

***FINAL* UPDATED PURPOSE AND NEED STATEMENT**

Gaston East-West Connector Gaston and Mecklenburg Counties

STIP Project No. U-3321
State Project No. 8.2812501
Federal Aid Project No. STP-1213(6)

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October 15, 2008

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PREFACE

The original Purpose and Need Statement for the Gaston East-West Connector (State Transportation Improvement Program (STIP) Project No. U-3321) was finalized in August 2002. The Project Team concurred on the Statement of Purpose and Need on July 24, 2002. The Project Team members include:

- NC Turnpike Authority
- NC Department of Transportation
- Federal Highway Administration
- US Army Corps of Engineers
- US Fish and Wildlife Service
- US Environmental Protection Agency
- NC Department of Environment and Natural Resources – Division of Water Quality
- NC Wildlife Resources Commission
- State Historic Preservation Office
- Gaston Urban Area Metropolitan Planning Organization (MPO)
- Mecklenburg-Union MPO.

Since the approval of the Project's Purpose and Need Statement, the project studies have progressed toward completion of the Draft Environmental Impact Statement (DEIS). The Purpose and Need Statement was originally prepared six years ago, and several items needed to be updated for publication in the DEIS, as documented in this Updated Purpose and Need Statement. The major items are listed below. None of these updates resulted in a substantive change to the original project purpose (**Section 1.3**).

1. In October 2002, the NC General Assembly established a law creating the NC Turnpike Authority (NCTA). In February 2005, the NCTA Board of Directors selected the Gaston East-West Connector as a candidate toll facility, and the project is now being studied by NCTA.
2. A travel demand model covering the entire Metrolina region (a 13-county region around Charlotte, including Gaston and Mecklenburg Counties) became available. Traffic projections were updated from 2025 projections using the Gaston County travel demand model to 2030 projections using the Metrolina regional travel demand model. The base year traffic projections also were updated from 2000 to 2006. **Section 1.7.2** discusses traffic projections.
3. Levels of Service (LOS) for I-85, I-485, US 29-74, and US 321 for the base year 2006 and horizon year 2030 were calculated using the projections from the Metrolina regional travel demand model. **Section 1.7.3** discusses traffic operations.
4. The Charlotte-Douglas International Airport began construction of a third runway, and is expected to be complete by January 2010 (**Section 1.6.2.2**)
5. Information on transportation plans and land use plans was updated with the latest versions (**Section 1.9**).
6. On September 2, 2004, the NCDOT Board of Transportation established a system of Strategic Highway Corridors for the state. The Gaston East-West Connector is part of this Strategic Highway Corridor program (**Section 1.9.2**).

PURPOSE AND NEED FOR ACTION

What This Purpose and Need Statement Includes:

This document describes the purpose of the project and why the proposed action is needed. It will become the basis for Chapter 1 of the project's Draft Environmental Impact Statement. Supporting information includes the project history; a description of the existing roadway network and how it operates now and in the future; and data on population and employment, southern Gaston County attractions, other transportation modes, and area transportation and land use plans.

1.1 INTRODUCTION

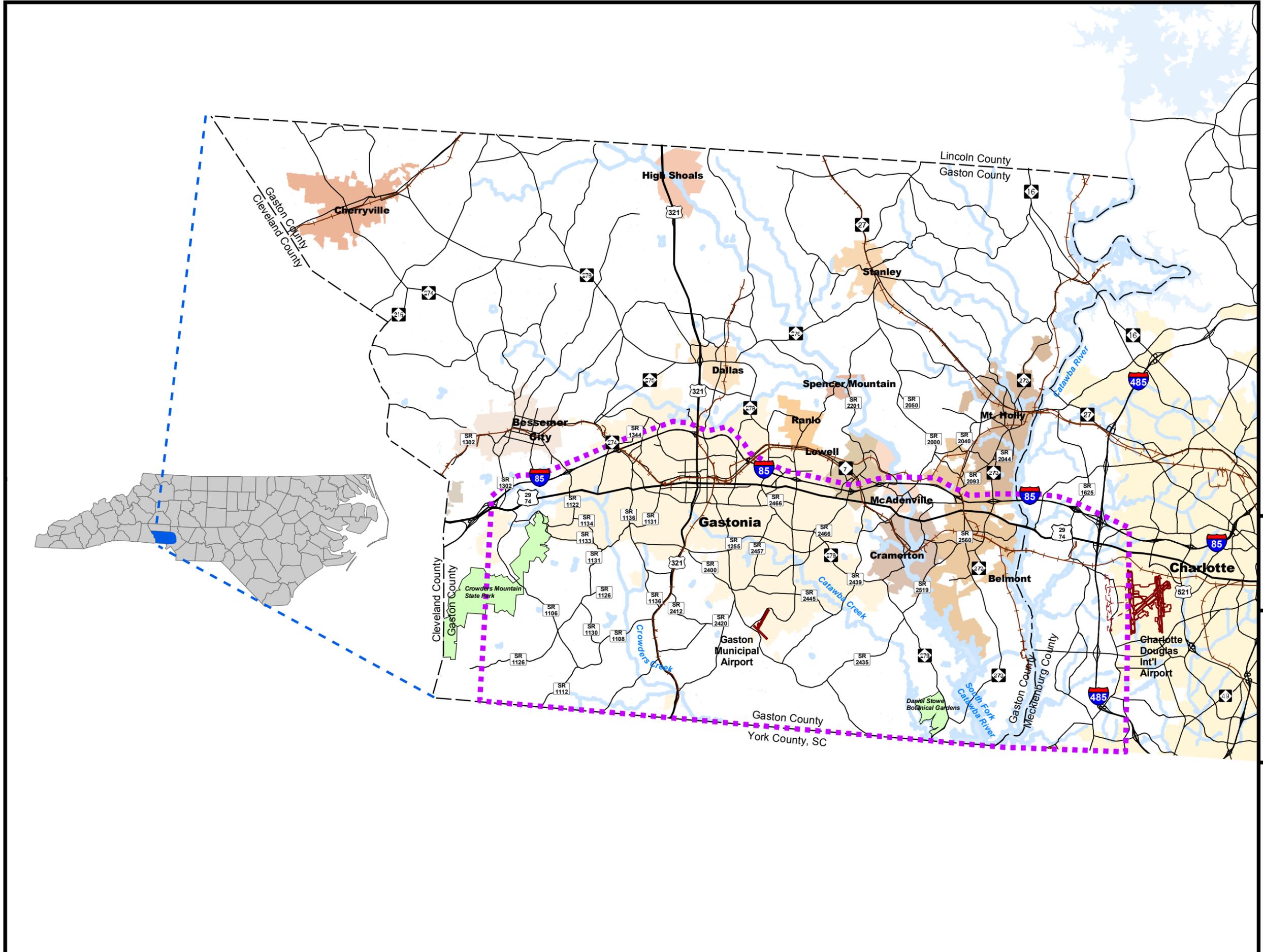
An environmental document is being prepared for this project in accordance with the requirements set forth in the National Environmental Policy Act (NEPA) of 1969, as amended. This is an informational document intended for use by both the decision makers and the public. As such, it represents a disclosure of relevant environmental information concerning the proposed action.

The content of this Purpose and Need Statement conforms to the requirements of the Council on Environmental Quality (CEQ) guidelines, which provide direction regarding implementation of the procedural provisions of NEPA, and to the Federal Highway Administration's *Guidance for Preparing and Processing Environmental and Section 4(f) Documents* (Technical Advisory T66430.8.A, October 1987).

The project purpose and need drives the process for alternatives consideration and in-depth analysis. CEQ regulations require that an Environmental Impact Statement (EIS) address the "no-action" alternative and "rigorously explore and objectively evaluate all reasonable alternatives." Furthermore, a well-justified purpose and need is vital to meeting the requirements of NEPA, Section 4(f) (49 USC 303), the Executive Orders on Wetlands (EO 11990) and Floodplains (EO 11988), and the Section 404(b)(1) Guidelines.

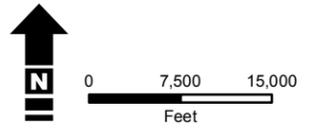
1.2 PROPOSED ACTION

The North Carolina Turnpike Authority proposes to improve east-west transportation mobility in the area around the City of Gastonia and other municipalities in southern Gaston County, between Gastonia and the Charlotte metropolitan area, and particularly to establish direct access between the rapidly growing areas of southeast Gaston County and west Mecklenburg County. **Figure 1** shows the general project location.



- Legend**
- - - Study Area Boundary
 - Railroads
 - - - Proposed Airport Expansion
 - Major Roads
 - County Lines
 - Hydrology
 - Parks

Source: Gaston County and Mecklenburg Counties GIS. Map Printed On 4-22-08.



STIP PROJECT NO. U-3321
 Gaston County and Mecklenburg County

GASTON EAST-WEST CONNECTOR
PROJECT LOCATION MAP

Figure 1

1.3 NEED FOR PROJECT

The primary needs for the proposed action are summarized below. Detailed discussions of the existing and projected conditions in the study area are presented in **Sections 1.5 through 1.9**.

POOR CONNECTIVITY BETWEEN GASTON COUNTY AND MECKLENBURG COUNTY AND WITHIN SOUTHERN GASTON COUNTY

- **There are limited crossings of the Catawba River, constraining travel between and through Gaston and Mecklenburg Counties.** The Catawba River separates Gaston and Mecklenburg Counties and there are only four crossings of the river, with none in the southern half of Gaston County. I-85 and US 29-74, important as the only continuous east-west through routes in Gaston County, provide parallel and adjacent crossings in the center of the county. The next crossing of the river south is about 11 miles away on NC 49, connecting York County, South Carolina and Mecklenburg County.

I-85 is an important corridor for regional and longer distance travel. About 70 percent of the workers living in Gaston County who work in other counties, go to work in Mecklenburg County. The Charlotte region is a major freight distribution center and trucks use I-85 to connect to destinations to the southwest (e.g., Atlanta, GA), west (e.g. Asheville, NC) and northwest (e.g. Hickory, NC). Tourists from the Charlotte region traveling to the mountains of western North Carolina and Tennessee also use I-85 in Gaston County.

- **Projected growth in southern Gaston County and western Mecklenburg County will continue to place demands on accessibility and connectivity between the two counties.** According to the draft Gaston County Comprehensive Plan (Section 8.3 of the plan), southern Gaston County, especially the southeastern portion, is expected to experience high residential growth in the next twenty years. Similarly, the Dixie-Berryhill area, a planned development area in western Mecklenburg County west of the Charlotte-Douglas International Airport, is expected to build out with high residential densities mixed with commercial uses and transit-oriented development.

The Charlotte-Douglas International Airport in western Mecklenburg County employs over 16,000 people and is expanding through construction of a third runway. In the future, the airport also is planned to have an intermodal facility combining rail, truck and air cargo transport that would generate employment opportunities and substantial numbers of regional truck trips.

The Dixie-Berryhill Vision Plan calls for mixed use and transit-oriented development in the currently sparsely developed part of western Mecklenburg County directly across the Catawba River from southeastern Gaston County. This mixed-use area will create more employment opportunities in proximity to Gaston County in addition to existing office and industrial parks and the Charlotte-Douglas International Airport.

- **South of I-85 in Gaston County, a lack of connecting east-west roadways makes travel circuitous and limits mobility.** Currently, there are no continuous east-west routes in southern Gaston County. The roads in southern Gaston County generally run more north-south. For example, a person wishing to travel from the residential subdivisions on the Belmont peninsula (the land between the South Fork Catawba River and Catawba River) to businesses and industries along US 321 in southern Gaston County cannot do so directly, they must first travel north to use westbound I-85 or US 29-74 to US 321, then south on US 321 or travel a circuitous route that might include NC 273 (Armstrong Road), NC 279 (South New Hope Road), SR 2435 (Union New Hope Road), NC 274 (Union Road), SR 2416 (Robinson Road), SR 2412 (Little Mountain Road), SR 2420 (Forbes Road) to US 321.

Visitors to the Daniel Stowe Botanical Garden (a large tourist attraction) must travel along circuitous two-lane non-access controlled routes in southern Gaston County to reach the botanical garden from the interstate and intrastate system. This creates confusion and delays for visitors, most of whom (94 percent) are non-members of the Daniel Stowe Botanical Garden. During a major event like the Fourth of July, traffic entering the Daniel Stowe Botanical Garden has been reported to back up on NC 279 (New Hope Road [SR 2302]) about 1.5 miles north of the site.

- **Planned growth in southern Gaston County will result in an increase in the need for east-west mobility.** Between 1990 and 2000, southeastern Gaston County was the fastest growing part of the county. According to the Gaston County Comprehensive Plan, the southeastern part of the county is expected to continue to experience high residential growth through 2020.
- **The Gaston Urban Area Metropolitan Planning Organization (GUAMPO) and the Mecklenburg-Union MPO (MUMPO) show in their plans a new location roadway through southern Gaston County connecting over the Catawba River to Mecklenburg County.** In their transportation plans, the local MPOs recognize the need for a new freeway providing new connectivity. The GUAMPO ranks the proposed project as their top priority.
- **The Gaston East-West Connector is a Strategic Highway Corridor.** The Gaston East-West Connector is designated as a new freeway facility in the Strategic Highway Corridors Vision Plan. The primary purpose of the Strategic Highway Corridors initiative is to provide a safe, reliable, and high-speed network of highways that connect travel destinations throughout and just outside North Carolina.

EXISTING AND PROJECTED POOR LEVELS OF SERVICE ON THE PROJECT AREA'S MAJOR ROADWAYS

- **Traffic volumes are projected to increase on I-85, I-485, US 29-74, and US 321 in the study area through 2030.** Traffic volumes on the study area's major roadways are projected to increase through 2030. On I-85, traffic volumes are projected to increase 29-50 percent between 2006 and 2030, to 105,000-198,400 vehicles per day.

- **There are existing poor levels of service on segments of I-85 in the study area.** Based on 2006 traffic volumes, I-85 is operating at a level of service (LOS) E or F from Exit 19 (NC 7 [Ozark Avenue]) through Exit 27 (NC 273 [Park Street]) in Gaston County.

The LOS is defined with a letter designation from A to F, with LOS A representing the best operating conditions along a roadway or at an intersection, and LOS F the worst.

- **Future levels of service on I-85, US 29-74, and US 321 are projected to worsen.** By 2030, I-85 is projected to operate at LOS E-F throughout the study area (Exit 10 (US 29-74) through Exit 30 (I-485)). Congestion also is projected to increase on I-485, US 29-74, and US 321. US 29-74 is projected to operate at LOS F from McAdenville (Wesleyan Drive) east to I-485, a distance of approximately 6 miles.
- **Congestion and incidents on I-85 inhibit regional travel and the ability of I-85 to function as a Strategic Highway Corridor and Intrastate Corridor.** Existing and projected congestion and frequent incidents on I-85 that temporarily slow or stop traffic (2,589 incidents in 2007 from Exit 10 (US 29-74) to Exit 29 (I-485)) inhibit travel along this important link in the regional transportation system. Traveling from Mecklenburg County heading west to points in Cleveland County and points farther south, I-85 is the only full control of access interstate facility through Gaston County. Also traveling from Mecklenburg County via I-85 to points north of Gaston County such as Hickory or Boone, US 321 (north of I-85) is the only full control of access facility to those destinations from Gaston County, and these roadways are essential for regional truck and vehicular traffic.

1.4 PROJECT PURPOSE

The purpose of the proposed action is to improve east-west transportation mobility in the area around the City of Gastonia, between Gastonia and the Charlotte metropolitan area, and particularly to establish direct access between the rapidly growing area of southeast Gaston County and west Mecklenburg County. This project purpose is based on the following:

- Need to improve mobility, access and connectivity within southern Gaston County and between southern Gaston County and Mecklenburg County.
- Need to improve traffic flow on the sections of I-85, US 29-74 and US 321 in the project study area and improve high-speed, safe, reliable regional travel service along the I-85 corridor.

1.5 BACKGROUND INFORMATION

1.5.1 Project Setting

As shown in **Figure 1**, the project study area is located in southern Gaston County and western Mecklenburg County, within the unincorporated areas of these counties and within the municipalities of Gastonia, McAdenville, Cramerton, Belmont and Charlotte. The project study area consists of the following general boundaries: I-85 to the north, the South Carolina state line to the south, the Charlotte-Douglas International Airport to the east, and the I-85 and US 29-74 junction and Crowders Mountain State Park to the west.

Project Setting

The topography in the study area is gently rolling to hilly, with Crowders Mountain State Park on the west and the Catawba River on the east. Land uses are suburban and rural.

The nearest major city is Charlotte, in Mecklenburg County, which is 20 miles to the east. Hickory is 37 miles to the north and Asheville is 95 miles to the northwest.

The Mecklenburg-Gaston County area has a temperate climate characterized by moderate temperature variations and moderate humidity. The average annual high temperature is about 71-72 degrees Fahrenheit, and the average annual low temperature is 47-49 degrees. The average annual precipitation is 48-54 inches (NC Department of Commerce website:

<http://www.nccommerce.com/en/AboutNorthCarolina/Location/>, accessed May 2, 2008).

The project is located in the South-Central Piedmont region of North Carolina. The topography of the project area is gently rolling to hilly, with several pronounced ridges, including Kings Mountain Pinnacle, Spencer Mountain, Jackson's Knob, Paysour Mountain and Crowders Mountain.

Gaston County has a total area of approximately 363.5 square miles and Mecklenburg County has a total area of approximately 546.2 square miles (Census 2000: <http://factfinder.census.gov>, Table GCT-PH1 – Population, Housing Units, Area, and Density, accessed May 27, 2008). Elevations above sea level in Gaston County range from 587 feet in the southeast corner to 1,705 feet at the Pinnacle of the Kings Mountain ridge in the southwest. The average elevation is estimated at 825 feet (Gaston County Economic Development Commission website:

<http://www.gaston.org/PDF/LocationGeog.pdf>, accessed April 15, 2008). The average elevation of Mecklenburg County is 751 feet, with the highest elevation of 890 feet located in the western portion of the county (NC Geological Survey website: http://www.geology.enr.state.nc.us/county/county_high_points.html, accessed May 5, 2008).

The most prominent natural features in the project area are Crowders Mountain to the west and the Catawba River to the east. The Catawba River is the boundary between Gaston County and Mecklenburg County. The Catawba River and its lakes are a regional water supply. They also provide boating, fishing and other recreational opportunities, as well as provide cooling waters for the Duke Energy Allen Steam Station and the Catawba Nuclear Station.

Outside the municipal boundaries, the land uses in southern Gaston County are suburban and rural, with residential subdivisions scattered among large tracts of undeveloped land and agricultural land. Businesses and industries are concentrated within municipal limits and outside the cities along I-85, US 29-74, US 321, NC 274 (Union Road), and NC 273 (South Point Road) where water and sewer services are provided.

The most prominent land use in western Mecklenburg County is the Charlotte-Douglas International Airport. Business and commercial uses are concentrated in areas surrounding the airport and along I-85 and US 29-74. Between I-485 and the Catawba River, the land uses consist of undeveloped land, scattered rural residences, riverfront developments, and new subdivisions. This area is one of the few remaining relatively undeveloped areas near Charlotte, and it is rapidly developing.

1.5.2 History of Project

1.5.2.1 Local Planning Efforts

Plans to improve east-west mobility in southern Gaston County through construction of a new location roadway have been under discussion since the late 1980's by the Gaston Urban Area Metropolitan Planning Organization (GUAMPO). The need for improved east-west mobility and the bypass concept was first identified in 1989 during the citizen participation process associated with the update of the Gaston Urban Area Thoroughfare Plan. The GUAMPO held five citizen workshops, six public meetings, and thirteen formal public hearings before adopting the locally named US 321/74 Bypass on their 1991 Plan. The US 321/74 Bypass extends from US 321 north of Gastonia around the west and south sides of Gastonia to I-485 in Mecklenburg County.

Local Planning

Local planning efforts for the project have been underway since the late 1980s.

