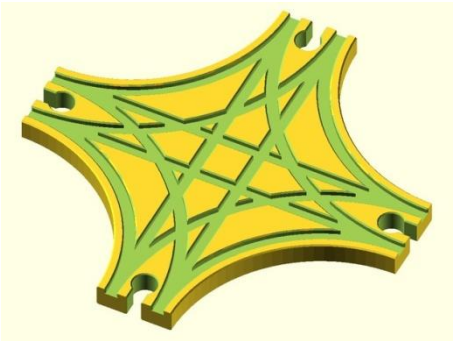
2040 METROPOLITAN TRANSPORTATION PLAN UPDATE

Burlington Graham Metropolitan Planning Organization



Adopted August 18, 2015 by TAC

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Section 1 INTRODUCTION

The Burlington-Graham area was designated an "Urbanized Area" by the U.S. Bureau of Census in 1974. As a result of this designation, the Burlington-Alamance area formed the Burlington Graham Metropolitan Planning Organization (BGMPO) in 1975. MPO's represent areas greater than 50,000 in population, and North Carolina has 18 MPO's throughout the State. With this new designation came the responsibility of adhering to federal continuing planning requirements. Furthermore, a revised Memorandum of Understanding (MOU) was executed between the Cities of Burlington, Graham, and Mebane; the Towns of Elon, Gibsonville, Whitsett, Green Level and Haw River; the Village of Alamance; Guilford County, Orange County and Alamance County; and the North Carolina Department of Transportation (NCDOT) in 2012. The memorandum delineated responsibilities in maintaining and continuing planning process and established a Technical Coordinating Committee (TCC) with the responsibility for general review, guidance, and coordination of the continuing planning process. A Transportation Advisory Committee (TAC), comprised of representatives of the elected policy boards in the urban area, was also established to assure coordination between the elected officials, policy boards and the transportation planning process.

The Metropolitan Transportation Plan (MTP) is based on federal requirements established and documented in the Code of Federal Regulations, Title 23, Volume 1. The primary goal of the federal requirements is to ensure that tax dollars are spent on useful, meaningful projects that are supported by the residents/taxpayers of the Burlington-Graham Urban Area (BGUA). The Plan contents are in compliance with Subpart C – Metropolitan Transportation Planning and Programming, Part 450.

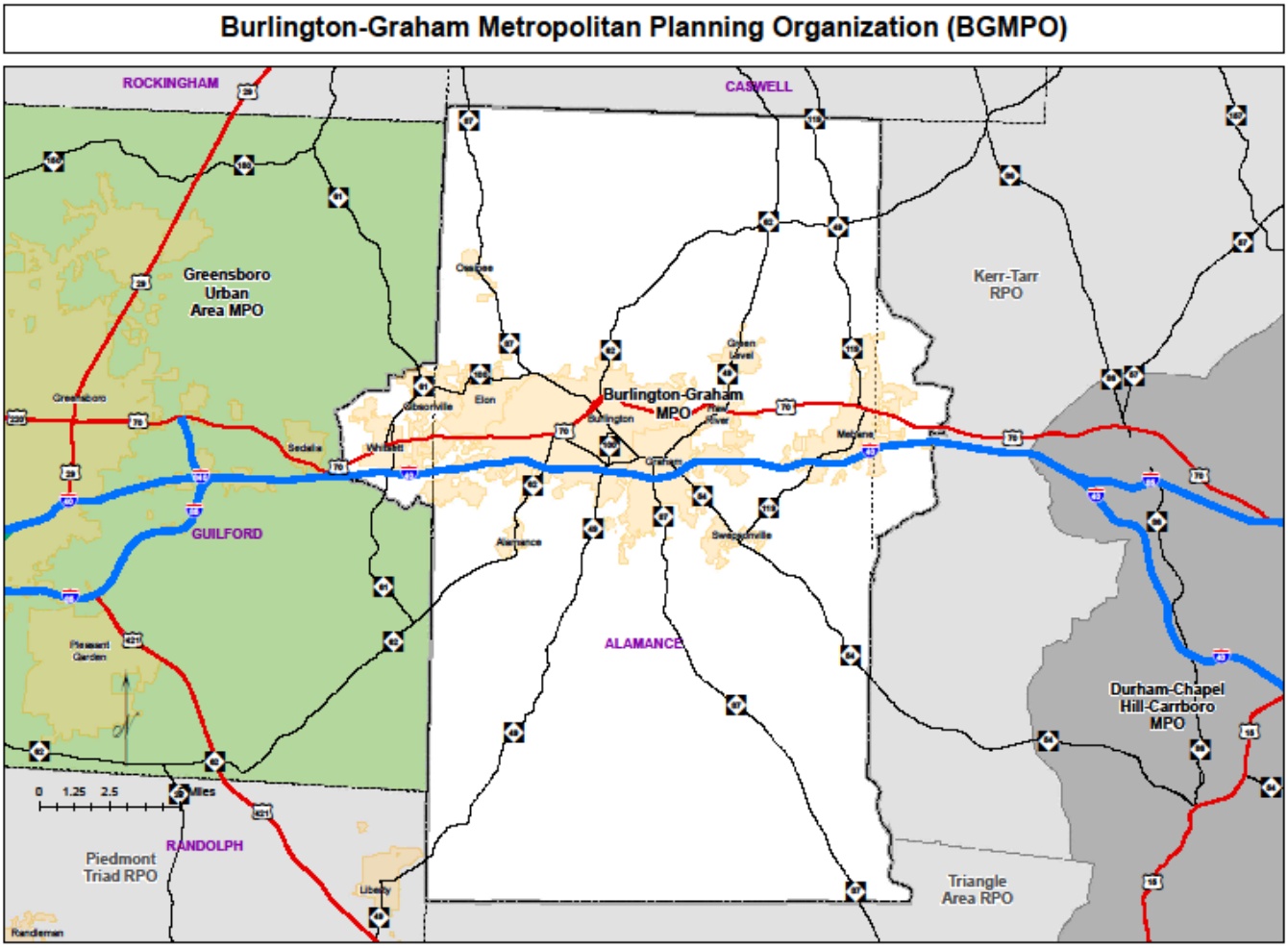
The BGUA is located in central North Carolina. Approximately 60 miles west of Raleigh and 21 miles east of Greensboro, the Urban Area consists of nine municipalities: Burlington, Gibsonville, Graham, Green Level, Haw River, Mebane, Elon, Whitsett, and the Village of Alamance. Shortly after the results of the 2000 Census the TAC investigated the need to expand the MPO planning area to include all of Alamance County. Based on the need for a comprehensive approach to planning and air quality regulations the TAC approved the county wide planning area expansion in 2002. The major transportation facility in the MPO is the I-85/40 corridor in Alamance County with small portions in Guilford and Orange Counties. The MPO Urbanized Area population was reported as 119,911 in the 2010 Census. A map of the BGMPO planning area is displayed in Figure 1.

As a requirement of the federal regulations, the metropolitan transportation planning process shall include the development of a Transportation Plan addressing a 20-year planning horizon, at a minimum. The Transportation Plan shall be reviewed and updated at least every five years. Also, according to federal regulations, the Transportation Plan must address current and forecasted land use plans and projected socioeconomic data. The Transportation Plan must also be approved by the MPO.

In addition, the Plan shall:

- Identify the projected transportation demand for persons and goods;
- Identify adopted Congestion Management strategies that demonstrate a systematic approach in addressing current and future transportation demand;
- Identify pedestrian walkway and bicycle transportation facilities;
- Assess capital investment and other measures necessary to preserve the existing transportation system;
- Include design concept and scope descriptions of all existing and proposed transportation facilities in sufficient detail;
- Reflect a multimodal evaluation of the transportation, socioeconomic, environmental, and financial impact of the overall Plan;
- For major transportation investments for which analysis is not complete, indicate that the design concept and scope have not been fully determined and will require further analysis;
- Reflect, to the extent that they exist, consideration of the area's comprehensive long-range land use plan and metropolitan development objectives;
- Indicate, as appropriate, proposed transportation enhancement activities; and
- Include a financial plan that demonstrates the consistency of proposed transportation investments with currently available and projected sources of revenue.

Figure 1 BGMPO Area Map



Section 2 PUBLIC INVOLVEMENT

A. PUBLIC COMMENT POLICY

The MPO has incorporated two primary public involvement elements into the transportation planning process:

1) A Public Comment Policy, and
2) Public Information Meetings in the Community

These elements were established to create a formal process to ensure meaningful public input into the ongoing transportation planning process. Updates of the Metropolitan Transportation Plan will, at a minimum, include the following public comment process:

- Revisit and prepare a Metropolitan Transportation Plan not less than every 5 years;

- The Transportation Plan shall be available during an advertised 45-day public comment period and locally circulated in a newspaper of record. MPO staff will conduct a Public Information meeting prior to the 45-day comment period before the adoption of the Transportation Plan update;

- The MPO staff shall remain available to answer any questions concerning the draft element of the Transportation Plan;

- Public comments received shall be assembled and presented to the Urban Area Technical Coordination Committee (TCC) and Transportation Advisory Committee (TAC) at their regularly scheduled meetings;

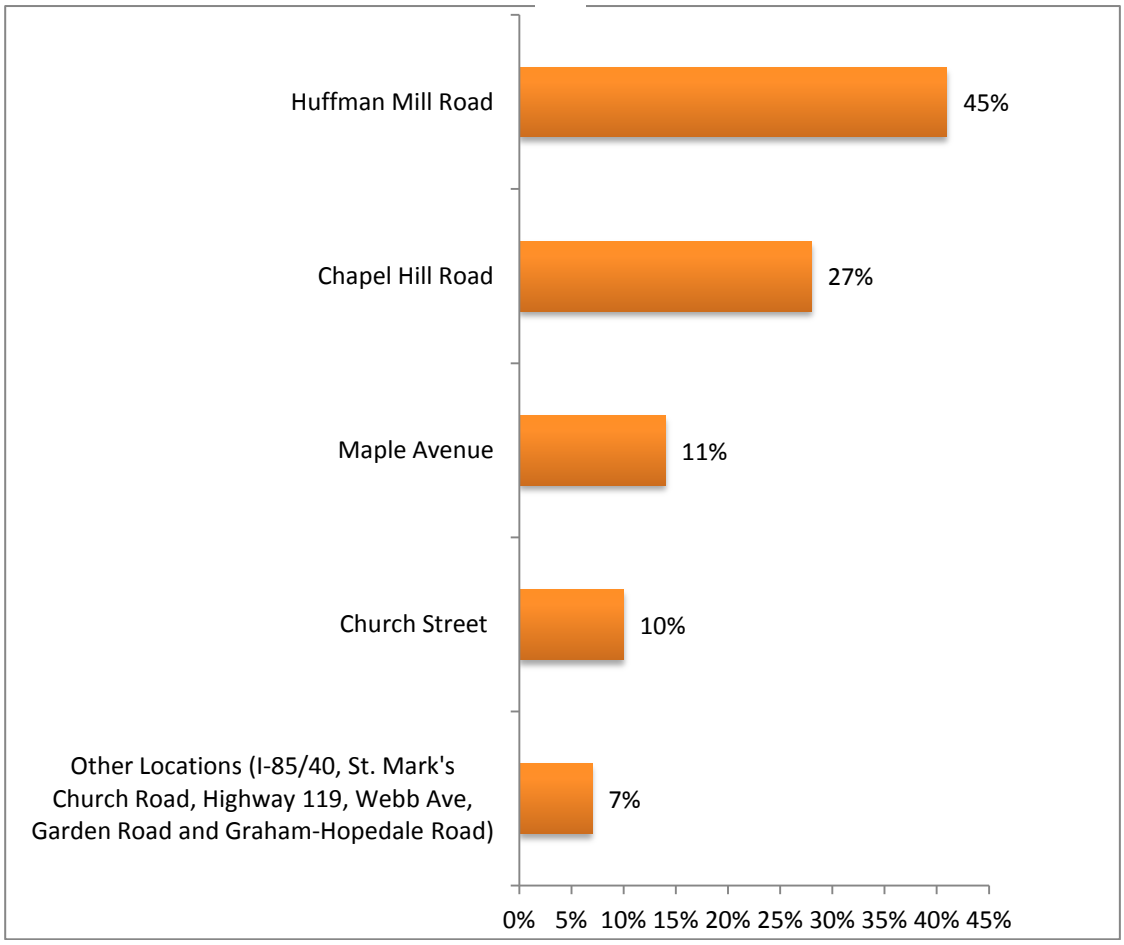
- The TAC may choose to schedule a public hearing if comments warrant special consideration; and

- The MPO staff may also provide a written summary of the public comments and their disposition.

The second element of the public involvement process involved identification of transportation deficiencies throughout the MPO planning area. During the Public Information Meetings the citizens were surveyed and asked to identify and discuss items such as congestion, safety and areas for transportation improvements. Results of the Public Information Meetings helped define transportation opinions and policy preferences of the MTP Update. The internet and email databases were also used to distribute the Survey and to encourage response from individuals and agencies in the BGMPO planning area. The Survey was also circulated within each MPO member agency at public libraries, social service agencies and handouts in public buildings.

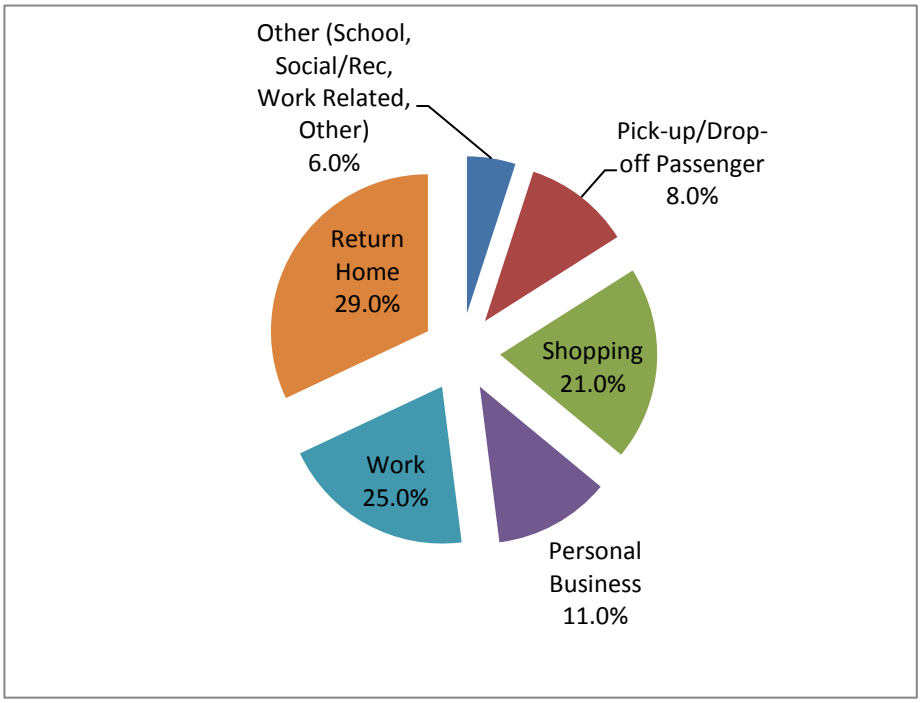
Survey participants helped to identify critical areas of congestion. Based on public perception, several locations were identified as having the highest traffic congestion. Huffman Mill Road, Chapel Hill Road/NC 54 and Church Street/US Highway 70 accounted for the majority of the citizen's comments and request for improvement. *(See Table 1)*.

Table 1
Top Traffic Congestion Locations



Additionally, the survey helped to identify travel characteristics that were incorporated into the development of the Travel Demand Model for the planning area. The following Chart 1 displays trip characteristics by trip purpose. 96% of the survey respondents indicated the automobile as their only mode of travel.

Chart 1
Trips by Destination Purpose



The results of the survey also include statistical rankings and issues, such as: ranking of all transportation issues, environmental and preservation issues, and preferences for alternative funding options.

Table 2
Environmental and Preservation Issues

	Very Important	*Somewhat Important*	*No Opinion*	*Somewhat Unimportant*	*Not Important*
Preserving natural areas, open space, or farmland	*50%*	*30%*	*15%*	*5%*	*0%*
Improving air quality by reducing traffic congestion	*50%*	*15%*	*30%*	*5%*	*0%*
Preserving existing homes and businesses	*35%*	*55%*	*20%*	*0%*	*0%*
Reducing traffic noise levels	*30%*	*50%*	*10%*	*10%*	*0%*
Preserving historic buildings and sites	*80%*	*20%*	*0%*	*0%*	*0%*
Planting trees and shrubs along roads	*70%*	*30%*	*0%*	*0%*	*0%*

Table 2 lists the importance of several environmental and preservation issues related to transportation.

Table 3
Alternative Transportation and Land Use Issues

	Very Important	*Somewhat Important*	*No Opinion*	*Somewhat Unimportant*	*Not Important*
Walking and biking safely	*70%*	*30%*	*0%*	*0%*	*0%*
Building sidewalks, crosswalks and greenways	*95%*	*5%*	*0%*	*0%*	*0%*
Providing opportunities for car and van pooling	*85%*	*15%*	*0%*	*0%*	*0%*
Building bicycle lanes and trails	*50%*	*45%*	*5%*	*0%*	*0%*
Encouraging transit-friendly, higher density development	*75%*	*20%*	*5%*	*0%*	*0%*
Living closer to where you work	*15%*	*15%*	*30%*	*30%*	*10%*

Table 3 identifies the importance of modal and land conservation issues.

Lastly, the survey asked respondents very direct questions regarding traffic congestion solutions, as well as their opinions on the ranking of transportation issues. This information will assist decision-makers in developing transportation policy measures that reflect community needs and desires.

Table 4
Ranking of All Transportation Issues

	Very Important	*Somewhat Important*	*No Opinion*	*Somewhat Unimportant*	*Not Important*
Improving traffic signal timing and coordination	*75%*	*25%*	*0%*	*0%*	*0%*
Reducing or managing traffic congestion	*85%*	*15%*	*0%*	*0%*	*0%*
Preserving natural areas, open space or farmland	*35%*	*20%*	*45%*	*0%*	*0%*
Improving air quality by reducing traffic congestion	*60%*	*20%*	*15%*	*5%*	*0%*
Walking and biking safely	*85%*	*15%*	*0%*	*0%*	*0%*
Providing transit services for the urban area	*90%*	*10%*	*0%*	*0%*	*0%*
Improving conditions of railroad crossings	*40%*	*30%*	*30%*	*0%*	*0%*
Providing transit services for the disabled	*90%*	*10%*	*0%*	*0%*	*0%*
Preserving existing homes and businesses	*75%*	*25%*	*0%*	*0%*	*0%*
Widening existing streets	*30%*	*40%*	*20%*	*10%*	*0%*
Reducing personal transportation expenses	*85%*	*10%*	*5%*	*0%*	*0%*
Building sidewalks, crosswalks and greenways	*90%*	*10%*	*0%*	*0%*	*0%*
Creating new funding sources for local projects	*90%*	*10%*	*0%*	*0%*	*0%*
Preserving historic buildings	*50%*	*20%*	*30%*	*0%*	*0%*
Reducing travel time	*25%*	*30%*	*30%*	*20%*	*0%*
Building new roads	*45%*	*35%*	*20%*	*0%*	*0%*

Table 4 provides a ranking of all transportation issues as a result of the survey.

According to public opinion, there seems to be a popular desire to protect the environment, provide sidewalks and bike paths and improve the existing transportation infrastructure, as opposed to building new facilities. Respondents also strongly support development of a public transportation or mass transit system for the urban area.

B. GOALS AND OBJECTIVES

The following goals and objectives were developed for the BGUA based on the transportation survey and direct public input into the planning process. A concerted effort was provided to ensure that the transportation planning is a continuous, cooperative, and comprehensive process. The goals and objectives of the BGUA are outlined below:

- Street System

  Goal – Develop an efficient street and highway network for the Burlington--Graham Urban Area

  Objective – Enhance mobility by improving the connectivity of the existing street network.

  Objective – Explore improvement to the street network that will most effectively handle capacity deficiencies.

  Objective - Support a safe transportation system by utilizing efforts to reduce vehicular and pedestrian crashes and points of conflict between modes of transportation.

- Congestion Management

  Goal – Develop a local thoroughfare system that minimize traffic congestion

  Objective – Improve traffic signal timing and coordination through intelligent transportation system measures.

  Objective – Develop streets and highways with the intent of minimizing travel times and distances.

  Objective: Research and explore funding that preserves and modernizes the existing systems of streets and highways.

- Bicycle and Pedestrian

  Goal – Promote development of an integrated bicycle and pedestrian network

  Objective – Pursue funding for a coordinated and comprehensive network of sidewalks and bicycle routes throughout the Urban Area.

  Objective – Improve the transportation system with accommodations to bicycle and pedestrian access.

- Title VI and Environmental Justice

  Goal - Plan and promote a transportation system that does not disproportionately impact minority and low income populations

  Objective - Assess and identify the transportation needs of the minority and low income populations.

  Objective - Evaluate the benefits and burdens of the transportation investments to achieve fair distribution among all populations.

- Public Transportation

  Goal – Support efforts to improve mobility for Urban Area residents

  Objective – Increase awareness of public transportation services provided by the Alamance County Transportation Authority (ACTA), Piedmont Authority for Regional Transportation (PART), Triangle Transit (TTA) and future public transportation services in the area. Evaluate the potential of fixed route transit service in the urban core.

  Objective – Support expansion plans for ACTA, PART, Triangle Transit and other public transportation options that will improve the mobility for all residents within the Urban Area. Conduct transit planning studies to evaluate the need and benefit of public transportation.

  Objective – Support the efforts of the Piedmont Authority for Regional Transportation (PART) concerning possible public transit options that would connect the Burlington-Graham Urban Area to the Piedmont Triad region.

- Environmental

  Goal - Develop a transportation system which preserves and enhances the natural and built environments

  Objective - Promote improved integration of land use and transportation planning.

  Objective - Support multi modal transportation projects which preserve and compliment the Urban Area's natural features.

  Objective - Promote and plan for a transportation system that increase the vehicle occupancy rates, improves alternatives to the single occupant vehicle and reduces traffic congestion.

Section 3 REVIEW OF EXISTING AND FUTURE CONDITIONS

A. INTRODUCTION

The BGUA planning officials recognized that the major factors influencing the area's transportation infrastructure needs are population, economy, and land use. In an effort to develop an effective 25-year Transportation Plan, accurate base year socioeconomic measures were collected to provide an acceptable estimate of future growth. Consequently, the BGUA performed socioeconomic projections as part of the update of the Metropolitan Transportation Plan and the Piedmont Triad Regional Travel Model. The Urban Area encompasses nine municipalities and parts of three counties, and is divided into individual traffic analysis zones (TAZs). The Urban Area planning boundary includes both urban and rural populations residing in areas that are expected to become urban in nature by the year 2040.

B. POPULATION AND EMPLOYMENT DEMOGRAPHICS

The purpose of the socioeconomic projections is to predict the amount and nature of future land use in the Urban Area and to provide the basis for future travel relationships used in the Urban Area Travel Demand Model. The direct relationship between land use and transportation has been well documented. To plan for future transportation facilities, transportation planners must have a clear understanding of existing land uses and make rational predictions regarding future land uses.

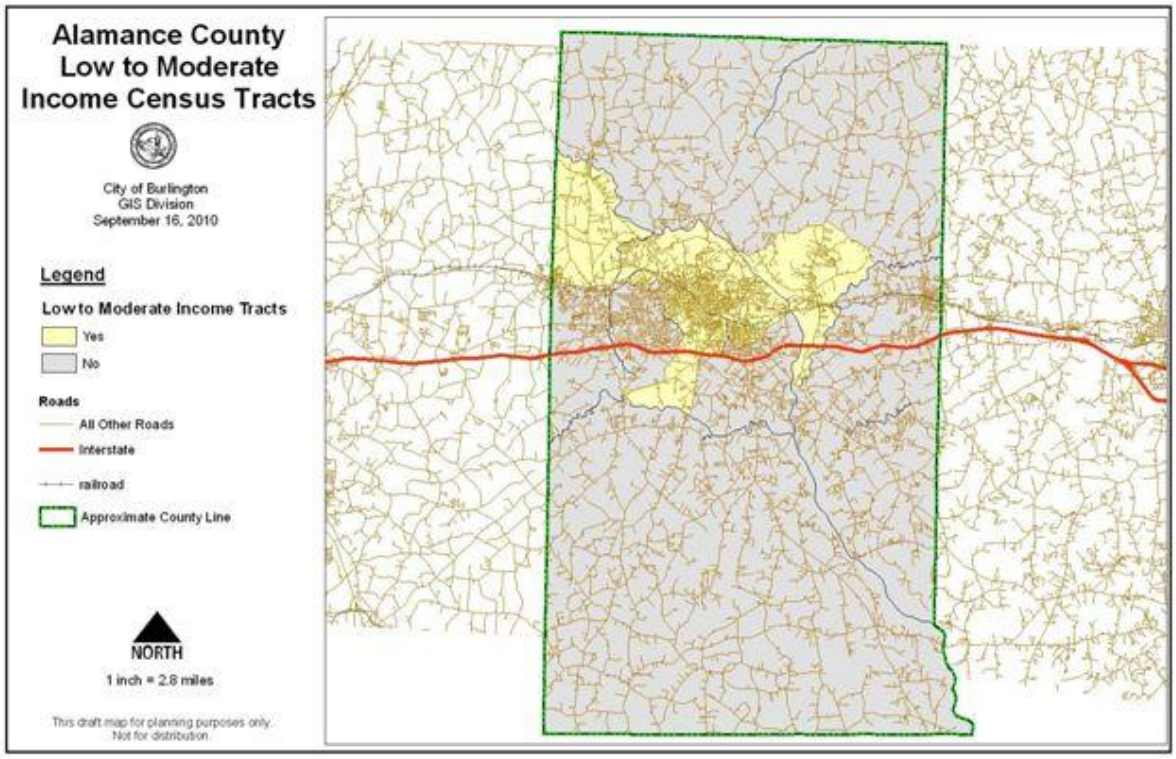
The BGMPO staff used 2013 as the base year for the Metropolitan Transportation Plan Update and performed an inventory of population and employment for the Urban Area. The MPO calculated 60,518 jobs, 58,405 households, and an urban area population of 160,358 in the base year. To augment the socioeconomic projections, the BGMPO initiated a planning process that included an intensive public involvement process. As part of the MTP update and the Piedmont Triad Regional Travel Demand Model the MPO staff held public workshops and staff meetings within the Urban Area to seek guidance on the location of household and employment growth.

