1. PURPOSE AND NEED FOR ACTION

Section 1 summarizes the Statement of Purpose and Need for the project and why the proposed action is needed. Supporting information includes the project setting, a description of the existing roadway network and how it operates now and in the future, project history, relationships with other transportation modes, social and economic conditions, and area transportation and land use plans.

1.1 PROPOSED ACTION

The North Carolina Turnpike Authority (NCTA), in cooperation with the Federal Highway Administration (FHWA) and the North Carolina Department of Transportation (NCDOT), proposes to construct a project known as the Monroe Connector/Bypass, which would be a controlled-access toll road extending from US 74 near I-485 in Mecklenburg County to US 74 between the towns of Wingate and Marshville in Union County, a distance of approximately 20 miles.

The proposed project must begin and end on existing US 74 in order to provide continuity for the US 74 corridor. On the western end, the project would begin at I-485, another controlled-access facility. On the eastern end, the proposed project would terminate on US 74 between the towns of Wingate and Marshville. This is where existing and projected traffic volumes decrease and the study area transitions to a more rural character.

The proposed action is included in the NCDOT *2009–2015 State Transportation Improvement Program (STIP)* as Project R-3329 (Monroe Connector) and Project R-2559 (Monroe Bypass) as a toll facility. The project is known as the "Monroe Connector/Bypass."

North Carolina roads traditionally have been built with taxpayer funds, either through the state transportation budget or federal-aid highway funds allocated to the state. There are many other priority projects statewide and, due to funding constraints, there is not enough funding available from traditional sources in the foreseeable future to construct all priority projects. **Section 2.3.2.5** includes additional discussion of this issue.

Public comments on the Monroe Connector/Bypass project have indicated an overwhelming acceptance of tolls as a way to accelerate construction of the project and pay for operating and maintaining the facility (**Section 9.1**).

The purpose and need for the project are documented in detail in the *Final Statement of Purpose and Need for the Monroe Connector/Bypass* (PBS&J, February 2008), incorporated by reference and available on the NCTA Web site (www.ncturnpike.org/projects/monroe). A series of Citizens Informational Workshops took place in June 2007 to give the public an opportunity to comment on the purpose and need for the project. Agency comments on the purpose and need, for the project, were solicited beginning with the initial project scoping meeting in January, 2007. Additional information on public involvement and agency coordination is presented in **Section 1.4.3** and **Section 9**.

1.2 SUMMARY OF NEED FOR PROPOSED ACTION

The primary needs for the proposed action are documented in this section and are summarized below. Detailed discussions of existing and projected conditions within the project study area are presented in **Sections 1.4** through **1.8**

US 74 is the major east-west route connecting the Charlotte region, a major population center and freight distribution point, to the North Carolina coast and the port at Wilmington (which is the state's largest). **Figure 1-1** shows US 74 within the state of North Carolina.

In addition, US 74 is the primary transportation connection between Union County, the fastest growing county in North Carolina, and Mecklenburg County/City of Charlotte, the economic hub of the region. **Figure 1-2** shows the project study area in relation to Union and Mecklenburg Counties. Union County is the only county adjacent to Mecklenburg County that does not have a controlled-access facility connecting it to Mecklenburg County.

US 74 also serves as an important commercial corridor for Union County residents and businesses, with many retail, commercial, and employment centers having direct access to/from US 74. In Union County, most employment is concentrated in the City of Monroe or along existing US 74.

The needs for the proposed action are summarized as follows:

- **Existing and Projected Roadway Capacity Deficiencies**

  Currently, US 74 in the project study area is a four- to six-lane arterial roadway with 26 at-grade signalized intersections, many additional unsignalized intersections, and numerous commercial and residential driveway connections. Average travel speeds currently range from approximately 20 to 30 miles per hour (mph) during the peak hour, and are expected to decline to less than 20 mph by 2030. Congestion is high, with one-third of the intersections currently operating at an unacceptable Level of Service (LOS E or F) during the peak hour. Approximately two-thirds of the intersections are expected to operate at LOS E or F by 2030.

- **Inability to Serve High-Speed Regional Travel Consistent with the Designations and Goals of State and Local Transportation Plans**

  The Mecklenburg-Union Metropolitan Planning Organization's (MUMPO) *2030 Long Range Transportation Plan* (*LRTP*) has identified improvements to the US 74 corridor in the project study area and considers them a high-priority project. The MUMPO *2030 LRTP* proposes a new location controlled-access facility from I-485 near US 74 to US 74 in the area between the towns of Wingate and Marshville.

  North Carolina Intrastate System

  The purpose of the Intrastate System is to provide a high-speed, safe travel service throughout the state. It connects major population centers both inside and outside the state and provides safe, convenient, through-travel for motorists. (NCGS 136-178).

  Because of its statewide and regional importance, US 74 has been designated as a Strategic Corridor (SHC) by NCDOT and is part of the North Carolina Intrastate System. Both designations call for this corridor to serve high-speed regional travel. The SHC designation specifically calls for a freeway. The North Carolina Intrastate System

designation calls for a multi-lane facility with access control and grade separations (if warranted by traffic volumes).

The existing and projected traffic and land use conditions along this segment of US 74 diminish its ability to function as part of the North Carolina Intrastate System and as a SHC. The facility type is also inconsistent with the SHC program vision of the US 74 corridor as a freeway.

Strategic Highway Corridor
In a renewed effort to enhance and preserve the backbone of the highway system, the NCDOT, in collaboration with the Department of Commerce and Department of Environment and Natural Resources, created the Strategic Highway Corridors (SHC) initiative. The SHC initiative represents a timely effort to preserve and maximize the mobility and connectivity on a core set of highway corridors, while promoting environmental stewardship through maximizing the use of existing facilities to the extent possible, and fostering economic prosperity through the quick and efficient movement of people and goods.

The US 74 corridor is designated as part of the National Highway System's (NHS) Strategic Highway Network (STRAHNET). Existing and projected poor LOS and lack of access control along the US 74 corridor diminish the roadway's ability to function as part of the STRAHNET.

1.3 PURPOSE OF PROPOSED ACTION

The purpose of the project is to improve mobility and capacity within the project study area by providing a facility for the US 74 corridor from near I-485 in Mecklenburg County to between the towns of Wingate and Marshville in Union County that allows for high-speed regional travel consistent with the designations of the North Carolina SHC program and the North Carolina Intrastate System, while maintaining access to properties along existing US 74.

