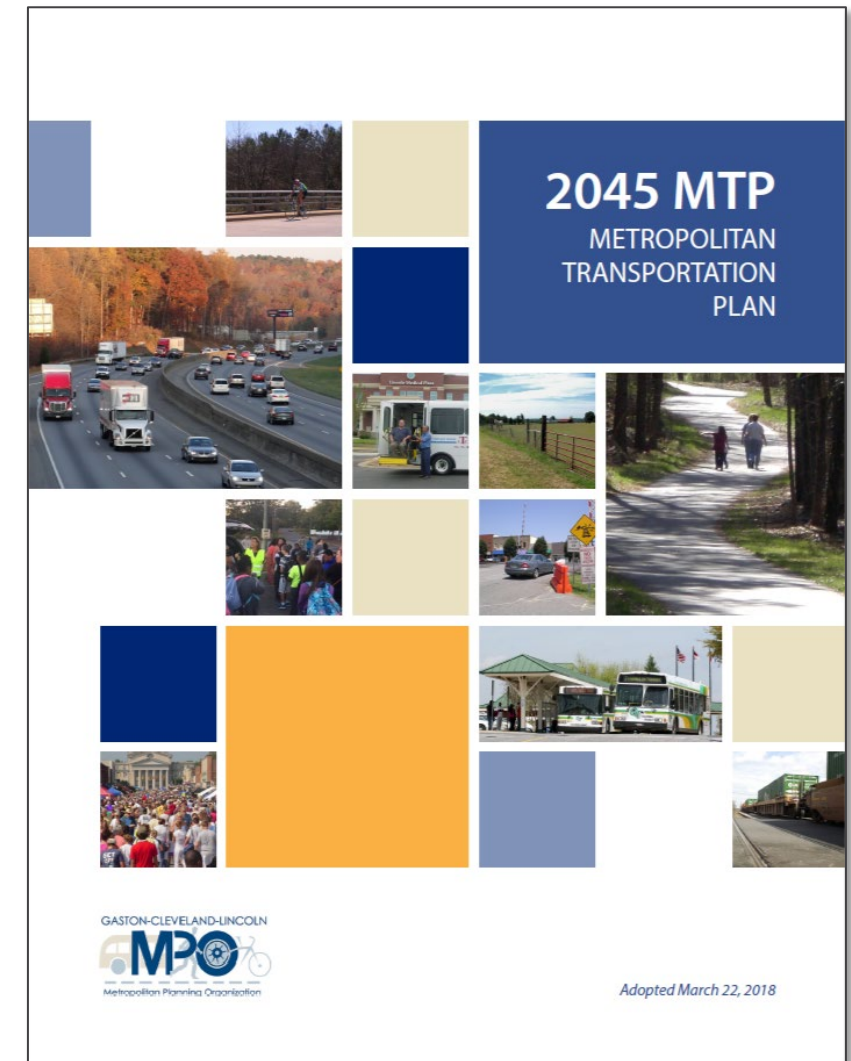
The Gaston-Cleveland-Lincoln Metropolitan Planning Organization (GCLMPO) released their updated MTP in 2018 with recommendations for a more multimodal transportation system. Chapter 12 analyzes active transportation conditions and plans in the region and specifies approved pedestrian projects along 2025, 2035, and 2045 funding horizons.

Goals

- Provide a transportation system that affords the public with mobility choices including walking, bicycling, aviation, freight, and transit options.
- Increase the design sensitivity of pedestrian and bikeway system for both recreation and transportation purposes.
- Increase pedestrian and bicycle safety through public awareness programs.

Key Recommendations

- 2025 Horizon: Funded sidewalk on NC 161 (S 14th St to W Boston Ave)
- 2045 Horizon: Funded sidewalk on Virginia Ave (south side, 12th St to 8th St)