The GUAMPO's Transportation Advisory Committee (TAC) oversees state and federal road projects within the Gaston Urbanized Area. In 1992, the TAC requested that the Mecklenburg-Union MPO Technical Coordinating Committee (MUMPO TCC) place the US 321/74 Bypass on their thoroughfare plan since the eastern end of the project was in Mecklenburg County. In 1994, the MUMPO TCC adopted a conceptual regional thoroughfare plan proposed by the Charlotte Committee of 100, which included the US 321/74 Bypass.

In 1996, a citizens' advisory council was formed to serve as an advisory board to the GUAMPO TAC. This group, later called the US 321/74 Bypass Citizens' Committee, consisted of 40 Gaston County residents. From 1997 through 1999, the US 321/74 Bypass Citizens' Committee met on a monthly basis in an effort to select a corridor for the "Bypass". The Citizens' Committee recommended to the GUAMPO TAC a proposed location of the bypass facility and then disbanded in August 1998. In October 1998, a public hearing was held by the GUAMPO regarding the US 321/74 Bypass location. The GUAMPO TAC adopted a modified version of the proposed location in January 1999, and shortly thereafter (March 1999), it appeared on the 1999 Gaston Urban Area Thoroughfare Plan.

In September 2000, the GUAMPO TAC passed a resolution that it “supports the use of alternative funding methods to accelerate construction of the US 321/74 Bypass, including methods that would require the payment of a toll by motorists.” (Gaston Urban Area 2030 LRTP, May 2005, p. 74). In November 2001, the GUAMPO TAC approved a motion to use the name *Garden Parkway* (as in Daniel Stowe Botanical Garden) in reference to the “US 321/74 Bypass.”

The corridor adopted in 2004 by the GUAMPO TAC for the Garden Parkway is shown in **Figure 2**. In the Gaston Urban Area 2030 Long Range Transportation Plan (LRTP) (adopted May 2005), the Garden Parkway is recognized as two projects; the Gaston East-West Connector (STIP Project U-3321) extending from I-85 west of Gastonia to I-485, and the US 321 Bypass (STIP Project R-2608) extending from US 321 north of Gastonia to I-85 west of Gastonia (Gaston Urban Area 2030 LRTP, May 2005, p. 71).

1.5.2.2 Planning by NCDOT and NCTA

In 2001, the North Carolina Department of Transportation began studies of Project U-3321 to comply with the National Environmental Policy Act (NEPA).

NCTA

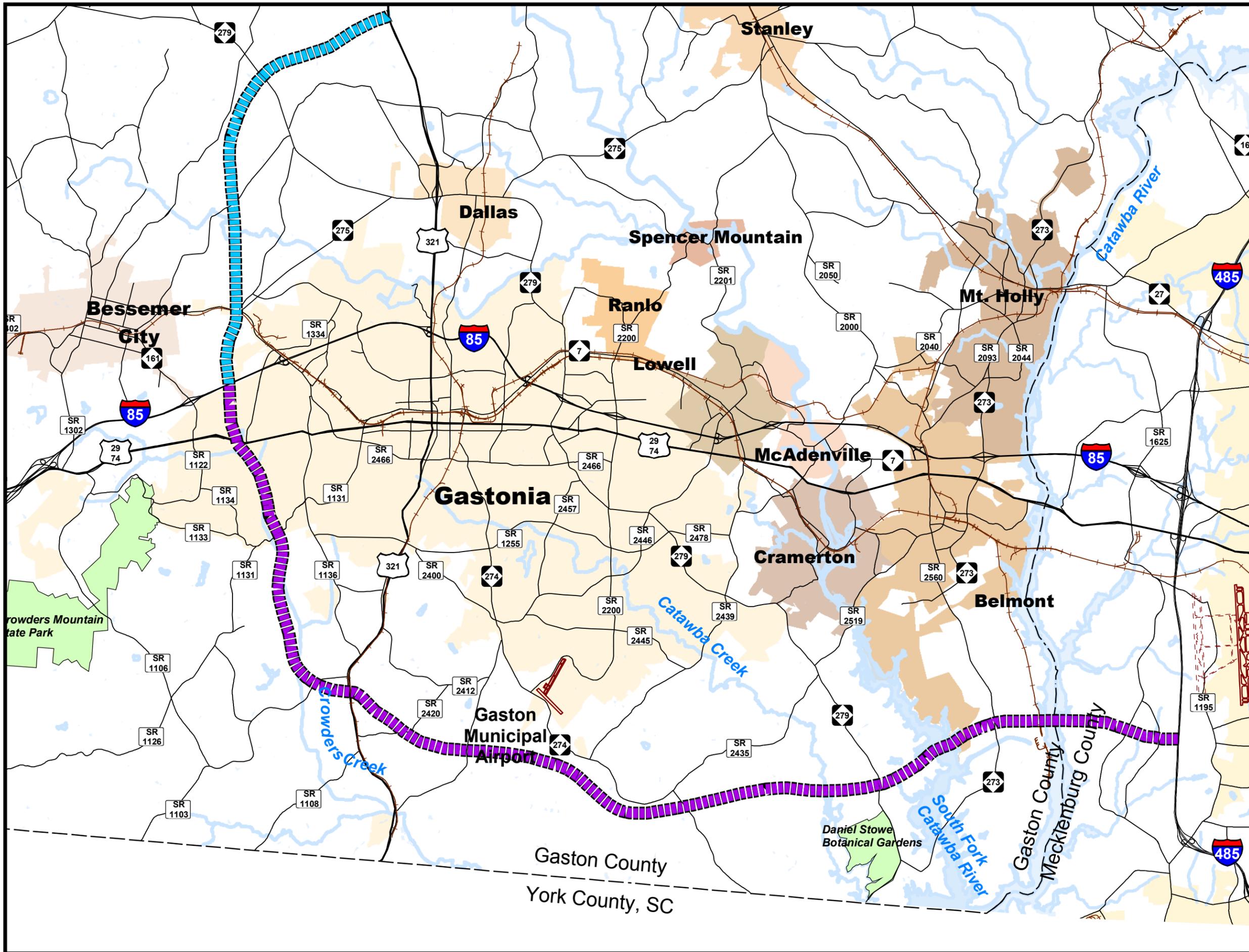
The NCTA selected the Gaston East-West Connector as a candidate toll facility in February 2005.

The first series of Citizens Informational Workshops for the proposed action took place in September and December 2003. Three workshops were held on September 30, December 9 and December 10, to receive input on the purpose and need for the project and preliminary alternatives being considered. The majority of people commenting on the project supported the need for the project and the concept of a new location highway (PBS&J, Citizens Informational Workshop Series #1 Summary, March 2004).

While under the administration of the NCDOT, the project followed the Merger 01 Process for environmental agency concurrence and coordination, as contained in the NEPA/404 Merger 01 Memorandum of Agreement signed by NCDOT, Federal Highway Administration (FHWA), US Army Corps of Engineers (USACE), and the NC Department of Environment and Natural Resources (DENR). The NEPA/404 Merger Team for this project included these four agencies and the US Fish and Wildlife Service, US Environmental Protection Agency, NC Wildlife Resources Commission, DENR Division of Water Quality, State Historic Preservation Office, GUAMPO, and MUMPO.

The Merger 01 process allows agency representatives to coordinate efficiently in a common forum for discussion of project issues as they relate to each agency’s mission. The Merger 01 process requires concurrence from member agencies at specific project milestones. These milestones are called Concurrence Points, and the first is concurrence on purpose and need. The Merger 01 team concurred on the project’s purpose and need on July 24, 2002. The Concurrence Form is included as **Appendix A**.

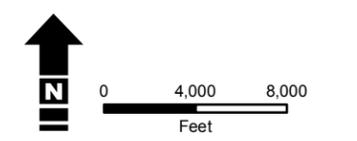
In February 2005, the North Carolina Turnpike Authority (NCTA) Board of Directors selected the Gaston East-West Connector as a candidate toll facility, and the project is now being studied by NCTA. The NCTA was created in 2002 by the North Carolina General Assembly in response to concerns about rapid growth, heavy congestion and dwindling resources. The NCTA is authorized to study, plan, develop, construct, operate and maintain up to nine projects.



- Legend**
- * Proposed US 321 Bypass (STIP R-2608)
 - * Proposed Gaston East-West Connector (STIP U-3321)
 - Railroads
 - Proposed Airport Expansion
 - Major Roads
 - County Lines
 - Hydrology
 - Major Parks

* Note: These recommended corridor locations were adopted by the GUAMPO Transportation Advisory Committee (TAC) on February 4, 2004.

Source: Gaston County and Mecklenburg Counties GIS. Map Printed On 5-07-08.



STIP PROJECT NO. U-3321

Gaston County and Mecklenburg County

GASTON EAST-WEST CONNECTOR

GUAMPO GARDEN PARKWAY CORRIDOR

Figure 2

1.6 EXISTING TRANSPORTATION SYSTEM

1.6.1 Existing Road Network

1.6.1.1 Major Roadways and their Characteristics

The primary east-west routes through Gaston County are I-85 and US 29-74. The I-85/US 29-74 travel corridor is used by most of the traffic traveling east-west within the project study area and there are no other crossings of the Catawba River in Gaston County south of these two roadways.

Interstate 85

I-85 is the only controlled access east-west highway through Gaston County.

The major arterials that connect to the I-85/US 29-74 travel corridor in Gaston County are, from west to east: NC 274 (Union New Hope Road), NC 279 (South New Hope Road), and NC 273 (Southpoint Road).

US 321 is the primary north-south route through the county. It intersects the I-85/US 29-74 corridor in the center of Gastonia. I-485 provides north-south travel in the Mecklenburg County portion of the study area.

NC 279 and NC 273 provide north-south connections to southeastern Gaston County parallel to either side of the South Fork Catawba River. Minor arterials that intersect NC 273 and NC 279 generally traverse in a northeast-southwest direction. South of I-85 and US 29-74, east-west travel in southern Gaston County is circuitous, as there are no direct east-west routes across southern Gaston County.

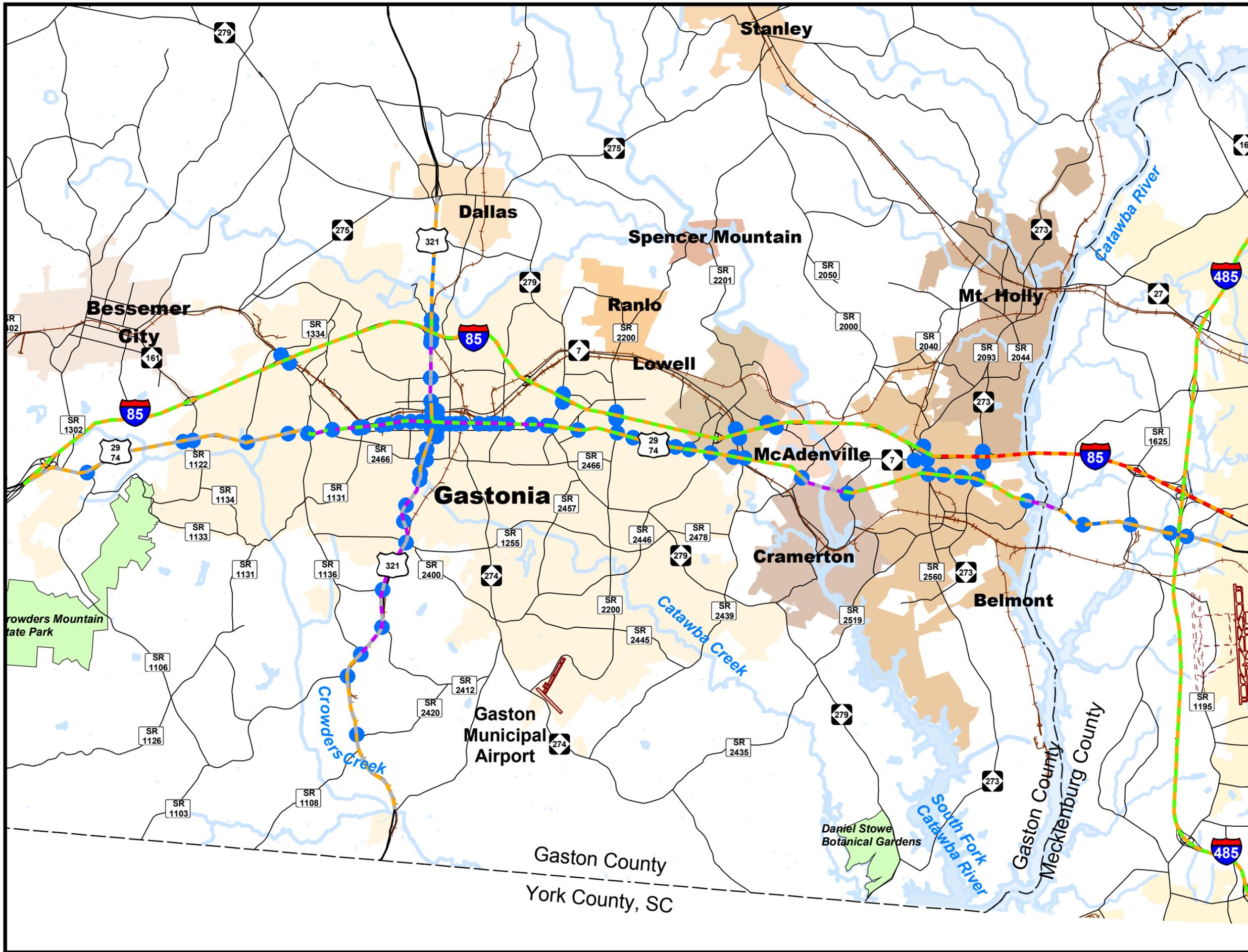
Figure 3 shows the characteristics of the major roadways in the study area. These roads are described below:

I-85. I-85 is a controlled-access north-south interstate route that traverses Gaston County in an east-west direction. I-85 extends from Richmond, Virginia, through Atlanta, Georgia. I-85 connects Gaston County with Charlotte to the northeast and Greenville-Spartanburg, South Carolina to the southwest.

In the project area (Exit 10 (US 29-74) to Exit 30 (I-485)), the interstate varies between six and eight lanes, with posted speed limits from 55 to 65 miles per hour (mph).

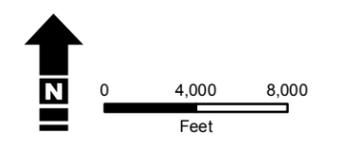
There are eleven interchanges in Gaston County between Exit 10 (US 29-74) and Exit 27 (NC 273 [Park Street]). There are two interchanges in Mecklenburg County in the project area; Exit 29 (Sam Wilson Road) and Exit 30 (I-485). Exit 29 is a diamond interchange with Sam Wilson Road (SR 1625). Exit 30 is a freeway-to-freeway interchange with I-485.

I-485. I-485 is a partially-completed outer loop of Charlotte in Mecklenburg County. In the project area, it is on the west side of the Charlotte-Douglas International Airport, and it extends just north of I-85 to NC 16. It is six lanes wide (three in each direction) with a posted speed limit of 65 mph. In the project area, there are interchanges at I-85, US 29-74 (half clover), and Steele Creek Road (NC 160) (partial clover).



- Legend**
- 4 Lanes Divided
 - 5, Divided
 - 6 Lanes Divided
 - 8 Lanes Divided
 - 4 Lanes Undivided
 - 5 Lanes Undivided
 - 6 Lanes Undivided
 - Signalized Intersection
 - Railroads
 - Proposed Airport Expansion
 - Major Roads
 - County Lines
 - Hydrology
 - Major Parks

Source: Gaston County and Mecklenburg Counties GIS. Map Printed On 5-02-08.



STIP PROJECT NO. U-3321

Gaston County and Mecklenburg County

GASTON EAST-WEST CONNECTOR

EXISTING FACILITY CHARACTERISTICS

Figure 3

US 29-74. US 29 and US 74 are coinciding routes through most of Gaston County and part of Mecklenburg County. The road is also called Franklin Boulevard (west of Redbud Drive in Gaston County) and Wilkinson Boulevard (east of Redbud Drive). US 29-74 is south of and parallel to I-85, and travelers driving between Gaston or Cleveland Counties and Mecklenburg County can use US 29-74 as an alternative to using I-85, especially in the event of congestion or incident delays.

The number of lanes varies from four-lanes (at the South Fork Catawba River crossing and west of Myrtle School Road [SR 1136]) to seven-lanes, with posted speed limits between 35 and 50 mph. Access control along US 29-74 varies from partial control of access to no control of access.

Access to US 29-74 is provided at numerous locations, through signalized and unsignalized intersections and residential and commercial driveways.

US 321. US 321 is the only north-south US route in Gaston County. It connects to I-40, Hickory, and Boone to the north and with South Carolina to the south. US 321 from Dallas, North Carolina to Hickory is mostly a full control of access, four-lane divided facility. Consequently, US 321 serves as an alternative north-south route to I-77 that connects to I-40. Within the study area, US 321 varies from four to six lanes, with posted speed limits ranging from 35 to 55 miles per hour. There is no control of access on US 321 in the project study area. Through downtown Gastonia, US 321 is a one-way pair of streets – Chester Street is southbound and York Road is northbound.

NC Routes. Segments of five NC routes are in southern Gaston County. These NC routes are NC 7, NC 161, NC 273, NC 274, and NC 279. Segments of one NC route, NC 160, are in the western Mecklenburg County portion of the study area.

1.6.1.2 Types of Travel on Existing Roadways

Local travel statistics are available for the project area. The *Greater Charlotte Region Household Travel Survey*, completed in September 2002, was a cooperative effort between NCDOT, the South Carolina Department of Transportation (SCDOT) and the City of Charlotte Department of Transportation (CDOT). The survey collected travel information from a sample population of 3,333 households, including 7,418 people, from ten counties. In this study, the Greater Charlotte Region includes Mecklenburg County, Gaston County, Lincoln County, Cabarrus County, Rowan County, Stanly County, Union County, portions of Iredell and Cleveland Counties, and York County, South Carolina. For the region, there were 1.99 vehicles per household, and each vehicle traveled an average of 24.2 miles per day.

Commuters

37% of workers living in Gaston County work outside the county. Of these, 70% work in Mecklenburg County.

The predominant transportation type for the region is car, van, or truck (92.6 percent), followed by school bus (3.8 percent) and walking (2.2 percent). Transit bus, bicycle, and motorcycle are used by only one percent of the people in the region, according to the survey. Overall, each household made 7.93 vehicle trips per day, distributed mainly among trips to home (33.5 percent), work (16.8 percent), personal business (10.9 percent) and shopping (9.4 percent).

Data on commuting patterns is available from the US Census. **Table 1** shows the commuting patterns in the Charlotte Metropolitan Statistical Area (MSA) based on 2000 Census data.

Table 1. Commuting Patterns in Charlotte MSA based on 2000 Census Data

| County of Residence | County of Work | | | | | | | | Total # Workers Living in County |
|----------------------------------|----------------|--------------|---------|---------------|--------|--------|----------|-----------|----------------------------------|
| | Cabarrus | Gaston | Lincoln | Mecklenburg | Rowan | Union | York, SC | Elsewhere | |
| Cabarrus | 35,032 | 400 | 92 | 22,693 | 4,025 | 525 | 282 | 2,933 | 65,982 |
| Gaston | 423 | 56,321 | 1,868 | 23,101 | 1,046 | 226 | 1,602 | 4,754 | 89,341 |
| Lincoln | 195 | 3,166 | 15,249 | 6,545 | 320 | 93 | 99 | 6,136 | 31,803 |
| Mecklenburg | 6,694 | 3,948 | 748 | 329,498 | 1,284 | 4,853 | 4,217 | 11,654 | 362,932 |
| Rowan | 8,155 | 232 | 99 | 4,942 | 40,721 | 181 | 122 | 5,847 | 60,299 |
| Union | 551 | 184 | 7 | 24,892 | 87 | 32,613 | 608 | 2,275 | 61,217 |
| York, SC | 279 | 2,526 | 155 | 23,907 | 228 | 439 | 47,898 | 4,490 | 79,922 |
| Elsewhere | 5,626 | 8,339 | 2,991 | 40,131 | 10,665 | 6,646 | 8,726 | N/A | N/A |
| Total # Working in County | 56,955 | 75,116 | 21,209 | 475,709 | 58,376 | 45,576 | 63,554 | N/A | -- |

Source: 2000 US Census

As shown in **Table 1**, Mecklenburg County attracts the majority of commuters in the region. In 2000, over 33,000 people left Gaston County daily to go to work, with the overwhelming majority (23,101 commuters, or 70 percent) going to Charlotte or elsewhere in Mecklenburg County. Conversely, nearly 4,000 people commuted from Mecklenburg County to Gaston County every day. Altogether, there are over 27,000 workers commuting between Gaston and Mecklenburg Counties, which demonstrates a need for connectivity between the counties.