To meet the purpose and need, an alternative must provide more than a minor improvement. An improvement would be considered minor if it is localized, temporary, and/or largely unnoticeable to the typical user of the transportation system. Alternatives that provide only a minor improvement do not meet the purpose and need, and, therefore, are not reasonable alternatives.

1.4 PROJECT DESCRIPTION AND HISTORY

1.4.1 PROJECT SETTING

The project is located southeast of Charlotte in the southern part of the Piedmont region of North Carolina. The terrain is gently rolling. Elevations range between approximately 550 feet above mean sea level (AMSL) to approximately 780 feet AMSL.

As shown in **Figure 1-3**, the project study area boundaries are the Goose Creek watershed, which contains known populations of the federally-endangered Carolina heelsplitter mussel, and Lake Twitty to the north; south of Old Monroe Road/Old Charlotte Highway (SR 1009) to the south; the Town of Marshville to the east; and NC 51 to the west.

The majority of the project study area is within Union County, with the portion adjacent to (and northwest of) I-485 within Mecklenburg County. Portions of the project study area are within the jurisdictions of the Towns of Mint Hill, Matthews, Stallings, Hemby Bridge, Indian Trail, Wingate, and Marshville; the Village of Lake Park; and the City of Monroe.

Land uses along US 74 within the project study area include various commercial uses and light industrial businesses. Central Piedmont Community College (Levine Campus) and Wingate University also are in the project study area near US 74. The portion of the project study area generally west of US 601 is where much of Union County's growth has taken place and continues to occur. There are numerous subdivisions and commercial uses in this area. The project study area generally east of US 601 is more rural, with scattered residential, commercial, and agricultural uses, and undeveloped areas.

1.4.2 EXISTING ROAD NETWORK

US 74 is the primary route between Charlotte and Monroe, and it accommodates a large portion of the southeast-northwest traffic demand in the area. Within the project study area, existing US 74 is a four- to six-lane divided highway with 26 at-grade signalized intersections, many additional unsignalized intersections, and numerous commercial and residential driveway connections.

Figure 1-3 shows the existing roadway network in the project study area. I-485 is a partially completed controlled-access loop around the outer limits of Charlotte. I-485 runs northeast-southwest at the western end of the project study area. There is a system interchange connecting I-485 to US 74.

US 601 runs north-south and connects with US 74 at a service interchange in Monroe in the middle of the project study area. US 601 is the only other U.S. route in Union County. Several state routes provide access to US 74 from various areas of Union County, including (from west to east) Stallings Road (SR 1365), Indian Trail-Fairview Road (SR 1520), Unionville-Indian Trail Road (SR 1367), Wesley Chapel-Stouts Road (SR 1377), Sardis Church Road (SR 1516), Rocky River Road (SR 1514), Secrest Shortcut Road (SR 1501), Morgan Mill Road (NC 200), and Whitmore Road (SR 1758).

West of US 601, two smaller arterial roadways roughly parallel US 74 to the north and south: Secrest Shortcut Road (SR 1501) to the north and Old Monroe Road/Old Charlotte Highway (SR 1009) to the south.

1.4.3 PUBLIC AND AGENCY INVOLVEMENT IN DEVELOPMENT OF THE PURPOSE AND NEED

Public and agency coordination for the project is discussed in **Chapter 9**. This section briefly summarizes the coordination and involvement activities relating to the project's purpose and need.

Development of the purpose and need for the project began with the issuance of a formal scooping letter on January 5, 2007. This letter (along with agency responses) is included in **Appendix A-3**. Early coordination with these agencies aided the development of the Statement of Purpose and Need. Details of the comments received as a result of this letter can be found in **Section 9.2**. Purpose and need also was discussed at coordination meetings with the environmental resource and regulatory agencies on January 4, January 25, February 14, March 22, and April 18, 2007 (**Section 9.2.3.3**).

Public comment on the purpose and need was solicited at the first series of Citizens Informational Workshops held June 25 and 26, 2007 (**Section 9.1.1**). A majority of the citizens providing written comments on the project supported the use of tolls and the purpose of the project.

1.5 TRANSPORTATION SYSTEMS

1.5.1 NORTH CAROLINA STRATEGIC HIGHWAY CORRIDOR SYSTEM

The North Carolina Board of Transportation has established a vision for the US 74 corridor that includes developing a freeway in this corridor to accommodate high-speed regional travel. The North Carolina Board of Transportation adopted a *Vision Plan* for this section of US 74 pursuant to North Carolina's SHC initiative. The *Vision Plan* for US 74 identifies a freeway as the minimum preferred type of roadway for the corridor. As a freeway, the roadway to be developed in this corridor is to have a minimum of four travel lanes and full control of access.

Existing US 74 within the project study area is an arterial roadway with numerous at-grade access points (e.g., driveways, parking lots, etc.) and 26 traffic signals along approximately 20 miles of roadway. As such, US 74 currently is not a freeway, nor does it allow for safe, high-speed regional travel; therefore, existing US 74 is inconsistent with the SHC vision for this corridor.

1.5.1.1 NCDOT Strategic Highway Corridors Initiative

On September 2, 2004, the North Carolina Board of Transportation established a system of SHCs for North Carolina as part of the state's *Long-Range Multi-Modal Statewide Transportation Plan*.

In October 2005, NCDOT issued a *SHC Concept Development Report* for the statewide network of SHC routes. The *SHC Concept Development 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 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.

NCDOT, North Carolina Department of Commerce (NCDOC), and North Carolina Department of Environmental and Natural Resources (NCDENR) collaborated in developing the *SHC Concept Development Report* and the process of selecting the SHCs. 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 SHCs, which are sets 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 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 other 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 NHS, and STRAHNET.

For each SHC corridor, a *Vision Plan* was established by NCDOT that identified the minimum preferred type of roadway for that corridor. The facility types on the SHC system are: freeway, expressway, boulevard, and thoroughfare.