Table 5 provides a comparison between population and employment estimates for the planning area from 2009 to 2013.

Table 5
BGMPO Area Population and Employment Estimates

YEAR	2009	2013
Employment / Jobs	60,518	59,437
Households	60,222	61,139
Population	150,358	154,378

FIGURE 2:
ALAMANCE COUNTY LOW TO MODERATE INCOME / 2010 CENSUS TRACTS



C. LAND USE

The generation of traffic on a particular roadway (non-freeway) in directly related to the land use of adjacent properties. Different types of businesses generate different levels of traffic. For example, a professional office or public building with 30 employees would generally attract substantially less traffic than a retail center with 300 employees. As a result, the type of land use and intensity of development along a roadway corridor will have a direct impact on the amount of traffic generated. The primary land use changes in the BGUA have occurred through rezonings and annexations, and redevelopment of existing structures.

In concurrence with the allocation of household and employment data, MPO staff developed an existing land use/zoning map of the Urban Area. This map was developed with assistance from each member jurisdiction within the Urban Area. The land use map divided the Urban Area into general zoning classifications of land use: residential, commercial, industrial, office/institutional, and public. The residential classification represents dwelling units including houses, condos, and apartments. Some examples of commercial land use are gas stations, restaurants, and shops. The industrial classification may include manufacturing plants, factories, or textiles. Some examples of office/institutional land use are schools, business parks, or medical clinics. The public classification includes land uses such as community centers/parks, churches, or civic centers.

D. SUBDIVISION REGULATIONS

The majority of municipalities within the Urban Area have current provisions for incorporating transportation facilities into their planning process. For example, the City of Burlington has established subdivision regulations that endorse the concepts of the adopted Comprehensive Transportation Plan. This Subdivision Ordinance regulates street construction by requiring the developer to meet right-of-way standards, cross-sectional standards, and road design standards. All regulations are designed to ensure that streets constructed by developers will fit into the overall transportation network of the area.

As a part of the regulations, the City of Burlington required developers with property adjacent to an expressway or major thoroughfare to allow a larger setback to their structures than would normally be required for that district. This requirement provides adequate protection of residential properties and preserves the right-of-way for future thoroughfares.

Under Federal law (23 USC 134), Metropolitan Planning Organizations (MPOs) are required to prepare a Metropolitan Transportation Plan (MTP). The MTP is required to address the federal planning requirements in 23 USC 134, which include being fiscally constrained, having a minimum 20 year horizon, and being updated every 4 years in air quality non-attainment or maintenance areas (every 5 years in attainment areas).

Under State law (NCGS 136-66.2), MPOs and municipalities shall develop comprehensive transportation plans in cooperation with NCDOT. For municipalities and counties, or portions thereof, located within an MPO planning area, the development of a comprehensive transportation plan shall be by the MPO in cooperation with the NCDOT. By comparison, the state law requires that the transportation plan be developed so that it will serve present and anticipated travel demand (it is not required to be fiscally constrained and no minimum horizon year or update timeframes are specified). The Comprehensive Transportation Plan (CTP) is the element of the MTP that identifies all the transportation needs before fiscal constraint is applied.

It is important to note that the CTP/MTP does not include every road on the highway system. As such, in accordance with NCGS 136-66.2, to complement the roadway element of the MTP/CTP, municipalities and MPOs may develop a collector street plan to assist in developing the roadway network. The Department of Transportation may review and provide comments but is not required to provide approval of the collector street plan. The MTP/CTP and the locally approved collector street plan(s) work together to identify the future transportation system. The street and highway elements of the plans developed pursuant to G.S. 136-66.2 shall serve as the plan referenced in G.S. 136-66.10(a), which addresses the dedication of right-of-way under local ordinances.

Contact the jurisdictions listed below within the MPO for detailed information on any locally approved transportation plans that may contain street or highway right-of-way dedication recommendations or requirements, and that collectively function as the collector street plan for the MPO as referenced under G.S. 136-66.2.

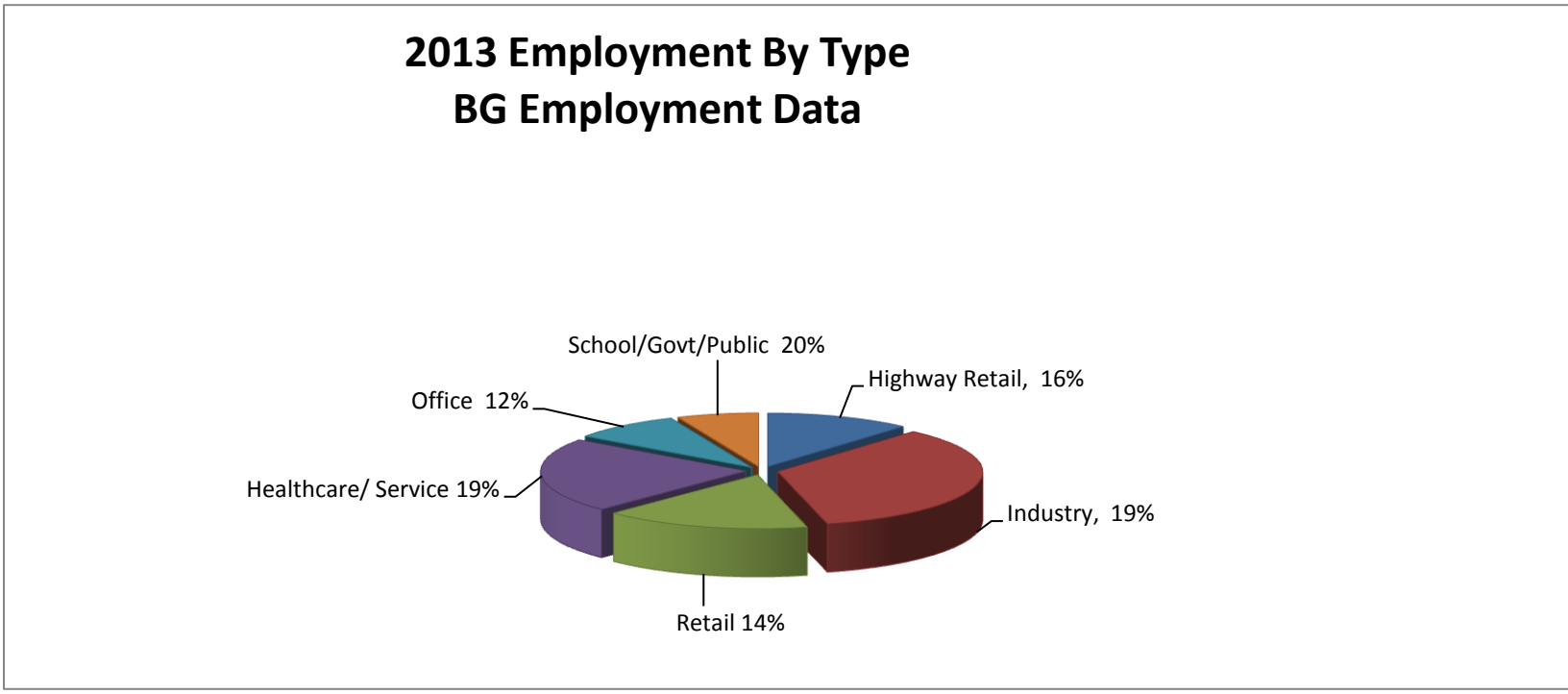
Contact	Phone Number
Alamance County Planning Department	(336) 570-4053
Guilford County Planning & Development Department	(336) 641-3334
Orange County Planning Department	(919) 245-2575
City of Burlington Planning Department	(336) 222-5110
City of Graham Planning Department	(336) 570-6705
City of Mebane Planning & Zoning Department	(919) 563-9990
Town of Elon Planning & Zoning Department	(336) 584-2859
Town of Gibsonville Planning Department	(336) 449-4144
Town of Green Level Municipal Building	(336) 578-3443
Town of Haw River Town Hall	(336) 578-0784
Town of Whitsett Planning Department	(336) 449-3380
Village of Alamance Town Hall	(336) 226-0033

E. ECONOMIC TRENDS

The economic base of an area is an important factor to consider in the estimation of future traffic growth. The BGUA has transformed to an office and service-based economy and also includes a regional healthcare center, a private university (Elon University) and Alamance Community College. The Burlington-Graham Comprehensive Transportation Plan Plan(see Appendix) includes building new roads and widening existing roads in order to support the economic vitality of the area, especially by enabling global competitiveness, productivity, and efficiency *(see Planning Factors at the end of this report)*.

As shown in Chart 2, in 2013 School/Government/Public represented 20 percent of the area's employment, while healthcare/service jobs comprised 19 percent, retail 14 percent, highway retail 15 percent, and office 12 percent.

Chart 2: 2013 Employment

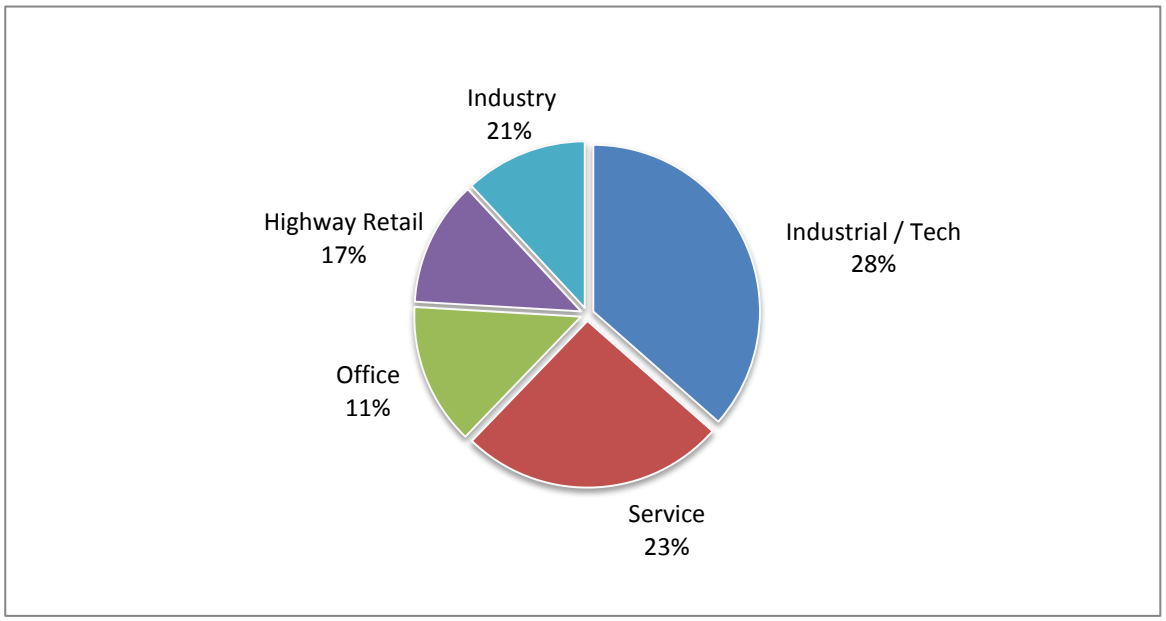


As the economy and demographics of the area changes, so will the employment characteristics. Local planning staff and economists believe that the BGUA will experience

medium to high light industrial/technology growth and increase more rapidly in the healthcare and highway retail/service sector by the year 2040. Chart 3 depicts the projected employment for the planning area in 2040.

Chart 3:

2040 Total Employment Projections for Planning Area



F. TRANSPORTATION SYSTEM DEFICIENCIES

Among the transportation planning services that the Burlington-Graham Metropolitan Planning Organization (BGMPO) and NCDOT provide to the MPO planning areas are the identification of current needs, forecasts of future trends, and the programming of transportation facilities to improve mobility for people and goods. To effectively provide these services, BGMPO and NCDOT planners must possess current information on the travel behavior of people who live, work, and travel in the Urban Area. The Travel Study Survey conducted by PART for all four Triad MPO's in 2010 was used as a primary resource for evaluating the needs and deficiencies for the future years in the MTP. The continuous development of the Piedmont Triad Regional Travel Model also enhanced the ability to forecast the transportation system deficiencies in both a local and regional perspective.

G. HIGHWAY SYSTEM DEFICIENCIES

The BGMPO, in cooperation with the Piedmont Authority for Regional Transportation (PART), Triad MPO's and the NCDOT, developed a travel demand model for the Urban Area. The model incorporates the empirical data collected and projected in the 2035 Socioeconomic Projections Report and the 2010 Travel Study for the Urban Area. The primary focus of these studies has been to identify new relationships between existing land use, employment and travel patterns. Using these relationships, the land use has been projected into the future for deficiency analysis and development of a recommended Comprehensive Transportation Plan.

Approximately 111,000 vehicles per day went through the Urban Area via 1-85/I-40 in 2013. Much of the traffic is due to the influence of the transportation network system that allows for commuting to the Research Triangle and Piedmont Triad employment centers. Higher interstate speeds have attracted some travel from competing roads such as NC 62, US 70, and NC 54 resulting in safer travel and a larger travel demand on the Interstate System.

NCDOT Transportation Planning Staff has documented the Burlington-Graham model calibration efforts in the Burlington - Graham Urbanized Area Transportation Plan. The adoption of the Piedmont Triad Regional Travel Model provided network outputs that identified the volume to capacity (v/c) deficiencies in the BGMPO area. The capacity of a roadway is defined as the number of vehicles that can be reasonably processed for a given level-of-service. Standard capacity values have been developed by NCDOT for different types of roadway facilities. A capacity value depends on the cross-section, number of signals, and access points along the segment of roadway. Based on the 2013 analysis and Piedmont Triad Regional Travel Model the following facilities are at or are reaching the point of over capacity:

- Jimmy Kerr Road from I-85 to Trollingwood Road, Graham;
- NC 119 from Roosevelt Street to Whitby Court, Mebane;
- Chapel Hill Road (NC 54) from Mebane Street to Tucker Street, Burlington;
- Highway 70 / Church Street, Burlington;
- Huffman Mill Road, Burlington

- Maple Street, Burlington

To identify future travel deficiencies, the 2040 socioeconomic projections discussed previously were loaded into the existing travel demand model. All committed projects (identified as funded in the TIP) were included in the analysis to reflect future conditions. As a result, the following facilities were identified as being over capacity in the year 2040:

- I-85 from Mebane Oaks Road to Western Planning Boundary;
- NC 87 from Eastway Lane to Elm Street;
- NC 87 from Southern Planning Boundary to Rogers Road;
- Jimmy Kerr Road/Trollingwood Road from I-85 to NC 49, Haw River;
- Rogers Road from Lacey Holt Road to NC 87;
- North Main Street from Elm Street to Church Street;
- West Stagecoach Road from NC 119 to Cooks Mill Road;
- Apple Street from Sharpe Road to Lower Hopedale Road;
- Sandy Cross Road from Lower Hopedale Road to Stonewall Spring Road;
- NC 87/100 (Webb Avenue) from Fountain Trollinger Street to Gerringer Road;
- Beaumont Avenue from Church Street to Crestview Drive;
- Rockwood Avenue from NC 87/100 to US 70;
- US 70 from Springwood Church Road to Huffman Lane;
- US 70 from Edgewood Avenue to Tarleton Avenue;
- Huffman Mill Road from US 70 to Harris Road;
- Kirkpatrick Road from I-85 to (NC 62) Alamance Road;
- NC 62 from Southern Planning Boundary to Mebane Street; and
- NC 49 from Monroe Holt Road to Bellemont Alamance Road, Bellmont.

For a copy of highway deficiencies for the BGUA, contact PART at (336) 662-0002.

H. SOCIAL AND ENVIRONMENTAL ISSUES

Project development of transportation facilities is a multi-year process that can have substantial impacts to the environment and social welfare. For instance, a simple widening project can take from seven to fifteen years to plan and implement because of the multiple steps in the development of a transportation project. The steps include planning, design, right-of-way acquisition, and construction.

Even the planning process itself can sometimes take several years to accomplish. For this reason, it is advantageous to conduct preliminary social and environmental screening to expedite a project. The BGMPO continues to conduct functional designs and corridor studies for future major thoroughfare projects. The final product is designed to provide a broad comparison of key environmental factors that may have an impact on early decisions regarding the type of project and general location of a project.

The BGMPO, NCDOT and local planning staff have initiated or completed several studies in an effort to address the social and environmental justice impacts of certain facilities on the Comprehensive Transportation Plan. The following facilities have been included in the study process:

- North Alamance Parkway from Shallowford Church Road to Old Glencoe Road
- Northeast Alamance Parkway from Old Glencoe Road to US 70
- East Alamance Parkway from US 70 to I-85
- South Alamance Parkway from NC 62 to NC 49
- Alamance Bypass from NC 62 North to NC 62 South
- Kirkpatrick Road / Long Pine Realignment
- Walker Avenue Extension
- Gibsonville / NC 61 Bypass
- NC Highway 62 Corridor from Mebane Street to Grand Oaks Boulevard
- Jimmy Kerr Road
- Cherry Lane Extension
- Tucker Street Interchange
- Mattress Factory Road Interchange
- Southern Loop
-

Section 4 TRANSPORTATION ELEMENTS

A. HIGHWAY ELEMENT

A key product of the travel demand model has been the development of the Burlington-Graham Urban Area Comprehensive Transportation Plan (CTP), previously known as the Thoroughfare Plan. The primary objective of the Comprehensive Plan is to assure that the street system will be progressively developed in such a manner that adequately serves future travel desires. Thus, the cardinal concept of thoroughfare planning is that provisions be made for street and highway improvements; so that as needs arise, feasible opportunities to make improvements are available. The Plan is the culmination of several years of local and State coordination, engineering modeling analysis, and extensive public involvement. The new and updated CTP/Thoroughfare Plan represents future street and highway needs for the next 25 years.

Local MPO's, NCDOT staff and Piedmont Authority for Regional Transportation (PART) planning staffs worked in partnership to update and document the future travel demand for the Piedmont Triad region. The new Regional Travel Demand Model and report was a key element of the technical data for the MTP Update.

For current data of the Model Report, contact PART at (336) 662-0002.

It is expected that continued growth in population, employment, and vehicles for the BGUA will increase the demand for additional roadways. Based on current and projected funding levels and project cost estimates (*see Financial Plan section*), the roadway projects that are anticipated to be constructed by the 2040 horizon year are shown in the tables and corresponding figures in this report. Figures 6, 7 and 8 of the Appendix represent each horizon year with proposed projects as required by NCDOT and FHWA requirements. The horizon years are 2021, 2030 and 2040. The horizon years were determined by state and federal planning officials and are necessary for developing future air quality planning initiatives.

The three horizon years represent a financially constrained program, which includes all projects that are anticipated to be implemented within the corresponding horizon year. Therefore, each project within a horizon year has funding (Federal, State, or Local) identified for the specific project. The BGMPO Urban Area CTP includes all proposed new facilities and widening projects for the Urban Area. Each of the three horizon years is also mapped to display specific projects.