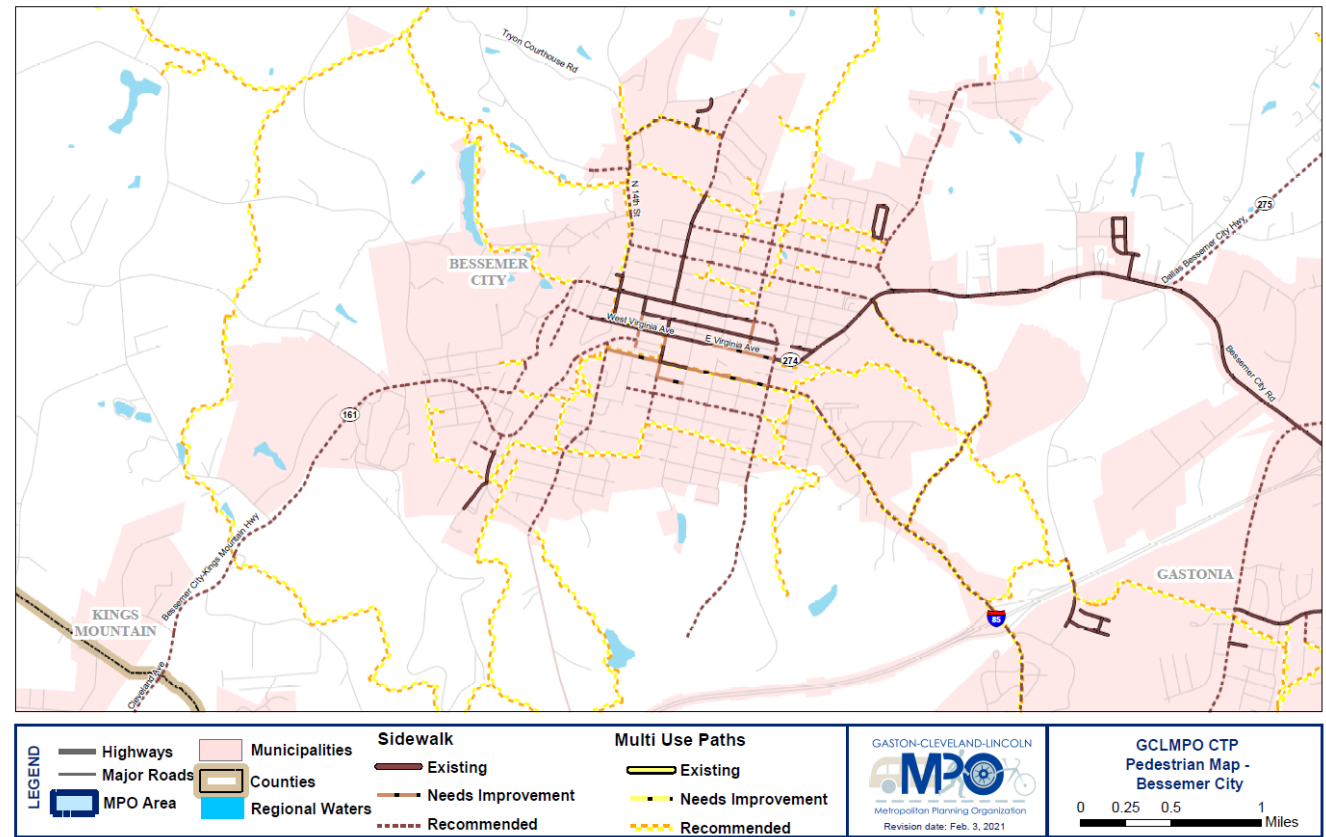


GCLMPO Comprehensive Transportation Plan (2020)

GCLMPO's CTP is a long-range planning document aimed to assist local governments in making transportation decisions over the next 30 years. The CTP Pedestrian Map recommends safe, efficient, and cost-effective pedestrian improvements, based on current and future travel needs.

Key Recommendations

- Sidewalks, improved sidewalks, and multi-use paths are recommended in many locations, including:
 - Alabama Ave / Athenia Pl / Edgewood Rd (sidewalk and multi-use path)
 - Southridge Pkwy (sidewalk and multi-use path)
 - Maine Ave
 - NC 161
 - 8th St / Capps Rd
 - S 14th St / Crowders Mountain Rd
- Multi-use paths are recommended in many locations

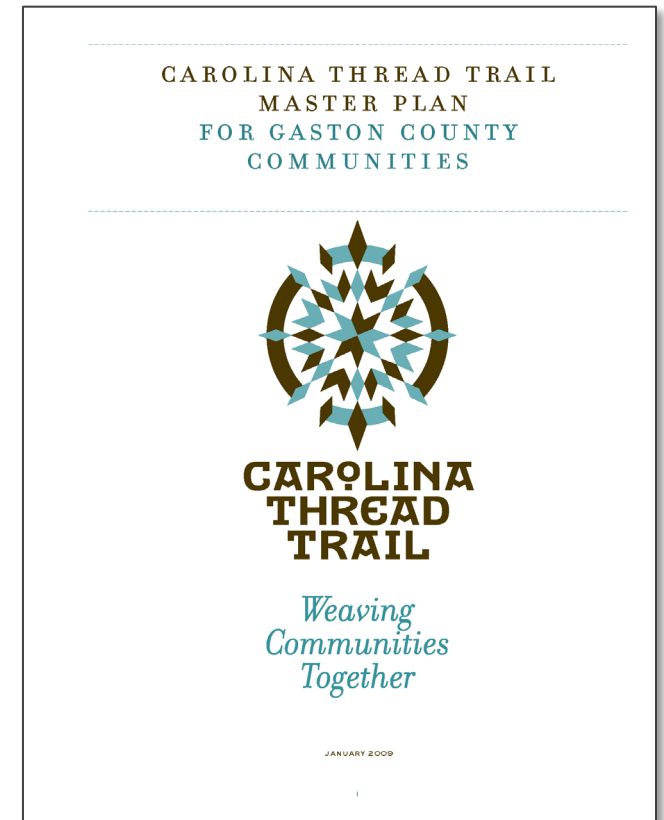


Carolina Thread Trail Master Plan Gaston County (2009)

The Carolina Thread Trail Master Plan for Gaston County coordinates greenway and trail development within the cities, towns, and unincorporated areas of Gaston County to preserve and enhance quality of life. It integrates existing and proposed municipal and county trails with additional trail segments to create a comprehensive multi-use network that connects people, places, and destinations to each other and surrounding regional destinations, including in Bessemer City.

Key Recommendations

- Secondary priority segment proposed from US 29/74 north to Bessemer City
- Establish a Trail Advisory Committee to promote greenway development and advise the governing group on related issues
- Identify and maximize local trail opportunities through the development plan review process, open space acquisition, and floodplain regulations
- Review current and future utility corridors/easements for local greenway opportunities
- Establish criteria for trail priorities (i.e. cost, length of trail, location, etc.)
- Coordinate with local law enforcement and emergency services on trail design and safety



Existing Conditions Summary | March 29, 2021



Bessemer City 

Pedestrian Plan Update



Kimley»Horn

The Existing Conditions Summary offers a snapshot of current pedestrian conditions in Bessemer City as an initial step in the update to the 2010 Pedestrian Plan. Information from the summary will be repurposed for use in the final report for the Pedestrian Plan Update.