1.5.1.2 Strategic Highway Corridor Vision Plan for US 74

As part of the SHC initiative, NCDOT designated 55 corridors throughout the state as SHCs. The US 74 corridor within the project study area is a part of Corridors 23 and 24. Corridor 23 is the US 74 corridor from Charlotte to Florence, South Carolina, including US 74 in the project study area between I-485 and US 601. US 74 from Charlotte to Wilmington was identified as Corridor 24. **Figure 1-4** is the SHC *Vision Plan* map for the Metrolina Area, which shows the US 74 corridor east of I-485 as a recommended freeway. These SHC corridors are significant because they connect the state's largest port (Wilmington) to the state's largest city (Charlotte); serve as connector routes between I-85 and I-95; and support the state's tourism industry by connecting Charlotte and the southern piedmont to beaches in South Carolina and southeastern North Carolina.

The term "freeway" is defined in NCDOT's publication, *Facility Type & Control of Access Definitions* (August 2005) as follows:

- Functional Purpose. High mobility, low access
- American Association of State Highway Transportation Officials (AASHTO) Design Classification. Interstate or Freeway
- Posted Speed Limit. 55 mph or greater
- Control of Access. Full
- Traffic Signals. Not allowed
- Driveways. Not allowed
- Cross-Section. Minimum four lanes with a median
- Connections. Provided only at interchanges; all cross streets are grade-separated

- Median Crossovers. Public-use crossovers not allowed; U-turn median openings for use by authorized vehicles only when need is justified

Existing US 74 in the project study area does not meet the criteria for a freeway, as described above, and is therefore inconsistent with the SHC *Vision Plan* designation of this corridor as a "freeway." The existing roadway is four to six lanes wide, but is an arterial with numerous at-grade access points and traffic signals. The existing roadway does not have the design characteristics of a freeway and does not provide the high levels of mobility (i.e., high speeds) that are associated with freeways.

1.5.1.3 Implementation of the Strategic Highway Corridor Vision

A critical step in the SHC implementation process is incorporating recommendations from the *Vision Plan* into individual projects. This will be accomplished by local and statewide transportation planners incorporating SHCs and associated designations into the statewide and regional transportation planning process and into the project development process, including its NEPA study.

According to the *SHC Concept Development Report*, existing STIP projects located along SHCs should be examined and modified for consistency with the corridor vision. New STIP projects should be developed from the beginning of the project development process in a manner that considers the long-term vision and goals of the SHC concept. The *SHC Concept Development Report* states that:

> "*Engineers should develop project scopes and make design decisions that are consistent with the corridor vision, including the preparation of Purpose and Need Statements and the development and evaluation of alternatives. Purpose and Need Statements should demonstrate how the project meets the criteria set forth in the Strategic Highway Corridor concept and describes the need for improvements to a corridor as they relate to corridor's function and vision. Alternatives should be developed and analyzed in a manner which reflects the mobility and connectivity goals of the vision, while attempting to maximize the use of existing infrastructure.*" (*SHC Concept Development Report*, page 68)

As contemplated by the *SHC Concept Development Report*, the corridor vision for US 74 as a freeway has been adopted in both the MUMPO *2030 LRTP* and the STIP. The MUMPO *2030 LRTP* includes the Monroe Bypass and Monroe Connector as "new freeway" projects. The funding source for the Monroe Connector is listed as "toll" while the funding source for the Monroe Bypass is listed as "NCTIP." The *2009–2015 STIP* includes the Monroe Connector (R-3329) as a "multi-lane freeway on new location" and includes the Monroe Bypass (R-2559) as a "four-lane divided [facility] on new location." Both the Monroe Connector and the Monroe Bypass are shown in the STIP as NCTA projects.

1.5.2 NORTH CAROLINA INTRASTATE SYSTEM

The North Carolina Intrastate System has been established by statute in North Carolina (NCGS 136-178). The purpose of the North Carolina Intrastate System is to provide "high-speed, safe travel service throughout the State." As defined in statute, the North Carolina 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 North Carolina Intrastate System requires that the routes in the North Carolina 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, the presence of more than four travel lanes, and bypasses "when warranted." In other words, North Carolina Intrastate System designation requires at least a four-lane, access-controlled roadway if such a facility is warranted by traffic volumes and is not precluded by environmental constraints.

US 74 from Tennessee to US 17 in Brunswick County, North Carolina, is listed in the statute as part of the North Carolina Intrastate System. Although existing US 74 within the project study area (from near I-485 in Mecklenburg County to between the towns of Wingate and Marshville in Union County) is a four- to six-lane facility, it is not operating consistently with the requirements for routes within the North Carolina Intrastate System. US 74 contains numerous intersections and driveways; average travel speeds are substantially below posted speed limits; and there is a high level of existing and projected congestion along the route.

1.5.3 NATIONAL HIGHWAY SYSTEM AND STRAHNET

In addition to its designation as a SHC and as part of the North Carolina Intrastate System in North Carolina, US 74 also is designated at the federal level as part of the NHS and as part of the STRAHNET, which itself is part of the NHS.

1.5.3.1 National Highway System

The Code of Federal Regulations (CFR), Title 23, Part 470, Section 107 (23 CFR 470.107), defines the federal-aid highway system, which includes the Interstate System and the NHS. The NHS includes approximately 160,000 miles of roadway that are vital to the nation's economy, defense and mobility. In North Carolina, US 74 in the project study area is included as a roadway on the NHS system. The Monroe Bypass portion of the project is identified on the NHS system map as an "Unbuilt NHS Route." The Monroe Connector portion of this project is not currently listed as part of the NHS.

1.5.3.2 STRAHNET

The NHS Strategic Highway Network (STRAHNET) is a designation given to roads that provide defense access, continuity, and emergency capabilities for movements of military personnel and equipment. STRAHNET includes routes (for long-distance travel) and connectors (to connect individual installations to the routes). STRAHNET routes include the 45,376-mile Interstate System and 15,668 miles of other important public highways. STRAHNET connectors comprise approximately 1,700 miles and link more than 200 important military installations and ports to STRAHNET routes. US 74 from Charlotte to Wilmington is classified as a non-interstate STRAHNET route. STRAHNET routes are required to meet American Association of State Highway and Transportation Officials (AASHTO) *Policy on Geometric Design of Highways and*

Streets for the facility type proposed. Any improvements made to the US 74 corridor as part of the proposed project will be developed to meet these guidelines.