Figure 4 2021 Horizon Year

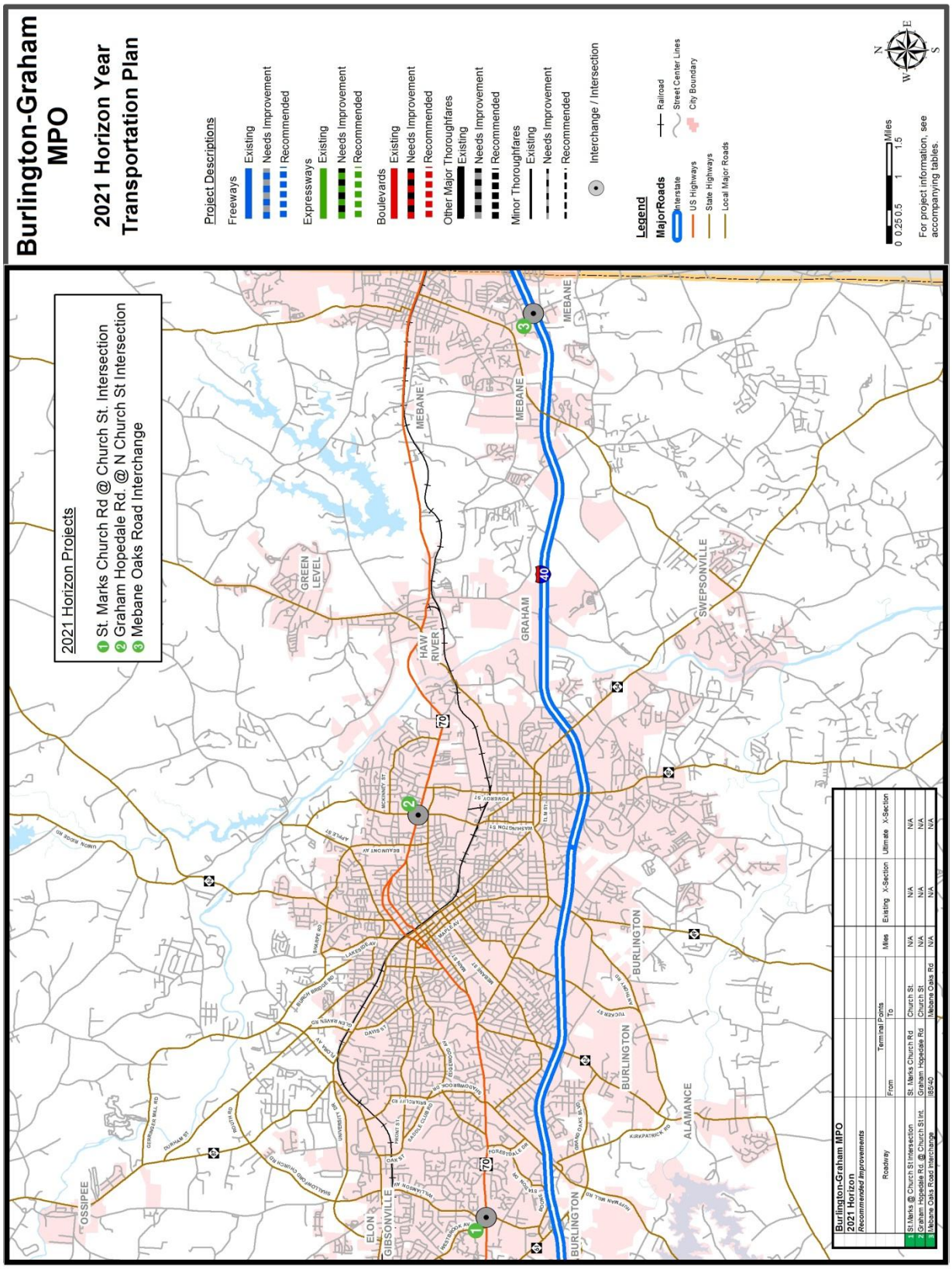


Figure 5 2030 Horizon Year

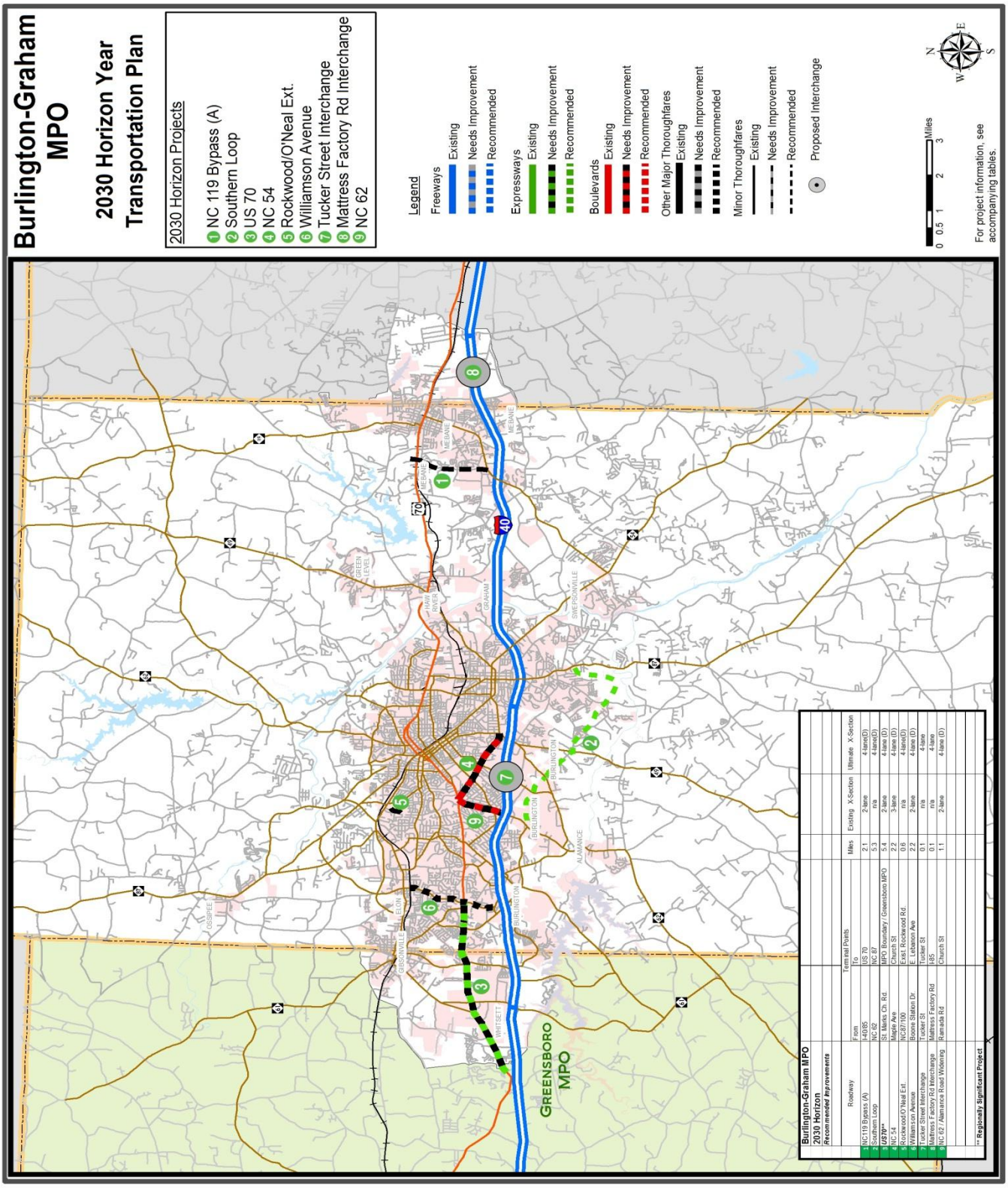
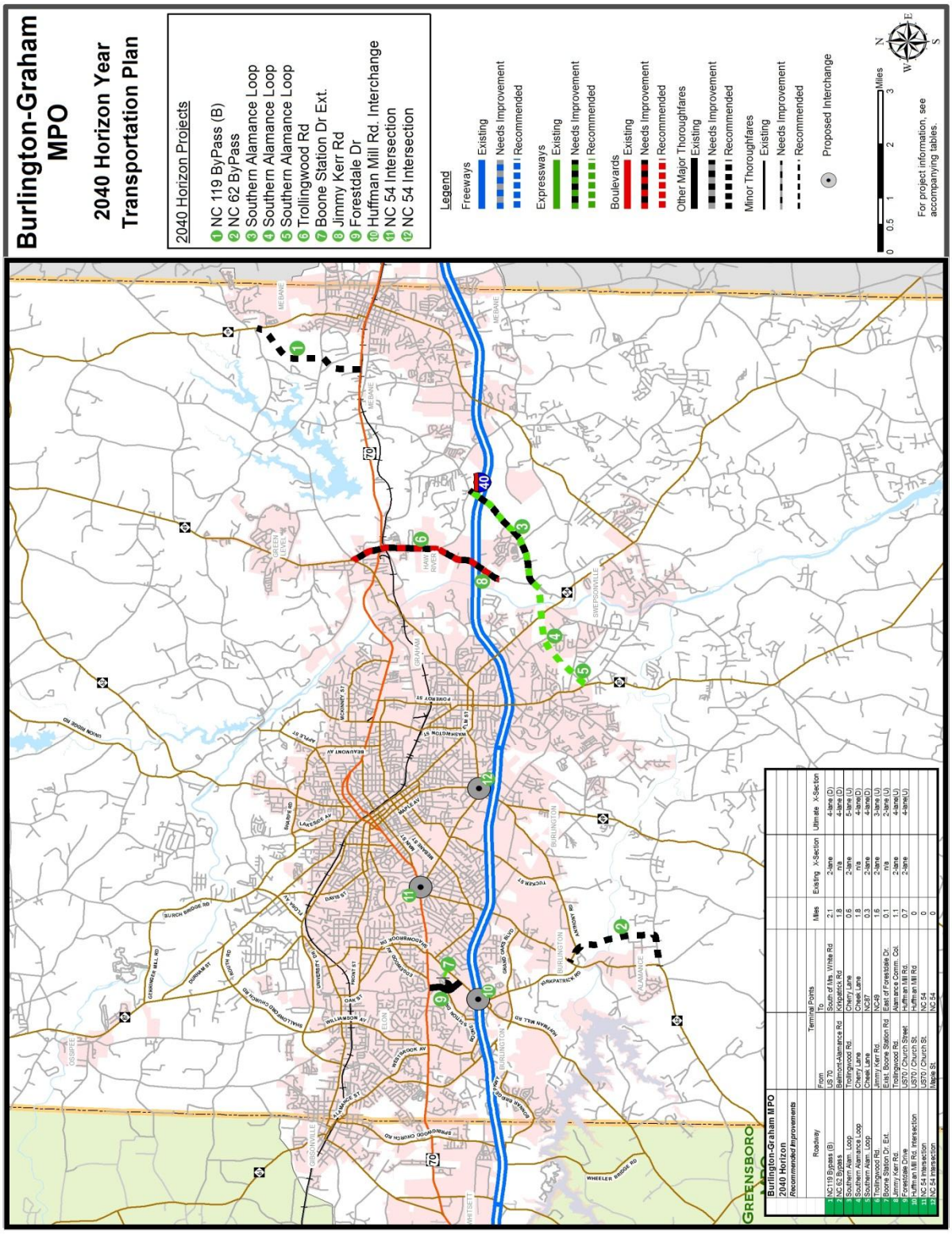


Figure 6 2040 Horizon Year



The project priorities for the horizon years were determined using highway projects listed in the following sources:

- Projects included on the current NCDOT Transportation Improvement Program (TIP);
- BGMPO Comprehensive Transportation Plan;
- The Burlington-Graham Urban Area Needs List; and
- The Thoroughfare Plan Capacity Deficiencies outputs of the Piedmont Triad Regional Travel Model.

The 2021, 2030 and 2040 horizon year tables do not represent the total needs of the area. The Vision Plan (Table 9) represents all remaining projects on the Comprehensive Transportation Plan that do not have specific funding allocation. The total cost (in 2013-dollar value) of remaining projects on the Vision Plan is $218,956,326.00.

Burlington-Graham MPO
Vision Plan

Table 9

Recommended Improvements

Roadway	Terminal Points		Length	Estimated Cost
	From	To		2013
NC87/100	NC87	Fisher Street	1.9	$5,388,800.31
Supper Club Dr. Ext.	Oakwood St	Washington St.	0.4	$965,441.00
Fifth St. Ext.	Third St.	E. Stagecoach Rd.	0.3	$707,214.84
Brown St. Ext.	Fifth St.	First St.	0.3	$1,271,989.84
Eighth St. Ext.	Eighth Street	Mebane Oaks Rd.	0.2	$547,071.16
Bakatsias Road Extension	Porter Ave.	Cherry Ln.	1.0	$2,326,632.81
Bason Road Realign.	Exist. Bason Road	NC49	0.1	$294,815.66
Fonville Rd. Ext.	Exist. Fonville Rd.	SR1745	0.7	$1,549,500.55
Eastern Alamance Loop	Cherry Lane/Gibson Rd	Graham-Hopedale Rd.	6.8	$39,344,281.63
Parker St. Ext.	Exist. Parker St.	Trollinger Rd.	0.3	$759,396.66
Thompson Rd.	S. Graham Bypass	Wedgewood Dr.	0.2	$465,326.56
Thompson Rd.	Rogers Rd.	Broadway Dr.	0.3	$724,080.76
Thompson Rd.	Sadia Tr.	Stonegate Dr.	0.6	$1,448,161.50
Sandy Cross Connector	Sandy Cross Rd.	Old Glencoe Rd. Ext	0.1	$288,048.86
Bellemont Loop	NC49	NC49	0.3	$796,496.58
Keck Dr. Ext.	Exist. Keck Dr.	Rock Hill Rd.	0.5	$1,343,061.47
Sharpe Rd. Ext.	Elmira Rd.	Glen Raven Rd.	0.8	$2,356,765.64
Durham St. Ext.	Old Glencoe Rd.	Durham St.	0.6	$1,973,179.27
South I-85 Frontage Rd.	Wheeler Bridge Rd.	NC61	0.7	$1,628,642.97
North I-85 Frontage Rd	Whitsett Park Rd	Exist. North Frontage	0.6	$1,406,416.05
Swepsonville Rd.	E. Shannon Rd.	Cooper Rd.	1.1	$4,136,140.36
Northern Alam. Pkway	Glencoe Rd.	Lower Hopedale Rd.	2.3	$7,887,685.44
Northern Alamance Pkway	Durham St. Extension	Glencoe Rd.	1.3	$4,842,517.47
Tyndall St. Extension	Stone St. Extension	Tyndall Street	0.3	$682,335.30
Northern Alamance Pkway	Apple St.	Lower Hopedale Rd.	0.5	$1,905,991.57
North I-85 Frontage Rd	Springwood Ch. Rd.	Williams Mill Road	1.7	$4,277,591.68
Northern Alamance Pkway	Old Glencoe Rd.	Exist. Shallowford Ch.	0.6	$2,235,008.06
US 70	NC49	Charles St.	4.6	$18,857,950.00
NC87	Durham St. Extension	Shallowford Ch. Rd.	1.3	$5,855,825.00
NC54	Swepsonville Rd.	MPO Boundary	0.8	$2,109,342.62
Pond Rd. Ext.	Exist. Pond Rd.	SR1150	0.3	$796,496.58
Shadowbrook Dr. Ext.	Lakeview Terr.	Power Line Rd.	1.0	$4,992,008.49
Shadowbrook Dr. Ext.	Gerringer Rd.	Shallowford Church Rd.	0.9	$2,155,376.34
Trollinger Ave. Ext.	Shallowford Ch Rd Ext.	Summers Dr.	0.4	$1,378,713.53
Gibsonville Bypass	Shallowford Ch. Rd.	NC61/100	4.3	$12,037,964.90
Whitsett Bypass	NC61	Existing Whitsett Ave	1.3	$3,160,233.27
Graham-Hopedale Rd	US70	Providence Rd.	1.2	$14,865,575.00
Buckhorn Rd	I-85	US70	0.5	$1,412,942.18

NC119/ Fifth St.	South Mebane Byp.	I-85	2.1	$10,117,256.63
Gibson Rd.	Third St. Ext.	Trollingwood Rd.	0.9	$2,152,500.00
NC87	Thompson Rd.	MPO Boundary/Bridge	0.9	$3,177,500.00
Apple St.	Sharpe Rd.	Graham-Hopedale Rd.	0.7	$2,184,726.01
NC62	Montgomery Rd.	Hickory Hill Rd.	1.7	$4,618,035.11
Huffman Mill Rd.	Forestdale Rd.	I-85	0.4	$7,253,121.01
Huffman Mill Rd.	I-85	Alam. Pkway	0.7	$2,319,736.09
Huffman Mill Rd.	Alam. Pkway	Springwood Ch. Rd. Ext.	1.1	$3,461,695.93
Mebane Oaks Road	NC 119	Old Hilsborough Rd.	1.9	$6,271,266.52
NC100	Church St.	Shallowford Ch. Rd. Ext.	0.5	$1,519,867.54
Walker Ave. Extension	Parker St.	US70	0.9	$4,293,224.80
W. Stagecoach Rd.	Cooks Mill Rd.	NC119	1.2	$3,351,644.58
NC87	Thompson Rd.	Nicks St.	0.1	$345,849.59
				$218,958,339.45

Regional Highway Element:

The Piedmont Triad Region is anchored at the crossroads of five interstates and over a dozen major highways. The Triad's mid-Atlantic location and inter-connected network provides efficient access to 3 international airports (within 2 hours) and 5 major ports (within 6 hours).

The Triad's transportation planning is performed by four Metropolitan Planning Organizations (MPO's): Winston-Salem MPO (Forsyth, Davidson), High Point MPO (Davidson, Guilford and Forsyth), Greensboro MPO (Guilford) and Burlington-Graham MPO (Alamance, Guilford and Orange). Approximately 90% of the population located in the Triad MPO planning area commute to work by car and on average 43% of workers commute outside their resident county based on 2010 U.S. Census Bureau data. Regional cooperation among the four Triad (MPO's) is key to the continuation of building upon the strong roadway network.

The four Triad MPO's coordinate on regional projects from inception and study to design and securing funding. The main focus of the regional coordination is to provide a seamless roadway network across planning boundaries that maximizes mobility and positions the Triad for future economic development. Table 10 includes major roadway projects the MPO's have coordinated on at regional level.

Coordination at the regional level to secure state and federal funding has become increasingly important with the passage of Executive Order No. 2 in 2009 by the Governor. The order mandated a professional/technical approval process for project selection. In response, NCDOT created the Strategic Prioritization Process. This prioritization process is used by NCDOT to identify projects to be funded in the State's Transportation Improvement Program (TIP). The process is heavily data driven aimed at allocating funding to projects with the highest need/benefit. The MPO's have participated in three cycles of the process which resulted in the MPO's pooling resources on regional priority projects. Regional coordination among the Triad MPO's will become increasingly more important as highway funding becomes more heavily weighted on performance measures.

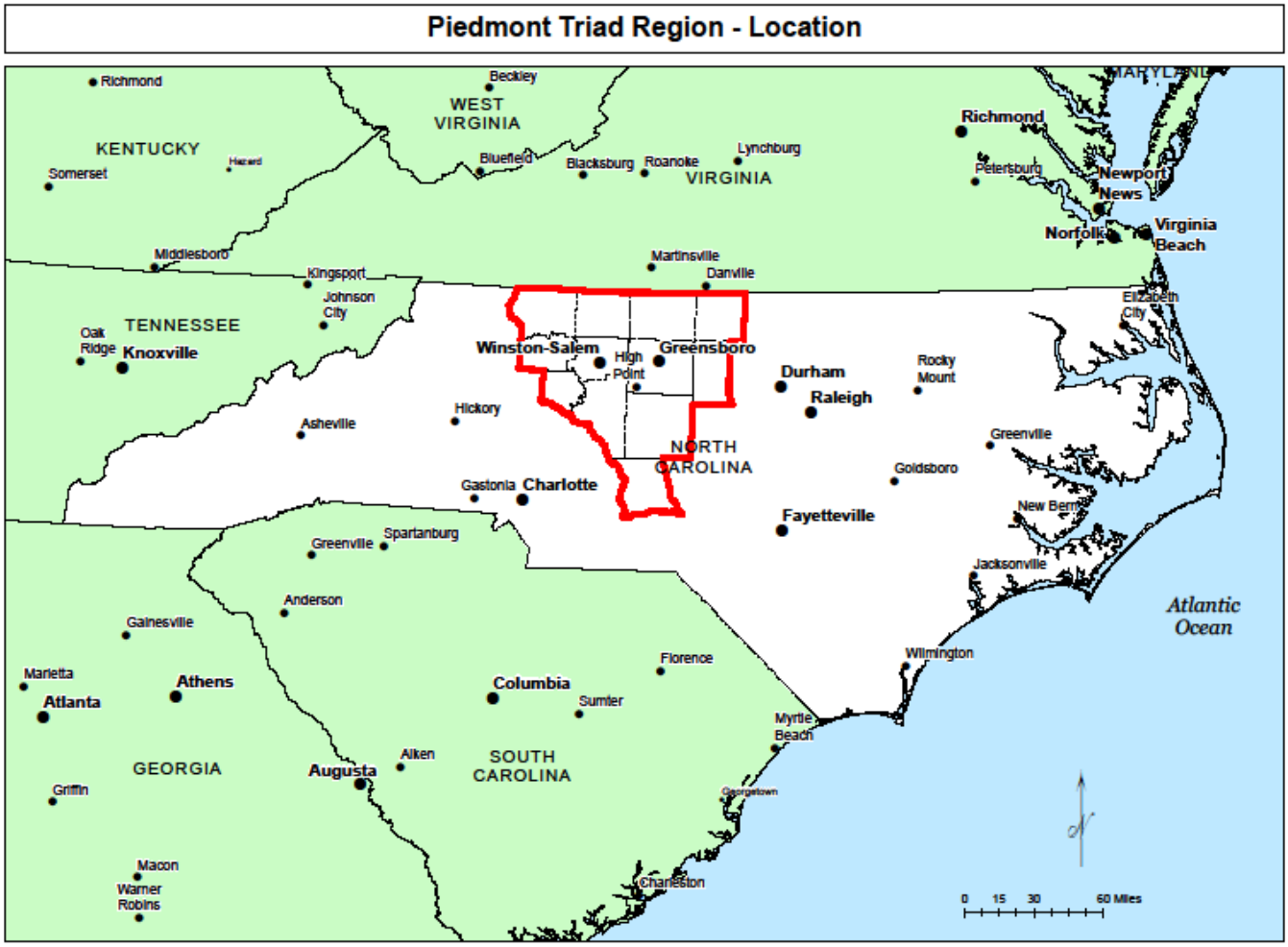
Table 10 Triad Regional Projects

Roadway Name	Project ID Number	Project Description	Project Phase	MPO location
Airport Connector (I-73/I-74)	N/A	Facility on New Location from Winston-Salem Northern Beltway to NC 68 in Greensboro.	Initial Concept Study	Winston-Salem, Greensboro
Johnson Street/ Sandy Ridge Road	U-4758	Widen from Skeet Club Road in High Point to I-40 in Greensboro.	Feasibility Study	High Point, Greensboro
Sandy Ridge Road	FS-0707A	Widen from I-40 to W. Market Street.	Feasibility Study	Greensboro-High Point
East Mountain Street	U-3617	Widen from Bunker Hill Road in Greensboro to NC 66 in Kernersville.	Securing Funding for Construction	Winston-Salem, Greensboro
West Market Street	R-2611	Widen from NC 68 to Bunker Hill Road.	Under Construction	Greensboro, Winston-Salem
High Point Road/ Greensboro Road	U-2412 A, B	Widen and Part on New Location from Proposed 311 Bypass in High Point to Hilltop Road in Greensboro.	Securing Funding for Construction; Funding Secured for A	High Point, Greensboro
US 158	R-2577	Widen from North of US 421/ I-40 Business in Winston-Salem to US 220 in Greensboro.	Securing Funding for Construction	Winston-Salem, Greensboro

Table 10 Triad Regional Projects (cont.)

Roadway Name	Project ID Number	Project Description	Project Phase	MPO Location
I-73 (US 220/ NC 68 Connector, I-73 Connector)	R-2413, I-5110	Facility on new location from US 220 to Western Urban Loop	Funding Secured	Greensboro
US 70	U-2581, R-2910	Widen from Penry Road in Greensboro to Westbrook Avenue in Burlington.	Securing Funding for Construction	Greensboro, Burlington
I-40	TBD	Widen from 4 lanes to six lanes between us 311 and I-40 Bus./US 421	Securing Funding for Construction	Winston-Salem, Greensboro

Figure 3


Piedmont Triad Region - Location
Richmond
Beckley
WEST VIRGINIA
KENTUCKY
Somerset
Hazard
Bluefield
Blacksburg
Roanoke
Lynchburg
VIRGINIA
Richmond
Petersburg
Newport News
Norfolk
Virginia Beach
Middlesboro
Kingsport
Johnson City
Martinsville
Danville
Elizabeth City
TENNESSEE
Oak Ridge
Knoxville
Winston-Salem
High Point
Greensboro
Durham
Raleigh
Rocky Mount
Hickory
Asheville
NORTH CAROLINA
Greenville
Goldsboro
Gastonia
Charlotte
Fayetteville
New Bern
Spartanburg
Greenville
Jacksonville
Anderson
Atlantic Ocean
Gainesville
Florence
Wilmington
Marietta
Athens
Atlanta
Columbia
Sumter
Myrtle Beach
Alken
SOUTH CAROLINA
GEORGIA
Augusta
Georgetown
Griffin
Macon
Warner Robins
Charleston
0 15 30 60 Miles

B. BICYCLE AND PEDESTRIAN ELEMENTS

Bicycle and pedestrian mobility is of particular interest to the BGUA. The first comprehensive bicycle and pedestrian plan was developed and adopted on September 22, 1994. The Plan encompasses the following municipalities within the BGUA: Burlington, Elon, Gibsonville, Graham, Haw River, and Mebane. The Plan has been updated as new segments or bike lanes are constructed in the area. The City of Burlington adopted a Comprehensive Bike Plan in 2012. The City of Graham adopted a Pedestrian Transportation Plan in December of 2006 and the City of Mebane completed a Bike and Pedestrian Plan in 2014. The Town of Elon also has a Bike and Pedestrian Plan that was adopted in 2008 and the Town of Gibsonville adopted a Pedestrian Plan in 2013.

The purpose of a Bicycle and Pedestrian Plan is to provide a basic bicycle and pedestrian facilities inventory and plan of implementation. The Plan is necessary to identify desirable bicycle and pedestrian projects within the BGUA, which may be eligible for funding under the Urban Area's Local Transportation Improvement Program. Several MPO member agencies are planning to conduct pedestrian and/or bicycle plans in the near future.

In addition to the Burlington, Graham, Gibsonville and Mebane Ped/Bike Plans, Alamance County has County-Wide Bicycle Routes established by the NCDOT Bicycle Program. In 1994, the City of Burlington established an official Bicycle and Pedestrian Advisory Committee (BBPAC). The BBPAC was a focal point to bring together the numerous positive programs in the community. In an effort to promote bicycle and pedestrian transportation, a primary objective of the committee is to secure bike and pedestrian improvement projects. Given the 2012 Burlington Pedestrian Plan, the BPPAC may be reappointed in the near future.

In recent years the BGMPO Technical Coordinating Committee (TCC) discussed the need for incidental and independent bike and pedestrian projects in future transportation improvements. Incidental projects are tied to specific TIP projects and independent project are single / stand alone projects. The bike and pedestrian projects in the Urban Area that could be eligible as incidental projects are Graham - Hopedale Road, O'Neal Street and the Alamance Parkway.

Alamance County has over 110 miles of bike routes along state maintained facilities. North Carolina Bike Route #2 is located in the southern portion of the county. The Mountains to Sea Bicycle Route travels 19 miles across the county from Kimesville to Snow Camp. There are also six other state recognized bicycle routes in the county including NC Bike Routes 70, 71, 72, 73, 74 and 6. Orange County also has an adopted Bike Plan. These routes coordinate with the NC Bike Route system and other local bikeways in Alamance, Guilford and Orange County.

Two projects that include both bicycle and pedestrian elements are described below:

Lake Macintosh Greenway: the project would link Davidson Park to Lake Macintosh Park and Marina. A key element of this project was included in TIP project U-2905 that includes accommodation for bike traffic from US 70 to Kirkpatrick Road; the remaining link will be the construction of the greenway from Alamance Regional Medical Center to the Lake Macintosh Water Plant and eventually connect to the Macintosh Marina.

Haw River Greenway: this project would be constructed adjacent to the Haw River and travel from the historic Glencoe community to the Town and Country Park in Burlington. This project includes canoe access along the Haw River where feasible. This is also a segment of the Mountain to Sea trail sponsored by the NCDOT.

For a copy of the Burlington ParkWay map, contact Burlington Planning Department at (336) 222-5110.

The Town of Elon completed a Bicycle, Pedestrian and Lighting Master Plan in 2008. The Plan evaluated the existing multi-modal facilities in the Town and on the Elon University campus. The intent of the Master Plan is to provide a clear vision for future sidewalk, greenway, lighting and transit development for the Town of Elon.

For a copy of the Elon Bicycle, Pedestrian and Lighting Plan, contact the Town of Elon Planning Department at (336) 584-2859.

The City of Graham adopted a Pedestrian Plan in 2006. The Plan provides projects and cost estimates for both sidewalk and greenway facilities. Table 15 and 16 in the Appendix display the Graham projects and the estimated cost of each improvement.

Independent Projects:

Pedestrian demand is a fundamental component of transportation systems. Most trips begin and end as pedestrian trips, and good pedestrian planning will reduce the conflict between pedestrians and vehicles. Consequently, the City of Burlington and other BGMPO communities have integrated sidewalk requirements into its subdivision regulations. Concrete sidewalks are required along major and minor thoroughfares and frontage streets. The City of Burlington's sidewalk requirements are included in the Appendix of this report.

Bicycle and Pedestrian Planning Activities:

- Support to the ad hoc citizens group (Haw River Trail Association) that is developing an independent multi use path along the Haw River. Key objectives include 1) right-of-way acquisition from adjacent property owners, and 2) development of a large independent project that would improve connectivity by utilizing a network of incidental projects.

- Updating the Bicycle and Pedestrian Facilities Inventory as new facilities are constructed. Developing a new and updated Bicycle Map for urban area.

- Creating an Urban Area map of pedestrian facilities

- Monitor and update the local Bike and Pedestrian Plans of MPO agencies

C. RAIL TRANSPORTATION ELEMENT

The BGUA has had a strong history with rail transportation and the movement of people and goods. Although the historic rail depot no longer provides passenger service, it does represent a focal point where public commerce took place and has now grown into a prosperous central business district. Through the years, several service and commercial businesses and government facilities have developed near the depot and now form the Central Business District. In 2003, the "Company Shops Station" Depot was rehabilitated to house city offices and the Amtrak waiting areas. The "Company Shops Station" now provides a convenient and safe place for use of passenger rail services and for public/community events and use.

1. Existing Passenger Service

The State of North Carolina sponsors two Amtrak-operated passenger trains, provides passenger service: The Piedmont and the Carolinian. The Piedmont makes a daily round trip between Raleigh and Charlotte by way of Burlington. The State owns the equipment for the Piedmont and contracts with Amtrak for maintenance and operations of the train. The Carolinian makes daily trips each way between Charlotte and New York City by way of the Burlington depot. The Carolinian uses Amtrak equipment and is Amtrak-maintained.