1.6.1.3 Roadway Connections between Gaston and Mecklenburg Counties

Gaston County is separated from Mecklenburg County, the region’s largest employment and destination generator, by the Catawba River. There are only four roadway connections between Gaston and Mecklenburg Counties over the Catawba River. Two of the crossings, NC 16 and NC 27, are in the northern half of Gaston County. In the center of Gaston County, the two adjacent parallel connections across the river are I-85 and US 29-74. The next crossing of the Catawba River is outside Gaston County on NC 49, connecting to York County, South Carolina, approximately 11 miles to the south.

Catawba River Crossings

There are only four bridges over the Catawba River between Gaston and Mecklenburg Counties. None are in southern Gaston County.

NC 16 is a four-lane divided roadway over the Catawba River with a posted speed limit of 45 mph. NC 27 is a four-lane crossing approximately four miles south of the NC 16 crossing.

According to 2006 annual average daily traffic (ADT) maps from NCDOT, there were approximately 17,000 vehicles per day (vpd) using the NC 16 crossing and 12,000 vpd using the NC 27 crossing. The 2006 ADT volumes for the I-85 and US 29-74 crossings are approximately 121,000 vpd and 19,000 vpd, respectively. Based on the ADT information, the I-85/US 29-74 corridor carries approximately 82 percent of the traffic volume traveling between Gaston and Mecklenburg Counties.

1.6.2 Other Transportation Modes

1.6.2.1 Railways

In 1911, the Piedmont and Northern Railroad (P&N) interurban line began service from Gastonia to Charlotte, and furnished Gastonia with its first and only streetcar (Gastonia's Comprehensive Plan, 1995). The streetcar ran directly along Franklin Avenue, starting at Webb Street and continuing to Church Street (SR 2339). The line continued to Groves Mill before connecting with the P&N. Due to increased automobile traffic along this route, streetcar use stopped in 1948. After the streetcars stopped running, passenger operations on the P&N ceased in 1954.

Amtrak provides passenger rail service through Gastonia and Charlotte. There are currently three routes that service the area: the Crescent route runs daily between New York City and New Orleans, with many stops in between, including Charlotte and Gastonia; the Piedmont route provides daily trips between Charlotte and Raleigh; and the Carolinian route provides daily service between Charlotte and New York City with stops in Raleigh, Richmond, Washington, DC, Baltimore and Philadelphia. These routes operate on the Norfolk-Southern and CSX rail lines, which also carry freight train traffic (Amtrak website: www.amtrak.com, accessed April 14, 2008).

There are three existing railroad bridge crossings across the Catawba River between Gaston and Mecklenburg Counties. Two of the three are adjacent and parallel to existing NC 27 on the south side. The third railroad bridge crossing is approximately 0.7 miles south of the existing US 29-74 crossing.

1.6.2.2 Airports

The Gastonia Municipal Airport is the airport nearest the project study area in Gaston County and the Charlotte-Douglas International Airport is the closest airport in Mecklenburg County. The Gaston Municipal Airport is a general aviation airport adjacent to the east side of NC 274 (Union Road), south of downtown Gastonia. Access to the airport is from NC 274 (Union Road) via Gaston Day School Road (SR 2444) and Airport Road (SR 1903). The airport has one runway that is approximately 3,500 feet long, and more than 30 hangars for private aircraft. Aircraft operations averaged 137 planes per day in 2006, consisting of 80 percent local general aviation, 18 percent transient general aviation and 2 percent air taxi (AirNav.com website: www.airnav.com, accessed April 18, 2008). Area emergency medical services and law enforcement agencies use the facility as a heliport and transport point.

Charlotte-Douglas International Airport

This major employer in west Mecklenburg County is expanding with the addition of a third runway. A freight intermodal facility is also planned.

The Charlotte-Douglas International Airport is located on approximately 5,000 acres in west Charlotte (**Figure 1**). Over 100,000 jobs in the region are directly or indirectly related to the airport and its services (Charlotte-Douglas International Airport website: www.charmeck.org/Departments/Airport/About+CLT/Economic+Asset.htm, accessed April 21, 2008). Access to the airport is possible from multiple directions. From Uptown Charlotte or Gaston County, access is along US 29-74 (Wilkinson Boulevard). From South Charlotte, the airport is accessed via US 521 (Billy Graham Parkway) or I-485. Regional access occurs primarily from I-85 North and South.

Airport facilities include a 1.7-million square foot terminal with five concourses serving 91 gates. As of February 2008, the airport has 627 daily departures (Charlotte-Douglas International Airport website: www.charmeck.org/Departments/Airport/About+CLT/Fast+Facts.htm, accessed April 18, 2008). The airport currently has two parallel runways with lengths of 10,000 feet and 8,676 feet. Construction of a third parallel runway is underway. The new 9,000 foot runway will allow for three independent approaches for arrivals, increasing air service by 33 percent. The scheduled runway completion date is January 2010 (Charlotte-Douglas International Airport website: www.charmeck.org/Departments/Airport/Construction+Update+.htm, accessed April 21, 2008)

The runway project requires the relocation of two area roads, Old Dowd Road (SR 1191) and Wallace Neel Road (SR 1195), which will be reconstructed to maintain road connections to the airport. Additionally, West Boulevard (NC 160) is being relocated to the south of the present road to accommodate the runway construction. West Boulevard will be extended to I-485 and will provide access to the planned intermodal facility. As funding becomes available, the roadway will be expanded to a four-lane highway. The relocation and construction of West Boulevard will be completed in phases to maintain needed connectivity for both citizens and runway project traffic (Charlotte-Douglas International Airport website: www.charmeck.org/Departments/Airport/Runway+Road+Relocations.htm, accessed April 21, 2008).

In the future, the Charlotte-Douglas International Airport has plans for an “intermodal zone” that would combine direct rail and truck access with incoming air cargo. The intermodal facility would be located between the new runway and the existing runway and is expected to have a 10-track rail yard and approximately 2,500 trailer parking spaces. Additional truck traffic generated from the site would use NC 160 (West Boulevard [SR 1448]) to access I-485 and vice versa (Charlotte-Douglas International Airport, 2002). I-485 provides increased mobility to destinations within Mecklenburg County. Gaston County is connected to I-485 through the I-85/US 29-74 travel corridor.

1.6.2.3 Mass Transit

Bus service is available in Gastonia through Gastonia Transit, which provides service to over 325,000 passengers annually. The bus fleet consists of seven (7) 35-foot transit buses, three (3) demand response vans, and the only compressed natural gas (“CNG”) bus in the state of North Carolina (Gastonia Transit, General Information website: www.cityofgastonia.com/city_serv/general/transit/transit.cfm, accessed April 18, 2008).

All bus routes begin and end at Bradley Station at the corner of Oakland Street (SR 1001) and Main Avenue in Gastonia. There are a total of nine bus routes, of which three serve US 29-74 and three serve US 321 (Gastonia Transit, Route Map website: www.cityofgastonia.com/city_serv/general/pdf%20files/NC%20Gastonia%20Int%20%202005.pdf, accessed April 18, 2008).

The Charlotte Area Transit System (CATS), in partnership with Gastonia, has established Express Bus service to uptown Charlotte. Route 85x, the Gastonia Express, runs four times in the morning and twice in the evening. The express bus makes one stop between the Bradley Station and Uptown Charlotte at the Abbey Plaza Shopping Center at the corner of US 29-74 and NC 273 (Park Street [North of NC 7]) in Belmont. Total travel time on the express route is about one hour.

In western Mecklenburg County, Route 2 runs along US 29-74 (Wilkinson Boulevard) to Old Dowd Road at Distribution and Marketing Services, Inc. This route runs to Old Dowd Road four times a day on weekdays only. Route 55 also provides service in western Mecklenburg County, running along Westinghouse Boulevard from the Sharon Road West Station to Steele Creek Road (NC 160). This route operates every half-hour during the morning and afternoon rush hours and otherwise every hour, on weekdays only (Charlotte Area Transit System website: www.charmeck.org/Departments/CATS/Home.htm, accessed April 21, 2008).

1.7 PERFORMANCE OF THE EXISTING ROADWAY SYSTEM

1.7.1 Mobility and Connectivity Issues

South of I-85 in southern Gaston County, a lack of connecting east-west roadways makes travel circuitous and limits mobility. In addition, mobility is inhibited between southern Gaston County and Mecklenburg County by the limited number of bridges over the Catawba River, which acts as natural barrier between the two counties.

Mobility in Southern Gaston County

A lack of connecting east-west roadways in southern Gaston County makes travel circuitous and limits mobility.

Currently, there are no continuous east-west routes in southern Gaston County. The roads in southern Gaston County generally run more north-south. As can be seen on **Figure 3**, a person wishing to travel from the residential subdivisions on the Belmont peninsula (the land between the South Fork Catawba River and Catawba River) to businesses and industries along US 321 in southern Gaston County cannot do so directly, they must first travel north to use westbound I-85 or US 29-74 to US 321, then south on US 321 or travel a circuitous route that might include NC 273 (Armstrong Road), NC 279 (South New Hope Road), SR 2435 (Union New Hope Road), NC 274 (Union Road), SR 2416 (Robinson Road), SR 2412 (Little Mountain Road), SR 2420 (Forbes Road) to US 321.

The need for improved connectivity and east-west mobility within southern Gaston County will continue to grow as the population in this area increases. Between 1990 and 2000, southeastern Gaston County had the largest population increase in the County. According to the Gaston County

Comprehensive Plan, the southeastern part of the county is expected to continue experiencing high residential growth through 2020.

Mecklenburg County is the hub of the 13-county Charlotte region and is the primary center for employment, shopping, and other economic activities. The linkage between Gaston County and Mecklenburg County is demonstrated by commuting patterns. In 2000, over 33,000 people left Gaston County daily to go to work, with the overwhelming majority (23,101 commuters, or 70 percent) going to Charlotte or elsewhere in Mecklenburg County. Nearly 4,000 people commuted from Mecklenburg County to Gaston County every day. Altogether, there are over 27,000 people commuting between Gaston and Mecklenburg Counties, which demonstrates a need for connectivity between the counties.

There is demand for regional accessibility through Gaston County. The Charlotte region is a major trucking center, and destinations to the southwest (e.g., Greenville-Spartanburg, SC and Atlanta, GA), west (e.g., Asheville, NC), and northwest (e.g., Hickory, NC) are reached by traveling on I-85 and US 321 through Gaston County. Tourists from the Charlotte metropolitan area traveling to the mountains of western North Carolina and Tennessee also use I-85 and US 321 through Gaston County.

Accessibility and regional travel between southern Gaston County and Mecklenburg County is inhibited because existing connections across the Catawba River are limited. The parallel corridors of I-85 and US 29-74 serve as the connections between southern Gaston County and Mecklenburg County. Approximately 82 percent of the existing traffic volumes between the counties are provided by the I-85 and US 29-74 parallel corridors. The next closest crossings are 2 ½ miles to the north on NC 27 and 11 miles to the south on NC 49, neither of which are practical for access to/from southern Gaston County.

Many segments of I-85 in the study area (Exit 19 (NC 7 [Ozark Avenue] through Exit 27 (NC 273 [Park Street])) currently are operating at or above capacity, and congestion is projected to worsen through the design year 2030. Also, there are high numbers of incidents (events that slow traffic or close a lane, such as a vehicle breakdown) on I-85, contributing to unexpected delays. US 29-74 is not access-controlled and has numerous closely-spaced signalized intersections, so speeds are limited.

Residential growth projected in southern Gaston County and residential and employment growth in western Mecklenburg County will continue to increase demand for accessibility and connectivity between the two counties. Gaston County expects future residential growth to be focused in southeastern Gaston County due to its proximity to Mecklenburg County (the economic center of the region) and distance away from the watershed area of Mountain Island Lake to the northeast.

The Charlotte-Douglas International Airport in western Mecklenburg County employs over 16,000 people and is in the process of expanding through construction of a new runway. In the future, the airport has plans for an intermodal facility combining rail, truck and air cargo transport that would generate employment opportunities and substantial numbers of regional truck trips.

The Dixie-Berryhill Strategic Plan calls for mixed use and transit-oriented development in the currently sparsely developed part of western Mecklenburg County, directly across the Catawba River from southeastern Gaston County. This mixed-use area will create more employment opportunities in proximity to Gaston County in addition to existing office and industrial parks and the Charlotte-Douglas International Airport.

1.7.2 Traffic Volumes on Existing Roadways

1.7.2.1 Travel Demand Modeling

Travel demand is a function of socioeconomic conditions such as residential densities, locations of jobs and services, and trip lengths and distributions for the various types of trip purposes. Travel demand models are used for simulating current travel conditions and forecasting future travel patterns and conditions.

Traffic forecasts were prepared by Martin/Alexiou/Bryson and described in a separate technical memorandum (Gaston East-West Connector (U-3321) Traffic Forecasts for Toll Alternatives. May, 2008). The Metrolina Regional Model (April 13, 2006), which covers a multi-county region including Gaston and Mecklenburg Counties, provided by the Charlotte Department of Transportation was used as the base network to model the 2006 base year and the design year 2030 No-Build Alternative. The April 13, 2006 version of the 2030 Metrolina travel demand model was used as the base model because this was the version current at the time the updated forecasting activities began, and all scenarios needed to be forecast from the same base model. The 2030 No-Build Alternative assumes that the proposed action is not constructed.

1.7.2.2 Existing and Projected Traffic Volumes

Tables 2 through 5 show existing (2006) and projected (design year 2030) traffic volumes for I-85, I-485, US 29-74 and US 321, respectively. **Figures 4 and 5** present the same information graphically.

Traffic Volumes

Traffic volumes are projected to increase substantially from 2006 to 2030 on the study area's major roadways.

Table 2. I-85 – Existing and Projected Traffic Volumes

| Segment | | 2006 AADT* | 2030 AADT* |
|---|-------------------------------------|---------------|---------------|
| From | To | | |
| Exit 10 – US 29-74 (W Franklin Blvd) | Exit 13- SR 1307 (Edgewood Rd) | 73,800 | 105,000 |
| Exit 13 | Exit 14 - NC 274 (Bessemer City Rd) | 79,400 | 115,400 |
| Exit 14 | Exit 17 - US 321 (Chester St) | 84,200 | 119,200 |
| Exit 17 | Exit 19 - NC 7 (Ozark Ave) | 97,400 | 134,600 |
| Exit 19 | Exit 20 - NC 279 (New Hope Rd) | 109,600 | 147,200 |
| Exit 20 | Exit 21 - Cox Rd | 111,200 | 151,000 |
| Exit 21 | Exit 22 - Main St | 118,200 | 153,000 |
| Exit 22 | Exit 23 - NC 7 (McAdenville Rd) | 123,600 | 161,600 |
| Exit 23 | Exit 26 - Belmont Mount Holly Rd | 125,000 | 169,200 |
| Exit 26 | Exit 27 - NC 273 | 126,800 | 178,600 |
| Exit 27 | Exit 29 – Sam Wilson Road | 134,000 | 193,600 |
| Exit 29 | Exit 30 - I-485 | 130,000 | 198,400 |

*AADT – Annual Average Daily Traffic Volumes (vehicles per day)

Source: Forecasts prepared by Martin/Alexiou/Bryson using the 2030 Metrolina travel demand model (version 4/13/06)

Table 3. I-485 - Existing and Projected Traffic Volumes

| Segment | | 2006 AADT ¹ | 2030 AADT ¹ |
|-----------------------------------|------------------------------------|---------------------------|---------------------------|
| From | To | | |
| Exit 4 - Steele Creek Rd (NC 160) | Exit 9 - US 29-74 (Wilkinson Blvd) | 52,000 | 100,000 |
| Exit 9 | Exit 10 – I-85 | 16,100 ² | 41,900 ² |

1. AADT – Annual Average Daily Traffic Volumes (vehicles per day)

2. AADT is for the mainline and does not include AADT on the collector/distributor roads between the two interchanges.

Source: Forecasts prepared by Martin/Alexiou/Bryson using the 2030 Metrolina travel demand model (version 4/13/06)

Table 4. US 29-74 - Existing and Projected Traffic Volumes

| Segment | | 2006 AADT* | 2030 AADT* |
|--|--|---------------|---------------|
| From | To | | |
| Sparrow Springs Rd | Edgewood Rd | 29,100 | 37,200 |
| Edgewood Rd | Shannon Bradley Rd | 28,800 | 35,600 |
| Shannon Bradley Rd | Myrtle School Rd | 29,100 | 35,400 |
| Myrtle School Rd | NC 274 (Bessemer City Rd/Garrison Blvd) | 26,200 | 32,200 |
| NC 274 (Bessemer City Rd/Garrison Blvd) | Linwood Rd | 13,400 | 21,500 |
| Linwood Rd | US 321 (Chester St) | 7,900 | 16,400 |
| US 321 (Chester St) | Avon St | 15,900 | 21,800 |
| Avon St | Thomas St / Belvedere | 16,100 | 22,700 |

Table 4. US 29-74 - Existing and Projected Traffic Volumes

| Segment | | 2006 AADT* | 2030 AADT* |
|------------------------------|------------------------------|---------------|---------------|
| From | To | | |
| Thomas St / Belvedere | NC 279 (New Hope Rd) | 20,000 | 27,100 |
| NC 279 (New Hope Rd) | Cox Rd / Armstrong Park Rd | 15,500 | 24,700 |
| Cox Rd / Armstrong Park Rd | Franklin Square Shopping Ctr | 24,600 | 39,200 |
| Franklin Square Shopping Ctr | Lineburger Rd | 24,600 | 39,200 |
| Lineburger Rd | S Main St / Redbud Dr | 22,800 | 39,500 |
| S. Main St / Redbud Dr | Wesleyan Dr / Market St. | 33,100 | 42,300 |
| Wesleyan Dr / Market St | Lakewood Rd | 33,900 | 59,700 |
| Lakewood Rd | NC 273 (Park St) | 33,600 | 60,100 |
| NC 273 (Park St) | NC 7 (Catawba St) | 43,700 | 72,700 |
| NC 7 (Catawba St) | Old Dowd Rd | 45,100 | 70,500 |
| Old Dowd Rd | Sam Wilson Rd | 31,900 | 52,600 |
| Sam Wilson Rd | I-485 SB Ramps | 36,000 | 58,400 |
| I-485 SB Ramps | I-485 NB Ramps | 34,900 | 55,100 |
| East of I-485 NB Ramps | | 29,800 | 45,000 |

AADT – Annual Average Daily Traffic Volumes (vehicles per day)