1.5.4 MODAL INTERRELATIONSHIPS

Although private automobiles are the primary means of transportation in the project study area, other modes of travel (including mass transit, rail, motor freight, and air service) are integral parts of the transportation system, and are briefly described below.

1.5.4.1 Public Transportation

The Charlotte Area Transit System (CATS), formed in 2000, is the largest provider of mass-transit services within the region. CATS provides fixed-route bus services, light rail transit, paratransit, community and neighborhood-based shuttle services (including demand response services), and a multi-county vanpool program for work-trip destinations in Mecklenburg County.

The only fixed-route, fixed-schedule transit service within the project study area is the Union County Express (Route 74X) (CATS Web site: www.charmeck.org/Departments/ CATS). This route uses US 74, extending into Union County to Marshville. It provides transportation between uptown Charlotte and three park-and-ride lots along US 74 in Union County: Union Town Shopping Center in Indian Trail, K-Mart in Monroe, and Christ Bible Teaching Center in Marshville.

Union County does not provide a public bus service. However, it does provide transportation services to the clients of contracting human-service agencies such as the Departments of Social Services and Mental Health, the Arc of Union County, Vocational Rehabilitation, and Veterans Services.

1.5.4.2 Rail Service

One rail line is located within the project study area. This line is used by CSX for freight service. There is no passenger rail service. The rail line is located south of and parallel to US 74 (**Figure 1-3**) in the western part of the project study area. It crosses US 74 just east of Walkup Avenue, and then runs parallel to and north of US 74.

1.5.4.3 Motor Freight Service

According to the Charlotte Chamber of Commerce, North Carolina is currently the sixteenth-largest trucking center within the United States, and 47 percent of the nation's top 100 trucking companies operate in Charlotte, including all of the top ten firms. Charlotte has become a major transfer point for freight service and has become the sixth-largest trading area in the United States. The Charlotte metropolitan area is home to 282 trucking companies and more than 30,000 transportation employees, including truckers (Charlotte Chamber of Commerce Web site: www.charlottechamber.org).

As previously noted, US 74 is the primary route connecting Charlotte and Wilmington, which is North Carolina's largest port. In addition to the regional truck traffic utilizing US 74, dense development along the US 74 corridor (including various commercial uses, grocery distribution

centers, a poultry plant, and a rock quarry) also contribute to truck traffic within the corridor. Consequently, trucks constitute a substantial percentage of the traffic on US 74. In 2007, trucks are estimated to have comprised approximately 13 percent of the daily traffic on US 74 within the project study area. The presence of these trucks in the traffic mix greatly increases congestion and travel times along US 74.

1.5.4.4 Air Service

Two airports are located within the region. Charlotte-Douglas International Airport is located approximately 20 miles northwest of the project study area on the west side of Charlotte. This airport provides passenger and parcel service to destinations worldwide. Primary access to Charlotte-Douglas International Airport is provided from Billy Graham Parkway, which connects I-77 to I-85 in the southwest quadrant of Charlotte. The airport is currently undergoing an expansion to add a third runway and an intermodal facility. The new runway is scheduled to be completed in January 2010 (Charlotte-Douglas International Airport Web site: www.charmeck.org/Departments/ Airport/Construction+Update+.htm).

Monroe Regional Airport is located south of US 74 and west of Rocky River Road (SR 1514). This airport is a general aviation facility with charter service. The City of Monroe has plans to strengthen and lengthen the runway to accommodate larger aircraft, build a new maintenance hangar, and construct additional storage hangars with work to be completed by the summer of 2009 (City of Monroe Web site: www.monroenc.org/airport/airport_info.htm).

1.6 SOCIAL AND ECONOMIC CONDITIONS

1.6.1 REGIONAL CONTEXT

The project study area is part of the MUMPO planning area, which includes all of Mecklenburg County and the western and central portions of Union County. The MUMPO area is part of the larger Charlotte-Mecklenburg County metropolitan region.

The Charlotte-Mecklenburg County region is the commercial capital of the Carolinas, and Charlotte is the largest city in North Carolina. "*Mecklenburg County contains the vast majority of both people (87.5 percent) and jobs (93.1 percent) in the MUMPO planning area. Charlotte remains the economic engine not just of the MUMPO planning area, but of the broader region as well.*" (MUMPO *2030 LRTP*, page 4-1).

"*Population growth in the MUMPO planning area (Mecklenburg County and the western and central portions of Union County) is driven by strong economic growth, with an economy traditionally dominated by producer services, wholesale industries, and transportation-related industries. The latter categories reflect the area's historic ability to capitalize on strong transportation connections to major east coast and Midwest markets via I-85 and I-77, which intersect in Charlotte.*" (MUMPO *2030 LRTP*, page 4-1).

1.6.2 POPULATION AND EMPLOYMENT

Housing unit estimates from the US Census Bureau show Union County as the seventeenth-fastest growing county in the United States, with a 47.5 percent increase in housing units from

April 1, 2000, to July 1, 2007 (US Census Bureau Web site: www.census.gov/popest/housing/tables/HU-EST2007-05.xls).

With 56.1 percent growth from 2000 to 2008, Union County demonstrated the highest percentage of growth among all North Carolina counties. The growth of other counties within the Charlotte Metropolitan Area (Metrolina region) and their state rankings during this same period is shown in **Table 1-1**.

TABLE 1-1: Population Growth from 2000 to 2008

County	Percent Growth	NC State Ranking
Union	56.1	1
Mecklenburg	28.1	9
Cabarrus	28.7	8
Iredell	26.7	11
Gaston	8.5	42
Anson	-0.4	84
Cleveland	3.0	66
Lincoln	17.2	22
Rowan	6.8	46
Stanly	2.6	69
Chester, SC	-4.3	*
Lancaster, SC	23.7	*
York, SC	32.1	*

Source: www.cemsus.gov/popest/counties/CO-EST2008-02.html
* N/A: counties in South Carolina are also part of the Metrolina region.

The population and employment of both Mecklenburg and Union counties are expected to increase through the year 2030. **Table 1-2** lists the existing and projected population and employment of Mecklenburg County, Union County, and the MUMPO region for 2000 through 2030.