Passenger rail planning efforts were expanded with the Piedmont Triad Regional Mobility/Passenger Rail Major Investment Study, Study Management Plan. The Piedmont Authority for Regional Transportation (PART) managed the rail studies. These Studies included: 1) A passenger rail proposal providing services between Asheville and Raleigh through Winston-Salem generally following the I-40 corridor; and 2) A passenger rail proposal providing for commuter rail services between Winston-Salem, Greensboro, High Point, Burlington, and outlying communities.

The evaluation and validation of the two services were completed under one study called the “Piedmont Triad Region Mobility/Passenger Rail Investment Study.” This Study was designed to coordinate and integrate efforts, identify improvements that enhance the feasibility of both services, and document stand-alone support for each service. The Study produced two separate documents upon its completion.

The first document, entitled the “Mobility/Rail MIS,” will facilitate careful consideration of a full range of mobility alternatives, as well as quantitative and qualitative measures to assess and evaluate alternatives in an open process founded on community input. The Mobility/Rail MIS identified a Regionally-Preferred Investment Strategy consisting of a comprehensive package of transportation and policy solutions to enhance land use, build livable communities, provide transportation choices, and manage future congestion problems.

The second document, called the Piedmont Triad Intercity Rail Connection, addressed the need to re-establish intercity rail services from Winston-Salem through Greensboro to Burlington. The document also included needs, cost, and public benefit of intercity passenger rail travel in the Triad.

2. Piedmont High-Speed Corridor

The Piedmont High Speed Corridor is a 477-mile federally designated high-speed rail corridor running from Washington, D.C. through Richmond, VA; Raleigh; Greensboro; Burlington; and on to Charlotte, NC. A recent study on the corridor indicated that the potential for ridership and revenue along the passenger rail line would be greater than any other high-speed route in the United States.

As a result of the studies, this corridor has been designated as one of eight national rail corridors currently identified for improvements to high-speed status. This effort has led to the adoption of a NCDOT resolution to protect the integrity of the rail corridor. The approved resolution endorses the concept of providing better separation between vehicle and train movements at existing and proposed crossings of the rail corridor. Additionally, traffic separation studies were performed within several BGMPO jurisdictions to study which crossings need to be closed or improved. The purpose of these closings is to assist in reducing train travel time to two hours between Raleigh and Charlotte. The resolution lists the following directives:

- That any new intersection of the Federally-Designated High-Speed Rail Corridor be grade-separated and supports the closure of redundant and/or unsafe highway/rail at-grade crossings on this route;

- That municipalities be encouraged to implement crossing consolidation projects; and

- That new crossings be strongly discouraged in adopted plans, zoning changes, site plan approvals, and building construction approvals.

NCDOT will make every effort to provide grade-separated alternatives to enhanced warning or traffic control devices (four-quadrant gates, median barriers, longer gate arms, and intelligent signal systems) as a part of the widening of existing highway/rail at-grade crossings. Replacement of the at-grade crossing with a grade separation will be evaluated and considered through the planning and engineering process.

Two completed projects related to the high-speed rail corridor include the closure of Norfolk Southern Railroad crossings at Antioch Avenue and Holt Avenue in the Town of Elon. Two other rail projects completed are TIP #s Y-3449A and Z-2749D which were safety projects involving the installation of automatic warning devises. Both projects are located in Gibsonville on East Joyner Street at the Norfolk Southern Railway crossing. A major rail “siding” project is underway in Haw River that will allow passenger and freight train traffic to coexist and improve safety.

3. Potential North Carolina Commuter Rail Service

The NCDOT Rail Division conducted a study to identify potential rail commuter corridors throughout the State that would like a sizeable suburban population with a substantial central city. One of the corridors identified is the Burlington-to-Greensboro link. This 23-mile commuter corridor extends westward from Burlington along I-40/85. Travel time between the two cities is approximately 25 to 30 minutes by automobile, given the 65-mph speed limit along much of I-40/85. The speed for Amtrak has recently been increased to reduce the train travel time to be more competitive, if not the same as, the

automobile trip. NCDOT estimates at least 44,000 potential commuters can be served by this rail service.

4. Funding

Federal
Funding will be used to improve the rail route through Raleigh-Burlington-Charlotte and to purchase new passenger train cars and locomotives.

State
The North Carolina General Assembly continues to approve additional funding for rail programs.

Local
PART will continue to allocate funds to implement the two rail studies referenced above. These studies will be in partnership with the surrounding urban areas and MPO's.

For a copy of the commuter rail study and additional information regarding the Rail Improvement Program, contact the NCDOT Rail Division at (919) 733-4713, or visit their web-site at www.bytrain.org*. For the Regional Commuter Rail Study information contact PART at (336) 662-0002 or website at* www.partnc.org

5. Future Study

The BGMPO commits to work with state and local partners to develop both regional and commuter rail options for the urban area. BGMPO and PART will work together to achieve the rail passenger needs of the BGMPO urban area.

D. Freight: Regional / State / National

Statewide / Regional Current and Future issues

State Departments of Transportation (Dot's) have a historic linkage to freight and freight movements. This linkage dates to the early days of DOT's, when their primary focus tended to be on creating "farm to market" roads to meet basic societal needs - bringing food from the point of production (the farm) to where people live (cities and towns). Accordingly, including freight considerations in the transportation process is less of a new trend than a revisiting of a historical relationship.

Compared to the historic role of freight in DOT activities and planning, recent efforts to incorporate freight considerations into the transportation planning process tend to be reflective of shifts toward the use of global rather than national or regional supply chains. In a global supply chain environment (where markets are operating freely), it is natural and predictable that labor-intensive industries would tend to locate in areas where labor costs are low (subject to the impact of transportation costs), while industries that tend to be capital-intensive(or for which transportation costs are a major component of final product cost) are less affected. These predictable trends have proven true in the United States and North Carolina and have had significant impacts on many domestic industries such as textiles, furniture, and other industries with similar economics. However, while such industry and employment impacts are predictable, it does not change the difficulty associated with

adjusting to the job losses and industry displacements associated with these market-driven adjustments or the desire for governments to attempt to avoid or mitigate theses impacts. Such mitigation efforts can and do include using transportation system projects to encourage the location of new businesses or improve the competitive standing of existing businesses.

Because of the factors noted above, the Federal Highway Administration (FHWA) and state DOT's are increasingly devoting resources to understanding and determining how to best incorporate freight considerations into transportation planning and/or project selection. Specifically, the FHWA, through the efforts of its Offices of Planning and Freight Management and Operations, has sponsored the development of, and/or compiled a considerable library of, resources directed to this topic. Specific tools include freight data sources, demand modeling tools, guides, and technical resources directed to practitioners so that they can incorporate freight into state planning activities. Additionally, a number of state DOT's have actively been developing state-specific models for including freight in both project planning and prioritization efforts. Of particular note, the Florida Strategic Intermodal System prioritization model represents one of the more mature and comprehensive efforts to systemically incorporate freight into the project planning and prioritization process. Other notable state DOT efforts to include freight in transportation planning include Indiana, Minnesota, Ohio, and Washington. (2040 North Carolina Statewide Transportation Plan (STP), page 2-25, 2012) It should be noted that while the FHWA and NCDOT are looking at various models to better include freight flow and logistics into their planning efforts, the models and tools do not yet bring the level of detail down to regional and county levels in sufficient detail to be useful.

Since the issuance of NCDOT's previous STP, "Charting a New Direction for NCDOT" in 2004, a number of national and North Carolina initiatives have highlighted the importance of freight and logistics in relation to long-term economic health and growth in the state. In North Carolina, freight and logistics have emerged as a state priority that can help underpin economic development and economic competitiveness. In North Carolina, this topic then relates to the movement of raw goods and materials as well as finished goods and products, between their origins and ultimate destinations including in-state distribution to businesses and consumers and out-of-state markets. As a result, freight and logistics touch all key aspects of the state's multifaceted economic development targets including agriculture, bio//medical, tourism, education, military, and manufacturing.

The 2004 STP included a number of direct and indirect references to the importance of "freight" and "logistics" in establishing transportation planning priorities. Starting with its initial discussion of domestic and international trade factors, the report identified a linkage between North Carolina's future economic prosperity on the ability of its transportation system to support freight and logistics demands. The report further discusses the importance of the freight rail infrastructure needs and the economic impact of the industries primarily served by rail as a means of further underscoring this freight/economic growth linkage. Finally, the report encouraged the enhanced adoption and use of NCDOT's Strategic Highway Corridor (SHC) concept, which specifically identifies statewide economic prosperity as a major focus for SHC-designated assets; this effectively acknowledges the linkage between freight movements and economic growth.

This report acknowledges the linkage of economic growth to the state's transportation infrastructure. However, while the freight/economics/transportation linkage was generally understood, the report did not define how freight/logistics considerations should be weighted within NCDOT's project prioritization and selection process. (2040 North Carolina Statewide

Transportation Plan, 2011) Although NCDOT acknowledges the importance of freight planning, it is struggling with how to evaluate the data. This is an area where regional coordination between industry and transportation planners comes into play. With this team effort, regional freight planning can partner with NCDOT to supply the information and needed to make "informed" decisions.

1. Highway Freight: National Current and Future Issues

Nationally decision-makers are realizing that keeping the system in good repair competes with adding capacity and that today's funding streams are (a) inadequate to the task, and (b) have begun to fall off. Much of the congestion occurs today at bottlenecks on the highway system—specific locations that experience recurring congestion and backups because traffic volumes exceed highway capacity. The American Trucking Associations estimates that the annual cost of delay at these bottlenecks comes to $19 billion. Our economy depends on a well-functioning and efficient transportation system, which in turn depends on the capacity and condition of the underlying infrastructure—our highways, bridges, rail lines, tunnels, ports, harbors, and channels. We know that demand for freight transportation is growing. We know that this will exacerbate congestion that already is adding to shipper and carrier costs. We know where the bottlenecks and choke points are, and we know how to fix them. We are not addressing these problems because few state transportation agencies have the money to tackle them. In the case of several major projects that would create benefits both regionally and nationally, their costs are so high they cannot be funded by a single state. (Transportation reboot) However, as we mentioned "10 Steps to an Effective National Freight Policy" on page 1, the third suggestion, create a competitive freight discretionary program and the fourth suggestion, strengthen and diversify freight funding sources may assist development of funding streams. Nationally, the USDOT TIGER grant program addressed a significant number of major freight bottlenecks including the I-85 Bridge over the Yadkin River, Norfolk Southern Rail Road's Crescent Corridor Project and the Appalachian Regional Short Line Rail Project (which shows the growing importance of Short Line Rail Roads to the national freight infrastructure. In addition, the MAP-21 reauthorization bill Creates a new competitive projects of national significance program that will help. These are only first steps though and it appears a greater emphasis is needed nationally on these issues.

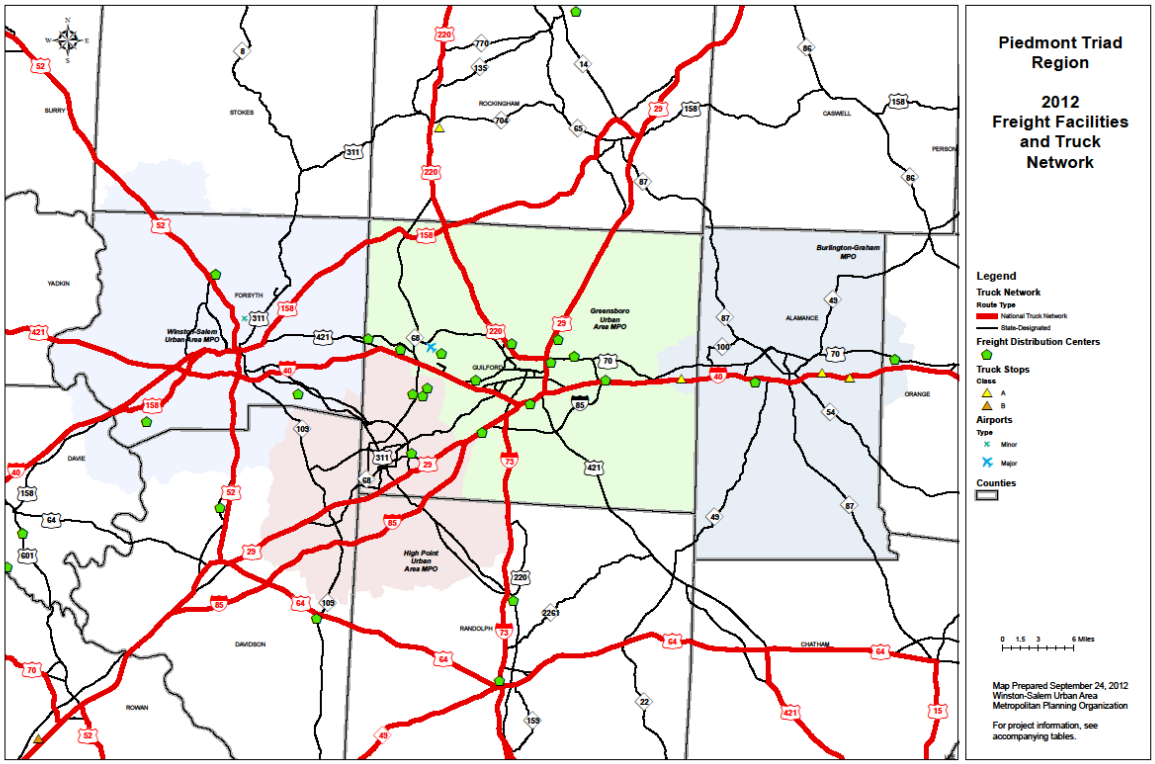
2. Highway Freight: Statewide / Regional Current and Future Issues

Freight mobility through North Carolina's highway network will rely on improvements that provide direct and timely access for trucks to port facilities from inland freight nodes and facilities, including rail intermodal facilities, manufacturing, agricultural production, warehousing and distribution centers. Figure X displays the 2012 Freight Facilities and Truck network in the Piedmont Triad.

Based on the maritime market opportunities identified for North Carolina, investment in the US 70, I-73/I-74, and I-40 highway corridors will have the greatest effect in reducing trucking travel times within the state. Focused investments along these targeted freight corridors is also consistent with the 2010 Statewide Logistics Plan recommendations for highway improvements, including creating of a multimodal corridor between Charlotte and Wilmington and enhancing the primary highways of the National Truck Network in North Carolina. The Logistics Plan also recommended improvements to I-95 to support pass–through traffic; while there are many benefits to the enhancement of this vital corridor, improvements to I-95 were not demonstrated to support the specific market scenarios evaluated under this study. (North Carolina Maritime Strategy, page 104, 2012)

The roadway needs estimate was developed with assistance from several NCDOT Business Units and all eighteen MPO's in the state. The highway mobility estimate was completed in two parts. Each MPO provided an estimate for highway needs within its jurisdiction based on local plans. For areas not in an MPO, an estimate for highway widening was developed based on a volume-to-capacity analysis using a GIS database developed by the NCDOT GIS Unit and SPOT (Strategic Planning Office of Transportation). In addition, the highway mobility estimate includes the policy-driven estimate for completion of urban loops and the intrastate system. The highway safety needs estimate was developed by the NCDOT Traffic Safety Unit and includes funding needs for the Spot Safety, Hazard Elimination, and High Risk Rural Road safety programs. The infrastructure health needs estimates were developed by the NCDOT Pavement Management and State Road Maintenance Units. (2040 North Carolina Statewide Transportation Plan, page 3-10, 2012). The map below displays the freight and truck network in the Piedmont Triad area.

PIEDMONT TRIAD FREIGHT MOVEMENT

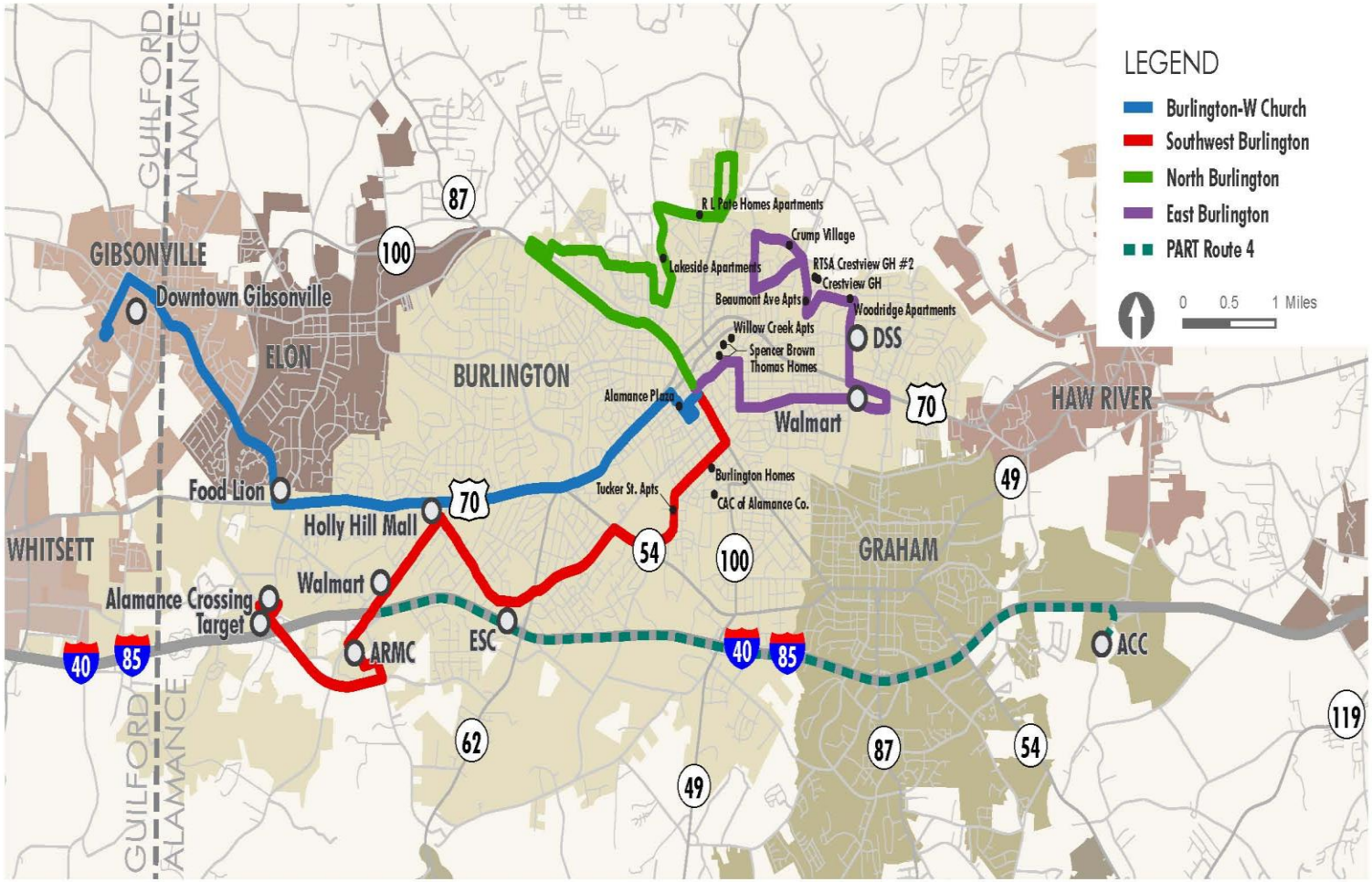


E. TRANSIT ELEMENT

The City of Burlington currently does not have fixed route transit service (goal of Spring/Summer 2016 fixed route start up). However, the Alamance County Transportation Authority (ACTA) provides transportation services to the human service agencies and organizations within Alamance County. ACTA also provides demand response trips to the general public. Human service agencies participating in the system pay for transportation services for their clients on a seat mile or flat rate basis. Currently, the one-way fare for a demand response trip for the general public is $5.00 within the central urban area of the county and $5.00 for a trip that has either an origin or destination outside the central urban area, but still within Alamance County. Incidental trips were more common, because they involved transporting people who were going in the same direction as the scheduled van trip. A considerable share of the funding for ACTA comes from the Community Transportation Program Grant, which is administered by the Public Transportation Division of NCDOT and provides capital and administrative assistance. In the future ACTA, and all public transit agencies in the BGUA, will collaborate to use the Section 5307 grant for thir operations and capital assistance. Alamance County provides matching funds for the RGP Grant and CTP Grant and has provided assistance with capital needs for equipment.

The City of Burlington is eligible for federal operating assistance under the Section 5307 Grant. The capital assistance is an 80-10-10 split or 80 percent federal, 10 percent state, and 10 percent local match. Operating assistance is 50% federal and 50% local. Funding would depend on the hours of operation and the amount of client participation. As long as routes were located within the Urban Area, the operating expenses would be eligible for funding. The City of Burlington and ACTA have pursued these funds for planning and operations of a future coordinated public transportation system. The BGMPO conducted a Public Transit Feasibility Study in 2006 and has continued into 2015. The purpose of the Public Transit Feasibility Study is to evaluate the feasibility of operating a regularly scheduled public transportation program within the Burlington-Graham urban area, including coordination with existing services provided by Alamance County Transit Authority (ACTA) and the Piedmont Authority for Regional Transportation (PART). The study covered the Burlington-Graham urbanized area and its member jurisdictions of Burlington, Graham, Gibsonville, Elon, Mebane, the Village of Alamance, and Alamance County. The study included the design of transit routes and schedules, a review of operational data from similar-sized systems in North Carolina, stakeholder interviews, questionnaire design and the analysis of results from surveys of agencies, companies and individuals regarding public transportation, and regular presentations to the Burlington-Graham Technical Coordinating Committee (TCC) and the Transportation Advisory Committee (TAC).

In 2104 the public transportation providers in the BGMPO area formed a subcommittee to begin discussion of funding allocations for each of the transit agencies in the urbanized area. The subcommittee reviewed the current and planned services for the FY2016 Section 5307 grant. The subcommittee developed a recommendation to the Transportation Advisory Committee (TAC) to adopt for FY2016. The recommendation was based a on a general planning and estimation formula due to the limited about of transit data in the urbanized area and the proposed new services. The Subcommittee is aware that the future Section 5307 allocation will need to be more data driven and utilize the operating statistics reported by each transit agency in the future years.


LEGEND
Burlington-W Church
Southwest Burlington
North Burlington
East Burlington
PART Route 4
0 0.5 1 Miles
GUILFORD
ALAMANCE
GIBSONVILLE
Downtown Gibsonville
ELON
BURLINGTON
WHITSETT
HAW RIVER
GRAHAM
Food Lion
Holly Hill Mall
Walmart
Alamance Crossing
Target
ARMC
ESC
ACC
Alamance Plaza
Walmart
DSS
R L Pere Homes Apartments
Crump Village
Lakeside Apartments
RTSA Crestview GH #2
Crestview GH
Beaumont Ave Apts
Woodridge Apartments
Willow Creek Apts
Spencer Brown
Thomas Homes
Tucker St. Apts
Burlington Homes
CAC of Alamance Co.
87
100
70
54
40
85
62
49
119

The Section 5307 grant will be maximized and fully allocated to begin and enhance public transportation in the BGMPO urbanized area.

The proposed 2014 design for the (new) fixed route transit system for the Burlington-Gibsonville urban area includes four routes operating every 45 minutes frequency (90 minute headways). The proposed routes are shown in Figure 7 above. Five light transit vehicles would be needed for system operation. By interconnecting routes at a system hub in the vicinity of downtown Burlington, passengers could travel from Gibsonville to the eastern Burlington municipal limits with one bus transfer. Transit service would operate from 5:30AM to 6:30PM, Monday to Friday. These operating hours are typical for transit systems in small to medium-sized cities in North Carolina. Weekday service only is generally the preferred manner for starting-up transit service in a new location and is supported by survey responses from residents in the Burlington-Gibsonville area.

Locally Coordinated Plan (LCP)

As new and expanded public transportation service is provided in the MPO urbanized area each agency will enhance service plans and locally coordinated plans. The next update to the MTP will include the full reports and plans of each of the transit providers in the MPO area. As previously stated, there are several public transportation services planned to be online in FY2016-2017 and these activities will be documented in future MTP updates.

Currently, to help guide the provision of community transportation services by the Alamance County Transportation Authority (ACTA), the Alamance County Locally Coordinated Human Service Plan was developed. The Locally Coordinated Plan was to ensure that Federal requirements regarding coordination are satisfied as well as to assist Alamance County in its continuing efforts to develop an efficient and effective human service transportation network.

Following are the LCP's goals and objectives identified as part of the study and reviewed and approved by the ACTA Board and other committees overseeing the project:

- Access and document transportation needs for individuals with disabilities, older adults, and persons with limited incomes;
- Inventory available services;
- Identify and document restrictions on eligibility for funding;
- Identify short and long term strategies to address gaps in service;
- Identify technology sources available for coordination of transportation services;
- Identify and duplications of services and strategies for more efficient utilization of services; and,
- Document and prioritize implementation strategies to increase coordination of transportation services in the county.

The following are specific issues relating to the primary needs identified:

- Lack of dedicated public transportation funding source for local area services and local match for grant programs/funding;
- Extension of service hours and days;
- Develop coordinated pick up/ drop off points for all agencies to use;
- Create a Mobility Manager position within the BGMPO to coordinate transit services;

- Education of citizens and elected officials about the real benefit and potential cost savings of an efficient public transportation service; and,
- Partner with private agencies and Elon University to enhance services.