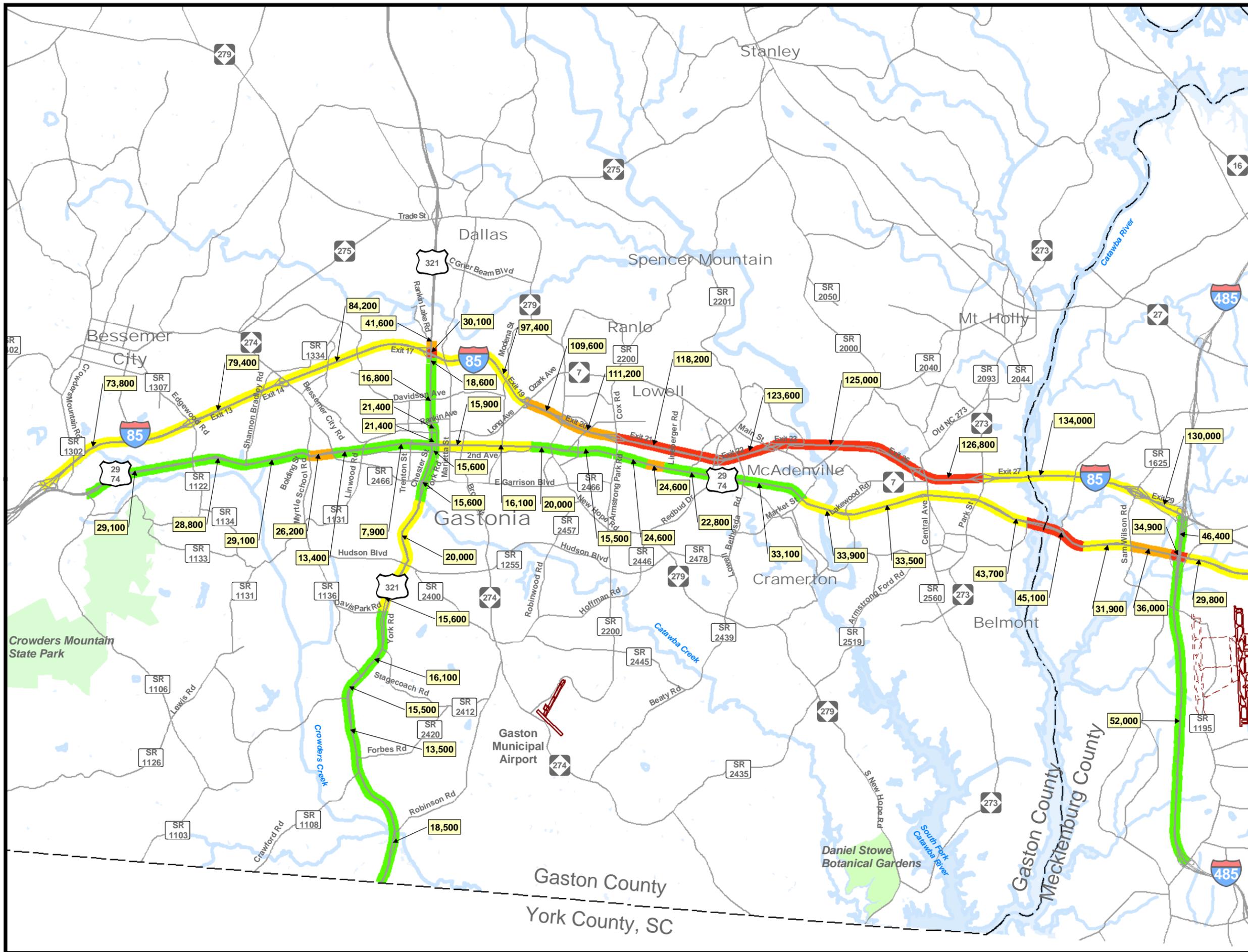
Source: Forecasts prepared by Martin/Alexiou/Bryson using the 2030 Metrolina travel demand model (version 4/13/06)

Table 5. US 321 - Existing and Projected Traffic Volumes

| Segment | | 2006 AADT* | 2030 AADT* |
|--------------------------|--------------------------|---------------|---------------|
| From | To | | |
| State Line | Forbes Rd | 18,500 | 30,900 |
| Forbes Rd | Crowders Creek Rd | 13,500 | 20,700 |
| Crowders Creek Rd | Stagecoach Rd | 15,500 | 23,400 |
| Stagecoach Rd | Davis Park Rd | 16,100 | 23,000 |
| Davis Park Rd | Hudson Blvd | 15,600 | 23,000 |
| Hudson Blvd | Jackson Rd | 20,000 | 22,800 |
| Jackson Rd | W 3rd Ave | 15,600 | 17,400 |
| W 3rd Ave | W Franklin Blvd | 15,600 | 17,400 |
| W Franklin Blvd | W Airline Ave/W Long Ave | 21,400 | 20,500 |
| W Airline Ave/W Long Ave | W Rankin Ave | 21,400 | 20,500 |
| W Rankin Ave | Radio St | 16,800 | 19,900 |
| Radio St | I-85 NB Ramps | 18,600 | 22,000 |
| I-85 NB Ramps | I-85 SB Ramps | 30,100 | 34,500 |
| I-85 SB Ramps | Rankin Lake Rd | 41,600 | 47,000 |

AADT – Annual Average Daily Traffic Volumes (vehicles per day)

Source: Forecasts prepared by Martin/Alexiou/Bryson using the 2030 Metrolina travel demand model (version 4/13/06)



Legend

Level of Service

- A-C
- D
- E
- F

xx,xxx Average Annual Daily Traffic

- Major Roads
- Proposed Airport Expansion
- County Lines
- Hydrology

Source: Gaston County and Mecklenburg Counties GIS. Map Printed On 7-09-08.

N

0 4,000 8,000
Feet

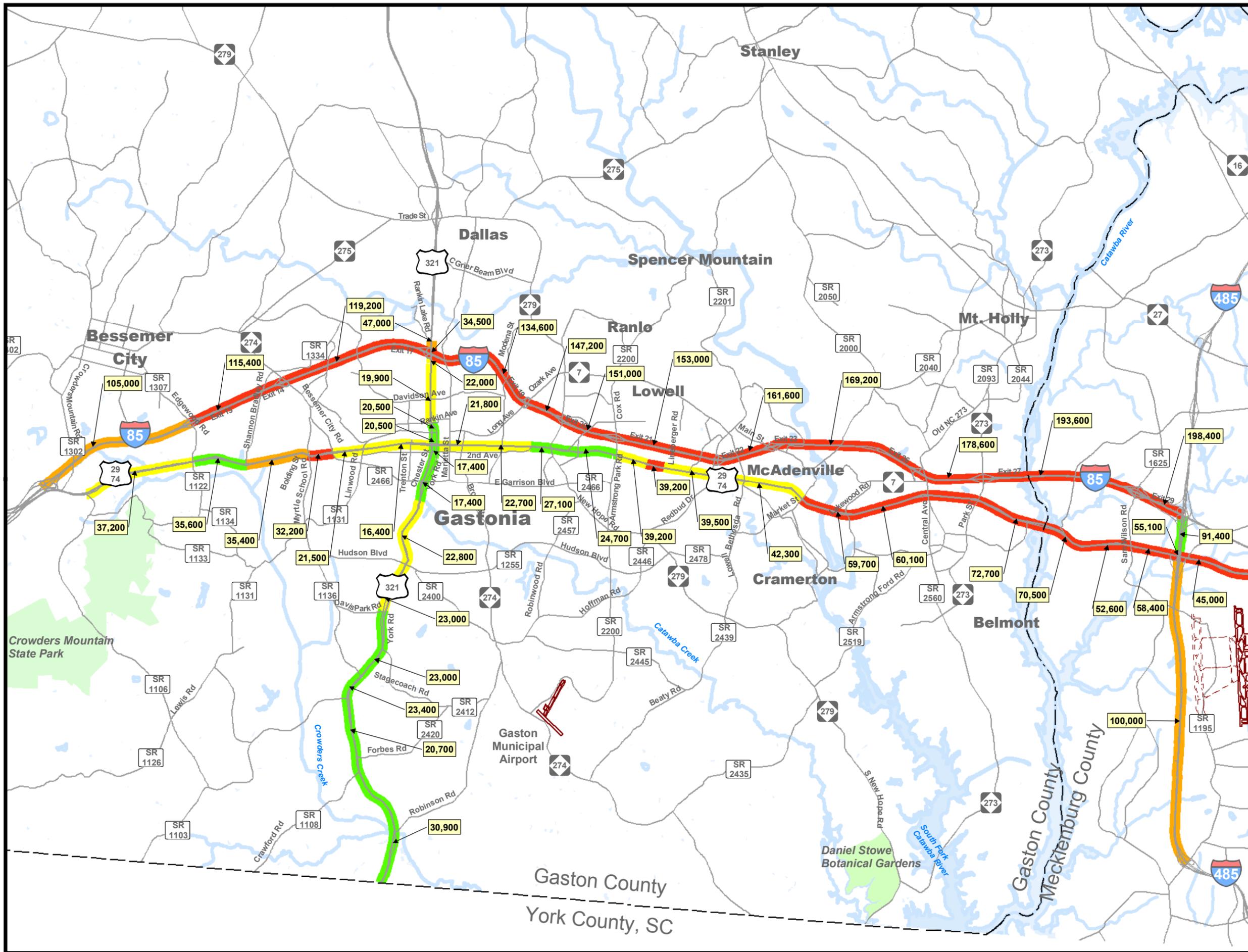


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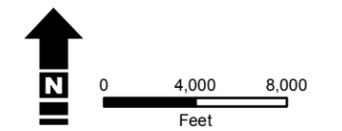
2006 TRAFFIC VOLUMES and LEVELS OF SERVICE

Figure 4



- Legend**
- Level of Service**
- A-C
 - D
 - E
 - F
- xx,xxx Average Annual Daily Traffic
- Major Roads
 - Proposed Airport Expansion
 - County Lines
 - Hydrology

Source: Gaston County and Mecklenburg Counties GIS. Map Printed On 7-09-08.



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Gaston County and Mecklenburg County

GASTON EAST-WEST CONNECTOR

2030 TRAFFIC VOLUMES and LEVELS OF SERVICE (NO-BUILD ALTERNATIVE)

Figure 5

I-85. In the study area, base year (2006) annual average daily traffic volumes (AADT) on I-85 ranged from 73,800 to 134,000 vehicles per day (vpd) on I-85, with the highest traffic volumes closest to Charlotte. By 2030, traffic volumes are projected to increase 29-50 percent (to 105,000-198,400 vpd), with the average increase 40 percent. The highest percent increase is expected between Exit 29 (Sam Wilson Road) and Exit 30 (I-485) in Mecklenburg County.

I-485. In the study area, base year (2006) AADT volumes on I-485 ranged from 46,400 to 52,000 vehicles per day (vpd) on I-485. By 2030, traffic volumes are projected to double to 91,400 to 100,000 vpd.

US 29-74. Along US 29-74, the highest base year (2006) AADT volume (45,100 vpd) was reported between Park Street and Old Dowd Road. Volumes are projected to increase by 22 to 107 percent by 2030, with the highest percent increase (107 percent) expected between Linwood Road and Chester Street.

US 321. On US 321, based year (2006) AADT volumes ranged from 13,500-41,600 vpd, with the highest traffic volumes (41,600 vpd) occurring between the I-85 northbound ramp and Rankin Lake Road. By 2030, US 321 is expected to see changes in volumes ranging from -4 to 67 percent. The 4 percent decrease in volume is projected between West Franklin Boulevard and West Rankin Avenue (just north of downtown), while the highest percent increase (67 percent) is projected between the North Carolina/South Carolina state line and Forbes Road/Superior Stainless Road.

1.7.3 Traffic Operations on Existing Major Roadways

1.7.3.1 Analysis Methodology

The level of service (LOS) is a “qualitative measure describing operational conditions within a traffic stream” (Transportation Research Board 2000:2-2). The LOS is defined with letter designations from A to F that can be applied to both roadway segments and intersections. LOS A represents the best operating conditions and LOS F the worst.

Traffic Operations

By 2030, I-85 is projected to operate at LOS E-F throughout the study area.

Table 6 describes the traffic conditions along roadway segments and intersections generally associated with each LOS designation. In urban areas, LOS D and better is generally considered acceptable, while in rural areas LOS C and better is considered acceptable.

Table 6. Definitions of Levels of Service

| Level of Service | Signalized Intersection | Roadway Segment |
|------------------|--|---|
| A | Very low delay (<10.0 sec. per vehicle). Most vehicles do not have to stop at all. | Free flow. Individuals are unaffected by others in traffic stream. Freedom to select speed and maneuver is extremely high. |
| B | 10.1-20.0 sec. delay. Good progression and short cycle length. | Free flow, but the presence of other vehicles begins to be noticeable. Slight decline in freedom to maneuver. |
| C | 20.1-35.0 sec. delay. Fair progression and/or longer cycles. The number of vehicles stopping is significant. | Stable flow, but the beginning of the range in which the influence of traffic density on operations becomes marked. Maneuvering requires substantial vigilance. Average travel speeds may begin to show some reduction. |
| D | 35.1-55.0 sec. delay. Many vehicles stop. Individual cycle failures noticeable. | High density flow in which ability to maneuver is severely restricted by increasing volumes. Only minor traffic disruptions can be absorbed without effect. |
| E | 55.1-80.0 sec. delay. The limit of acceptable delay. | Flow at or near capacity. Unstable. Most traffic disruptions will cause queues to form and service to deteriorate. |
| F | >80.0 sec. delay. Considered unacceptable to most drivers. | Breakdown flow. Traffic exceeds capacity. Queues form behind such locations, which are characterized by extremely unstable stop-and-go waves. |

Source: Transportation Research Board 2000.

All analyses, as applicable, were performed in accordance with the “NCDOT Congestion Management Capacity Analysis Guidelines” using the North Carolina Level of Service (NC LOS) software, Version 1.3. A freeway capacity analysis was performed for the I-85 and I-485 mainlines and an arterial capacity analysis was performed for US 29-74 and US 321. The analysis is documented in “Traffic Operations Technical Memorandum for I-85, I-485, US 29-74, and US 321 Under Various Scenarios – Gaston East-West Connector” (PBS&J, May 2008).

1.7.3.2 Traffic Operations on I-85

Table 7 presents the results of the NC LOS model for I-85 in the project area for 2006 and 2030. **Figures 4 and 5** present the same information graphically.

Six of the twelve analyzed segments are operating at an acceptable LOS D, while the remaining six are operating at LOS E or F. Currently, the I-85 mainline is operating at LOS D on the west end of the study area, degrading to LOS E and F from around Exit 19 (NC 7 [Ozark Avenue]) to Exit 27 (NC 273 [Park Street]). East of Exit 27, the level of service improves to D, where I-85 is eight lanes. By 2030, the LOS for the twelve segments is projected to degrade to LOS E or F, indicating congestion on I-85 throughout the study area.

Table 7. I-85 – Traffic Operations in 2006 and 2030

| Segment | | 2006 LOS* | 2030 LOS* |
|---|-------------------------------------|--------------|--------------|
| From | To | | |
| Exit 10 – US 29-74 (W Franklin Blvd) | Exit 13- SR 1307 (Edgewood Rd) | D | E |
| Exit 13 | Exit 14 - NC 274 (Bessemer City Rd) | D | F |
| Exit 14 | Exit 17 - US 321 (Chester St) | D | F |
| Exit 17 | Exit 19 - NC 7 (Ozark Ave) | D | F |
| Exit 19 | Exit 20 - NC 279 (New Hope Rd) | E | F |
| Exit 20 | Exit 21 - Cox Rd | E | F |
| Exit 21 | Exit 22 - Main St | F | F |
| Exit 22 | Exit 23 - NC 7 (McAdenville Rd) | F | F |
| Exit 23 | Exit 26 - Belmont Mount Holly Rd | F | F |
| Exit 26 | Exit 27 - NC 273 | F | F |
| Exit 27 | Exit 29 – Sam Wilson Rd | D | F |
| Exit 29 | Exit 30 - I-485 | D | F |

* LOS – Level of Service (see **Table 6** for definitions)
Source: PBS&J, May 2008

In addition to high traffic volumes creating congestion, incidents such as vehicle breakdowns or accidents occurring on I-85 can also slow or back up traffic. Data on reported incidents was collected from NCDOT (NCDOT Intelligent Transportation Systems Unit, IMAP Information, email dated May 8, 2008). In 2007, there were 2,589 reported incidents along I-85 in the study area from Exit 10 (US 29-74) to Exit 29 (Sam Wilson Road). These incidents frequently affect travel on I-85 by causing traffic slowdowns, and sometimes lane closures and temporary detours onto US 29-74 (a roadway with no access control and numerous commercial driveways). This is an average of approximately seven incidents per day.

Approximately 60 percent of the incidents on I-85 involved disabled vehicles, 25 percent were abandoned vehicles, 8.5 percent were accidents, 6.5 percent were debris-related, and the remainder were fire and other incidents. Approximately 16 percent of incidents occurred between 7 am and 9 am, and approximately 18 percent occurred between 3 pm and 5 pm. This high frequency of incidents contributes to diminished traffic operations along I-85.

1.7.3.3 Traffic Operations on I-485

Table 8 presents the results of the NC LOS model for I-485 in 2006 and 2030. **Figures 4 and 5** present the same information graphically.

I-485 in the project area currently is operating at acceptable levels of service (LOS D or better). By 2030, I-485 is projected to continue to operate with an acceptable LOS between Exit 9 (US 29-74 [Wilkinson Blvd]) and Exit 10 (I-85), but south of Exit 9, I-485 is projected to degrade to LOS E.

Table 8. I-485 – Traffic Operations in 2006 and 2030

| Segment | | 2006 LOS | 2030 LOS |
|-----------------------------------|------------------------------------|-------------|-------------|
| From | To | | |
| Exit 4 - Steele Creek Rd (NC 160) | Exit 9 - US 29-74 (Wilkinson Blvd) | C | E |
| Exit 9 | Exit 10 – I-85 | A | B |

Source: PBS&J, May 2008

1.7.3.4 Traffic Operations on US 29-74

Table 9 presents the results of the NC LOS model for US 29-74 for 2006 and 2030. **Figures 4 and 5** present the same information graphically.

Table 9. US 29-74 – Traffic Operations in 2006 and 2030

| Segment | | 2006 LOS | 2030 LOS |
|--|--|-------------|-------------|
| From | To | | |
| Sparrow Springs Rd | Edgewood Rd | B | D |
| Edgewood Rd | Shannon Bradley Rd | B | C |
| Shannon Bradley Rd | Myrtle School Rd | C | E |
| Myrtle School Rd | NC 274 (Bessemer City Rd/Garrison Blvd) | E | F |
| NC 274 (Bessemer City Rd/Garrison Blvd) | Linwood Rd | C | D |
| Linwood Rd | US 321 (Chester St) | C | D |
| US 321 (Chester St) | Avon St | D | D |
| Avon St | Thomas St / Belvedere | D | D |
| Thomas St / Belvedere | NC 279 (New Hope Rd) | C | C |
| NC 279 (New Hope Rd) | Cox Rd / Armstrong Park Rd | C | C |
| Cox Rd / Armstrong Park Rd | Franklin Square Shopping Ctr | C | D |
| Franklin Square Shopping Ctr | Lineburger Rd | E | F |
| Lineburger Rd | S Main St / Redbud Dr | C | D |
| S. Main St / Redbud Dr | Wesleyan Dr / Market St | C | D |
| Wesleyan Dr / Market St | Lakewood Rd | D | F |
| Lakewood Rd | NC 273 (Park St) | D | F |
| NC 273 (Park St) | NC 7 (Catawba St) | D | F |
| NC 7 (Catawba St) | Old Dowd Rd | F | F |
| Old Dowd Rd | Sam Wilson Rd | D | F |
| Sam Wilson Rd | I-485 SB Ramps/Fieldridge Rd | E | F |
| I-485 SB Ramps/Fieldridge Rd | I-485 NB Ramps/Tuckaseegee Rd | F | F |
| East of I-485 NB Ramps / Tuckaseegee Rd | | D | F |

* LOS – Level of Service (see **Table 6** for definitions)

Source: PBS&J, May 2008

All segments of US 29-74 are currently operating at acceptable levels of service (LOS D or better), with the exception of the following segments that operate at LOS E-F: between Myrtle School Road and NC 274 (Bessemer City Road/Garrison Boulevard), between Franklin Square Shopping Center and Lineburger Road, between NC 7 (Catawba Street) and Old Dowd Road, and between Sam Wilson Road and the I-485 ramps.