TABLE 1-2: Existing and Projected Population and Employment in the Region

	Union County*	Mecklenburg County	MUMPO Region	Union County	Mecklenburg County	MUMPO Region
				Percent Change from Previous Decade		
Population						
2000	123,677	693,454	794,517	--	--	--
2010	176,684	867,451	1,015,303	42.9	24.7	27.8
2020	240,370	1,059,519	1,265,409	36.0	22.1	24.6
2030	323,377	1,227,928	1,513,805	36.2	15.9	19.6
Employment						
2000	44,390	529,672	568,883	--	--	--
2010	61,653	627,809	683,498	38.9	18.5	20.1
2020	92,522	782,328	865,851	50.1	24.6	26.7
2030	126,794	948,291	1,060,798	37.0	21.2	22.5

Source: MUMPO *2030 LRTP*, Table 5-1, Page 5-2.
* The column for Union County includes all of Union County, and not just the portion within the MUMPO planning area.

Approximately 87 percent of Union County's 2030 population is projected to reside within the MUMPO portion of the county (western and central portions of the county, including Monroe). Union County's population growth rate is projected to exceed that of Mecklenburg County, but the total amount of population growth in Mecklenburg County will be much larger than that projected for Union County (MUMPO *2030 LRTP*, page 5-1).

The government sector employs the largest number of people in Mecklenburg County, accounting for 10.8 percent of total employment within 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 Web site: www.nccommerce.com/NCDOCWEBAPP/Resources/CountyProfiles/pdf/Mecklenburg_2007Q4.pdf).

The manufacturing sector employs the largest number of people in Union County, accounting for 20.3 percent of total employment within the county. The government sector is second in total employment, accounting for 16.5 percent, followed by construction at 16.1 percent, and retail trade at 10.3 percent (NC Department of Commerce Web site: www.nccommerce.com/NCDOCWEBAPP/Resources/CountyProfiles/pdf/Union_2007Q4.pdf). Areas in Union County where businesses are concentrated include the City of Monroe and along the US 74 corridor from Monroe west to the Union/Mecklenburg County line.

Through 2030, Mecklenburg County will continue to be the dominant employment center in the region and in the MUMPO planning area. Employment within Union County is projected to almost triple between 2000 and 2030 (MUMPO *2030 LRTP*, Table 5-1, Page 5-2).

1.6.3 COMMUTING PATTERNS

Commuting pattern data available from the US Census Bureau show the importance of Charlotte-Mecklenburg County as a work destination for residents of Union County. A substantial percentage of Union County's residents commute to Mecklenburg County for work. According to the 2006 commuting patterns from the Employment Security Commission of North Carolina, approximately 45,916 (or 61 percent) of the 75,325 total workers residing in Union County commuted outside the county to work. Of those, approximately 68 percent (31,211) commuted to Mecklenburg County (Employment Security Commission of North Carolina Web site: http://esesc23.esc.state.nc.us/WorkForceInDepth/).

Commuters in Mecklenburg and Union counties (and throughout the state) are, as a group, heavily dependent on the private automobile, with approximately 80 percent of all commuters driving alone to work and approximately 13 percent using private carpools. **Table 1-3** lists the percentages of commuters using various modes of transportation to get to work. Generally, less than seven percent use some mode of transportation that is not dependent on an automobile, such as public transportation, bicycling, or walking.

Average commute times for 2005–2007 in Mecklenburg County (24.7 minutes) and Union County (29.2 minutes) were typically longer than the statewide average of 23.2 minutes (2005–2007 American Community Survey 3-Year Estimates, American Fact Finder. http://factfinder.census.gov).

TABLE 1-3: Journey to Work by Mode

Mode	North Carolina (%)	Mecklenburg County (%)	Union County (%)
Drive Alone	79.9	77.2	82.3
Carpool	12.2	12.6	11.0
Public Transportation	1.0	2.9	0.5
Bicycle	0.2	0.1	0.1
Walked	1.8	1.7	0.8
Motorcycle, Taxi or Other Means	1.2	1.2	0.8
Worked at Home	3.7	4.3	4.5

Source: 2005–2007 American Community Survey 3-Year Estimates, American Fact Finder. http://factfinder.census.gov

1.6.4 GROWTH AND DEVELOPMENT PATTERNS

According to the MUMPO *2030 LRTP* (page 4-2), "*Growth and development patterns within the MUMPO planning area generally reflect the fact of more people and jobs in the Mecklenburg portions versus the Union County portions of the area. Mecklenburg County's development pattern reflects a strong historical preference for residential and office development in the southern portions of the county, and a more recent surge of growth in the north and northeast portions of Mecklenburg.*"

In Union County, most employment is concentrated in Monroe or along the US 74 corridor. The vast majority of land-development changes in Union County have involved residential development, with employment-related development lagging far behind (MUMPO *2030 LRTP*, page 4-3).

The areas along the Union County and Cabarrus County lines abutting Mecklenburg County are expected to be the most rapidly growing areas within the MUMPO planning area. Much of this growth will occur around the areas between Monroe and Matthews. Central and western Union County is projected to achieve high employment growth, but with a relatively low-density employment pattern overall by 2030. Jobs are likely to continue to concentrate along existing US 74 and in Monroe (MUMPO *2030 LRTP*, page 5-3).

1.7 TRANSPORTATION AND LAND USE PLANS

Statewide, regional, and local plans are in place to plan roadway improvements needed to meet future transportation demands in areas throughout the state. The transportation needs and goals of the Mecklenburg-Union County region relating to roadways are addressed in three inter-related plans: the NCDOT STIP, the MUMPO *2030 LRTP*, and the *Mecklenburg-Union Thoroughfare Plan*. The proposed action is included in each of these plans in a manner that is consistent with the SHC and the North Carolina Intrastate System visions for the facility and corridor. As discussed in each of the following sections, the inclusion of US 74 in these plans, specifically the portion US 74 within the project study area, demonstrates its regional and local importance.

1.7.1 NCDOT STATE TRANSPORTATION IMPROVEMENT PROGRAM

The STIP is the state's 7-year plan for funding transportation projects statewide, and includes roads, ferries, public transportation, aviation, and passenger rail projects. It is updated every 2 years. Based upon the projected availability of funds, MUMPO, determines which projects will be included in the LRTP. LRTP projects are then carried forward into the STIP. The STIP, as it applies to the Mecklenburg-Union County area, lays out the program of projects in the area that are, or are planned to be, state-owned and/or maintained.