Table 11

Listing of the Agencies Participating in the Coordinated System:

Alamance Chamber of Commerce
Alamance County NET Service
Department of Social Services
Friendship Center
Dial-A-Ride Medical
Alamance Community College
Inter-County Medical
Guilford County Transportation
Ralph Scott Services
ACTA Funding
Alamance County Community Services
Joy A Shabazz Center
North Carolina Service for the Blind
Open Door Clinic
Vocational Rehabilitation Services
UNC Hospitals
Vocational Trades (OE)
Rural General Public
Nursing Home Contracts
Alamance Regional Medical Center
Burlington Housing Authority

1. Funding Programs for ACTA

Elderly and Disabled Transportation Assistance Program (EDTAP) 5310 Funding

Funds currently allocated to Alamance County under the EDTAP Program are distributed annually to human service agencies that apply for funding. The application process is open to all human service agencies in Alamance County and is coordinated and allocated by the ACTA Board of Trustees.

Employment Funds

Employment funds are available to the general public for travel to work, employment training, or other employment related destinations.

Rural General Public Funds

Rural General Public (RGP) funds are intended to provide transportation services for individuals in the county who are not eligible for human service transportation services.

Dial-A-Ride Transportation – North Carolina Division on Aging

This Grant is coordinated through Piedmont Triad Council of Governments (PTCOG) with approval by the Alamance County Planning Committee for Services to the Elderly. Current policy allows destinations to medical sites with a 24-hour minimum prior notification.

Targeted Transit Assistance Program – Federal Sections 5310, 5316, and 5317

Alamance County Transportation Authority currently has 5310 Elderly and Disabled and 5316 Job Access Reverse Commute grants.

NC Community Transportation Program (CTP) Grant 5311

Funds are provided by the State of North Carolina to provide 85% of administrative costs to coordinate the programs listed above. Alamance County funds the 15% local match for this grant.

2. Future Studies

The Piedmont Authority for Regional Transportation (PART) is the regional transportation agency serving the Piedmont Triad. PART was created by legislative action and is supported by rental car tax revenue. Each of the four MPO's in the Piedmont Triad region works with PART for multi modal planning activities. One goal of PART is to implement the Intercity Travel Demand Study and evaluate each of the three Triad transit systems. The initiative may consider tying into the Triangle Area transit system. The results of a Seamless Mobility Study should provide additional details and recommendations regarding a consistent and "seamless" public transportation system for the area. Ultimately, future transportation plans need to interconnect all means of transportation to improve accessibility.

Other recommendations include:

- Support the types of service that ACTA provides;
- Partner with local agencies to implement a fixed route public transportation system in the BGMPO area;
- Provide coordinated Park and Ride facilities with BGMPO, ACTA, TTA and PART; and
- Promote a fixed route system that connects to the PART and TTA regional system and beyond.

3. Regional Transportation Planning and Mobility

Comprehensive Planning for the Triad Region

The Piedmont Authority for Regional transportation (PART) was created through state enabling legislation in 1997 (GS 160A-630). Its members include the four Triad MPO's (Burlington-Graham, Greensboro, High Point, and Winston-Salem), the Counties of Alamance, Davidson, Davie, Forsyth, Guilford, Randolph, Rockingham, Stokes, Surry, and Yadkin; and the Cities of Burlington, Greensboro, High Point and Winston-Salem.

The PART Board of Trustees consists of the Mayors of Burlington, Greensboro, High Point and Winston-Salem, the chairs of the four Metropolitan Planning Organizations (Burlington-Graham, Greensboro, High Point, and Winston-Salem), a member of each board of county commissioners (Alamance, Davidson, Davie, Forsyth, Guilford, Randolph, Rockingham, Stokes, Surry, and Yadkin are represented on the Board), chairs of the two largest airport authorities and the Division 7 and Division 9 members of the North Carolina Board of Transportation. The members of the Board of Transportation serve as ex officio members. Eighteen of the twenty-two Board members are elected officials.

PART is authorized to operate transportation services and systems. It has limited taxing authority. PART may levy a vehicle registration and/or a passenger vehicle rental fee in perpetuity subject an initial authorization by affected Boards of County Commissioners. PART presently receives funds from a 5% vehicle rental tax in Davidson, Forsyth, Guilford, Stokes, Surry, and Yadkin Counties. Also, PART receives a vehicle registration fee for registered vehicles in Randolph County. NCDOT and Federal Transit Administration (FTA) grants have also been awarded for studies and services that are currently underway.

PART Regional Programs and Projects

- Mass / Transit fixed guideway
- Regional Park and Ride Lot Development
- Regional Ridesharing and Vanpooling Program
- Coordination of Human Services Transportation
- Regional Safety Program
- Regional Transit System (PART Express)
- Regional Transportation Planning
- HUD Planning Grant / Piedmont Together
- Triad Travel Model Custodian
- Air Quality Planning / Coordination
- Regional Transportation Demand Management
- Triad Air Awareness Outreach Program

A. Mass Transit Planning

PART completed a passenger rail / Bus Rapid Transit (BRT) study for the region. The Alternative Analysis is assessing the potential for commuter rail and/or BRT service in the Triad. This study is a continuation of the Triad Major Investment Study that has study results shown below in this section on Mass Transit Planning. The current Alternatives Analysis was completed in 2008 and produced a recommended investment strategy to implement a fixed guideway mass transit system. Pending the identification of a regional funding source, additional studies on environmental impacts, preliminary engineering, and final design will follow. The evaluation of alternatives will follow the procedures established by the FTA in order to qualify for federal funding for any capital improvements under the "New Starts" funding program. These procedures mandate the evaluation of a minimum of three alternatives at this stage: the No-Build Alternative, Transportation System Management (TSM) Alternative, and the Build Alternative. The Build Alternative for the Triad region is the previously considered Rail/DMU Alternative, which was selected as the locally preferred investment strategy as a result of the MIS.

Public Involvement

Public involvement in the PART MIS process has included convening a project Steering Committee, conducting interviews with elected officials, and planning officials, holding a developer forum (for land use issues), conducting several open houses, and distribution of several newsletters. The purpose and need for these proposed transit improvements and the alternatives analyzed were developed with significant input from the public involvement activities.

Target Ridership

During the development of the PART MIS, five major user groups were identified as needing to be served by the transit improvements: work commuters, college and university students, retail patrons, special event attendees, and airline passengers. The station locations, level of service and other improvements detailed in the MIS were selected to provide these groups with convenience and efficient service.

Technology Options and Selection

The study evaluated both bus and rail alternatives. The first technology would predominately use freeways and the second would use railroad right-of-way. The two specific technologies analyzed by the MIS were the Diesel Multiple Unit (DMU) and the Bus Rapid Transit (BRT). The Bus Rapid Transit (BRT) technology was selected for its low cost and its ability to operate on existing roadways and access existing transit terminals. The BRT would operate primarily on separate fixed guideway facilities, and the vehicles would be similar to standard transit buses.

The DMU technology was selected as the locally preferred option because it offered several advantages applicable to the Triad environment: compatibility with existing rail lines, continuous grade separation unnecessary, performance characteristics appropriate for intercity service, and a self-contained power system. The analysis assumes that Federal Railroad Administration (FRA) compliant vehicles are used on all rail corridors to permit maximum flexibility in sharing existing freight tracks. This choice will be reconsidered and confirmed within the phase of alternatives analysis work.

Operating Plan

The following service level assumptions (for initial planning purposes) are common to both alternatives on all corridors;
Operates from 5 AM to 11 PM weekdays, 6 AM to 11 PM Saturdays, and 7 AM to 11 PM, Sundays and holidays;

Weekday headways (frequencies) are 15 minutes from 6 AM to 9 AM and 4 PM to 7 PM; 30 minutes at other times; and,
Saturday headways are 30 minutes; Sunday and holiday headways are 60 minutes.

These hours and frequency of service are typical for new rapid transit systems. These service levels are greater than most bus routes in operation in the Triad today, but the higher service levels are warranted by the expense of the capital investment. The table below depicts the average speeds and total travel times for each of the four corridors, for both the commuter rail and bus rapid transit alternatives.

Ridership Estimates

The ridership levels used in the MIS are consistent with the transit ridership levels forecast by the current Triad Regional Travel Demand Model. Using the assumption that additional transit service is available throughout the Triad, the model analysis estimates that 140,700 unlinked transit trips are made in the Triad daily. The availability of the regional commuter transit service is expected to result in ridership increases in the Triad's local transit systems, demonstrating a high degree of mutual support.

The projected ridership by corridor for the Rail DMU and BRT Alternatives. While the Burlington to Clemmons DMU line has the highest expected ridership, the NC A&T to Hanes Mall DMU line demonstrates greater cost-effectiveness, which is part of the rationale for its selection as the locally preferred corridor. These figures are expressed in terms of "linked" trips, representing one-way trips, which avoid double-counting transfers.

Stations

Station area planning focused on quarter- and half-mile radii from each proposed location. The quarter-mile radius has the highest potential for land-use change, since most pedestrians are unwilling to walk to destinations further than this. The area within the half-mile radius serves as a transition to the quarter-mile core and to the abutting land uses beyond its outer edge.

While multiple stations are proposed along the alternative alignments, not every station will have substantial adjacent development. For successful station area development to occur, several key factors must be present, including:

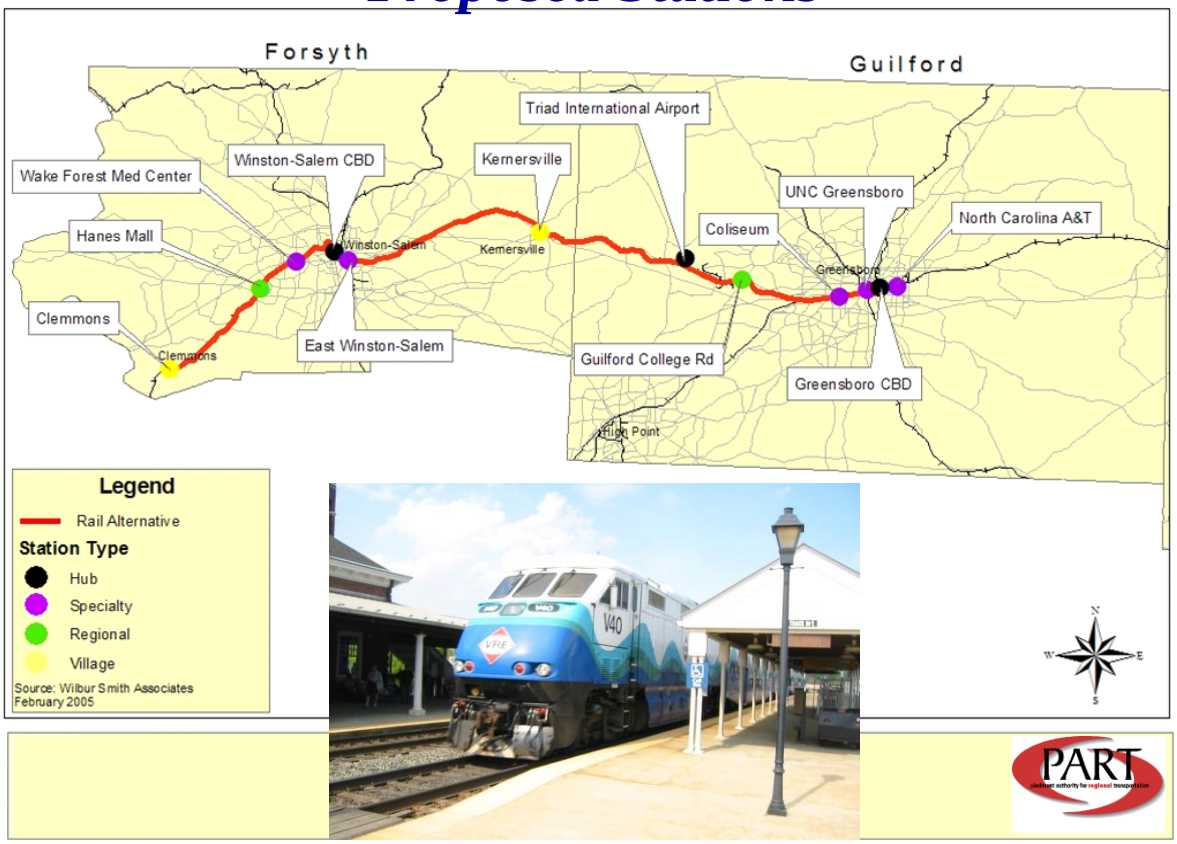
A Supportive Real Estate Market — The presence of a station does not ensure that development will occur; a sound real estate market dynamic must exist, then a station may have an accelerator effect on development;

Transit-Oriented Design (TOD) & Responsive Land Use Plans – Local governments must have transit-supportive land use plans and policies in place;

Public/Private Partnerships — Since TODs are a relatively new development form, some form of public/private shared implementation arrangements may be necessary to "make the deal go" ; and,

Mixture of Incentives — A corollary to public/private partnerships is a mix of incentives in the form of shared parking arrangements, reduced parking ratios, density/intensity bonuses, location efficient mortgages, and expedited project approvals, with an emphasis on administrative decision-making.

Proposed Stations



B.

Coordinated Transportation and Land Use Planning

Public transportation provides mobility choices to everyone but is especially important to older adults, students, households without automobiles, persons with physical or mental impairments, and those burdened by the high cost of operating an automobile. It is an efficient, low-cost, high-capacity means of providing mobility throughout the community and gives everyone more choices in how to travel. In recently years it has become apparent that Millennial's, persons born between 1982 and 2003, are choosing to live in communities where automobile travel is a second option. They are embracing communities where cycling, walking and transit are preferred options.

From a transportation planning perspective the public interest and demand for an improved transit system is often lost amidst other transportation infrastructure needs. Transit is interconnected with all eight federally mandated transportation planning factors. A good public transportation system supports the **economy** by connecting people with jobs. It is a key element to reducing poverty and providing opportunities for everyone. Transit can be an equalizer, provides the same access to jobs, goods, services and entertainment, at the same cost to everyone. In recent years the high cost of transportation has become a discussion point. Driving distance is not the only factor from individuals dependent on automobile travel, insurance, fuel, vehicle cost, and maintenance account for 31% on average of a family's income in the area. A well-connected and integrated public transportation network **enhances connectivity across and between modes for people**, allowing travelers to make part of a trip by transit and part by another mode. By reducing the need to add roadway capacity, public transportation **promotes efficient management and operation** and **emphasizes preservation** of the existing transportation network. **Safety** and **security** are key elements of a high-quality transit system.

Public transportation directly **increases accessibility and mobility of people** and promotes **quality of life** by providing more travel choices. Numerous communities across the country have enhanced their traditional bus transit systems and expand transit choices to include Bus Rapid Transit (BRT), street cars, and light and commuter rail. The local economic benefit of a robust transit system is well documented. Transit promotes mixed use multi-storied development, which on a per acre basis generates more tax revenue than less dense suburban development.

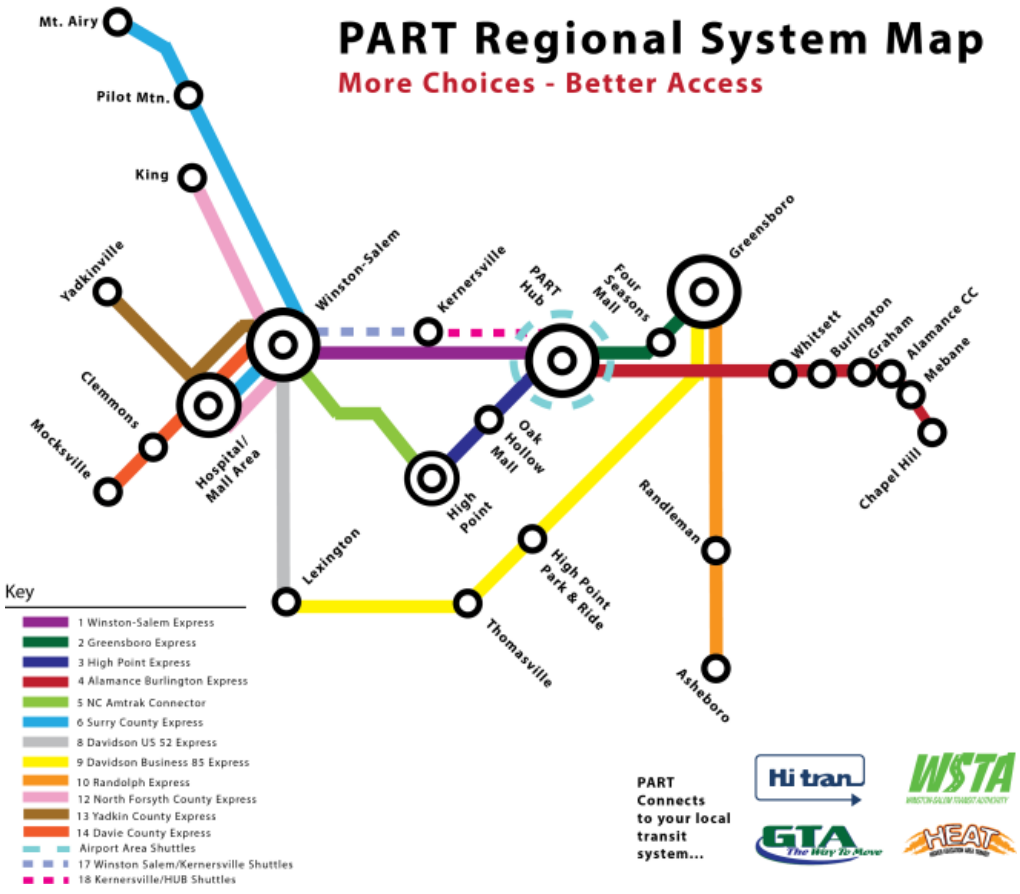
A transit system that allows people to drive less is crucial for reduced environmental impact and energy conservation. Transit systems are vital in areas of state and local planned growth, especially in areas of compact development, which uses less raw land than low-density development and can support higher levels of transit service.

Description of PART Existing Services

The PART Express system provides regional bus service connecting the city bus systems of Greensboro, High Point, and Winston-Salem and surrounding counties. Service on the three main express routes is every 30 minutes during peak hours and every hour during off- peak travel times. Shuttles provide service in the area around the Piedmont Triad International Airport. PART Express does not provide evening or weekend service, except for its Amtrak Connector.

The PART Ridesharing/Vanpool Program increases the use of alternative transportation in the region by providing individuals and employers with what they need to start a vanpool. The ridesharing staff initiates communication and maintains working relationships with businesses and organizations. Employers benefit through improving worker productivity; expanding the employee labor market; reducing employee's turnover, which saves on training costs; reducing the need for new/ expanded parking facilities; and enhancing community and employee relations.

PART also provides regional out-of-county non- emergency medical transportation/express bus service from the Triad connecting to the UNC Hospital System. This route was recently upgraded with an additional stop in Mebane and a connection with Triangle Transit. This connection is the first of its kind in the state and perhaps the country. The PART Regional System is shown below.



Ridership & Finances

As noted before, the PART Express system provides regional bus service connecting the city bus systems of Greensboro, High Point, and Winston-Salem and surrounding counties. This core service was started in 2002, funded by a 5% tax on rental car receipts collected in Guilford and Forsyth Counties.

Funding for the system is made possible by the enabling legislation allowing PART to levy a rental car tax of up to 5% and/or a vehicle registration fee of up to $5 per year with the approval of each affected county. The system is financed primarily by a rental car tax authorized by Guilford and Forsyth Counties. During the first several years of operation PART generated revenue surpluses. In 2005, PART began offering outlying counties in the region service. The counties were given the choice of instituting a vehicle registration fee or a rental car tax, despite having minimal rental car tax business based in the county. All outlying counties except Randolph approved a rental car tax as well, but this generates little revenue. Randolph County imposed a $1 vehicle registration fee. The basic strategy was to run the service until the revenue surplus was exhausted and then seek additional local revenues.

This, combined with the impact of the recession that began in 2008 and changes in airport travel patterns that lead to decreased rental car activities contributing significantly to PART's budget shortfalls. Prior to 2010 PART received an average of $3.2M in rental car proceeds. During FY 2011 that revenue declined to $2.4M. During 2012 the PART Board failed to rally support to increase operating revenue through the introduction of or increasing an existing vehicle registration fee from the member counties. In FY 2012 Forsyth and Guilford County contributed funding support from their general budget to support the PART Express services operated in the urbanized area. In FY2013 the city of Winston-Salem made available operating funds from the STP-DA budget to support the operation in their urbanized area.

In response to declining revenue PART made service cuts across its system. Beginning in FY 2013 PART reduced services on its routes to stay within a balanced operating budget that provides services on all operating corridors. PART has worked to stabilize its finances at this time in an effort to fit its service expenses within its revenue base. PART will continue to work on identifying operating efficiencies and seeking additional operating funds from local and federal sources including any available Federal 5307 and 5311 federal transit funds from NCDOT as well to CMAQ from the MPO's and/or NCDOT to supplement these efforts. By FY 14 PART's financial picture had stabilized and improved. It has passed two year ending financial audits with no findings and has establish several routes that were cut in FY 13. PART's total ridership in 2014 is expected to be up 5% from the 2011 level of 719,474 unlinked passenger trips.

Planning & Technical Program

Between 2000 and 2008 PART studied regional transit options in the Triad, comparing regional rail versus bus rapid transit alternatives. The first study, a Major Investment Study completed in 2003 was found unsatisfactory by FTA in that the ridership projections did not meet FTA requirements. The second study, an Alternatives Analysis also fell short, under 5000 riders per day, substantially shy of FTA New Starts minimum operating criteria. Since that time this project has been dormant. Future planning work and related efforts may yet lead to a viable fixed-guideway system in the region.

In 2008 PART completed a Seamless Mobility Study that included the urbanized area operators and identified programs that could be jointly developed among all systems in the urbanized area to increase the efficiency of service and conveniences to the traveling public. PART completed a *Regional*

Transit Development Plan in 2010 that made recommendations for both the PART system and about the local operations. Funding options for future transit enhancements was made possible in 2009 by the State Legislator. It expanded the vehicle registration option from $5.00 to $8.00 and gave Guilford and Forsyth Counties a ½ sales tax option similar to Charlotte and the Triangle area. In 2014 PART in cooperation with the Piedmont Triad Regional Council and numerous other partners completed Piedmont Together, a regional vision designed to build a resilient, prosperous economy and a better quality of life for all Piedmont Triad residents. Transportation, specifically the lack of mobility choices, is a major element of the vision.

Transit Local Revenues

For PART, revenue assumptions include the following: Local tax revenue from rental car taxes continues at $3.5 million per year with 1.4% yearly growth. The assumptions do not include the implementation of a vehicle registration fee or a local sales tax for public transportation. If all member counties imposed vehicle registration fees of $1 to $8, this revenue source could provide $1.4 million to $7 million per year. A local sales tax for transit is an additional funding option that could be pursued.

Transit Capital Costs

PART's capital costs are based on (1) the bus and van replacement schedule; (2) the assumed park & ride lot resurfacing schedule; (3) the assumption that the new PART Operations, Maintenance, and Administrative Facility opens in the 2017 network year (work is expect to begin in 2015 on this project); and (4) modest expansion plans of the vanpool fleet.

PART Transit Capital (all costs in 000's)	
2013-2015	
6 replacement small buses	675
11 expansion vans	264
Total:	**939**
2016-2021	
23 replacement buses and shuttles	8,240
Park & Ride resurfacings	1,335
26 replacement vans	775
7 expansion vans	168
PART Operations & Maintenance Facility	11,000
Transit Security (funded)	300
Total:	**21,818**
2022-2030	
Park & Ride Lot resurfacings	1,335
16 Replacement buses and shuttles	7,600
30replacement vans	900
Total:	**9,835**
Grand total:	**32,592**

Future Service Enhancements

Restoration of PART services that were cut in 2011, 2012, and 2013 will be the first priority. PART staff and MTP assumes this will occur by the end of calendar year 2015 (in the 2015 network year). In addition to seeking operating efficiencies PART will seek local funds, any available FTA Section 5307 and 5311 funds from NCDOT, and possibly CMAQ grants to enable this to happen.

PART will work directly with transit systems in the regional to establish a Mobility Management or Regional Call Center for the Triad. PART has developed the space to accommodate the Regional Call Center. Planning for the implementation of a mobility management call center began in 2014. The cost associated with this project will be associated with personnel needed to perform the call taking and scheduling functions. A tentative opening date for the center is August 2015.

PART's second priority is completing its intermodal passenger transfer and bus maintenance facility. PART received Section 5309 Earmark funds from 2006-2009 as part of SAFTEA- LU for the construction of an Intermodal Transportation Center. PART has purchased property over the past 3-4 years, and will work directly with FTA on the scoping of the construction project to accommodate the intended purposes of the federal earmark. A total budget for upcoming construction is established at $11M. Preliminary design is completed and construction is estimated to begin in mid-2015 with a completion data of late 2016.

The PART TDM / Vanpool Program has shown steady growth during FY2012-2014. PART anticipates expanding the overall fleet to accommodate vanpool expansion during FY2014-2017 for the vehicle purchases, as well as regular vehicle replacements through 2025 to support the Regional Program.

In January 2015 PART revised Route 4, the Medical Connector, and connected up with Triangle Transit in Mebane. A Park and Ride transit stop was added at the Mebane Oaks Road exit off I-85/40. This is the first connection of two regional systems in the state. Passengers can transfer between the two systems making transit travel between the two regions more accessible and affordable. PART also plans to establish a weekend service to compliment the services operated by the urban operators.