By 2030, all segments from Wesleyan Drive/Market Street in McAdenville to east of the I-485 ramps (a distance of approximately 6 miles) are expected to operate at LOS F. Most other segments in the project area are projected to operate at LOS C or D.

Along US 29-74, traffic flow is significantly influenced by traffic signals since most of the signalized intersections in the corridor study area are within two miles of each other. In Gastonia, signalized intersections control the capacity and govern the level of service provided to the motoring public on existing US 29-74.

1.7.3.5 Traffic Operations on US 321

Table 10 presents the results of the NC LOS model for US 321 for 2006 and 2030. **Figures 4 and 5** present the same information graphically.

The majority of segments along US 321 are operating at LOS D or better and are expected to continue operating at LOS D or better through 2030. The exceptions are the segments near the I-85 ramps, which are operating at LOS E and F, and are expected to remain congested through 2030.

Table 10. US 321 – Traffic Operations in 2006 and 2030

| Segment | | 2006 LOS | 2030 LOS |
|-----------------------------------|-----------------------------------|-------------|-------------|
| From | To | | |
| NC/SC State Line | Forbes Rd / Superior Stainless Rd | A | A |
| Forbes Rd / Superior Stainless Rd | Crowders Creek Rd / Telegraph Dr | B | B |
| Crowders Creek Rd / Telegraph Dr | Old York Rd / Stagecoach Rd | C | C |
| Old York Rd / Stagecoach Rd | Davis Park Rd | B | C |
| Davis Park Rd | Hudson Blvd | D | D |
| Hudson Blvd | Jackson Rd | D | D |
| Jackson Rd | W 3rd Ave | C | C |
| W 3rd Ave | W Franklin Blvd | C | C |
| W Franklin Blvd | W Airline Ave / W Long Ave | C | C |
| W Airline Ave / W Long Ave | W Rankin Ave | C | C |
| W Rankin Ave | Radio St | C | D |
| Radio St | I-85 NB Ramps | C | D |
| I-85 NB Ramps | I-85 SB Ramps | F | F |
| I-85 SB Ramps | Rankin Lake Rd | E | E |

* LOS – Level of Service (see **Table 6** for definitions)
Source: PBS&J, May 2008

1.8 SOCIAL AND ECONOMIC CONDITIONS

1.8.1 Population Characteristics

Gaston County has 15 municipalities entirely within the county, the most of any North Carolina county. Gastonia, centrally located in the county, is the county's largest city and its seat. About 58 percent of Gaston County's population lives within the 15 incorporated municipalities. Most of the population growth in Gaston County between 1980 and 2000 occurred in the county's eastern towns, near the Mecklenburg County border, including Mount Holly, Belmont, and Cramerton (Gaston County Comprehensive Plan, 2002). Mecklenburg County has seven municipalities, with the largest being Charlotte, the county seat.

Population Growth

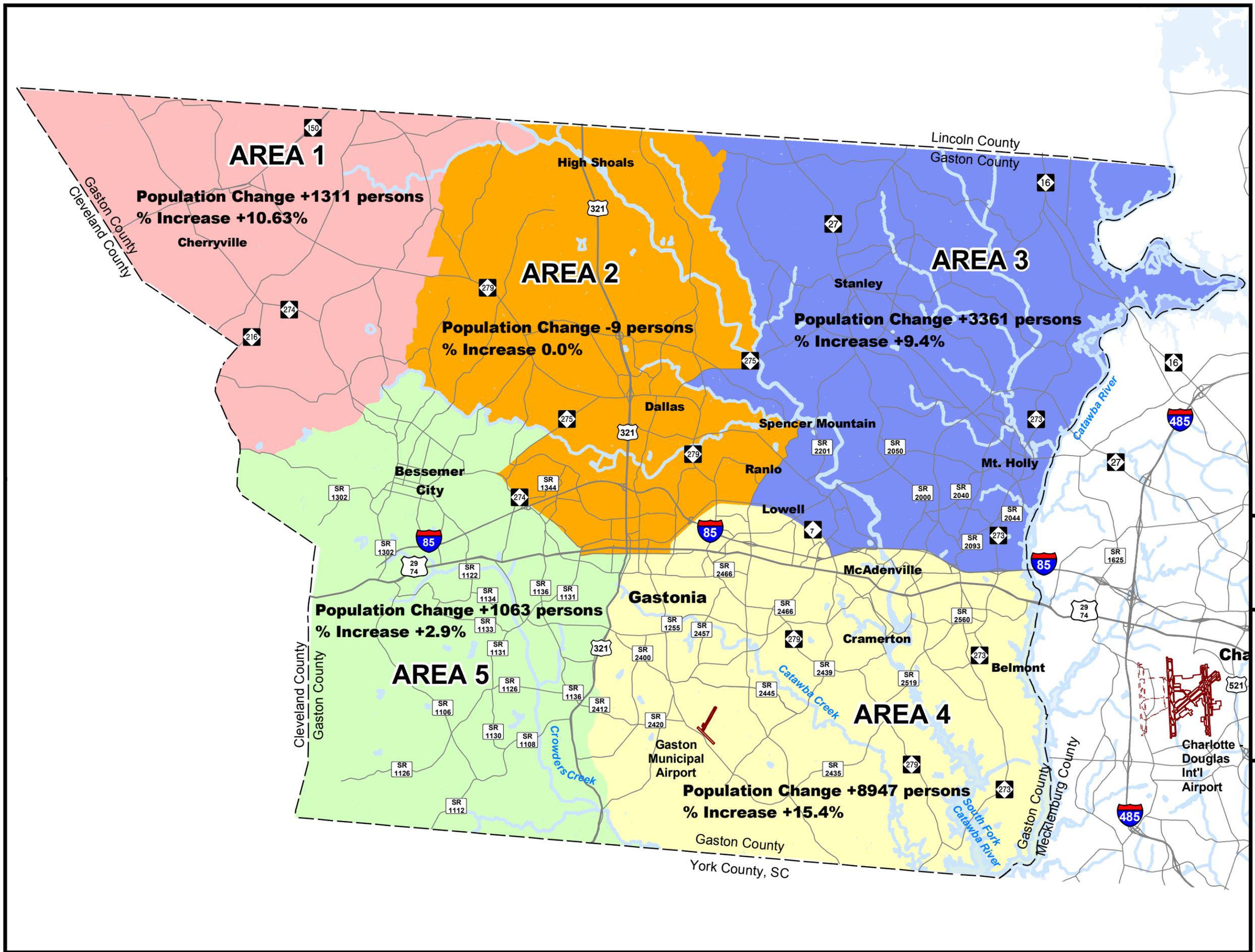
Gaston County's population is expected to increase 12.8 percent from 2006 to 2030, with most growth occurring in southeast Gaston County. Mecklenburg County's population is projected to increase 68.2 percent between

Gaston County has been growing at an average rate of approximately one percent per year since 1990. In 1990, the population of Gaston County was 175,093, rising to 190,365 in 2000 and 199,397 in 2006. The percent change in Gaston County's population between 2000 and 2006 was 4.8 percent, compared to a 10.1 percent change for the state of North Carolina and a 19 percent change for Mecklenburg County during the same period. From 1990 to 2000, Mecklenburg County's population increased 36 percent, from 511,433 to 695,454. The population grew to 827,445 in 2006 (US Census Bureau website: www.census.gov, accessed April 15, 2008).

In an effort to focus on the unique qualities of the county's various communities, the county was divided into five "Small Areas". Small Area planning meetings were held for attendees to identify the issues and opportunities to be recognized in the development strategy for their respective area. The project study area is included in the Southwest and Southeast Small Areas. The development scenarios for these areas include mixed-use development, greenway trails, a connected road network, and incorporation of tourism-related uses. Among the five Small Areas within Gaston County, the population grew fastest between 1990 and 2000 in the Southeast Small Area. The Southeast Small Area accounted for approximately 58 percent (8,947 persons) of the population growth in Gaston County from 1990 to 2000. **Figure 6** displays the population growth between 1990 and 2000 for the five Small Areas.

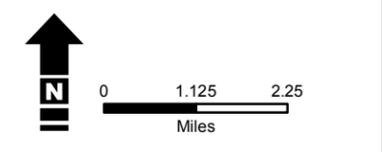
The populations of both Gaston and Mecklenburg Counties are expected to increase through 2030, although Mecklenburg County is projected to grow more rapidly. The population of Gaston County is projected to grow 12.8 percent from 2006 to 2030, while Mecklenburg County's population is expected to grow 68.2 percent (to 1,391,703 people) during the same period (NC State Demographics website: www.demog.state.nc.us, accessed April 15, 2008).

As part of the development of their 2030 LRTP (See **Section 1.9.3.2**), the GUAMPO developed population projections for 2010, 2020, and 2030 for the Gaston Urban Area. These population projection maps are included as **Appendix B**. The GUAMPO projects the largest increases in population will occur on the eastern side of Gaston County, particularly south of I-85.



- Legend**
- Small Area Boundary
 - AREA 1
 - AREA 2
 - AREA 3
 - AREA 4
 - AREA 5
 - Proposed Airport Expansion
 - Major Roads
 - County Lines
 - Hydrology

Source: Gaston County Comprehensive Planning Program, November 2002. U.S. Bureau of the Census, Census 2000 Tiger/Line Data from ESRI.



STIP PROJECT NO. U-3321

Gaston County and Mecklenburg County

GASTON EAST-WEST CONNECTOR

POPULATION GROWTH BETWEEN 1990 & 2000 for GASTON COUNTY

Figure 6

1.8.2 Economic Data

Gaston County's reputation as an industrial center began more than a century ago with the advent of the textile industries. Today, Gaston County is home to a diverse set of industries, including health services, transportation equipment manufacturing, retail eating and drinking establishments, business services, food stores, industrial machinery and equipment manufacturing, and government (Gaston County Economic Development Commission 2002).

Employment

The manufacturing sector employs the most workers in Gaston County. The government sector employs the most workers in Mecklenburg County.

The manufacturing sector employs the largest number of people in Gaston County, and accounts for 21.8 percent of the county's total employment (NC Department of Commerce website: www.nccommerce.com/NCDOCWEBAPP/Resources/CountyProfiles/pdf/Gaston_2007Q4.pdf, accessed April 21, 2008). While textile mill manufacturing continues to dominate the industrial structure of Gaston County, its industrial base is becoming more diversified. Electrical goods, motor oil filters, chemicals, plastics, chain saws, brick and tile, zipper fasteners, business forms, resistors, corrugated boxes, lawnmowers, lithium compounds, and a host of other items are currently manufactured in Gaston County to balance out the industrial community.

The health care and social assistance sector is second to manufacturing in total employment, accounting for 15.2 percent of total employment in the county, followed closely by retail trade with 13.6 percent and government with 12.8 percent. While approximately sixty-five percent of the total acreage of Gaston County is classified as farmland, agricultural employment is minimal. Only 0.1 percent of total county employment is in the agricultural sector (NC Department of Commerce website:

www.nccommerce.com/NCDOCWEBAPP/Resources/CountyProfiles/pdf/Gaston_2007Q4.pdf, accessed April 21, 2008).

The average annual unemployment rate in Gaston County for 2007 was 5.5 percent, which was higher than the statewide rate of 4.7 percent (Employment Security Commission of North Carolina). Major employers in Gaston County include Gaston County Schools, Caromount Health, Freightliner Corporation (manufacturing), Wix Filtration Corporation (manufacturing), and Gaston County, all of which employ over 1,000 people (based on September 2006 employment figures from the North Carolina Employment Security Commission). In 2006, the median household income in Gaston County was \$47,468, which was consistent with the statewide median household income of \$47,739 (Gaston County Economic Development Commission).

The government sector employs the largest number of people in Mecklenburg County, accounting for 10.8 percent of total employment in the county. The retail trade sector is second in total employment, accounting for 10.4 percent, followed by finance and insurance at 9.6 percent, and accommodation and food services at 8.4 percent (NC Department of Commerce website:

www.nccommerce.com/NCDOCWEBAPP/Resources/CountyProfiles/pdf/Mecklenburg_2007Q4.pdf, accessed April 21, 2008).

Major employers in Mecklenburg County include International Business Machines, Lance Manufacturing Corporation, Microsoft Corporation, Carolinas Health Care Systems, Wachovia Bank and Bank of America (based on 2nd Quarter 2007 employment figures from the North Carolina Employment Security Commission). The average annual unemployment rate in Mecklenburg County for 2007 was 4.5 percent, which was slightly lower than the statewide rate of 4.7 percent (Employment Security Commission of North Carolina).

Current and future growth in Gaston and Mecklenburg Counties will require improvements to area infrastructure to support the needs of a growing population. Most of the employment growth in Gaston County will be in the services industry, which is forecasted to represent 26.7 percent of total employment in 2010 (Gaston County Comprehensive Plan, 2002).

1.8.3 Major Attractions in Southern Gaston County

1.8.3.1 Daniel Stowe Botanical Garden

In 1991, retired Belmont textile executive, Daniel Jonathan Stowe, set aside 450 acres of rolling meadows, woodlands and lakefront property as well as a \$14 million endowment for the development of a world class botanical garden. The

Daniel Stowe Botanical Garden, in the southeastern portion of Gaston County (**Figure 1**), is a major tourist attraction in Gaston County. The Garden is comprised of 158,000 square feet of planting beds divided into separate areas, each with a distinctive theme.

Attractions

The Daniel Stowe Botanical Garden attracted 84,000 visitors in 2006. Crowders Mountain State Park had over 400,000 visitors in 2007.

In 2006, the 450-acre botanical garden attracted approximately 84,000 visitors. With planned improvements to the Daniel Stowe Botanical Garden, described later in this section, visitor attendance is expected to reach 250,000 by 2011 (Daniel Stowe Botanical Garden Annual Report, 2006). The botanical garden employs about 40 people (phone interview with DSBG Human Resources, April 22, 2008).

On October 9, 1999, Daniel Stowe Botanical Garden hosted the grand opening of a new 110-acre greenspace, including gardens, grounds, fountains and a 13,500 square foot Visitor Pavilion. A 3,000 square foot children's Willow Maze was opened in September 2007, and the grand opening of the Orchid Conservatory was held in January 2008. The conservatory is North and South Carolinas' only glass house dedicated to the display of orchids and tropical plants.

The 40-year Master Plan includes a walled English garden, conservatory complex, Asian garden, rose pergola, natural wetland, waterfall, Piedmont garden, library and reading garden, home demonstration complex, auditorium and full-service restaurant. Full development of the master plan is estimated to require between \$150-200 million (Daniel Stowe Botanical Garden website: www.dsbg.org, accessed April 15, 2008).

The only visitor entrance to the Daniel Stowe Botanical Garden is off NC 279 (New Hope Road). Vehicles entering and leaving the botanical garden often experience delays on NC 279 (New Hope Road), particularly during major events like Fourth of July. Traffic entering the Daniel Stowe Botanical Garden for Fourth of July has queued on NC 279 (New Hope Road) for about 1.5 miles north of the visitor entrance (Interview with DSBG, 2001). The botanical garden hosts several major

events throughout the year, including their spring and fall plant sales, Holiday Lights, Fourth of July, Balloon Glow, Art in the Garden, and Wedding Showcase.

1.8.3.2 Crowders Mountain State Park

Crowders Mountain State Park is located near the North Carolina-South Carolina state line in southwest Gaston County (**Figure 1**). Regional access to Crowders Mountain is provided primarily by I-85. The main park entrance is located off of Sparrow Springs Road, which is accessed from Franklin Boulevard (US 74) to the north or Lake Montonia Road/Pinnacle Road to the south. There is also an access point on the northern end of the park off Linwood Road. US 29-74, US 321, and NC 161 (York Road) surround the park to the north, east and west, respectively.

Crowders Mountain State Park contains 5,126 acres, including the peaks of Crowders Mountain and Kings Pinnacle. These peaks rise approximately 800 feet above the surrounding countryside. The significant scenic resources of the park include the contrast between rolling Piedmont hills and the sheer rock outcrops of the Kings Mountain Range. Numerous opportunities exist to view the panoramic Piedmont plateau from the park's cliffs.

Crowders Mountain State Park offers a variety of hiking trails, ranging from the more rugged trails leading to the summits of Crowders Mountain and Kings Pinnacle, to the flat, easy trail circling the nine-acre park lake. Canoes for use on the lake can be rented at the park office from June through Labor Day, and both canoe and bank fishing are allowed. The lake is the only public lake in Gaston County.

In 2000, the park acquired over 2,000 additional acres to connect to Kings Mountain State Park in South Carolina as well as Kings Mountain National Military Park. The acquisition was funded by the NC Heritage Trust Fund and the NC Parks and Recreation Trust Fund. No future land acquisitions are planned at this time. Current projects in the park include construction of the Ridgeline Trail from the existing visitors center at Sparrows Spring Road to the new Boulders Visitors Station near the North Carolina/South Carolina state line.

Crowders Mountain State Park had over 400,000 visitors in 2007, compared to under 300,000 visitors in 2001 (phone interview, park staff, April 11, 2008). The Park receives its heaviest use in early spring through mid-summer. During the five months from March through July, Crowders Mountain normally receives a little over half its annual visitation.

Crowders Mountain State Park is administered under the auspices of the NC Department of Environment and Natural Resources, Division of Parks and Recreation. Most of the Park's budget comes from State appropriations (Division of Parks and Recreation, 2001). The annual operating budget for the park is approximately \$105,000, and the capital improvements budget is over \$1 million. The state park currently has 12 full-time employees and five part-time employees (phone interview, park superintendent, April 11, 2008).

1.9 TRANSPORTATION PLANS AND LAND USE PLANS

1.9.1 NCDOT State Transportation Improvement Program

The proposed action is included as Project U-3321 in the NCDOT's adopted 2007-2013 State Transportation Improvement Program (STIP) and the NCDOT's Draft 2009-2015 STIP. Project U-3321 is programmed for a planning and environmental study. Fifteen other projects in the Draft 2009-2015 STIP are in the general vicinity of the proposed action: R-2608, R-2248, U-2408, U-2713, U-3405, U-3411, U-3425, U-3806, B-4517, I-5000, B-4752, B-4753, B-4860, B-4344, and U-2523. These are described below. **Figure 7** shows the general locations of these projects in relation to STIP Project U-3321.

NCDOT STIP

The STIP is the State's 7-year plan for funding transportation projects statewide, including roads, ferries, public transportation, aviation and passenger rail projects. It is updated every two years.

Project R-2608 is a proposed new route from I-85 west of Gastonia to US 321 north of Gastonia in Gaston County. The project is unfunded. The new route is a proposed four-lane divided freeway on new location. The total project length is 7.5 miles.

Project R-2248 is a proposed new location freeway (I-485 Charlotte Western Outer Loop) from west of I-77 to I-85 north in Mecklenburg County. The new freeway is a proposed four to six-lane divided freeway on new location. The total project length is 28.0 miles. Several sections of the project are complete. Section D (east of Oakdale Road to east of Old Statesville Road) is currently under construction and Section H (interchange with Garrison Road) is scheduled for construction in Fiscal Year (FY) 2010. A portion of Section E (east of Old Statesville Road to I-85 North) is scheduled for construction in FY 2015. Section G (interchange with Oakdale Road) and portions of Section E are unfunded and not yet scheduled.

Project U-2408 is on NC 274 (Bessemer City Road [North of US 29-74]) from NC 275 to US 29-74 in Gaston County. Project U-2408 is proposed to widen existing NC 274 (Bessemer City Road [North of US 29-74]) to a multi-lane facility. The total project length is 2.8 miles. This project is currently under construction.

Project U-2713 is on SR 1131 (Linwood Road) from Crowders Creek to US 29-74-NC 274 (Franklin Boulevard) in Gaston County. Project U-2713 is proposed to widen existing Linwood Road (SR 1133) to a multi-lane facility, with some roadway relocation. The project is unfunded. The total project length is 2.2 miles.