The proposed action is included in the NCDOT *2009–2015 STIP* as project R-3329 (Monroe Connector) described as a "multi-lane freeway on new location" and project R-2559 (Monroe Bypass) described as a "four-lane divided [facility] on new location." Both the Monroe Connector and the Monroe Bypass are shown in the *2009–2015 STIP* as NCTA projects.

Sixteen other projects in the *2009–2015 STIP* are in the general vicinity of the proposed action. Three of these projects are rural projects (R-4441, R-211EC, and R-2616). Twelve projects are urban projects (U-3619, U-2509, U-4913, U-4713, U-4714, U-3825, U-3809, U-3412, U-2547, U-2549, U-4024, and U-5109). There is one bridge project (B-4651). These proposed projects are described in the *Final Statement of Purpose and Need for the Monroe Connector/Bypass* (PBS&J, February 2008). **Figure 1-5** shows the general locations of these projects in relation to STIP Project U-3321.

1.7.2 MECKLENBURG-UNION METROPOLITAN PLANNING ORGANIZATION LONG RANGE TRANSPORTATION PLAN

1.7.2.1 Background

MUMPO is the federally-designated regional transportation planning entity for all of Mecklenburg County and the western and central urbanized portions of Union County. The MUMPO *2030 LRTP* defines the policies, programs, and projects to be implemented during the next 20 to 25 years in order to provide mobility choices to residents and visitors. The LRTP is developed with public input.

Federal law requires that projects in the LRTP be categorized in financially constrained *horizon years* for air quality analysis. Horizon years are no more than 10 years apart. The projects recommended for implementation in the LRTP respond directly to projected travel demand, policy decisions, and available funding. The recommended projects are listed by the following three horizon years: 2010, 2020, and 2030.

1.7.2.2 Monroe Connector/Bypass in the MUMPO 2030 Long Range Transportation Plan

Both the Monroe Connector and Monroe Bypass projects are included in the MUMPO *2030 LRTP* (adopted May 2005, amended September 2005 and May 2007) as regionally significant projects. As shown in **Figure 1-6**, the MUMPO *2030 LRTP* identifies both projects as "new freeway" projects. The Monroe Connector is identified as a toll road, while the Monroe Bypass portion is not. Both the Monroe Bypass and the Monroe Connector are 2020 horizon year projects. The

Monroe Bypass was originally a 2010 horizon year project, but was moved to the 2020 horizon year in the *2030 LRTP Amendment* (dated May 16, 2007).

The MUMPO *2030 LRTP* is presently being updated to 2035, and must be locally approved and federally reviewed by May 2009 (MUMPO Web site: www.mumpo.org/2035_LRTP.htm). At its September 19, 2007, meeting, the MUMPO adopted a resolution recommending that the NCTA finance the entire project as a toll facility (**Appendix A-2** includes a copy of that resolution). MUMPO will incorporate both the Monroe Connector and Monroe Bypass into the 2035 LRTP as toll projects with horizon years of 2015.

1.7.3 MECKLENBURG-UNION THOROUGHFARE PLAN

The *Mecklenburg-Union Thoroughfare Plan*, which was last updated in November 2004, recognizes the need to accommodate projected long-term increases in traffic volumes and serves as the starting point from which MUMPO determines which roadways require upgrades in 10 or 20 years. Project construction priorities for roadways on the Thoroughfare Plan are used to develop the LRTP. Implementation of a Thoroughfare Plan is accomplished through federal, state, or local highway construction projects, or by obtaining commitments from private developers to fund or build transportation facilities, as a condition of land development approvals.

US 74 is listed in the inventory of roadways as being in need of upgrades. Specifically, the *Mecklenburg-Union Thoroughfare Plan* includes the Monroe Connector and Monroe Bypass as new major thoroughfares (**Figure 1-7**).

1.7.4 LAND USE PLANS

Several of the municipalities within the project study area have plans or maps to guide development within their respective jurisdictions. These plans are discussed in more detail in the *Community Impact Assessment* (PBS&J, February 2009) and Section 4.4 of the *Indirect and Cumulative Effects Assessment* (HNTB, January 2009) and summarized in **Section 3.3** of this Draft EIS. In general, development along US 74 is planned to continue accommodating office, commercial, industrial, and institutional uses.

1.8 ROADWAY CONDITIONS AND OPERATIONS

1.8.1 EXISTING US 74 CHARACTERISTICS

US 74, also known as Independence Boulevard in Mecklenburg County and Roosevelt Boulevard in Union County, is a four- to six-lane highway within the project study area, with 26 at-grade signalized intersections, additional unsignalized intersections, and numerous commercial and residential driveway connections. Few, if any, access management techniques have been applied to this roadway. Traffic signal spacing ranges from less than ¼ mile to a maximum of 2 ½ miles. Roadway characteristics along US 74 are shown in **Figure 1-8** and described below for each section within the project study area:

- **From I-485 to Blenheim Lane (approximately 0.8 miles).**

  US 74 is a six-lane median-divided facility with no access control, except for the interchange with I-485. This portion of US 74 also contains two median breaks and numerous driveways.

Southeast US 74 at Unionville-Indian Trail Road (SR 1520)

Southeast US 74 near Sardis Church Road (SR 1516)

- **From Blenheim Lane to just west of Secrest Shortcut Road (SR 1501) (approximately 9.5 miles).**

  US 74 is a four-lane median-divided facility with no access control. There are several signalized intersections, unsignalized intersections, median breaks, and driveways.

Traveling northwest on US 74

Southeast US 74 at Williams Road Extension (SR 1169)

- **From west of Secrest Shortcut Road (SR 1501), through Monroe to just east of the US 74/US 601 (Pageland Highway) intersection (approximately 3.5 miles).**

  US 74 is a six-lane median divided facility with no access control, except for interchanges with Concord Boulevard and US 601. This portion of US 74 also has several signalized and unsignalized intersections, median breaks, and numerous driveways.

- **From the US 74/US 601 intersection to Edgewood Drive (SR 1776) just west of Wingate (approximately 3.6 miles).**

  US 74 is a four-lane median-divided facility with no access control. There are several signalized intersections, unsignalized intersections, median breaks, and numerous driveways.