In the next 10 years, PART's vision is to establish several service enhancements. All these enhancements will be subject establishment of a locally dedicated fund source and greater participation from its member counties. The enhancements include:

PART Short Term - Next 5 years

- Open Mobility Management Center
- Construct new passenger facility, transfer hub and maintenance facility
- Limited weekend service
- Extended evening service
- Greater frequency on Surry, Davidson and Randolph County routes

PART Mid-term – 5 to 10 Years

- Greater frequency between Burlington, Greensboro, High Point and Winston-Salem
- Re-activate planning for passenger rail service between Burlington and Winston-Salem
- Service extension into Rockingham County
- Increase service accessibility to the Piedmont Triad International Airport

PART Long Term – Greater than 10 years

- Connect to transit systems in the Charlotte Metro Region
- Begin development of passenger rail service between Burlington and Winston-Salem

General Transit Recommendations

The following PART recommendations provide strategic directions for continued improvement of regional transit services through 2040.

Extend transit services to activity centers. As existing activity centers evolve and new centers develop, it is important to provide public transportation to these areas. Nodes of mixed- use development may serve as trip generators for employment, shopping, and residential trips. Providing those areas with transit services as they are developed can encourage their residents and visitors to use transit regularly.

Enhance the attractiveness, convenience and efficiency of transit services. To attract choice riders, public transportation must be easy to use. In many cases, transit trips inevitably take longer than trips in private vehicles, but an attractive and convenient service can help overcome this disadvantage. Strategic elements to enhance public transit include improved information for riders, better facilities such as shelters and benches, and visually appealing vehicles with comfortable seats and amenities such as in-vehicle wireless Internet access. Using hybrid vehicles or other alternative fuel technologies will also increase attractiveness of transit while helping to meet important environmental goals.

Support effective regional transit with strong local transit. Regional transit systems such as PART rely on local systems to provide portions of many trips. As demand for effective transportation between municipalities continues to grow, this general policy recommendation reflects the need for continued coordination between local and regional systems.

Explicitly consider transit in land-use planning and development. For fixed route transit to be effective, efficient, and attractive, it needs well-connected nodes of development with dense, mixed-use, walkable centers. In the absence of a single destination for all residents, low- density residential development is poorly suited for traditional transit service. It is also expensive to serve with alternative forms of transit such as shared-ride vans.

Coordinate transit facilities with roadway improvements. Working together often yields overall cost savings. Road-building agencies should provide transit operators the chance to review and comment on design plans. Transit agencies should take that opportunity to collaborate on potential transit-related facilities, such as bus turn-outs, bus-stop pads, shelters, and sidewalks. In the long term, facilities such as dedicated bus lanes or traffic signal preemption technology could also be incorporated into this process.

Use pedestrian & bicycle projects to support public transportation service. Every trip on public transportation begins and ends with a trip as a pedestrian or bicyclist. For example, even park-and-ride trips include a short walk from a park-and-ride space to a bus stop. Therefore, the area's pedestrian and bicycle network is a vital supporting feature of the area's transit system. High-quality, accessible, and attractive sidewalks and bicycle facilities paralleling or connecting with transit routes can improve transit's service area without changing routes or stops. Transit agencies should continue working to help prioritize sidewalk and bicycle construction projects
and should consider funding partnerships to expedite these projects.

Identify new markets for transit and how best to serve them. Identifying niche markets and targeting services to them are vitally important ways to expand transit's reach. PART has had recent success in serving the college-student market in the Triad. In addition to identifying existing markets, it is often possible to enhance or create markets using policy choices. For example, replacing free parking with appropriately priced parking in key destinations (such as downtown, college campuses, etc.) can encourage commuters to switch to transit.

Long-range planning. Continued planning for future the PART service area future transit network will be important between now and 2040. In the short to mid-term two projects stand out. PART's Regional Transit Services Development Plan will need to be revised once the agency refocuses its efforts and successfully gets through its current financial realignment.

Implementation

The transit improvement action items summarized below should guide implementation actions over the planning period. Within each section, PART items are ordered roughly from higher to lower priority, but changing conditions will affect priorities. Lower priorities can be considered to be illustrative projects that might receive funding if resources permit.

PART Service Improvements

- Extend service to activity centers.
- Implement cross-town routes to provide service between destinations without stopping downtown.
- Increase the frequency of service on existing routes.
- Establish park-and-ride lots along major corridors.
- Develop route connections and regional transfer hubs with PART.

PART Marketing/Information

- Expand marketing to help existing and future riders use public transportation.
- Increase the number of outlets where PART information can be accessed and where bus passes may be purchased.

PART Infrastructure/Technology

- Focus on essential infrastructure, such as high- quality buses, shelters, and customer information.
- Expedite the bus shelter installation program
- Continue coordination with local staff regarding the sidewalk improvement program, emphasizing access to bus stops and sidewalk connections from bus stops to major destinations.

Transit and Land Use

- Encourage transit-oriented development and transit-supportive development through appropriate policies and procedures in local development ordinances and the development review process.
- Consider the impacts of parking policies on transit ridership and how to adjust those policies to promote transit use.

Transit Planning and Coordination

- Partner with other Triad MPO's and PART to secure planning funds to update the PART Regional Transit Development Plan. Update the long-range transit plan for PART and reassess long-range transit plans for PART.

- Continue and expand regional coordination efforts and work toward enhanced funding sources for regional transit services. Continue participation with efforts to plan and implement the Southeast High-Speed Rail project.

C. Coordinated Air Quality and Transportation Planning

PART serves as the conduit for coordinated transportation planning in the Piedmont Triad. Operating under Memorandums of Understanding and Agreements with local jurisdictions and State Government; PART facilitates planning activities that impact multiple jurisdictions.

To that end, PART serves as the custodian for the Regional Travel Demand Transportation Model (ie. Piedmont Triad Regional Model – PTRM). This regional project includes annual updating of the PTRM data attributes, and special studies of the region that are utilized to enhance the performance characteristics of the PTRM.

Also, PART serves as the coordinating agency for needed Air Quality Determination efforts that are undertaken by area Metropolitan Planning Organizations (MPO's), and state DOT. The MPO's and the NCDOT are required by 23 CFR 134 and 40 CFR Parts 51 and 93 to make a conformity determination on any newly adopted or amended fiscally-constrained MTP's and TIP's. The purpose of the reports is to document compliance with the provisions of the Clean Air Act Amendments of 1990 (CAAA) and the Transportation Equity Act for the 21st Century (TEA-21) / Moving Ahead for Progress MAP-21. The conformity determination for the current Transportation Improvement Program (TIP) is based on a regional emissions analysis that utilized the transportation networks in adopted and conforming Metropolitan Transportation Plans (MTP's) and the emissions factors developed by the North Carolina Department of Environment and Natural Resources (NCDENR). All regionally significant federally funded projects in areas designated by the United States Environmental Protection Agency (USEPA) as air quality nonattainment or maintenance areas must come from a conforming MTP and TIP.

D. Public Services

Public transportation is a vital element of the total transportation services provided within a metropolitan area. Not only does public transportation provide options to senior citizens, those without vehicles, and those who are physically or economically disadvantaged, but it also is an efficient, low cost, high capacity means of moving people through a densely traveled corridor. The ability to provide a transportation alternative for those who live in high density areas is as important as for those living in low density or rural areas. The planning area for this report is served by several transportation systems.

The Piedmont area has three municipally-funded and operated transit systems. Greensboro, High Point, and Winston-Salem all have publicly-funded transit systems in operation. The Burlington / Gibsonville fixed route system will be the fourth transit system when start up begin in mid to late 2016. In addition to the publicly-funded transit authorities, a regional transit authority also is in place for the planning area. The Piedmont Authority for Regional Transportation (PART) began providing operations in 2002 with the intent of improving transportation alternatives regionally.

Regional Bus Transportation – PART Express

PART provides regional bus service in the Triad interconnecting the city bus systems of Greensboro, High Point and Winston-Salem. With approval from local county governments to excise a privilege tax on the short-term lease or rental of private passenger vehicles, PART has been operating the regional bus service since September 30, 2002. The map below shows the regional routes.

The Regional Bus service travels the major highway network and provides service every 30 minutes during peak hours and during off peak travel times. The expansion of regional bus services will include additional buses and time schedules to various other communities throughout the region.

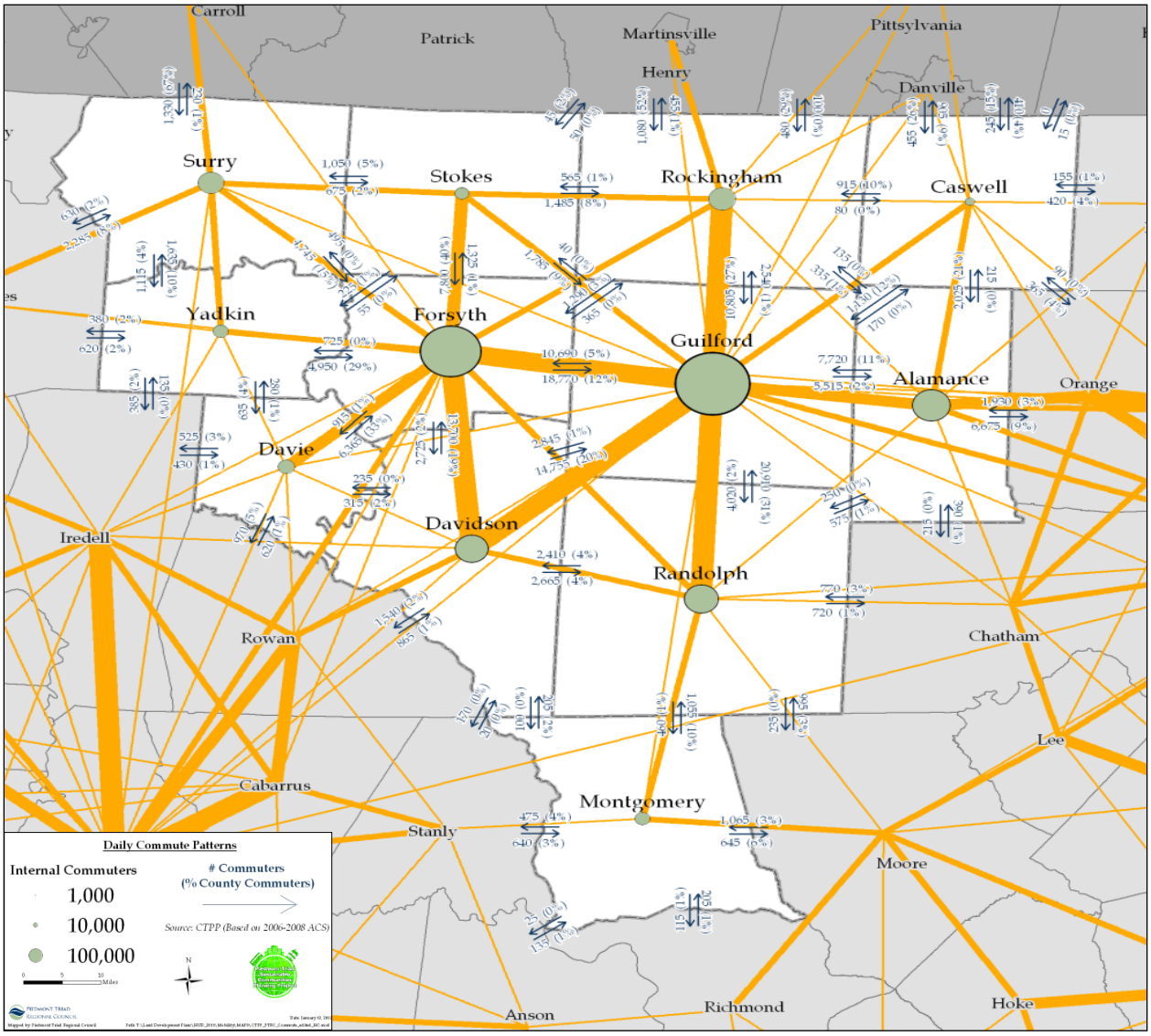
Regional Ridesharing and Vanpooling

The move towards regionalism continues to meet the current and future demands for transportation with the creation of PART. This regional transportation authority was formed by the four largest cities, in the territorial jurisdiction, based on enabling legislation approved by the North Carolina General Assembly. This legislation allows the regional authority to expand up to twelve contiguous counties.

The PART Ridesharing / Vanpool Program strives to promote energy conservation, reduce congestion, improve air quality, reduce vehicle miles, decrease highway accidents, save thousands of dollars for program participants and conserve natural resources. Accommodating travel demand through ridesharing, rather than single-occupant vehicles, can result in benefits for employers, individual travelers and the citizens of the Piedmont Triad as a whole.

The Piedmont Triad region has a long-standing history of regional ridesharing and vanpool operations, exemplifying strong public and governmental support for the program. Public interest is at an all-time high with concerns of air quality, legislative initiatives, commuter patterns and traffic congestion. Because transportation issues are a primary concern to citizens in our state, this program is beneficial to providing a vast array of solutions to transportation-related issues.

Ridesharing/Vanpool Program is designed to increase the use of alternative transportation in this region by providing individuals and employers with everything they need to start a vanpool. The ridesharing staff initiates communication and/or maintains a working relationship with businesses and organizations continually. Employers benefit through improving worker productivity; expanding the employee labor market; reducing employee's turnover, which saves on training costs; reducing the need for new/expanded parking facilities and enhancing community and employee relations. The Piedmont Triad daily commuting patterns are shown below.



PIEDMONT TRIAD DAILY COMMUTING PATTERNS

E. AMTRAK

America's railroads provide an important alternative to auto and air transport for both passengers and freight. As the Nation's largest provider of passenger rail service, Amtrak serves 500 stations in 46 states, operating 425 locomotives and 2,141 railroad cars. Amtrak's Pomona Station in Greensboro is one of the busiest in North Carolina. Amtrak will relocate its passenger rail operations to the J. Douglas Galyon Depot upon completion of track and station improvements in 2006, which are currently under way. The MPO works with the NCDOT Rail Division to plan for future services that will meet growing passenger rail transportation needs.

Amtrak passenger trains serve Greensboro daily: the Carolinian, the Crescent, and the Piedmont. The Carolinian runs from Charlotte to New York, the Crescent runs from Atlanta to Washington, DC, and the Piedmont runs from Charlotte to Raleigh. Connecting service at Pomona Station is available via GTA, taxi, and rental car. Fares vary substantially by route, destination, and time of year, but are generally cost-competitive when compared with auto or air travel.

F. AVIATION ELEMENT

The Burlington-Alamance Regional Airport is considered a top ranking general aviation airport within the North Carolina Airports System. Burlington-Alamance Regional is strategically located in the heart of North Carolina's premier area of growth and development, the I-40 / I-85 corridor between Raleigh-Durham-Chapel Hill and Greensboro-High Point- Winston Salem. The North Carolina Division of Aviation has classified Burlington-Alamance as a "Business Class Airport".

The Institute for Transportation Research and Education (ITRE) of NC State University has released the 2012 study for Economic Contributions of North Carolina Airports. The ITRE study reports that the Burlington-Alamance Regional Airport is responsible for 550 jobs with annual payrolls of over $22 million and a total economic output, or contribution, of $71,850,000. Burlington-Alamance is also the home of the World Headquarters of Honda Aero Jet Engines.

The Airport is in a continual state of development. With existing aircraft hangars full, 20 new hangar spaces have been built over the past 18 months. The new hangars have been filled as well. Plans are under way to build more hangars. Annual fuel sales remain steady. A runway addition (lengthening) of 1,400' to the runway 24 end was completed in 2012. A one hundred foot addition to Runway 06 was completed during 2013. When completed, the runway will be 6,500' in length. This runway length will allow the airport to accommodate practically any size corporate aircraft. The 6,500' runway will greatly enhance economic development for our region. Long term plans also include a new, modern terminal facility.

G. TAXI

There are several taxicab companies currently operating in the BGMPO planning area. Golden Eagle Taxi Company and JR's Taxi Service provide service extending into the Triad and Triangle regional areas including Winston-Salem, Greensboro, High Point, Durham, Chapel Hill, and Raleigh. The Driver and Mebane Taxi Service provide more localized taxi services. Airport Access Service provides shuttle and limousine service to both Raleigh Durham international Airport and the Piedmont Triad International Airport.

H. CONGESTION MANAGEMENT / TRAFFIC MONITORING SYSTEM / TRAVEL DEMAND MANAGEMENT

NCDOT's Traffic Surveys Unit conducts an inventory of traffic counts on a biannual basis for major and minor thoroughfares throughout the Urban Area. In an effort to supplement the biannual count program, the BGUA conducts annual intersection traffic counts and has combined the data with NCDOT inventory data to provide new data every two years. The data is used to compute traffic trends, variations, vehicle classification, and seasonal factors for each functional classification. The Piedmont Triad Regional Model also utilizes the traffic count data for model calibration and future year scenarios.

1. Carpooling / Vanpooling Program / Park and Ride

The BGMPO coordinates with PART to provide carpooling/vanpooling for Alamance County and coordinate with the Park and Ride lots in Whitsett, Graham, and Mebane. These services are available to all residents in the county. PART provides route matching, rider information and also coordinates trips with Triangle Transit to serve the Duke and UNC hospitals in the Triangle.

For additional information regarding PART carpooling/vanpooling, call (336) 662-0002.

2. Traffic Monitoring System

One of the top priorities identified in the previous MTP Goals and Objectives Survey was the need for "improved traffic signal timing and coordination." To address traffic congestion and signal operations issues, an interagency coordination effort was established to develop and implement a Computerized Traffic Signal System for the City of Burlington and adjacent areas. This signal system connects the intersections in the City of Burlington, the City of Graham, and adjacent areas in Alamance County. The project included intersection-controlling equipment such as controllers, cabinets and detectors, microcomputers and peripheral devices, traffic control applications software, a CCTV surveillance system, a fiber optic communications network, and related equipment. Monitoring centers are located at the following locations to monitor traffic patterns, identify incidents, notify emergency services, and adjust signal phasing and timing, when appropriate:

- City of Graham Administration Building;
- City of Burlington Public Works Building;
- NCDOT (office located in the City of Graham); and
- Main Operations Center located at the Signal Maintenance Shop in the City of Burlington.

3. Travel Demand Management Program - PART

PART's Transportation Demand Management (TDM) Program strives to promote energy conservation, reduce congestion, improve air quality, reduce vehicle miles, decrease highway accidents, save thousands of dollars for program participants and conserve natural resources. Accommodating travel demand through ridesharing, rather than single-occupant vehicles, can result in benefits for employers, individual travelers and the citizens of the Piedmont as a whole.

PART's TDM Program Tools include Vanpool Leasing, Rideshare Matching & Reporting, Employer Commuter Program Consulting, Commuter Surveys, Marketing & Awareness Campaigns (i.e. Triad Commute Challenge), Bike Safety, Guaranteed Emergency Ride Home, Travel Training (i.e. Buddy Rides), Bus & Shuttle Service & Park & Ride Lots. All TDM activities are aimed towards the goal of reducing vehicle miles traveled as set forth by the North Carolina Department of Transportation (NCDOT). PART has continuously surpassed this goal.

I. ENVIRONMENTAL MITIGATION

The Burlington Graham Area MPO will consult with Federal, State, and Tribal land management, wildlife, and regulatory agencies to develop a general discussion on possible environmental mitigation activities that should be incorporated into transportation projects identified in this plan. The Piedmont Authority for Regional Transportation (PART) assisted the MPO's of the Piedmont Triad region to solicit input from several environmental review agencies. This outreach and input can be found at the end of this chapter.

Since the transportation planning activities of the MPO are regional in scope, this environmental mitigation discussion does not focus on each individual project within the Long Range Transportation Plan but rather offers a summary of environmentally sensitive areas to be aware of, the analyses conducted by the MPO to identify potential conflicts of planned projects, and mitigation strategies that could be considered in an effort to minimize any negative affect that a project may have on an environmentally sensitive area.

Specifically, federal transportation legislation instructs State DOT's and MPO's to include in their Metropolitan Transportation Plans (MTP) and transportation improvement programs (TIP) ***"a discussion of the environmental mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the metropolitan transportation plan. The discussion shall be developed in consultation with federal, state and tribal land management, wildlife and regulatory agencies."***

In order to meet these requirements, it is essential to know how Federal regulations actually define mitigation:

- Avoiding the impact altogether by not taking a certain action or parts of an action.
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- Compensating for the impact by replacing or providing substitute resources or environments. (Source: 40 CFR 1508.20)

An ordered approach to mitigation, known as "sequencing", involves understanding the affected environment and assessing transportation effects throughout project development. Effective mitigation starts at the beginning of the NEPA process, not at the end. Mitigation must be included as an integral part of the alternatives development and analysis process.

FHWA's mitigation policy states: "Measures necessary to mitigate adverse impacts will be incorporated into the action and are eligible for Federal funding when the Administration determines that:

• The impacts for which mitigation is proposed actually result from the Administration action; and

• The proposed mitigation represents a reasonable public expenditure after considering the impacts of the action and the benefits of the proposed mitigation measures. In making this determination, the Administration will

consider, among other factors, the extent to which the proposed measures would assist in complying with a Federal statute, Executive Order, or Administration regulation or policy. (Source: 23 CFR 771.105(d)

Identifying Sensitive Areas / Climate Change

There are numerous environmentally sensitive areas found throughout the Piedmont Triad region. Many areas are too small or too numerous to map at a regional level and can only be clearly identified through a project level analysis. Some areas are yet to be identified and will only become known once a project level analysis is completed, such as caves, sinkholes, and wetlands. When a project is ready to move from the Long Range Transportation Plan into the design / engineering phases, the project sponsor will conduct any necessary analysis as required by state and federal regulations to determine the type and location of environmentally sensitive areas within the project study area.

In developing project lists for the MTP, the Burlington Graham MPO conducts top level analysis to determine the potential need for future environmental mitigation. Specifically, the Burlington Graham MPO looks at proposed project locations throughout the MPO planning area to determine their proximity to natural or socio-cultural resources. That analysis provides early guidance to project sponsors to develop mitigation strategies.

The changing climates observed over the past 50 years are due primarily to human-induced emissions of heat-trapping gases. These emissions come mainly from the burning of fossil fuels (coal, oil, and gas), with important contributions from the clearing of forests, agricultural practices, and other activities.

Reducing emissions of carbon dioxide would lessen warming over this century and beyond. Sizable early cuts in emissions would significantly reduce the pace and the overall amount of climate change. Earlier cuts in emissions would have a greater effect in reducing climate change than comparable reductions made later. In addition, reducing emissions of some shorter-lived heat-trapping gases, such as methane, and some types of particles, such as soot, would begin to reduce warming within weeks to decades. Climate-related changes have already been observed globally and in the United States. These include increases in air and water temperatures, reduced frost days, increased frequency and intensity of heavy downpours, a rise in sea level, and reduced snow cover, glaciers, permafrost, and sea ice. A longer ice-free period on lakes and rivers, lengthening of the growing season, and increased water vapor in the atmosphere has also been observed. Over the past 30 years, temperatures have risen faster in winter than in any other season, with average winter temperatures in the Midwest and northern Great Plains increasing more than 7ºF. Some of the changes have been faster than previous assessments had suggested. These climate-related changes are expected to continue while new ones develop. Likely future changes for the United States and surrounding coastal waters include more intense hurricanes with related increases in wind, rain, and storm surges (but not necessarily an increase in the number of these storms that make landfall), as well as drier conditions in the Southwest and Caribbean. These changes will affect human health, water supply, agriculture, coastal areas, and many other aspects of society and the natural environment. (United States Global Research Program (USGCRP), 2012).

Environmental Mitigation Activities

The Burlington Graham Urban Area is committed to minimizing and mitigating the negative effects of transportation projects on the natural and built environments in order to preserve our quality of life. In doing so, the MPO recognizes that not every project will require the same type and/ or level of mitigation. Some projects such as new roadways and roadway widenings involve major construction with considerable earth disturbance. Others like intersection improvements, street lighting, and resurfacing projects involve minor construction and minimal, if any earth disturbance. The mitigation efforts used for a project should be dependent upon how severe the impact on environmentally sensitive areas is expected to be. The following three step process is used to determine the type of mitigation strategy to apply for any given project:

1. Identify environmentally sensitive areas throughout the project study area;

2. Determine how and to what extent the project will impact these environmentally sensitive areas; and

3. Develop appropriate mitigation strategies to lessen the impact these projects have on the environmentally sensitive areas.

To the extent possible, transportation projects are minimized off-site disturbance in sensitive areas and develop strategies to preserve air and water quality, limit tree removal, minimize grading and other earth disturbance, provide erosion and sediment control, and limit noise and vibration. Where feasible, alternative designs or alignments are developed that would lessen the project's impact on environmentally sensitive areas.

The three step mitigation planning process is designed solicit public input and offer alternative designs or alignments and mitigation strategies for comment by the environmental review agencies, MPO and local governments. For major construction projects, such as new roadways, or for projects that may have a region-wide environmental impact, a context sensitive solutions process is considered in which considerable public participation and alternative design solutions are used to lessen the impact of the project.