Project U-3405 is on NC 274 (Gastonia Highway) from SR 1484 (Maine Avenue) to NC 275 in Gaston County. Project U-3405 is proposed to widen existing NC 274 (Gastonia Highway) to a five-lane curb and gutter facility. The total project length is 1.4 miles. Planning/design and right-of-way acquisition are currently underway and construction is scheduled to begin in FY 2009.

Project U-3411 is a relocation of NC 160 (West Boulevard [SR 1448]) from east of I-485 (Charlotte Outer Loop) to Horseshoe Lane in Mecklenburg County. Project U-3411 is proposed to construct a multi-lane facility on a new location. The total project length is 2.3 miles. Right-of-way acquisition and construction are scheduled to begin in FY 2008 and the schedule is to be coordinated with Project R-2248H.

Project U-3425 is on SR 1136 (Myrtle School Road) from US 29-74 to Hudson Boulevard (SR 1255) in Gaston County. Project U-3425 is proposed to widen 1.8 miles of existing SR 1136 (Myrtle School Road) to a multi-lane facility. The project is unfunded.

Project U-3806 is on US 29-74 (Franklin Boulevard) from SR 2200 (Cox Road) to SR 2339 (Church Street) in Gaston County. Project U-3806 is proposed to add an additional lane in the eastbound direction of US 29-74. The project is unfunded. The total project length is 0.5 miles.

Project B-4517 is a bridge replacement project on Crowders Creek Road (SR 1103). Project B-4517 will replace Bridge Number 49 in Gaston County over Crowders Creek. Right-of-way acquisition is scheduled to begin in FY 2008, and construction is scheduled to begin in FY 2009

Project I-5000 involves geometric safety improvements to the interchange at I-85 and US 321 in Gaston County. Right-of-way acquisition is scheduled for FY 2013, with construction scheduled to begin in FY 2015.

Project B-4752 is the replacement of Bridge Number 6 on SR 2014 over South Fork Catawba River in Gaston County. Right-of-way acquisition is scheduled to begin in FY 2011, with construction scheduled to begin in FY 2012.

Project B-4753 is the replacement of Bridge Number 15 on SR 2439 over Duhart's Creek in Gaston County. Right-of-way acquisition is scheduled to begin in FY 2010, with construction scheduled to begin in FY 2011.

Project B-4860 is the replacement of Bridge Number 421 on West Davidson Avenue over Kaylor Branch in Gastonia. Right-of-way acquisition and construction are scheduled to begin in FY 2008 as a municipal project.

Project B-4344 is the replacement of Bridge Number 167 on Tulip Drive over Kaylor Branch in Gastonia. This project is under construction by the City of Gastonia.

Project U-2523 is the widening of NC 279 from NC 7 to west of NC 275 in Dallas. The project is proposed to widen NC 279 to a multi-lane facility over the 3.6-mile project length. A portion of this project from NC 7 (Ozark Avenue) to north of SR 2275 (Robinson-Clemmer Road) is complete. The remaining portion from north of SR 2275 (Robinson-Clemmer Road) to west of NC 275 in Dallas is unfunded.

1.9.2 NCDOT Strategic Highway Corridors Initiative

On September 2, 2004, the North Carolina Board of Transportation established a system of Strategic Highway Corridors for North Carolina as part of the State's Long-Range, Multi-Modal Statewide Transportation Plan.

In October 2005, NCDOT issued a Concept Development Report for the statewide network of SHC routes. The SHC Report explained that the primary purpose of the SHC Concept is to "provide a safe, reliable, and high-speed network of highways that connect to travel destinations throughout and just outside of North

Strategic Highway Corridors

I-85, I-485, US 321, The Gaston East-West Connector and STIP Project R-2608 (US 321 Bypass) are part of the Strategic Highway Corridors program.

Carolina.” A related goal is to use the SHC Concept as a tool to influence and affect ongoing planning and project related decisions in order to realize the facility type vision.

North Carolina’s Department of Transportation (NCDOT), Department of Commerce (NCDOC) and Department of Environmental and Natural Resources (NCDENR) collaborated in developing the SHC Report and the process of selecting the strategic highway corridors. In developing the SHC concept, NCDOT held nine regional forums with local, regional, state and federal agencies; economic development and environmental organizations; freight industry representatives; political leadership organizations, and other advocacy groups.

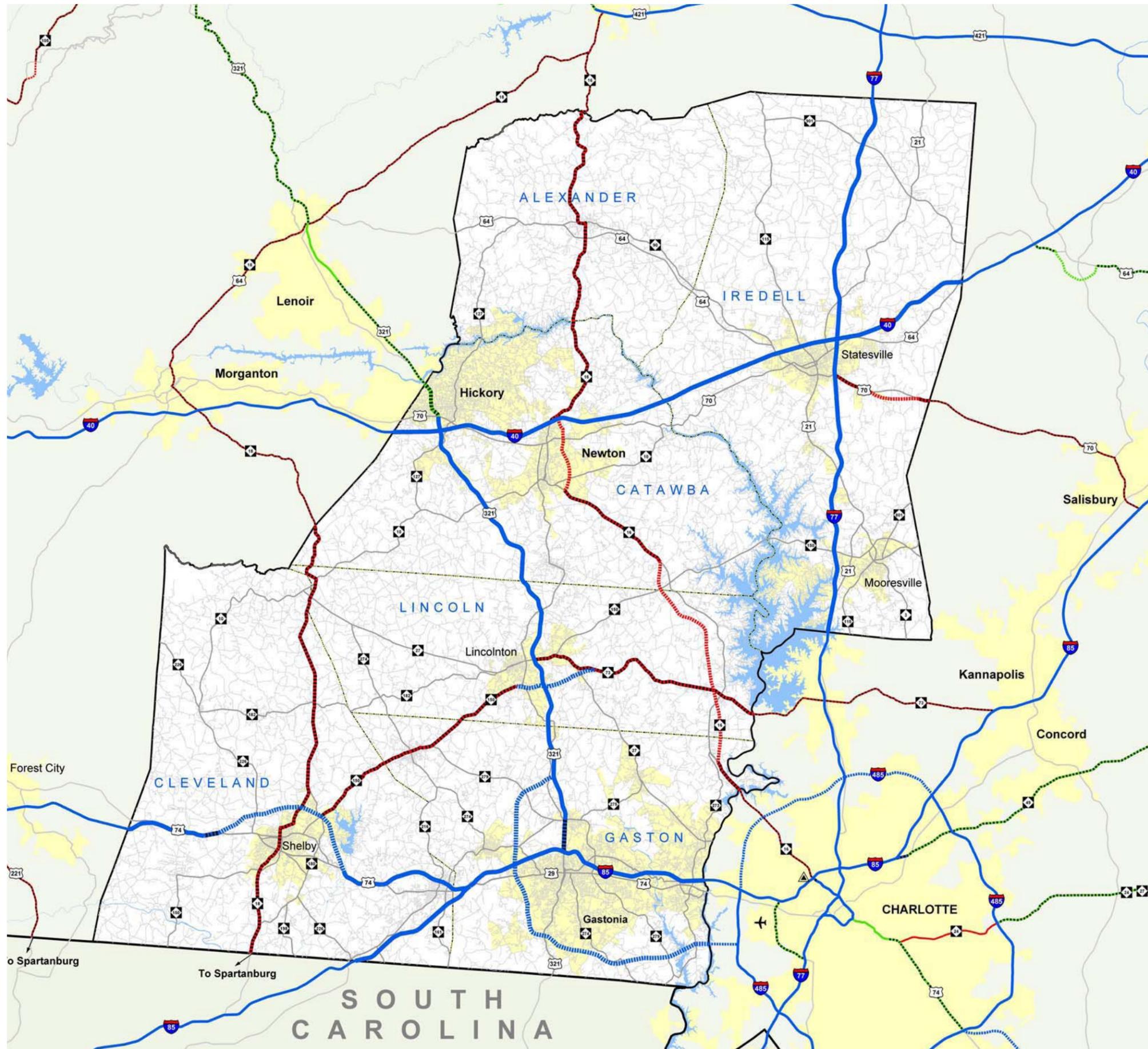
Central to the SHC initiative was identifying Strategic Highway Corridors, which are a set of highways vital to moving people and goods to destinations within and just outside of the state. Corridors were selected using quantitative data (e.g., current and future traffic volumes, route classifications and truck traffic percentages) and subjective criteria (e.g., a corridor’s role and function, its significance to a regional area, and/or its historical role in national and/or statewide movement). Primary criteria utilized to select the SHCs included:

- Mobility. Whether the corridor serves or has the potential to expeditiously move large volumes of traffic.
- Connectivity. Whether a corridor provides a vital link between activity centers, which include urban areas (with populations of 200,000 or greater), state seaports, major airports, major intermodal terminals, major military bases, University of North Carolina campuses, trauma centers, and major tourist attractions.
- Interstate Connectivity. Whether a corridor provides an important connection between existing and/or planned interstates.
- Interstate Relievers. Whether a corridor currently serves or has the potential to serve as a reliever route to an existing interstate facility.

In addition to these primary criteria, NCDOT considered additional elements to support the SHC corridor selection process. One element was the classification of a roadway as part of a national, statewide, economic or military highway system, including the North Carolina Intrastate System, the National Highway System, and the Department of Defense Strategic Highway Network (STRAHNET).

For each SHC corridor, a Vision Plan was established by NCDOT that identified the minimum preferred type of roadway for the corridor. The proposed facility types are primarily based upon the function of the roadway, level of mobility and access, and whether the facility has (or will have) traffic signals, driveways and/or medians. The facility types were developed by a committee comprised of representatives from FHWA, and the following NCDOT branches: Traffic Engineering, Highway Design, Project Development, and Transportation Planning. The facility types on the SHC system are: Freeway, Expressway; Boulevard; and Thoroughfare.

Figure 8 shows the SHC Vision Plan for NCDOT Division 12, which includes the study area. Strategic Highway Corridors in the study area include US 321, I-85, I-485, the Gaston East-West Connector (Project U-3321) and STIP Project R-2608. They are all designated as freeways in the Vision Plan.



Legend

Strategic Highway Corridors

Freeways

- Existing
- Needs Upgrade
- Recommended

Expressways

- Existing
- Needs Upgrade
- Recommended

Boulevards

- Existing
- Needs Upgrade
- Recommended

Thoroughfares

- Existing
- Needs Upgrade
- Recommended

- US/Other Major Route
- Division Primary Routes
- Division Secondary Routes
- State Port
- Major Airport
- Intermodal Connector
- Coast Guard Station
- Major Military Base
- Urban Area
- County Boundaries
- Water Features

Source: NCDOT Transportation Planning Branch.
Map Printed On 5-02-08.



STIP PROJECT NO. U-3321

Gaston County and Mecklenburg County

GASTON EAST-WEST CONNECTOR
STRATEGIC HIGHWAY CORRIDORS VISION PLAN

Figure 8

1.9.3 North Carolina Intrastate System

The Intrastate System has been established by statute in North Carolina (NC Gen. Stat. § 136-178). The purpose of the Intrastate System is to provide “high-speed, safe travel service throughout the State.” As defined in statute, the Intrastate System:

- “connects major population centers both inside and outside the State”;
- “provides safe, convenient, through-travel for motorists”;
- “is designed to support statewide growth and development objectives and to connect to major highways of adjoining states.”

The statute governing the development of the Intrastate System requires that the routes in the Intrastate System have at least four travel lanes unless traffic volume projections and environmental considerations dictate fewer lanes. The legislation also requires vertical separation or interchanges at crossings, more than four travel lanes, and bypasses “when warranted.” In other words, Intrastate System designation requires a four-lane, access-controlled roadway if such a facility is warranted by traffic volumes and is not precluded by environmental constraints.

In the project study area, I-85 and I-485 are designated as existing multi-lane intrastate corridors.

1.9.4 Gaston County Transportation Plans

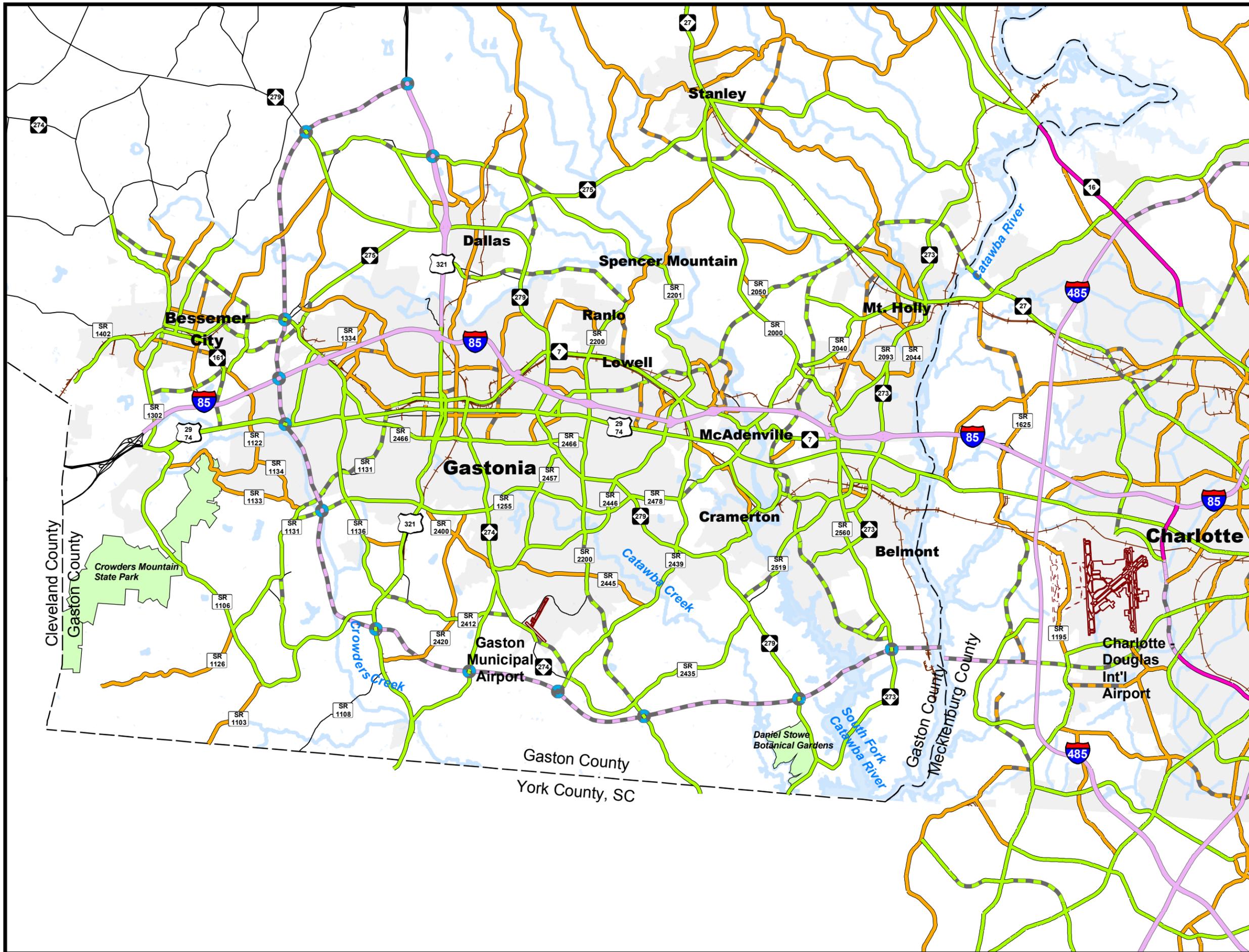
1.9.4.1 Gaston Thoroughfare Plan

The Thoroughfare Plan identifies a roadway system that is expected to serve the area’s future travel demand. It shows the alignments of major roadways based on the following facility types: minor thoroughfares, major thoroughfares, commercial arterials and freeways/expressways. The Thoroughfare Plan is the primary inventory of roadway projects evaluated for construction prioritization and provides a starting point for MPOs to determine which roadways require upgrades in ten or twenty years.

Thoroughfare Plans

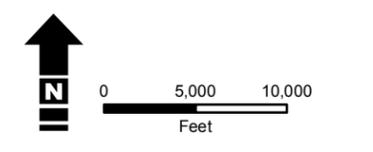
Thoroughfare plans identify roadway projects needed to serve an area’s future travel demand in ten to twenty years. They are used as a starting point to prioritize projects.

Figure 9 shows the currently approved Gaston Urban Area Thoroughfare Plan (last revised in May 2006) and Mecklenburg-Union Thoroughfare Plan. The Thoroughfare plans show the Gaston East-West Connector (STIP Project U-3321) and the US 321 Bypass (STIP Project R-2608) as proposed four-lane freeways. The alignments shown in **Figure 9** for the Gaston East-West Connector at the Catawba River do not line up. The Gaston Urban Area Thoroughfare Plan and Mecklenburg-Union Thoroughfare Plan show the corridors in slightly different locations at the Catawba River.



- Legend**
- Class II Existing
 - Existing Freeway
 - Existing Major Thoroughfare
 - Existing Minor Thoroughfare
 - - - Proposed Freeway
 - - - Proposed Major Thoroughfare
 - - - Proposed Minor Thoroughfare
 - Proposed Interchange
 - Railroads
 - - - Proposed Airport Expansion
 - Major Roads
 - County Lines
 - Hydrology
 - Major Parks

Source: Gaston County, City of Gastonia and Mecklenburg Counties GIS. Map Printed On 5-01-08.



STIP PROJECT NO. U-3321
Gaston County and Mecklenburg County

GASTON EAST-WEST CONNECTOR
THOROUGHFARE PLANS

Figure 9

1.9.4.2 Gaston Urban Area Long Range Transportation Plan

Long Range Transportation Plans (LRTPs) are developed by MPOs to guide long-range transportation investments in their areas. The LRTP “is a comprehensive Transportation Plan that defines a transportation network that will serve both the present and future volumes of vehicular traffic and transit use in and around an urban area. The LRTP is based on the best information available, including but not limited to population and economic development growth and land development patterns in and around the urban area.” (Gaston Urban Area 2030 LRTP, p. 2).

The Gaston Urban Area 2030 LRTP was last updated on May 25, 2005. **Figure 10** shows the 2030 LRTP project map. One of the main objectives of the plan is to require transportation improvements to better connect Gaston County to other cities in the region, particularly Mecklenburg County and Charlotte. Specifically, the plan promotes additional bridge crossings over the Catawba River (Gaston East-West Connector, Mount Holly North Loop, and widen existing roadways) to handle increases in traffic on I-85 and US 29-74, and to strengthen connections to the regional network (Gaston Urban Area 2030 LRTP, p. 8).

Long Range Transportation Plans

A long range transportation plan guides a region's transportation investments over the next twenty years. Federal law requires that the plan shall "include both long-range and short-range program strategies/actions that lead to the development of an integrated intermodal transportation system that facilitates the efficient movement of people and goods." (23 CFR450C,

The Gaston Urban Area 2030 LRTP includes a section (Section 5.3) devoted to the “Garden Parkway” project, which consists of STIP projects U-3321 (from I-85 to I-485/NC 160) and R-2608 (from I-85 to US 321 North). The GUAMPO’s Transportation Advisory Committee (TAC) considers the Garden Parkway “the most significant project of all the facilities proposed for Gaston County.” The GUAMPO acknowledges that the Garden Parkway is now two separate projects. “The MPO initially proposed the Garden Parkway to be one contiguous project, however the project was split into two portions in the STIP. The first is project R-2608 (321 Bypass) which constitutes the segment from I-85 to US 321 North. The second is project U-3321 (Gaston East-West Connector) and is the segment that begins in Mecklenburg County at NC 160 (West Boulevard) and extends across southern Gaston County terminating at I-85.” (Gaston Urban Area 2030 LRTP, p. 72).