- **From Edgewood Drive (SR 1776) just west of Wingate to east of Old Highway 74 (SR 1740) (approximately 1.3 miles).**

  US 74 is a five-lane section with a center left-turn lane. There are several signalized intersections, unsignalized intersections, median breaks, and numerous driveways.

- **From Old Highway 74 (SR 1740) to west of Marshville (approximately 3.3 miles).**

  US 74 is a four-lane median-divided facility with no access control. There are unsignalized intersections, median breaks, and driveways.

The speed limits posted for US 74 within the project study area are shown in **Table 1-4**.

TABLE 1-4: Speed Limits on US 74

Speed Limit (mph)	US 74 Segment from West to East	Approximate Segment Length (miles)
55	I-485 to Fowler Secrest Road (SR 1754)	8.2
45	Fowler Secrest Road to US 601 (Pageland Highway)	5.5
55	US 601 (Pageland Highway) to east of Presson Road	3.0
45	East of Presson Road to Wingate City Limit	0.2
35	Wingate City Limit to Old Highway 74 (SR 1740)	1.4
45	Old Highway 74 (SR 1740) to Olde Country Lane	0.7
55	Olde Country Lane to 0.3 mile west of Marshville Town Limit	1.5
45	0.3 miles west of Marshville Town Limit to Marshville Town Limit	0.3
35	Within Marshville Town Limit	2.5

Source: *Existing and Year 2030 No-Build Traffic Operations Technical Memorandum* (PBS&J, March 2008).

1.8.2 TRAVEL TIMES ALONG THE US 74 CORRIDOR

Eastbound traffic on US 74 at Rocky River Road (SR 1514)

Northwest US 74 at Williams Road Extension

Estimates were made of average travel times and speeds in morning and evening peak hours for both directions of travel along US 74 from Forest Hills School Road to I-485. Times and speeds were calculated as described below.

Southeast US 74 at Stafford Street (SR 1624)

Traffic simulation computer models (SimTraffic) were used to link and model the 26 signalized intersections along US 74 in the project study area. SimTraffic is a traffic model that simulates the behavior of individual vehicles within a predefined road network and is used to predict traffic patterns. The existing and future forecasted traffic volumes and turning movements were

used in the model, along with the actual turn-bay lengths. Model simulations were run for existing (2007) and future (2030) morning and evening peak periods (eastbound and westbound). The data and details on the methodology used to perform these calculations are included in the *Existing and Year 2030 No-Build Traffic Operations Technical Memorandum* (PBS&J, March 2008).

Table 1-5 lists the existing and future estimated travel times on US 74 through the project study area. As shown in the table, under existing conditions, vehicles traveling westbound to Charlotte during the morning peak experience a travel time of 50 minutes at an average speed of 24 mph. By the year 2030, if no improvements are made to the corridor, this same trip would take approximately 70 minutes at an average speed of 17 mph. Vehicles traveling eastbound away from Charlotte during the evening peak currently experience a travel time of 47 minutes at an average speed of 29 mph. By the year 2030, if no improvements are made to the corridor, this same trip would take approximately 68 minutes at an average speed of 21 mph.

TABLE 1-5: Average Travel Times and Speeds Through the US 74 Corridor

Peak Period	2007		2030	
	Travel Time (minutes)	Average Speed (mph)	Travel Time (minutes)	Average Speed (mph)
Westbound AM Peak	50	24	70	17
Eastbound PM Peak	47	29	68	21

Source: *Existing and Year 2030 No-Build Traffic Operations Technical Memorandum* (PBS&J, March 2008).

In order to gather additional evidence of the congestion drivers currently experience along US 74, the route through the project study area was driven on two separate occasions during the morning and evening peak hours. Eastbound trips occurred on April 27 and 30, 2007, while the westbound trips occurred on April 30 and May 2, 2007. Eastbound trips began at 5:00 pm and westbound trips began at 8:00 am. Dates were selected to represent a typical weekday commute, and do not represent a statistical sampling.

During both trips, US 74 was heavily congested, with a high percentage of truck traffic. Representative photos depicting this congestion are shown above. The slow acceleration of the trucks away from each traffic-signal stop dramatically restricted traffic flow. Due to the delays at the numerous signalized intersections and the level of congestion on US 74, vehicles traveled at an average travel speed of less than 30 mph, far below what is posted throughout the majority of the corridor. This information confirms that, as shown by the SimTraffic modeling data, US 74 is a heavily congested route with relatively slow travel speeds.

1.8.3 EXISTING TRAFFIC OPERATIONS

1.8.3.1 Existing Traffic Volumes

Existing (2007) average daily traffic (ADT) volumes range from a high of about 62,000 ADT near I-485 in Mecklenburg County and between Secrest Shortcut Road (SR 1501) and US 601 in Monroe to a low of about 20,000 to 24,000 ADT on the eastern end of the project study area near Marshville. Supporting information is provided in the *Traffic Forecasts for the No-Build Alternatives for the NCDOT State TIP Project No. R-3329 and NCDOT State TIP Project No. R-2559, Monroe Connector/Bypass Study* (Martin, Alexiou, Bryson, June 2008) and the *Existing and Year 2030 No-Build Traffic Operations Technical Memorandum* (PBS&J, March 2008),

incorporated by reference and available on the NCTA Web site (www.ncturnpike.org/projects/monroe).

1.8.3.2 Existing Levels of Service on US 74

Table 1-6 includes the existing peak hour LOS for the 26 signalized intersections along US 74 within the project study area. Due to the close spacing of the signalized intersections, the intersections are the primary factor influencing the LOS along the corridor.