The table below details mitigation activities that are considered to deal with the primary areas of concern:

Impacts	Mitigation Measures
Air Quality	Designate Pedestrian/Transit Oriented Development Areas Adopt Local Air Quality Mitigation Fee Program Develop energy efficient incentive Programs Adopt air quality enhancing design guidelines Fund TCM Program
Archaeological	Archaeological Excavation Design Modifications to avoid area Educational Activities
Community Impacts	Bridge Community Sidewalks Bike Lanes Develop recreational areas
Environmental Justice Communities	Property Owners paid fair market value for property acquired Residential and Commercial Relocation
Farmland	Protect one to one farmland acre for every acre converted Agricultural conservation easement on farmland Compensation
Fragmented Animal Habitats	Construct overpasses with vegetation Construct underpasses, such as culverts and viaducts Other design measures to minimize potential fragmenting of animal habitats
Historic Sites	Relocation of Historical Property Design Modification Landscaping to reduce visual impacts Photo documentation Historic archival recording to present historic information to the public
Light Impacts	Lens Color Direction of lighting Low Level lighting
Noise	Depressed Roads Noise Barriers Planting Trees Construct Tunnels
Park Impacts	Construct bike/pedestrian pathways Dedicate land Compensation for park dedication fees Replace impaired functions
Streams	Stream Restoration Vegetative buffer zones Strict erosion and sedimentation control measures Consider best practices for stormwater management

Threatened & Endangered Species	Preservation Enhancement or restoration of degraded habitat Creation of new habitats Establishment of Buffer areas around existing habitats Modifications of land use practices Restrictions on land access
Viewshed Impacts	Vegetation and Landscaping Screening Buffers Earthen Berms Camouflage Lighting
Wetlands	Compensation Wetland Restoration Creation on new wetlands Strict erosion and sedimentation control measures

Environmental Justice

Federal Executive Order 12898 sets out requirements for transportation and Environmental Justice (EJ). The intention is to demonstrate that minority and low income communities would not be disproportionately affected in an adverse manner under the transportation plan. Environmental Justice requirements also address public involvement, and these requirements are satisfied under the Public Participation Plan and the steps taken for the MTP public involvement effort.

Environmental Justice (EJ) is a concept intended to avoid the use of federal funds for projects, programs, or other activities that generate disproportionate or discriminatory adverse impacts on minority or low-income populations. This effort is consistent with Title VI of the 1964 Civil Rights Act, and is promoted by the U.S. Department of Transportation (USDOT) as an integral part of the long-range transportation planning process, as well as individual project planning and design. The environmental justice assessment includes three basic principles, derived from guidance issued by the USDOT:

Principle 1: The planning process should minimize, mitigate, or avoid environmental impacts (including economic, social, and human health impacts) that affect minority and low-income populations with disproportionate severity.

Principle 2: The benefits intended to result from the transportation planning process should not be delayed, reduced, or denied to minority and low-income populations.

Principle 3: Any community potentially affected by outcomes of the transportation planning process should be provided with the opportunity for complete and equitable participation in decision-making.

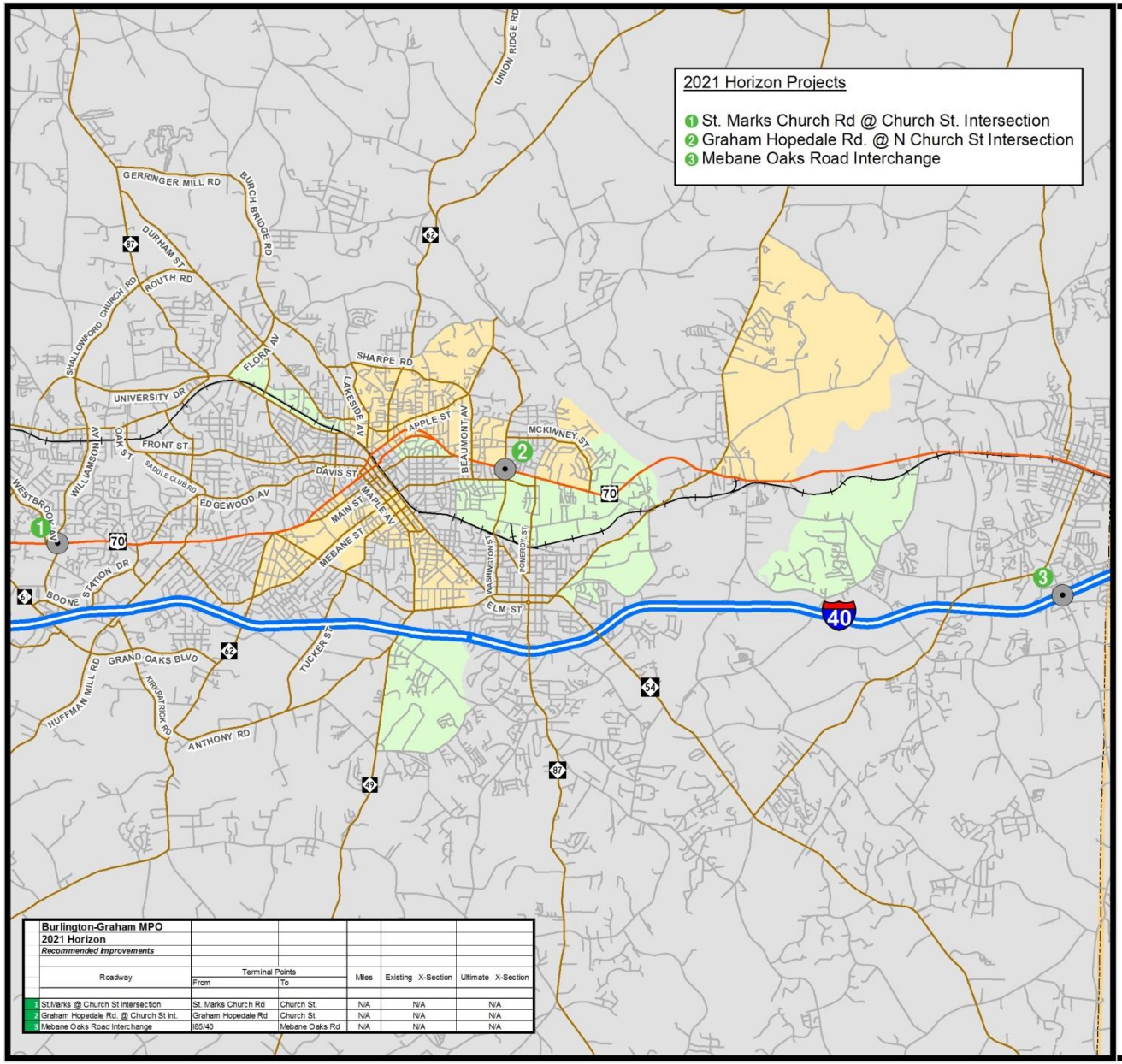
As part of this MTP update, the MPO is able to identify the geographic distribution of low-income and minority populations in order to assess the effects of various transportation investments in the plan. The MPO also developed and adopted a Limited English Proficiency Plan. This analysis considers the households/individuals who do not speak English only or very well. The MPO also endeavored to develop and carry out a public involvement process that not only reduced obstacles to participation by minority and low-income communities, but also actively sought out their input. This effort includes translation of MPO materials and using media outlets that attract LEP populations.

It must be stressed that the environmental justice screening conducted for this study is not intended to quantify specific impacts. As described above, it is intended to guide the development of a plan that is equitable in terms of both costs and benefits. In addition, a critical purpose of this screening is the identification of projects in the MTP that have the potential to affect communities of special interest. When individual studies begin as part of project implementation a more detailed analyses, including field surveys, will be needed to identify and minimize specific community impacts on a project-by-project basis.

The following methodology is used to identify communities subject to environmental justice screening. A majority of the analysis was based on the 2010 Census. The distributions of populations of interest (African-American, Hispanic, Asia, Native American, and low-income families) within each block group were evaluated. If individuals from any one of these categories comprised more than the percentage for Alamance County in a particular block group they are flagged for analysis for that population category. Based on Alamance County percentages, the Hispanic population was 11.8%, Asian was 1.5%, American Indian was 1.4%, and persons below the poverty level were 18.3%. All block groups with any percentage of low English proficiency households were also flagged. Thematic maps were then prepared, graphically depicting concentrations of each population group by block group data. When overlaid with proposed roadway projects, these maps provided a useful tool for analyzing and communicating impacts. These maps are included as 2021 Horizon Year in Figure 8 and Figure 9, 2030 Horizon Year in Figure 10 and Figure 11 and 2040 Horizon Year in Figure 12 and Figure 13.

If a roadway project is proposed in or near one of the identified block groups, a qualitative assessment is made of the project's potential impacts on the communities of interest. Since projects are grouped by horizon year it is also possible to review the relative timeliness of project implementation in minority and low-income communities.

Based on MPO system level analysis, no adverse impacts to environmental resources or minority and low income communities were identified. However, as stated earlier, project level evaluation would be needed to verify possible impacts.



Burlington-Graham MPO

2021 Horizon Year Transportation Plan

Environmental Justice Analysis

2010 Census Block Groups
Dominant Race

- Black
- Hispanic
- White

Legend

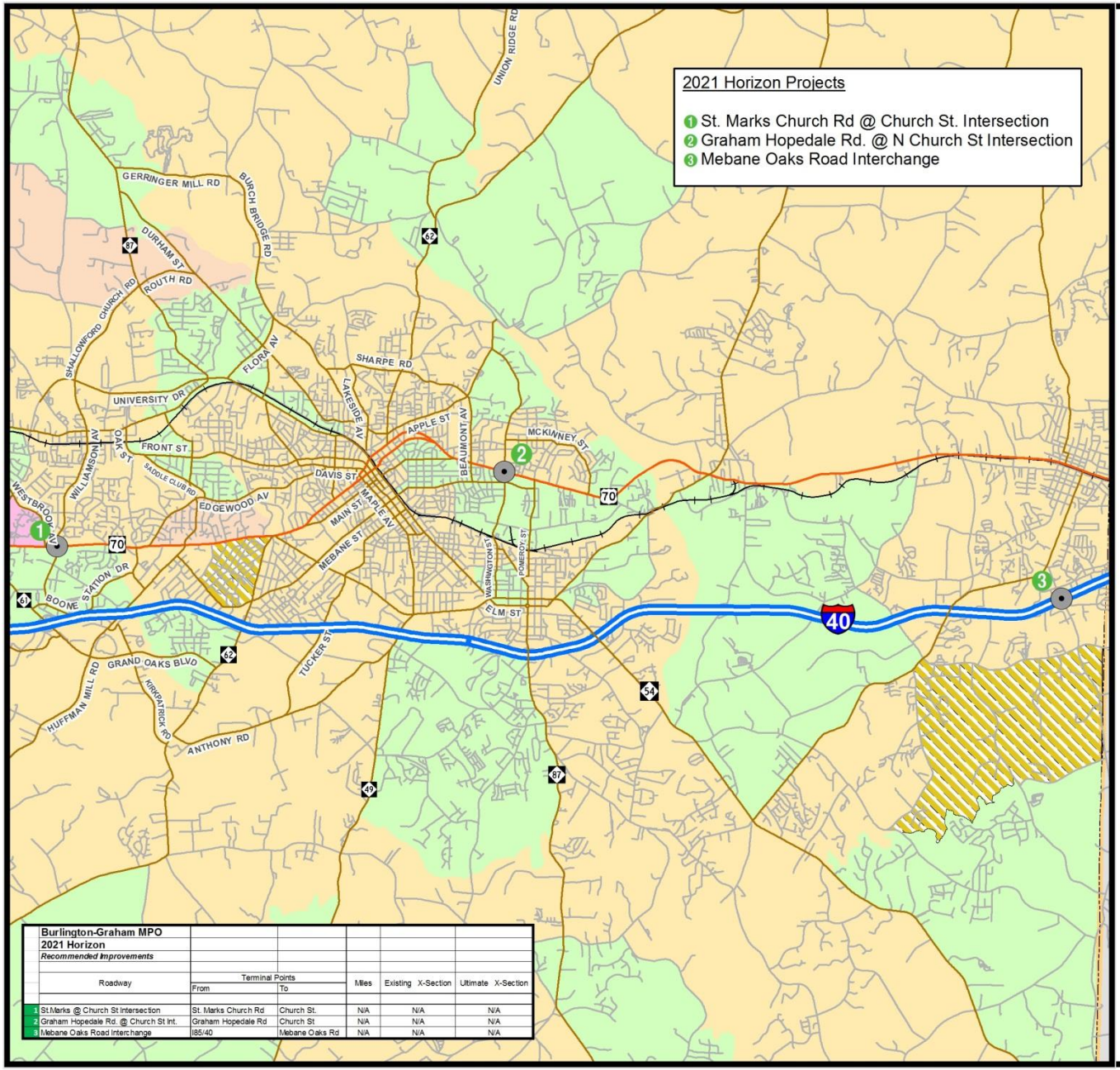
MajorRoads

- Interstate
- US Highways
- State Highways
- Local Major Roads
- Railroad
- Street Center Lines

0 0.25 0.5 1 1.5 2 Miles

N W E S

For project information, see accompanying tables.



Burlington-Graham MPO

2021 Horizon Year Transportation Plan

Environmental Justice Analysis

2010 Census Block Groups

Dominant Minority Race per Block Group

*** excludes White**

Dominant Minority Race

- Black
- Hispanic
- Asian
- Black & Hispanic (Tie)
- Indian (non Native American)

Legend

MajorRoads

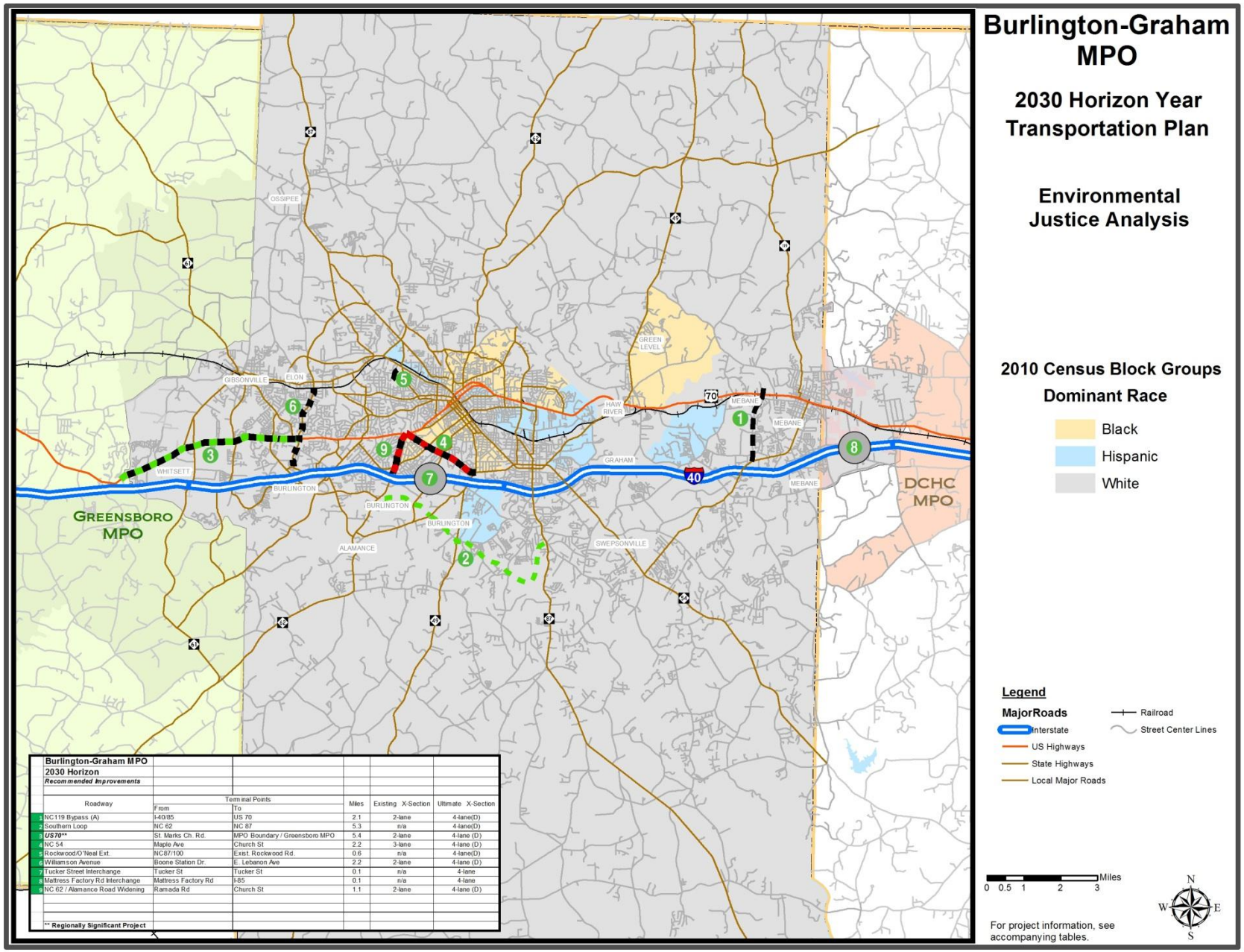
- Interstate
- US Highways
- State Highways
- Local Major Roads

- Railroad
- Street Center Lines

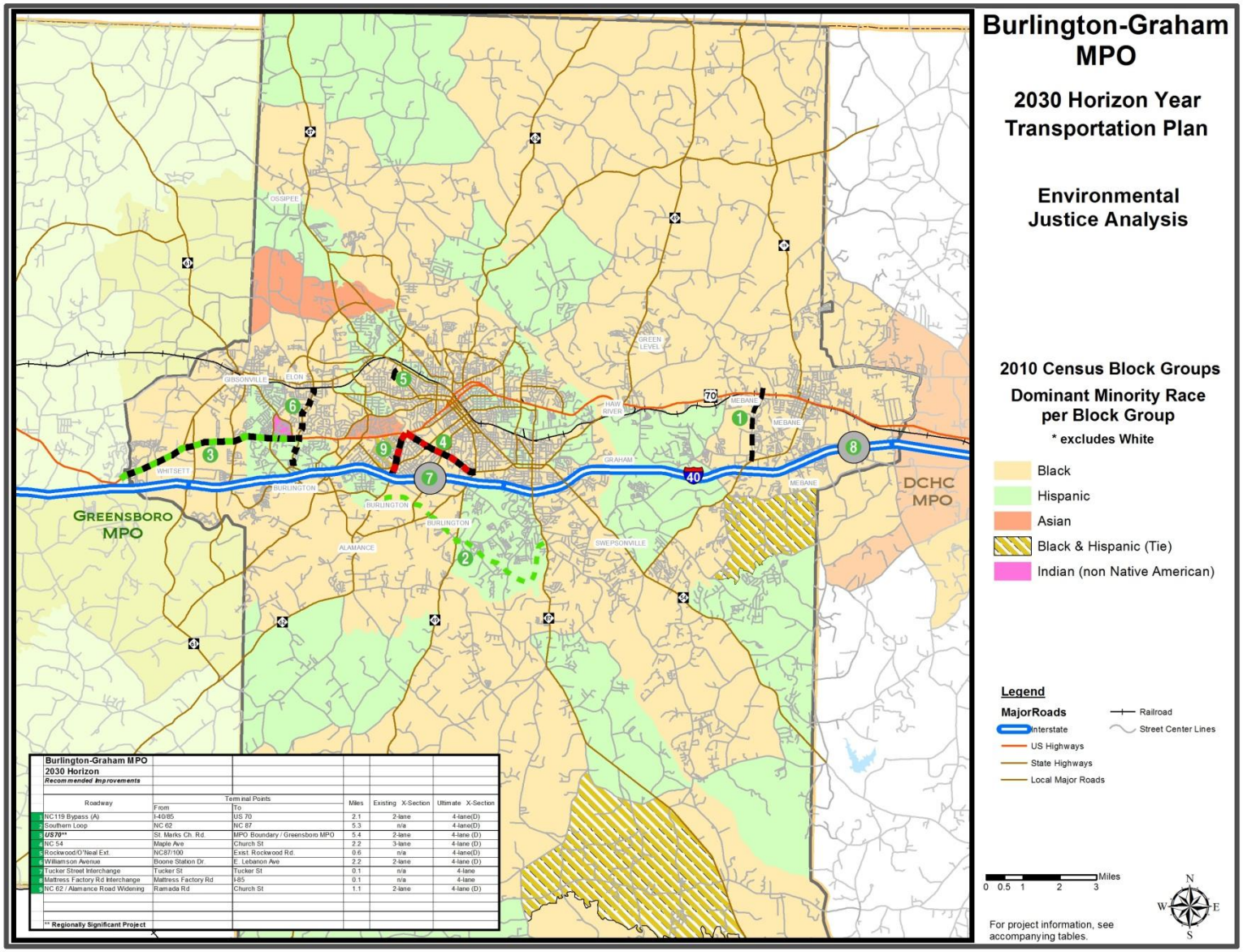
0 0.25 0.5 1 1.5 2 Miles

N W E S

For project information, see accompanying tables.



Burlington-Graham MPO 2030 Horizon *Recommended Improvements*					
	Roadway	Terminal Points		Miles	Existing X-Section	Ultimate X-Section
		From	To			
1	NC119 Bypass (A)	I-40/85	US 70	2.1	2-lane	4-lane(D)
2	Southern Loop	NC 62	NC 87	5.3	n/a	4-lane(D)
3	*US70***	St. Marks Ch. Rd.	MPO Boundary / Greensboro MPO	5.4	2-lane	4-lane (D)
4	NC 54	Maple Ave	Church St	2.2	3-lane	4-lane (D)
5	Rockwood/O'Neal Ext.	NC87/100	Exist. Rockwood Rd.	0.6	n/a	4-lane(D)
6	Williamson Avenue	Boone Station Dr.	E. Lebanon Ave	2.2	2-lane	4-lane (D)
7	Tucker Street Interchange	Tucker St	Tucker St	0.1	n/a	4-lane
8	Mattress Factory Rd Interchange	Mattress Factory Rd	I-85	0.1	n/a	4-lane
9	NC 62 / Alamance Road Widening	Ramada Rd	Church St	1.1	2-lane	4-lane (D)
	** Regionally Significant Project					



Burlington-Graham MPO					
2030 Horizon					
Recommended Improvements					
Roadway	Terminal Points		Miles	Existing X-Section	Ultimate X-Section
	From	To			
NC119 Bypass (A)	I-40/85	US 70	2.1	2-lane	4-lane(D)
Southern Loop	NC 62	NC 87	5.3	n/a	4-lane(D)
US70	St. Marks Ch. Rd.	MPO Boundary / Greensboro MPO	5.4	2-lane	4-lane (D)
NC 54	Maple Ave	Church St	2.2	3-lane	4-lane (D)
Rockwood/O'Neal Ext.	NC87/100	Exist. Rockwood Rd.	0.6	n/a	4-lane(D)
Williamson Avenue	Boone Station Dr.	E. Lebanon Ave	2.2	2-lane	4-lane (D)
Tucker Street Interchange	Tucker St	Tucker St	0.1	n/a	4-lane
Mattress Factory Rd Interchange	Mattress Factory Rd	I-85	0.1	n/a	4-lane
NC 62 / Alamance Road Widening	Ramada Rd	Church St	1.1	2-lane	4-lane (D)
** Regionally Significant Project					

Burlington-Graham MPO

2030 Horizon Year Transportation Plan

Environmental Justice Analysis

2010 Census Block Groups

Dominant Minority Race per Block Group

*** excludes White**

- Black
- Hispanic
- Asian
- Black & Hispanic (Tie)
- Indian (non Native American)

Legend

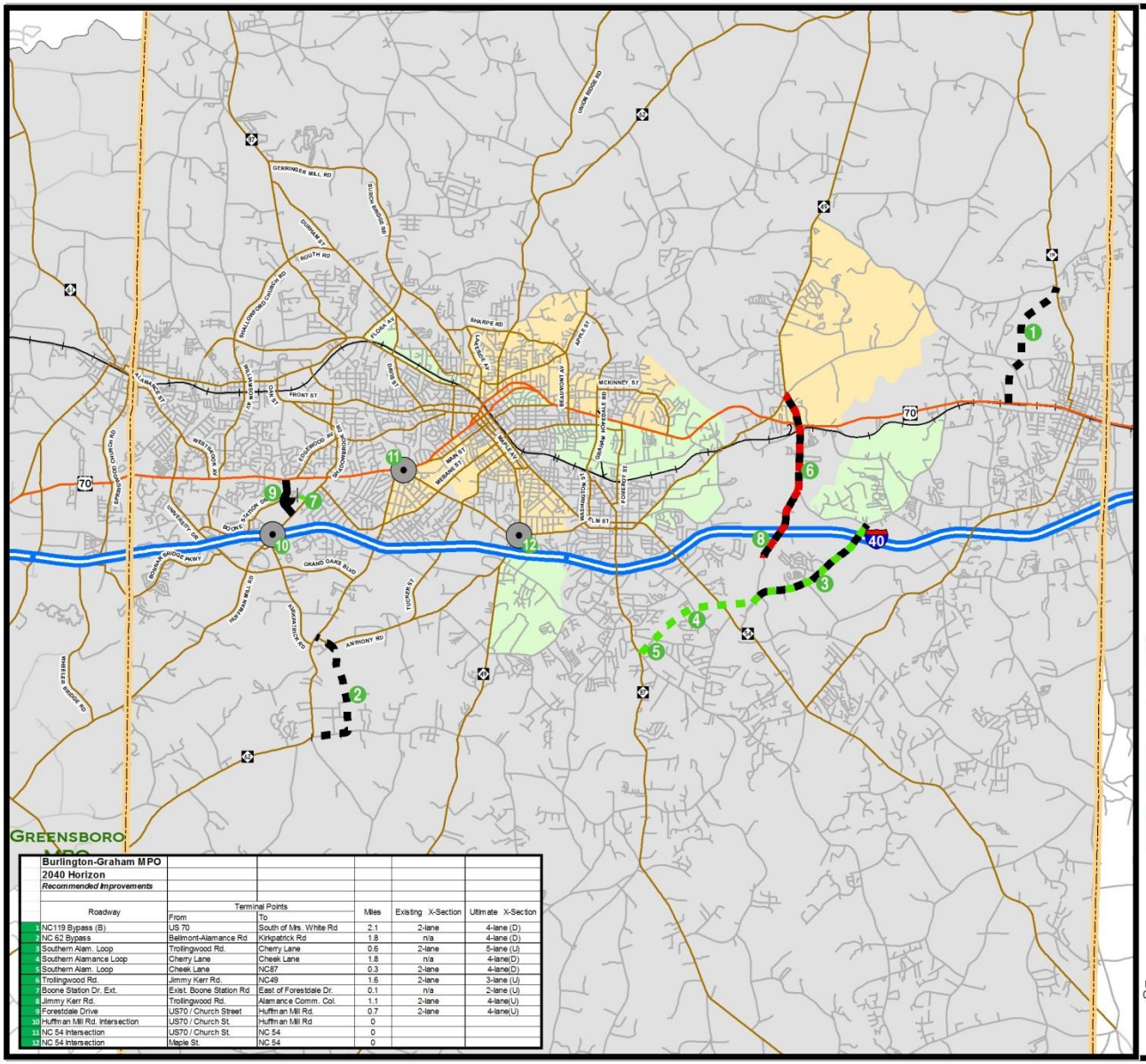
MajorRoads

- Interstate
- US Highways
- State Highways
- Local Major Roads
- Railroad
- Street Center Lines

0 0.5 1 2 3 Miles

N W E S

For project information, see accompanying tables.