The Gaston Urban Area 2030 LRTP includes a list of unmet needs (Chapter 6). The Unmet Needs List is the Gaston Urban Area’s prioritized list of projects, which the GUAMPO is requesting to be placed in the STIP for funding. The list was adopted by the GUAMPO on November 29, 2004, prior to the adoption of STIP Project U-3321 by the NCTA as a candidate toll facility. The top two projects on the Unmet Needs List are STIP Project U-3321 and STIP Project R-2608.

1.9.5 Mecklenburg County Transportation Plans

1.9.5.1 Mecklenburg-Union Thoroughfare Plan

Figure 9 shows the western section of the currently adopted Mecklenburg-Union Thoroughfare Plan (last revised in May 2006). The Thoroughfare Plan shows the West Boulevard Extension (STIP Project U-3411) as a major thoroughfare between NC 160 and I-485. The portion of the Gaston East-

West Connector (STIP Project U-3321) from I-485/NC 160 to the Gaston County line is shown as a freeway.

1.9.5.2 Mecklenburg-Union MPO 2030 Long Range Transportation Plan

The Mecklenburg-Union MPO (MUMPO) 2030 LRTP was adopted in May 2005 and amended in September 2005 and May 2007. **Figure 10** shows the portion of the Mecklenburg-Union 2030 LRTP in western Mecklenburg County. The 2010 planning horizon includes the West Boulevard Extension (STIP Project U-3411) from NC 160 to I-485 as a new four-lane facility with a median and bike lanes covering 0.48 miles. This project is not currently ranked in the 2030 LRTP. The 2020 planning horizon includes the 1.89-mile portion of STIP Project U-3321 from I-485 to the Gaston County line. This project is ranked number 81 in the Mecklenburg-Union 2030 LRTP.

1.9.6 Gaston County Comprehensive Plan

The Gaston County Comprehensive Plan was adopted in November 2002, following an 18-month planning process that included twelve public meetings. The Comprehensive Plan is intended to serve as a guide for managing growth in the county as well as to inform the planning processes of the county's fifteen municipalities. The plan serves as a common framework to help guide the municipalities as they develop and update their own plans.

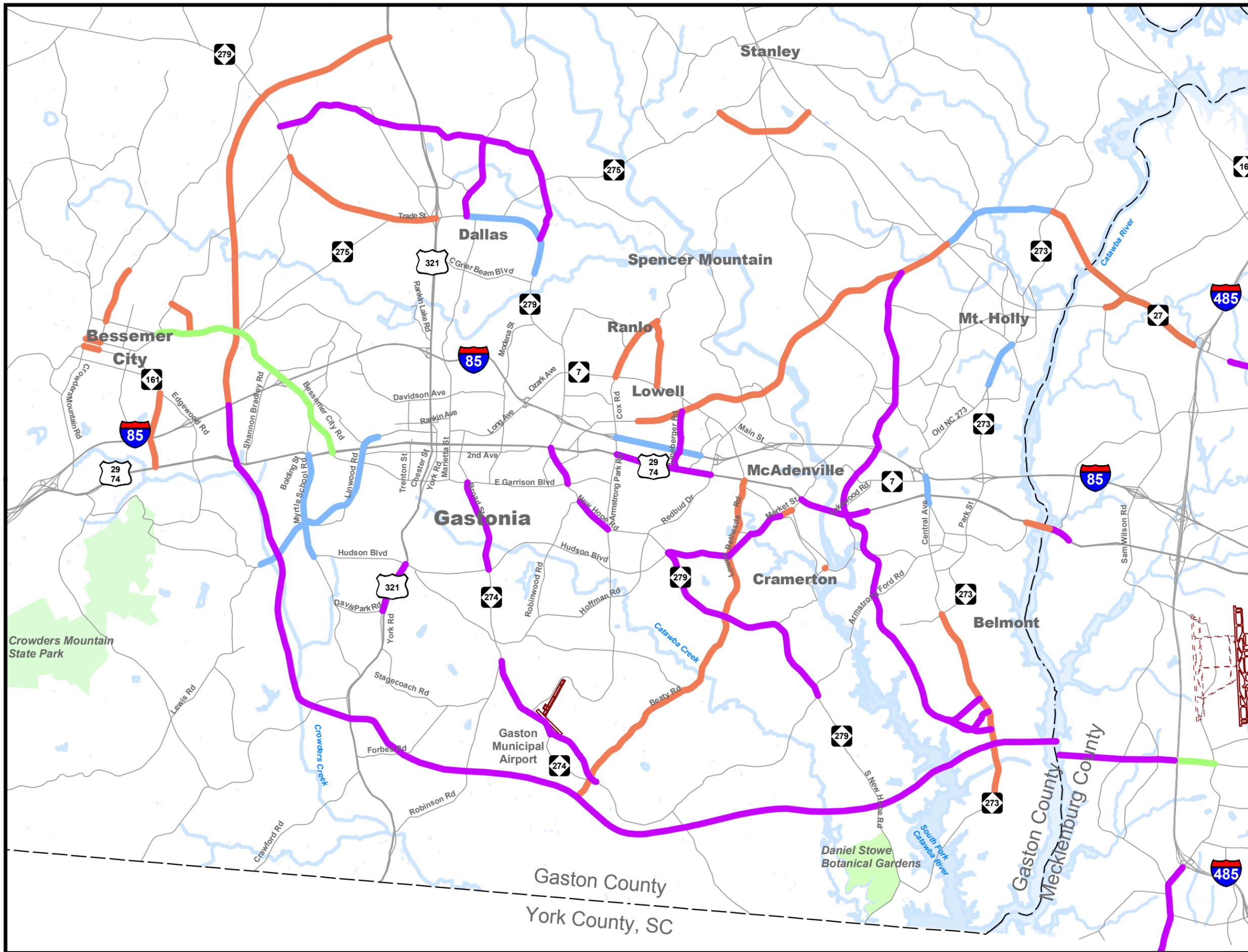
Figure 11 is the Composite Initiatives Map developed in conjunction with the Comprehensive Plan. It generally shows recommended future land uses for various areas of the county. The south and southeastern portions of the map are shown to have primarily residential and mixed use potential.

1.9.7 Land Use Plans in Mecklenburg County

1.9.7.1 Southwest District Future Land Use Map

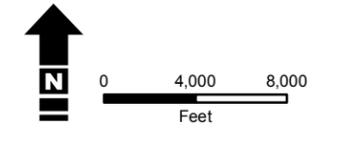
The Charlotte-Mecklenburg Planning Department divides Mecklenburg County into six districts for planning purposes. The Southwest District is bordered by York County, SC on the south and southwest, Gaston County on the west, I-85 on the north, and Old Pineville Road and Billy Graham Parkway on the east.

The current Future Land Use Map for the Southwest District was last revised on July 9, 2007, and is presented as **Figure 12**. Multi-family/office/retail uses are proposed along the west side of I-485 at West Boulevard. The east side of this interchange is proposed for office/business park/industrial and office/industrial uses. Similar uses are proposed around the I-485 interchange at Steele Creek Road, with the addition of more retail uses. Further west of I-485, closer to the Gaston County line, more single-family residential uses are proposed.



- Legend**
- Roadway Projects**
- 2010 Projects
 - 2020 Projects
 - 2030 Projects
 - Unfunded 2005-2012 STIP Projects
 - Major Roads
 - Proposed Airport Expansion
 - County Lines
 - Hydrology

Source: Gaston County and Mecklenburg Counties GIS. Map Printed On 5-06-08.

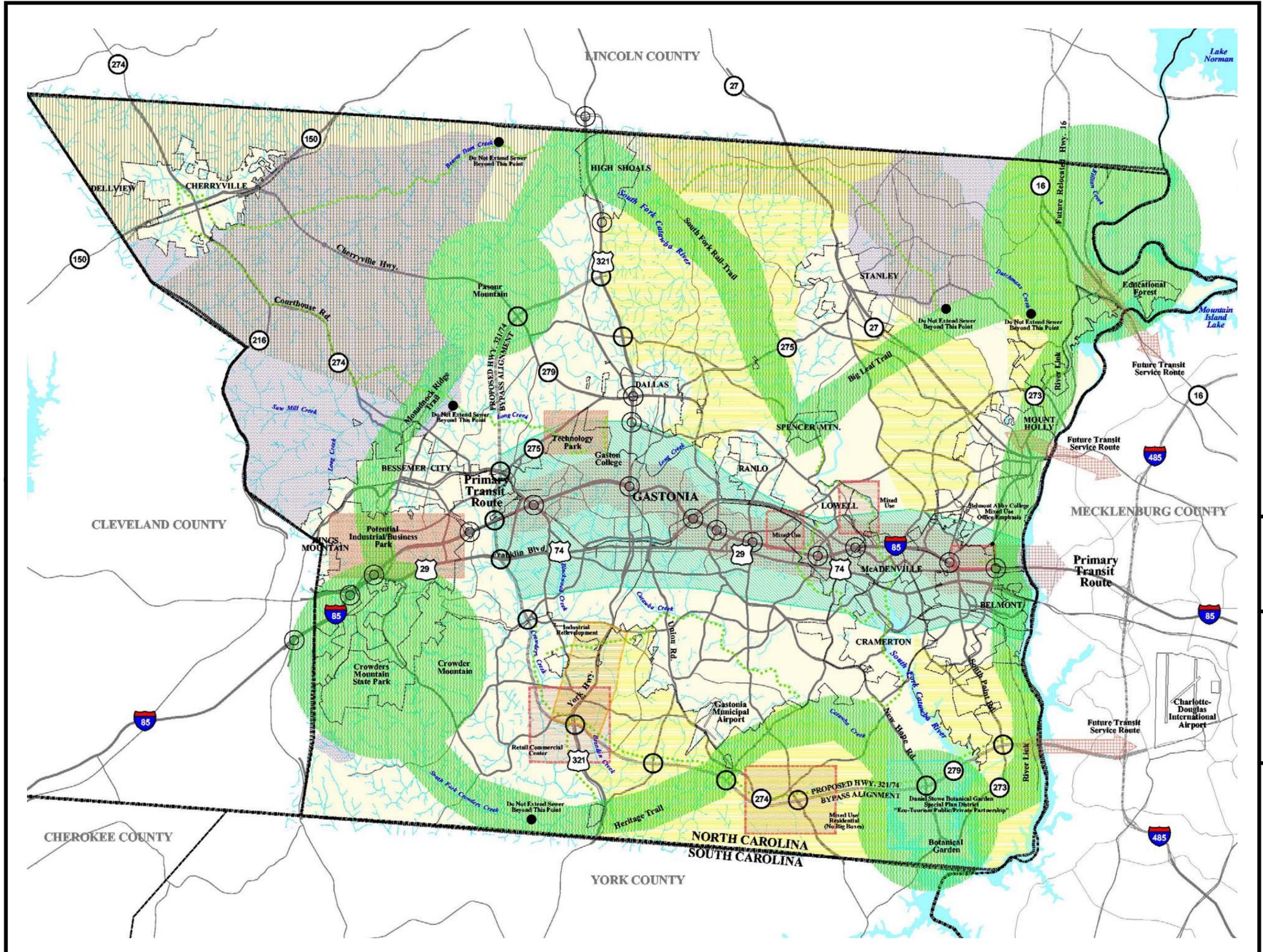


STIP PROJECT NO. U-3321
Gaston County and Mecklenburg County

GASTON EAST-WEST CONNECTOR
LONG RANGE TRANSPORTATION PLANS

Figure 10

PN_LRTP_BaseMap.mxd 5-06-08



- LEGEND**
- STATE LINE
 - COUNTY LINE
 - MUNICIPAL LIMIT
 - WATER BODY
 - AIRPORT
 - GASTON COUNTY
 - INTERSTATE/FREEWAY
 - MAJOR THOROUGHFARE
 - MINOR THOROUGHFARE
 - RAIL
 - EXISTING INTERCHANGE
 - PROPOSED INTERCHANGE
-
- POTENTIAL MIXED USE
 - POTENTIAL INDUSTRIAL PARK
 - POTENTIAL RESIDENTIAL DEVELOPMENT AREA
 - POTENTIAL REDEVELOPMENT AREA
 - MED. TO HIGH DENSITY CORRIDOR
 - SPECIAL PLAN DISTRICT
 - GREEN NECKLACE
 - AREA WITH LIMITED OR NO SEWER EXTENSION
 - PRIMARY TRANSIT ROUTE
 - FUTURE TRANSIT SERVICE ROUTE
 - AGRICULTURAL PRESERVATION AREA
 - GREENWAY "CHARMS"

Source: Gaston County, ESRI, NCDOT, City of Gastonia.
Map Printed On 5-02-08.



NORTH CAROLINA Turnpike Authority

STIP PROJECT NO. U-3321

Gaston County and Mecklenburg County

GASTON EAST-WEST CONNECTOR

COMPOSITE INITIATIVES MAP

Figure 11



Legend

Proposed Land Use

- | | | | | | |
|------------------------|------------------------|------------------------------------|-----------------------------------|----------------------|-----------------------------|
| Single Family <= 1 DUA | Multi-Family | Institutional | Industrial - Light | MF/Greenway | Office/Retail/Lt Industrial |
| Single Family <= 3 DUA | Multi-Family <= 8 DUA | Office | Industrial - Heavy | MF/Office | Residential/Office/Retail |
| Single Family <= 4 DUA | Multi-Family <= 12 DUA | Office/Business Park | Park/Open Space | RF/Retail | |
| Single Family <= 5 DUA | Multi-Family <= 17 DUA | Office/Business Park/Lt Industrial | Greenway | MFT/Office/Retail | |
| Single Family <= 6 DUA | Multi-Family <= 25 DUA | Office/Business Park/Industrial | Transit Supportive - Mixed | Institutional/Retail | |
| Single Family <= 8 DUA | Residential <= 4 DUA | Retail | Single Family/Multi-Family | Office/Retail | |
| | Residential <= 8 DUA | Warehouse/Distribution | SF/MF/Office/Retail | Office/Industrial | |
| | Research | Industrial | SF/MF/Institutional/Office/Retail | Office/Warehouse | |



GASTON EAST-WEST CONNECTOR
 STIP PROJECT NO. U-3321
 Gaston and Mecklenburg Counties



Source: Charlotte-Mecklenburg Planning Department. July 09, 2007.

**MECKLENBURG COUNTY
 SOUTHWEST DISTRICT
 FUTURE LAND USE MAP
 Figure 12**

1.9.7.2 Dixie-Berryhill Strategic Plan

The Charlotte-Mecklenburg Planning Department creates area plans to better address the specific needs of neighborhoods within the six planning districts. The Dixie-Berryhill Strategic Plan, adopted in April 2003, was undertaken to implement a recommendation that a more detailed economic development, land use, and design plan be developed for the area west of the Charlotte-Douglas International Airport (between the Catawba River and I-485) to encourage high quality mixed-use development and support transit.

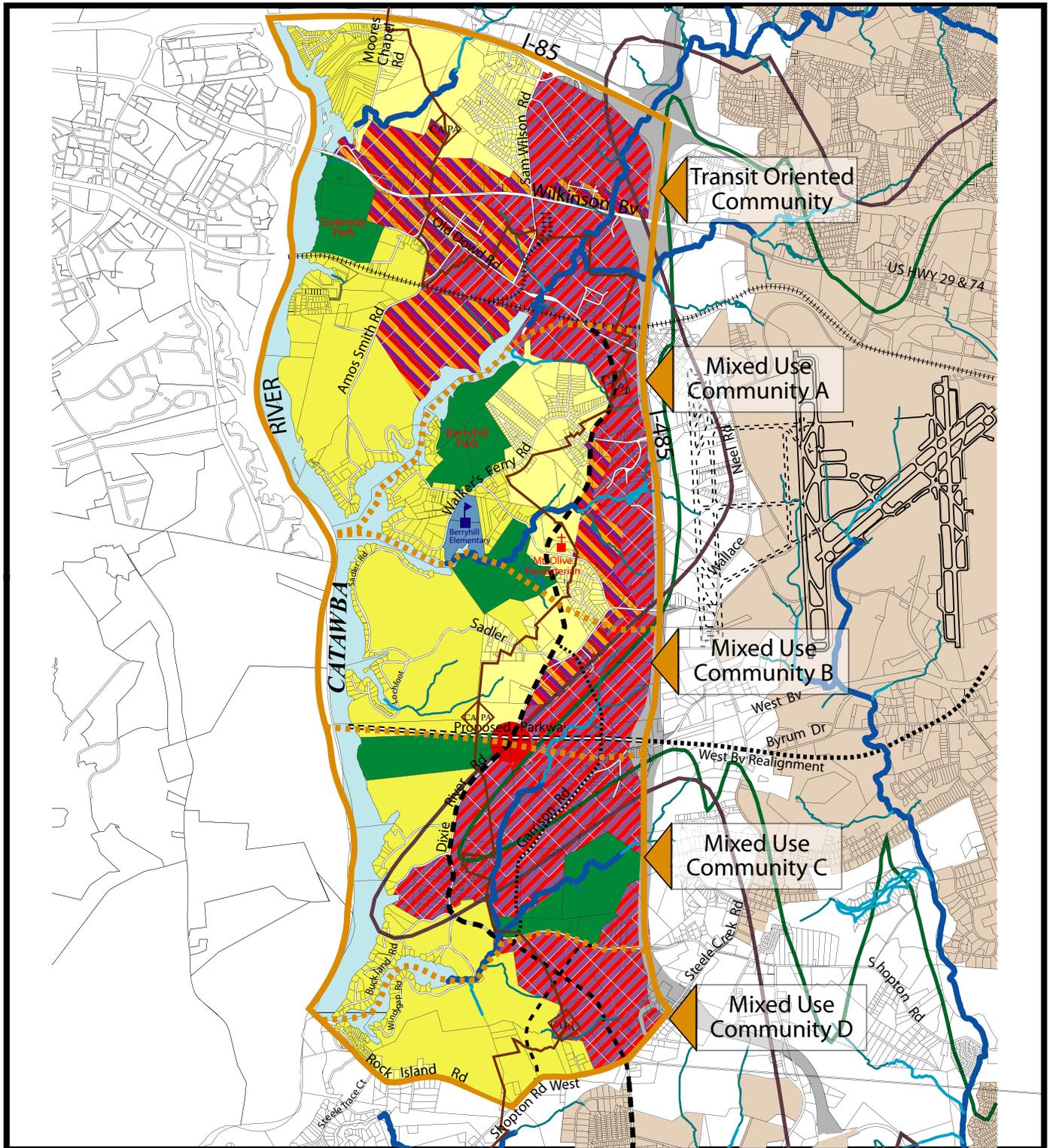
The Dixie-Berryhill planning area is a subset of the Southwest District that encompasses approximately 7,594 acres in western Mecklenburg County, across the Catawba River from southern Gaston County. The area is bounded by I-485 to the east; the Catawba River to the west; I-85 to the north; and Rock Island Road, Shopton Road and Steele Creek Road (NC 160) to the south. As of 2000, approximately 80 percent of the land in the Dixie-Berryhill area consisted of vacant land or very large parcels with a single dwelling.

Figure 13 is the Proposed Land Use map from the Dixie-Berryhill Strategic Plan. On the map, Mixed Use Communities B and C are in the vicinity of the proposed project. The eastern portions of these communities, near the Charlotte-Douglas International Airport, are proposed primarily for employment/mixed-use developments, with higher-intensity employment uses proposed along the major transportation corridors. Residential development is proposed in the western portions of these communities.

Regarding transportation, the Dixie-Berryhill Plan refers to a West Boulevard Extension from I-485 through the Dixie-Berryhill area and across the Catawba River in the same general location as the Gaston East-West Connector. However, the Plan recommends that this extension should be a major thoroughfare. The Dixie-Berryhill Plan states,

“One of the primary issues remaining from a transportation perspective is the character of the West Boulevard Extension across the Catawba River. The MUMPO Thoroughfare Plan calls for this facility to be a freeway. The Gaston Urban Area is requesting that the facility be constructed as a controlled access tollway to I-485. This type of construction is inconsistent with the land use recommendations for Dixie-Berryhill. This plan recommends that the proposed major thoroughfare [an upgraded Dixie River Road] have access to the new facility, and that an urban diamond interchange be constructed with I-485. This plan is opposed to the right-of-way requirements and the associated impacts that would be required by a freeway to freeway type interchange.”