TABLE 1-6: Existing (2007) Signalized Intersection Levels of Service

US 74 Intersection (from west to east)	AM Peak Period		PM Peak Period	
	Average Delay (Seconds)	LOS	Average Delay (Seconds)	LOS
Stallings Rd (SR 1365)	167	F	138	F
Indian Trail-Fairview Rd (SR 1520)	180	F	170	F
Unionville-Indian Trail Rd (SR 1367)	110	F	76	E
Faith Church Rd (SR 3014)	76	E	50	D
Sardis Church Rd (SR 1516)	190	F	135	F
Chambers Dr (SR 2356)	24	C	21	C
North Rocky River Rd (SR 1514)	148	F	82	F
Fowler Secrest Rd (SR 1754)	21	C	23	C
Rolling Hills Dr (SR 1977)/Carroll St	17	B	16	B
Round Table Rd/Roland Dr	19	B	21	C
Williams Rd (SR 1169)	52	D	44	D
Hanover Dri/Williams Road Ext	53	D	80	F
Dickerson Blvd (SR 1223)	54	D	63	E
Secrest Shortcut Rd (SR 1501)	42	D	43	D
Stafford Str(SR 1624)	32	C	35	D
Boyte St	21	C	22	C
NC 200 (Morgan Mill Rd)	42	D	41	D
Walkup Ave	54	D	43	D
Sutherland Ave	20	C	25	C
Dove-Venus St	15	B	19	B
East Franklin St (SR 2100)	41	D	48	D
US 601 (Pageland Hwy)/ Metro Medical Center Campus	31	C	31	C
South Secrest Ave/ Old Pageland Monroe Rd (SR 1941)	23	C	31	C
Bivens St (SR 1762)	10	A	12	B
Whitmore Rd (SR 1758)	28	C	32	C
Forest Hills School Rd	12	B	20	C

Source: *Existing and Year 2030 No-Build Traffic Operations Technical Memorandum* (PBS&J, March 2008).

As this table shows, eight intersections along the corridor (about one-third of them) currently operate above capacity (LOS E or F). There are two primary existing areas of congestion: the

western end of the corridor, from I-485 to Rocky River Road (SR 1514), and near the Monroe Mall (Secrest Shortcut Road/SR 1501).

1.8.3.3 Existing Crash Data

Traffic crashes are often the result of deficiencies in the capacity of a transportation facility. Crash data was collected for 23 intersections along US 74 within the project study area from November 1, 2003, to October 31, 2006. Crash data collected for these intersections includes the total number of crashes, type of crash experienced, crash rates, and numbers of injuries suffered and property-only crashes.

Crash data was provided by the *NCDOT Traffic Engineering Accident Analysis System Intersection Analysis Report* and, of the 1,032 total crashes recorded, 650 (approximately 63 percent) of the crashes involved rear-end collisions. This type of crash is expected to occur where a combination of high traffic volumes and a large number of slowing, stopping, and/or turning movements cause interruptions to the traffic flow. The highest concentrations of rear-end crashes occurred at the intersections of US 74 with Unionville-Indian Trail Road (SR 1367), Dickerson Boulevard (SR 1223), and Williams Road (SR 1169).

1.8.4 PROJECTED TRAFFIC OPERATIONS IN 2030

1.8.4.1 Design Year 2030 Traffic Volumes

Overall, traffic volumes are projected to increase about 30 to 35 percent along the corridor from 2007 to 2030, except near where the planned Monroe Northern Loop (R-2549), which is listed in the MUMPO *2030 LRTP* for completion in 2030, is proposed to connect to existing US 74. In this area, from Dickerson Boulevard (SR 1223) to US 601, traffic volumes are only projected to increase about 5 to 7 percent because the new roadway would divert traffic from this short segment of US 74.

Year 2030 ADT volumes range from highs of approximately 84,000 ADT near I-485 in Mecklenburg County and approximately 72,000 ADT between NC 200 (Morgan Mill Road) and Boyte Street in Monroe, to a low of approximately 33,000 to 40,000 ADT on the eastern end of the project study area. Please refer to the *Traffic Forecasts for the No-Build Alternatives for the NCDOT State TIP Project No. R-3329 and NCDOT State TIP Project No. R-2559, Monroe Connector/Bypass Study* (Martin, Alexiou, Bryson, June 2008) and the *Existing and Year 2030 No-Build Traffic Operations Technical Memorandum* (PBS&J, March 2008) for additional detail.

1.8.4.2 Design Year 2030 Levels of Service on US 74

Anticipated increases in population and employment in the region will result in higher traffic volumes along US 74 and other major roads in the area. **Table 1-7** includes the 2030 No-Build peak-hour traffic LOS for the 26 signalized intersections along US 74 within the project study area.

By 2030, most of the intersections analyzed along US 74 will be over capacity and long queues will form during peak hours. As **Table 1-7** shows, 22 of the 26 intersections along the corridor are projected to operate above capacity (LOS E or F) by 2030. There will be congested conditions

along US 74 from I-485 to Walkup Avenue (SR 1751), near the center of Monroe. Travel times are discussed in **Section 1.8.2**.

TABLE 1-7: 2030 No-Build Signalized Intersection Levels of Service

US 74 Intersections (from west to east)	AM Peak Period		PM Peak Period	
	Average Delay (Seconds)	LOS	Average Delay (Seconds)	LOS
Stallings Rd (SR 1365)	230	F	226	F
Indian Trail-Fairview Rd (SR 1520)	208	F	176	F
Unionville-Indian Trail Rd (SR 1367)	306	F	289	F
Faith Church Rd (SR 3014)	213	F	214	F
Sardis Church Rd (SR 1516)	393	F	411	F
Chambers Dr (SR 2356)	138	F	86	F
North Rocky River Rd (SR 1514)	407	F	276	F
Fowler Secrest Rd (SR 1754)	110	F	104	F
Rolling Hills Dr (SR 1977)/Carroll St	54	D	58	E
Round Table Rd/Roland Dr	67	E	91	F
Williams Rd (SR 1169)	122	F	148	F
Hanover Dr/Williams Road Ext	132	F	160	F
Dickerson Blvd (SR 1223)/ proposed Monroe Northern Loop	178	F	158	F
Secrest Shortcut Rd (SR 1501)	66	E	71	E
Stafford St (SR 1624)	119	F	105	F
Boyte St	58	E	36	D
NC 200 (Morgan Mill Rd)	118	F	102	F
Walkup Ave (SR 1751)	89	F	62	E
Sutherland Ave	62	E	58	E
Dove-Venus St	21	C	22	C
East Franklin St (SR 2100)	55	D	66	E
US 601 (Pageland Hwy)/ Metro Medical Center Campus	70	E	81	F
South Secrest Ave/ Old Pageland Monroe Rd (SR 1941)	36	D	38	D
Bivens St (SR 1762)	21	C	27	C
Whitmore Rd (SR 1758)	126	F	113	F
Forest Hills School Rd	28	C	36	D

Source: *Existing and Year 2030 No-Build Traffic Operations Technical Memorandum* (PBS&J, March 2008).