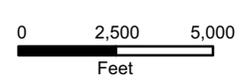
It should be noted that the Mecklenburg-Union Thoroughfare Plan, which was last updated by MUMPO in March 2007 (four years after adoption of the Dixie-Berryhill Strategic Plan), shows the Gaston East-West Connector as a freeway facility with a service interchange at the proposed major thoroughfare (Dixie River Road), as well as a freeway-to-freeway interchange at I-485.



Legend

- | | | | |
|-------------------------------|-----------------------------|----------------------------|---|
| Residential up to 4 DUA | Employment/Mixed Use | Proposed Parkway | SWIM Buffer - 35 |
| Residential up to 5 DUA | I-485 Right of Way | Railroads | SWIM Buffer - 50 |
| Open Space | Charlotte City Limits | Dixie-Berryhill Study Area | SWIM Buffer - 100 |
| Institutional | Proposed Major Thoroughfare | Community Boundary | Lake Wylie Watershed - Critical and Protected Areas |
| Multi-Family/Retail Mixed Use | Proposed Minor Thoroughfare | 1996 Noise Contour - 65 db | |
| Community Center | Proposed Roads by Developer | 2001 Noise Contour - 65 db | |

NORTH CAROLINA Turnpike Authority
GASTON EAST-WEST CONNECTOR
 STIP PROJECT NO. U-3321
 Gaston and Mecklenburg Counties



Source: Charlotte-Mecklenburg Planning Commission, June 2002.

**MECKLENBURG COUNTY
 DIXIE-BERRYHILL AREA
 SMALL AREA PLAN**
Figure 13

REFERENCES AND SUPPORTING DOCUMENTATION

REFERENCES

Amtrak

Internet site: <http://www.amtrak.com/> (April 14, 2008).

Charlotte Area Transit System (CATS)

Internet site: <http://www.charmeck.org/Departments/CATS>

Charlotte-Douglas International Airport

Internet site: <http://www.charmeck.org/Departments/Airport>

Charlotte-Mecklenburg Planning Department

2004 - Dixie Berryhill Strategic Plan. April

<http://www.charmeck.org/Departments/Planning/Area+Planning/Plans/Dixie+Berryhill.htm>

2007 Southwest District Future Land Use Map

<http://www.charmeck.org/Departments/Planning/Area%20Planning/Plans/home.htm>

Crowders Mountain State Park

Phone interview on April 11, 2008 with Larry Hyde, Superintendent

Internet site: <http://www.ncparks.gov>

Daniel Stowe Botanical Garden

Interview on November 13, 2001 with Mike Bush, Executive Director.

Internet site: <http://www.dsbgo.org> (April 2008)

2006 Annual Report.

Federal Aviation Administration

1999 Final Environmental Impact Statement and Department of Transportation Act Section 303(C) Statement for Master Plan Development and FAR Part 150 Noise Compatibility Plan Update. November 1999.

Federal Highway Administration

1987 Guidance for Preparing and Processing Environmental and Section 4(f) Documents. FHWA Technical Advisory T66430.8.A. October 1987.

Gaston County Planning Department

2002 Gaston County Comprehensive Plan

<http://www.co.gaston.nc.us/CompPlan/ComprehensivePlan.htm>

Gaston County Economic Development Commission

Internet site: <http://www.gaston.org>

Gastonia Transit

Internet site: http://www.cityofgastonia.com/city_serv/general/transit/transit.cfm

North Carolina Department of Commerce

Internet site: <http://www.nccommerce.com>

North Carolina Department of Transportation

2006, Metrolina Regional Model

Strategic Highway Corridors

Internet site: <http://www.ncdot.org/doh/preconstruct/tpb/SHC>

North Carolina State Data Center

Internet site: <http://www.census.state.nc.us>

North Carolina State Demographics

Internet site: <http://www.demog.state.nc.us>

US Census Bureau

Internet site: <http://www.census.gov>

SUPPORTING PROJECT DOCUMENTATION

2004. Citizens Informational Workshop Series #1 Summary – Gaston East-West Connector. March. Prepared by PBS&J for the NCDOT Project Development and Environmental Analysis Branch.
- 2008 Traffic Operations Technical Memorandum for I-85, I-485, US 29-74, and US 321 Under Various Scenarios – Gaston East-West Connector. May. Prepared by PBS&J for NCTA.
- 2008 Gaston East-West Connector (U-3321) Traffic Forecasts for Toll Alternatives. May. Prepared by Martin/Alexiou/Bryson for NCTA.

APPENDIX A

NEPA/404 Merger Process Concurrence Point 1 – Signed Form

Section 404/NEPA Merger Project Team Meeting Agreement Concurrence Point No.1 - Purpose and Need.

Project No./TIP No./Name/Description:

Federal Project Number: STP-1213(6); State Project Number 8.2812501;

TIP Number: U-3321

Description: Gaston East-West Corridor Study in Gaston and Mecklenburg Counties

Purpose and Need of Proposed Project:

The purpose of the proposed action is to improve east-west transportation mobility in the area around the City of Gastonia, between Gastonia and the Charlotte metropolitan area in general, and particularly to establish direct access between the rapidly growing area of southeast Gaston County and west Mecklenburg County. This project purpose is based on the following:

- Need to improve mobility, access and connectivity within southern Gaston County and between southern Gaston County and Mecklenburg County.
- Need to reduce congestion and improve traffic flow ^{on} ~~along~~ the sections of I-85, US 29-74 and US 321 in the project study area; improve high-speed, safe regional travel service along the US 29-74 intrastate corridor; and generally improve safety and reduce above average accident rates in the study area.

The project study area consists of the following general boundaries: I-85 to the north, the South Carolina State line to the south, the Charlotte-Douglas International Airport to the east, and the I-85 and US 29-74 junction to the west.

The Project Team concurred on this date of 7/24/02 with the purpose of and need for the proposed project as stated above.

USACE John W. Handley

NCDOT Jennifer Harris

USFWS Pia A. Z...

USFWS Muelle a Zwick

NCDWQ Gynthia F. Van Der Wiele

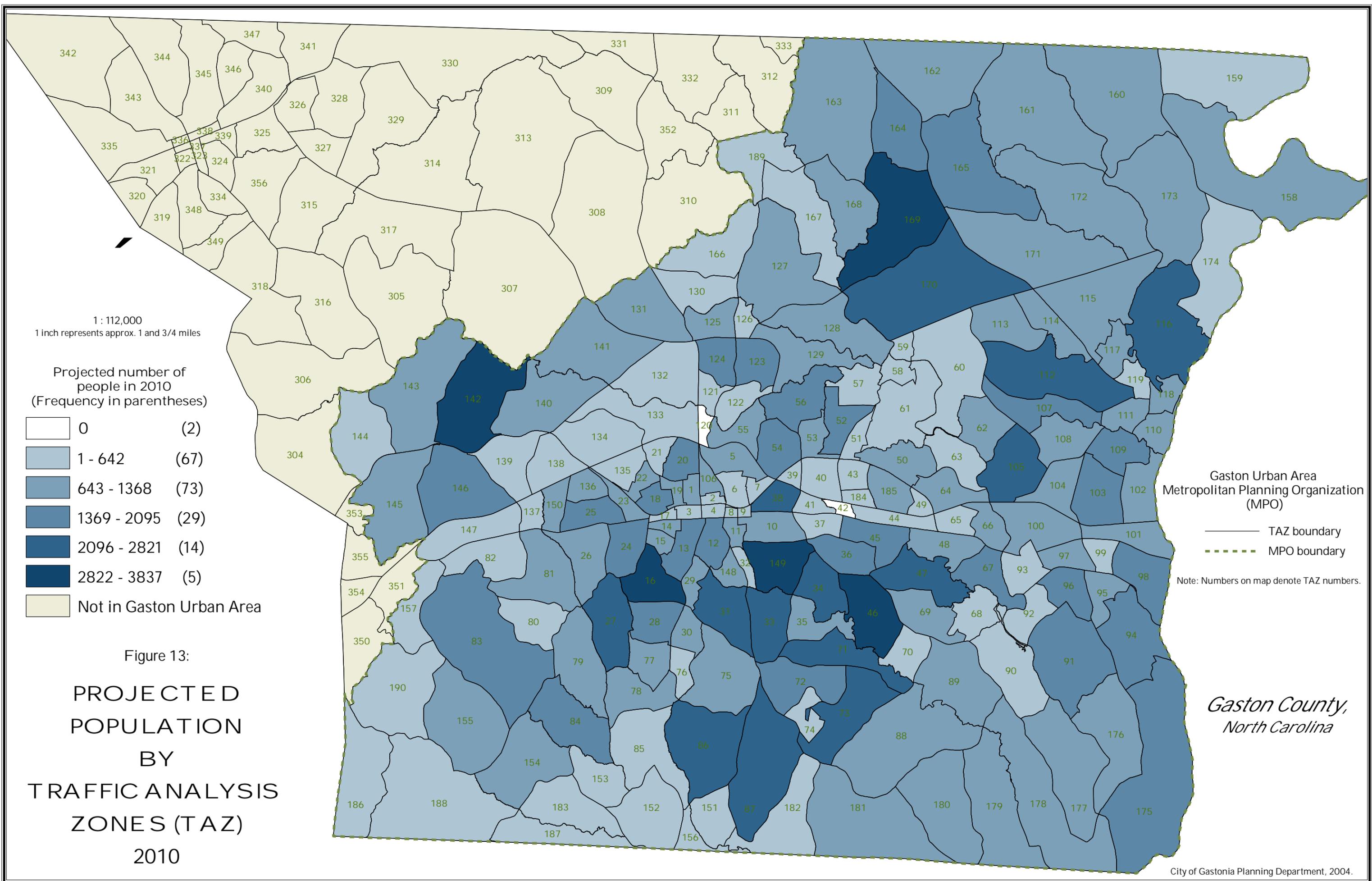
NCWRC Maria Cham...

NCDCR Renee Hedrick-Easley

FHWA Donna H. Darcourse

APPENDIX B

Projected Population Growth Maps for the Gaston Urban Area



1 : 112,000
 1 inch represents approx. 1 and 3/4 miles

Projected number of people in 2010
 (Frequency in parentheses)

- 0 (2)
- 1 - 642 (67)
- 643 - 1368 (73)
- 1369 - 2095 (29)
- 2096 - 2821 (14)
- 2822 - 3837 (5)
- Not in Gaston Urban Area

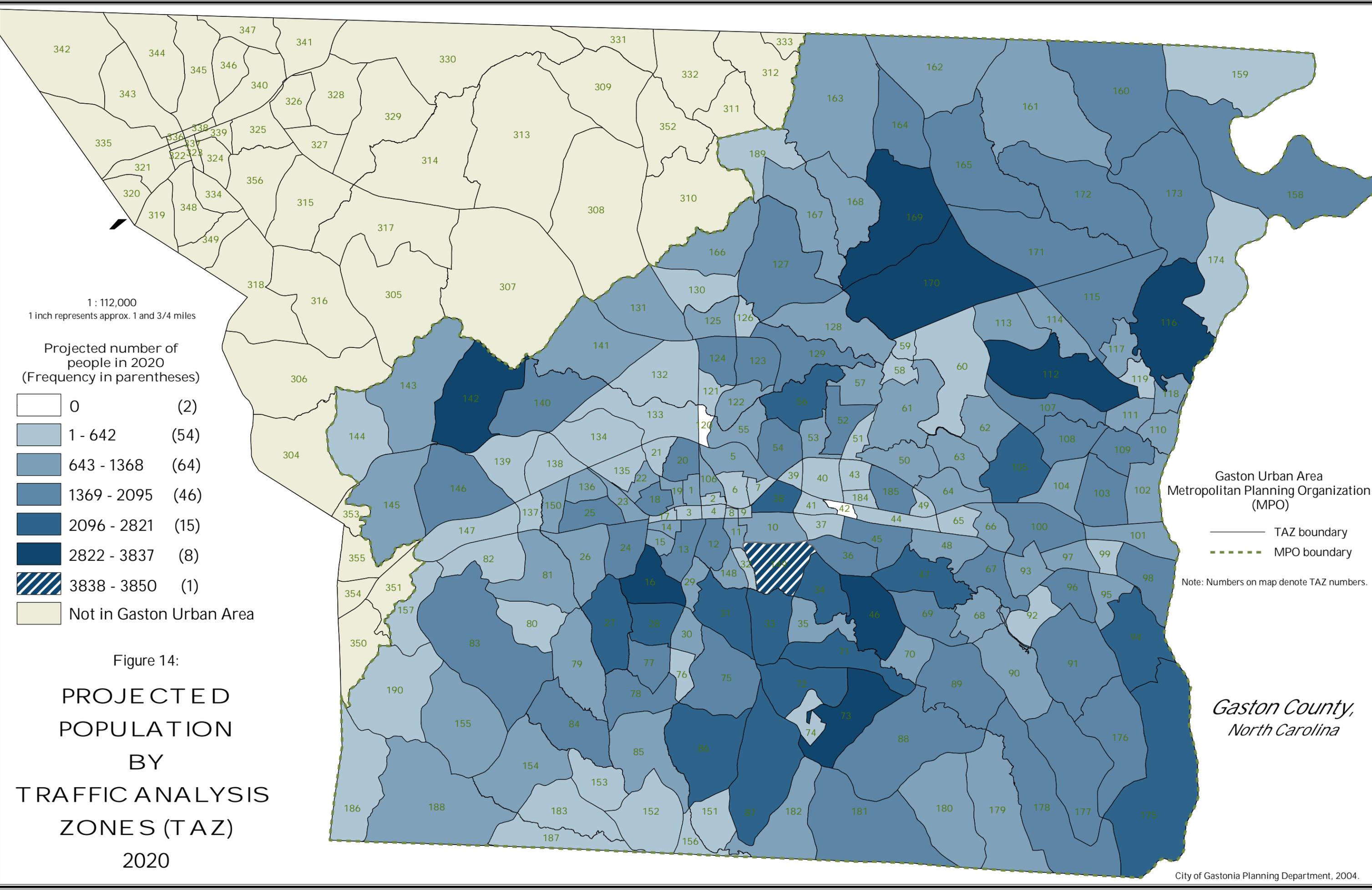
Gaston Urban Area
 Metropolitan Planning Organization
 (MPO)

— TAZ boundary
 - - - MPO boundary

Note: Numbers on map denote TAZ numbers.

Figure 13:
**PROJECTED
 POPULATION
 BY
 TRAFFIC ANALYSIS
 ZONES (TAZ)
 2010**

*Gaston County,
 North Carolina*



1 : 112,000
1 inch represents approx. 1 and 3/4 miles

Projected number of people in 2020
(Frequency in parentheses)

- 0 (2)
- 1 - 642 (54)
- 643 - 1368 (64)
- 1369 - 2095 (46)
- 2096 - 2821 (15)
- 2822 - 3837 (8)
- 3838 - 3850 (1)
- Not in Gaston Urban Area

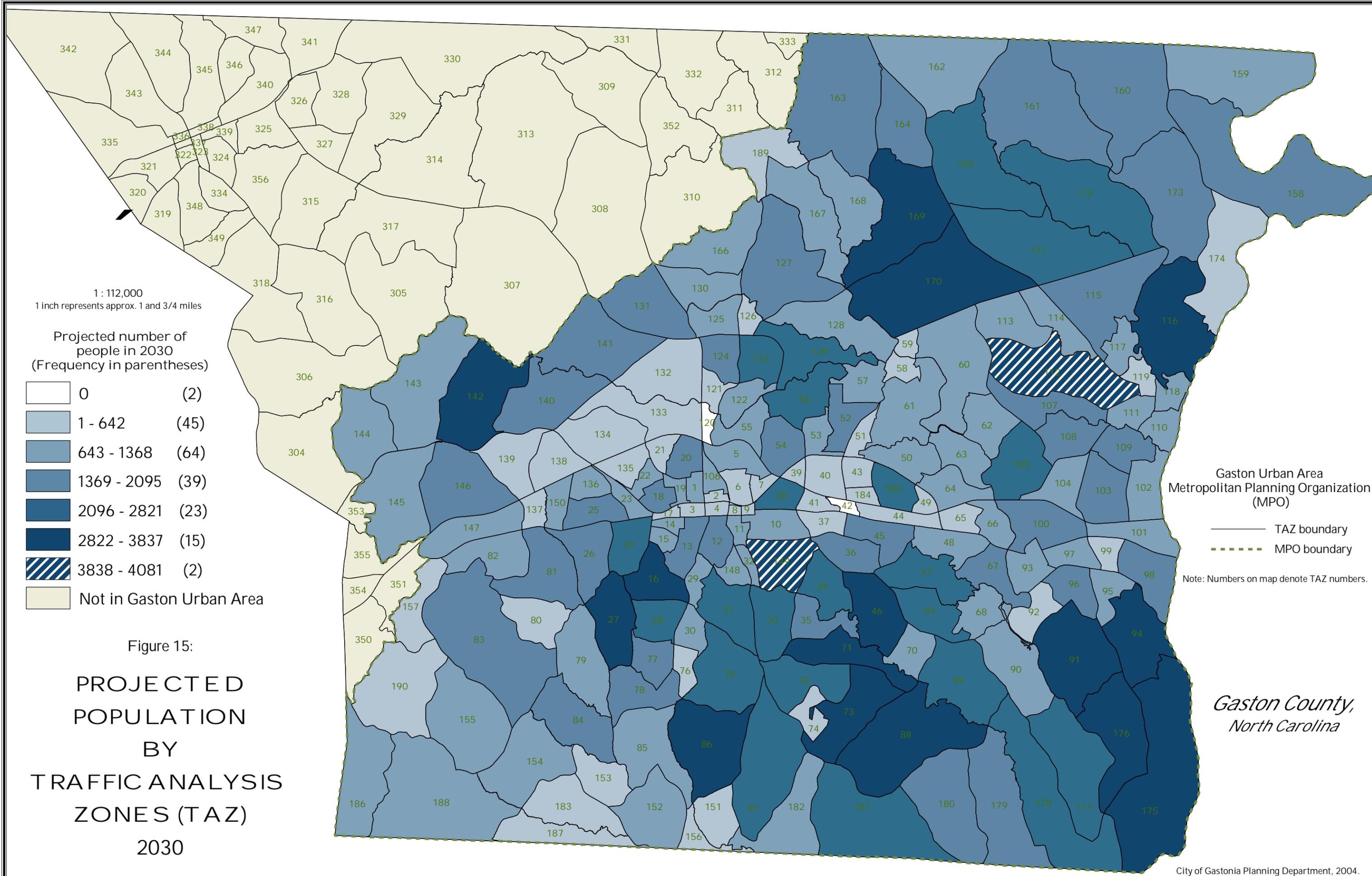
Gaston Urban Area
Metropolitan Planning Organization
(MPO)

- TAZ boundary
- MPO boundary

Note: Numbers on map denote TAZ numbers.

Figure 14:
**PROJECTED
POPULATION
BY
TRAFFIC ANALYSIS
ZONES (TAZ)
2020**

*Gaston County,
North Carolina*



1 : 112,000
 1 inch represents approx. 1 and 3/4 miles

Projected number of people in 2030
 (Frequency in parentheses)

- 0 (2)
- 1 - 642 (45)
- 643 - 1368 (64)
- 1369 - 2095 (39)
- 2096 - 2821 (23)
- 2822 - 3837 (15)
- 3838 - 4081 (2)
- Not in Gaston Urban Area

- Gaston Urban Area Metropolitan Planning Organization (MPO)
- TAZ boundary
- - - MPO boundary

Note: Numbers on map denote TAZ numbers.

Figure 15:
PROJECTED POPULATION BY TRAFFIC ANALYSIS ZONES (TAZ) 2030

Gaston County, North Carolina