	Burlington-Graham MPO					
	2040 Horizon					
	Recommended Improvements					
	Roadway	Terminal Points		Miles	Existing X-Section	Ultimate X-Section
		From	To			
1	NC119 Bypass (B)	US 70	South of Mrs. White Rd	2.1	2-lane	4-lane (D)
2	NC 62 Bypass	Bellmont-Alamance Rd	Kirkpatrick Rd	1.8	n/a	4-lane (D)
3	Southern Alam. Loop	Trollingwood Rd.	Cherry Lane	0.6	2-lane	5-lane (U)
4	Southern Alamance Loop	Cherry Lane	Cheek Lane	1.8	n/a	4-lane(D)
5	Southern Alam. Loop	Cheek Lane	NC87	0.3	2-lane	4-lane(D)
6	Trollingwood Rd.	Jimmy Kerr Rd.	NC49	1.6	2-lane	3-lane (U)
7	Boone Station Dr. Ext.	Exist. Boone Station Rd	East of Forestdale Dr.	0.1	n/a	2-lane (U)
8	Jimmy Kerr Rd.	Trollingwood Rd.	Alamance Comm. Col.	1.1	2-lane	4-lane(U)
9	Forestdale Drive	US70 / Church Street	Huffman Mill Rd.	0.7	2-lane	4-lane(U)
10	Huffman Mill Rd. Intersection	US70 / Church St.	Huffman Mill Rd	0		
11	NC 54 Intersection	US70 / Church St.	NC 54	0		
12	NC 54 Intersection	Maple St.	NC 54	0		

Burlington-Graham MPO

2040 Horizon Year Transportation Plan

Environmental Justice Analysis

2010 Census Block Groups

Dominant Race

- Black
- Hispanic
- White

Legend

MajorRoads

- Interstate
- US Highways
- State Highways
- Local Major Roads

- Railroad
- Street Center Lines

Freeways: Existing; Needs Improvement; Recommended

Expressways: Existing; Needs Improvement; Recommended

Boulevards: Existing; Needs Improvement; Recommended

Minor Thoroughfares: Existing; Needs Improvement; Recommended

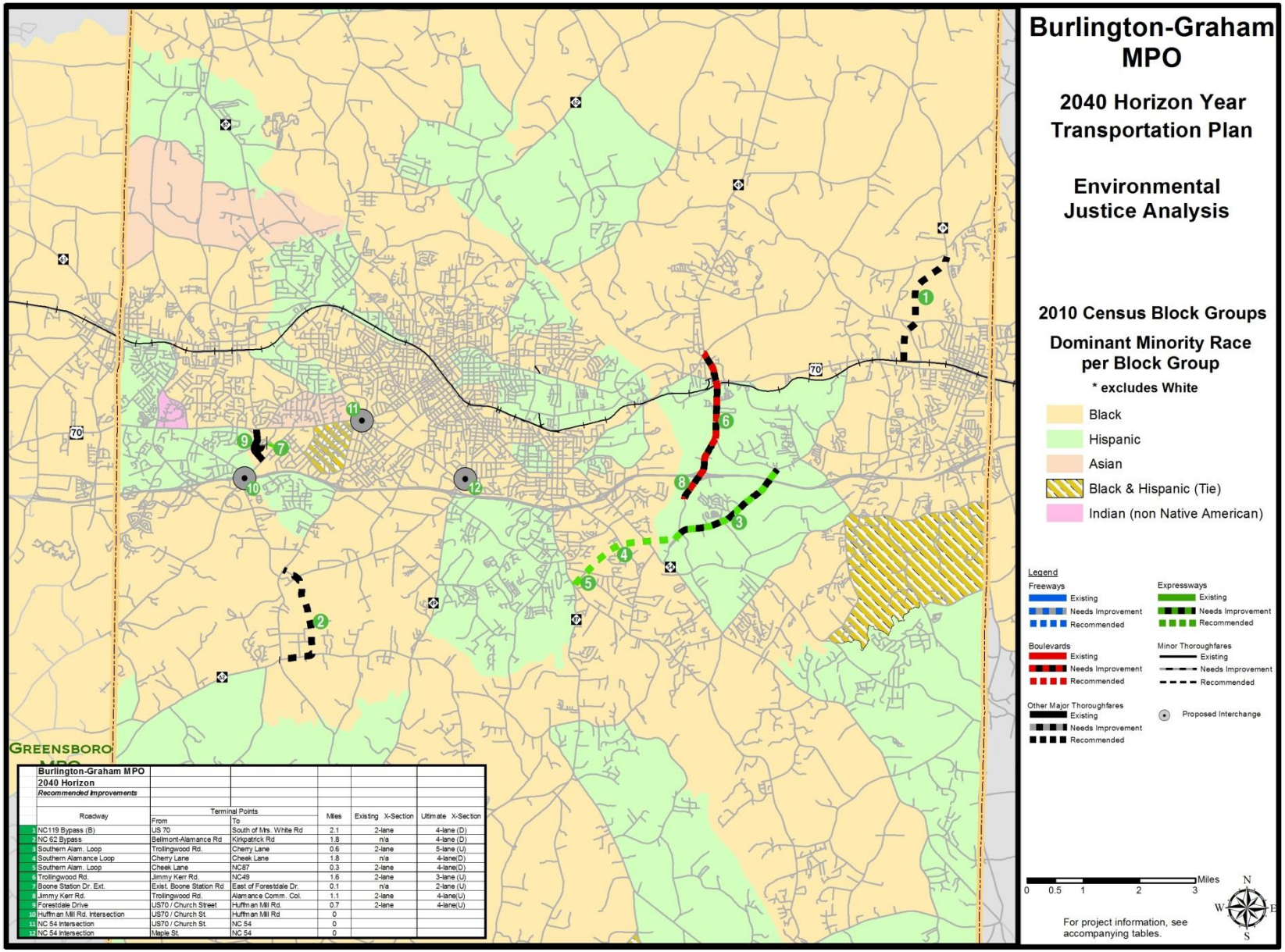
Other Major Thoroughfares: Existing; Needs Improvement; Recommended

Proposed Interchange

0 0.5 1 2 3 Miles

N W E S

For project information, see accompanying tables.



Burlington-Graham MPO 2040 Horizon *Recommended Improvements*					
Roadway	Terminal Points From	Terminal Points To	Miles	Existing X-Section	Ultimate X-Section
1 NC119 Bypass (B)	US 70	South of Mrs. White Rd	2.1	2-lane	4-lane (D)
2 NC 62 Bypass	Belmont-Alamance Rd	Kirkpatrick Rd	1.8	n/a	4-lane (D)
3 Southern Alam. Loop	Trollingwood Rd.	Cherry Lane	0.6	2-lane	5-lane (U)
4 Southern Alamance Loop	Cherry Lane	Cheek Lane	1.8	n/a	4-lane(D)
5 Southern Alam. Loop	Cheek Lane	NC87	0.3	2-lane	4-lane(D)
6 Trollingwood Rd.	Jimmy Kerr Rd.	NC49	1.6	2-lane	3-lane (U)
7 Boone Station Dr. Ext.	Exist. Boone Station Rd	East of Forestdale Dr.	0.1	n/a	2-lane (U)
8 Jimmy Kerr Rd.	Trollingwood Rd.	Alamance Comm. Col.	1.1	2-lane	4-lane(U)
9 Forestdale Drive	US70 / Church Street	Huffman Mill Rd.	0.7	2-lane	4-lane(U)
10 Huffman Mill Rd. Intersection	US70 / Church St.	Huffman Mill Rd	0		
11 NC 54 Intersection	US70 / Church St.	NC 54	0		
12 NC 54 Intersection	Maple St.	NC 54	0		

Transit Projects and Environmental Justice:

The transit element of the MTP can provide special relevance with regard to environmental justice. Minority and low-income populations depend more heavily on modes other than the automobile for access to jobs, goods, and services so roadway improvements cannot be assumed to correlate with improved transportation for all populations. However, the addition of sidewalks, bicycles, and transit amenities to roadway projects broadens the benefits to those who depend on other modes than automobiles. The maintenance and enhancement of transit service in minority and low-income communities is an important aspect of environmental justice. At this time the Burlington Graham MPO does not have fixed route public transportation. It is anticipated that the City of Burlington and the Town of Gibsonville will begin operating a four route fixed route system in mid to late 2016. This proposed system will be the first and only fixed route public transportation system in the urbanized area.

Other Modes / Projects

The MTP identifies policies and projects designed to enhance the convenience and safety of pedestrians and bicyclists. These elements of the transportation plan will benefit minority and low-income populations by increasing the attractiveness of the non-motorized travel modes, as well as improving and expanding access to transit service.

The City of Burlington, City of Graham and the City of Mebane have adopted Pedestrian and Bike Plans since the last MTP Update. The plans address immediate and long-term needs for bicycle, pedestrian, and greenway facilities. Several projects have been implemented throughout the urban area such as the construction of sidewalks near public spaces and schools. Detailed information about short and long term sidewalk and bicycle projects can be found in each of the Bike and Pedestrian Plans maintained by each agency and on the internet:

www.ci.burlington.nc.us

www.cityofgraham.com

www.cityofmebane.com

Environmental Agency Outreach and Review

The Burlington Graham MPO is committed to involving environmental review agencies, local governments, and citizens in the transportation project planning process. In doing so, the Piedmont Authority for Regional Transportation (PART) provided outreach assistance to the MPO's of the Region to obtain input from environmental review agencies to strengthen the development of the MTP. The following agency contact table details this outreach effort.

AGENCY OUTREACH / CONTACT INFORMATION

Agency	Division of Agency	Contact Information	Available Data	Format / Location
N.C. Department of Agriculture and Consumer Services (NC DA&CS)	Environmental Programs Division/ Farmland Preservation	Env. Program Specialist 1035 Mail Service Center, Raleigh, NC 27699 919-733-7125	Livestock Operation Site, Soils, Historical Farm Sites,Land Cover data	Contact person- Emergency Program
N.C. Department of Cultural Resources (DCR)	State Historic Preservation Office (SHPO) Office of State Archeology (OSA)	Preservation Specialist for Transportation Projects 919-733-6545 x 225 Environmental Review Coordinator 4617 Mail Service Center, Raleigh, NC 27699 919-733-4763 x 246 Deputy State Archaeologist 919-733-7342	Historic Properties and Archeological Sites	USGS Quad Maps Available in SHPO and OSA Offices by appointment
N.C. Department of Environment and Natural resources (DENR)	CGIA	NC OneMap Database Administrator 1601 Mail Service Center, Raleigh, NC 27699 919-733-2090 or 919-715-3770	NC OneMap GIS Database	http://www.nconemap.net
NCDENR-Division of Water Quality	DWQ / Transportation Permitting Unit	512 N. Salisbury St., Raleigh, NC 27604 919-733-5715		
N.C. Department of Crime Control & Public Safety	Division of Emergency Management	116 West Jones St, Raleigh, NC 919-733-3825	Homeland Security	

Agency	Division of Agency	Contact Information	Available Data	Format / Location
US Environmental Protection Agency (EPA)	Region 4, Environmental Information Services Branch	Program Analyst (GIS Contact) Sam Nunn Atlanta Federal Center 61 Forsyth Street, S.W., Suite 17T50 Atlanta, GA 30303 404-562-8282	Southeastern Ecological Framework and Region 4 Atlas	http://www.epa.gov/region4/gis or http://geobook.sain.utk.edu
US Environmental Protection Agency (EPA)	Region 4, NEPA Program, Raleigh Office	109 TW Alexander Drive, Durham, NC 27709 919-856-4206	NEPA compliance and cross-cutting issues (e.g. CERCLA& RCRA sites)	http://www.epa.gov/compliance/resources/faqs/nepa/index.html
US Environmental Protection Agency (EPA)	Region 4, WMD, WCNPSB, Wetlands Regulatory Section Raleigh Office	109 TW Alexander Drive Durham, NC 27709 919-541-3062	Aquatic resource avoidance and minimization, 404 Permits, mitigation	www.epa.gov/wetlands
US Fish & Wildlife Service (USFWS)	NC Field Offices (Raleigh), Ecological Services	Raleigh Field Office Field Supervisor (Raleigh) P.O. Box 33726 Raleigh, NC 27636 919-856-4520	1. Priority natural communities & habitat 2. Info on federally listed species (by county) 3. Species recovery plans	2.http://www.fws.gov/southeast/es/ 3.http://www.fws.gov/southeast/es/
NC Wildlife Resources Commission (WRC)	Inland fisheries-habitat conservation	1751 Varsity Drive Raleigh, NC 27695	Eastern DOT Projects Coordination/ Contact; Wildlife Action Plans	
NC Wildlife Resources Commission (WRC)		Raleigh office	Swimming with the Current booklet	
Federal Highway Administration (FHWA)	NC Division Office Planning & Program Development Unit	310 New Bern Avenue, Suite 410, Raleigh, NC 27601 919-856-4330x 114 919-856-4330 x 111 919-856-4330 x 112	Legislation/ evidence, Peer exchange programs, linking planning & NEPA, CSS tools, Funding options / opportunities, air quality	

Agency	Division of Agency	Contact Information	Available Data	Format / Location
North Carolina Department of Transportation	Transportation Planning Branch	MPO Coordinators 1554 Mail Service Center, Raleigh, NC 27699 919-733-4705		
Piedmont Triad Council of Governments	Rural Planning Organization	RPO Coordinator 2216 W. Meadowview Road Suite 201 Greensboro, NC 27407 336-294-4950		
Federal Transit Authority	Region 4 Administrator	FTA Region IV 230 Peachtree Street, Suite 800 Atlanta, GA 30303 404-562-3514		
US Army Corp of Engineers (USACE)	USAED, Wilmington District, Regulatory Division	P.O. Box 1890, Wilmington, NC 28402 919-876-8441 x 23 or 919-876-8441 x21 910-251-4810 or 910-251-4511	Army permit requirements and wetland information	www.saw.usace.army.mil/wetlands

SECTION 5: FINANCIAL PLAN

A. INTRODUCTION

In accordance with federal requirements, a Financial Plan should demonstrate how the adopted Metropolitan Transportation Plan can be implemented, indicate resources from public and private sources that are reasonably expected to be made available to carry out the Plan, and recommend additional financing strategies for needed projects and programs. The Financial Plan is a part of the overall Metropolitan Transportation Plan that addresses the capital requirements needed to implement the recommendations of the Plan and the potential sources of funding for the recommended projects.

By requiring Financial Plans, the federal intent is to allow local and State officials to consider how funding can be generated in the future to construct the recommended projects. Evaluating financial resources is an integral part of the transportation planning process and often defines the choices available to the Transportation Advisory Committee of the BGMPO. One of the most critical elements of any Plan is to make sure that adequate funds are available to construct the recommended projects. If adequate funds are not available, the project list should be minimized or new revenue sources identified.

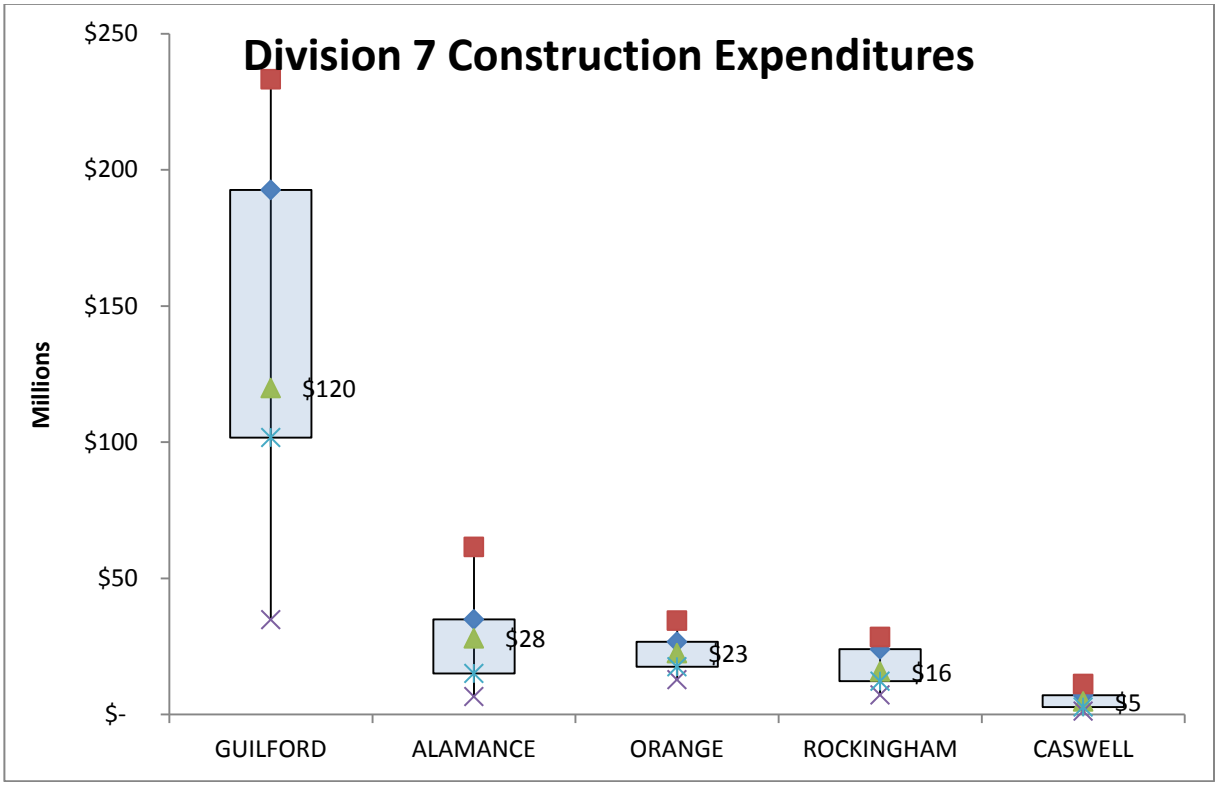
B. OVERVIEW OF EXISTING FINANCIAL SOURCES

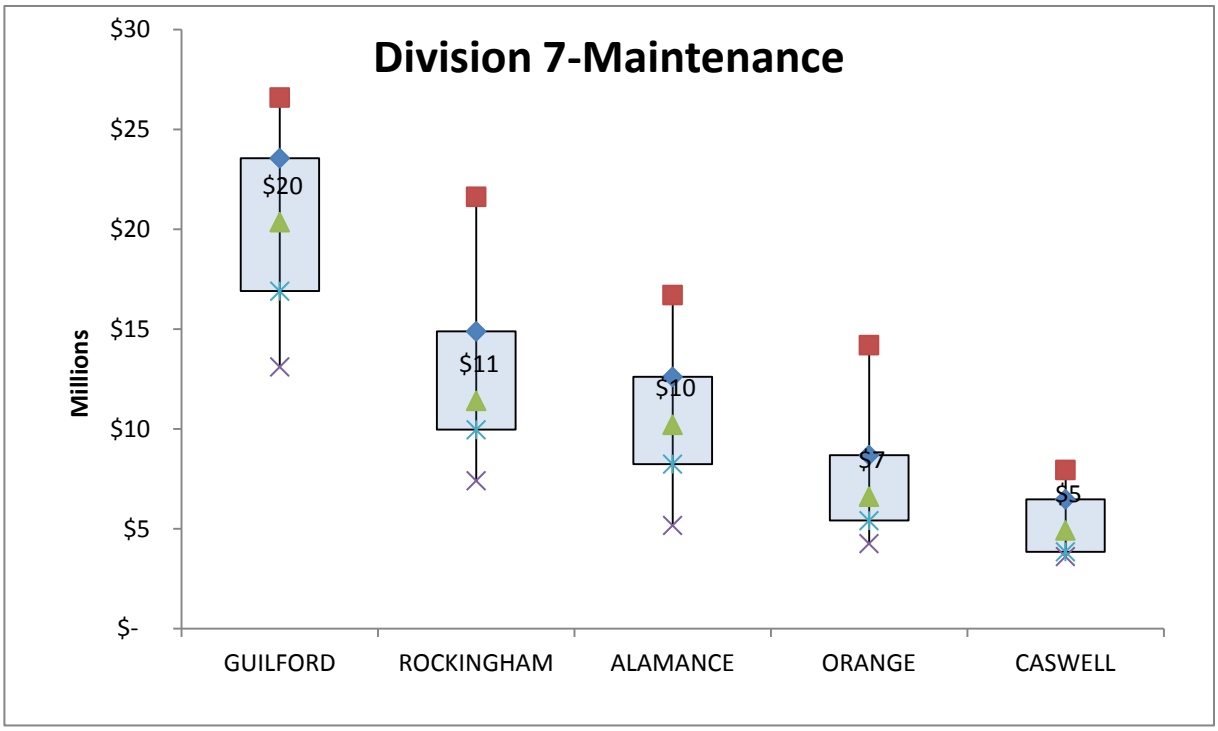
This section presents the financial resources that are presently being used in the MPO planning area and the sustainability of those funds. Primarily, the BGUA relies on Federal and State revenues to fund their transportation needs. The majority of transportation funds available are from gasoline taxes levied by the state and federal governments. Federal funds are collected and distributed to federal highway, railway and transit programs. The State of North Carolina receives funds based upon eligible projects and funding formulas dictated by legislation.

The Highway Fund and Highway Trust Fund are the sources of funding for most of the programs in the Urban Area. These funds can be used for constructing new highways, widening existing facilities, intermodal programs, and development of mass transit. Powell Bill funds are primarily used for the maintenance of the existing local road network. The Secondary Roads Paving Program allocates funding to each NCDOT Division for the purpose of upgrading secondary State-maintained roads.

Over the next five years (based on the current TIP and averaged annually) the BGUA can expect to receive approximately $18.6 million annually from State and Federal revenues. For the Urban Area, 92 percent of the funding will be used for highway and interstate capital improvement projects. Maintenance and bridge enhancement projects will increase over the planning period and receive 7 percent of the total funding. The I-85/40 interstate corridor requires pavement rehabilitation and safety improvements on an (almost) annual basis. The remaining 1 percent will be distributed among rail, transit, enhancement, and safety-related projects. The rail projects include enhanced crossing gates, flashers, and safety improvements. Bridge projects at rail locations are typically included with the highway project.

The charts below display the state expenditures (NCDOT) for construction and maintenance in Division 7 from 1999-2013





C. SUMMARY OF EXISTING USES

The Burlington-Graham MPO is involved with a variety of transportation projects within the Urban Area. The funding for these programs is used for the planning, development, implementation, operation, and maintenance of particular transportation projects. The Comprehensive Transportation Plan includes several types of facilities as well, including:

- Interstate Highway Construction and Improvements (I-85/40)
- Resurfacing
- Bridge Replacement
- Bridge Repair
- Public Transportation (ACTA, PART, TTA, Orange County Public Transportation and AMTRAK)
- Sidewalks
- Bike Paths
- Transportation Planning
- Maintenance of Existing Highways
- Traffic Operations and Signal Timing
- Administration

Powell Bill funds are monies returned by NCDOT to eligible cities and towns for maintaining, repairing, constructing, reconstructing, or widening of municipal streets. Additionally, the funding can be used for the planning, construction, and maintenance of sidewalks and bikeways located within the rights-of-way of public street and highways. The amount of Powell Bill funds received is based upon two criteria: the number of miles of streets to be maintained and the City's population. The source of the Powell Bill funds is the gasoline tax imposed by the State on users of the highway system. Of the nine municipalities, three contribute additional funding (other than Powell Bill funding) towards transportation improvements and/or maintenance of transportation facilities.

D. FINANCIAL PROJECTIONS

The following section presents an assessment and analysis of available funds for the BGMPO Metropolitan Transportation Plan from current sources. NCDOT has provided funding projections for State and Federal funds. Local municipalities have provided current expenditures for transportation-related projects within their capital improvement programs.

NCDOT's 2040 Plan anticipates a 30 year funding shortfall of more than $40 billion. NCDOT has considered several options for meeting the state's transportation needs. These options include new revenues as well as big changes in the relationship between state and local government. Options discussed in the 2040 Plan include new, or different, revenue streams such as a VMT tax and interstate tolls as well as re-evaluating responsibilities for some parts of the transportation system

The projection of funding revenues is based on the methodology listed below. The methodology includes:

- Adjustment of Federal and State Expenditure Forecasts;
- Expenditures by Type of Facility;
- Adjustment for Inflation;
- Forecast of Maintenance Revenues; and
- Forecast for any Local/Private Funding.

Based on the methodology, the first step of the process is to develop a trend line forecast using current Transportation Improvement Program (TIP) expenditures. The forecast is separated into funding categories (i.e.,Highway, Bridge, Rail, Safety, Enhancements, etc.) with a horizon year of 2040.

The next step is to develop cost figures that account for inflation. Based on statewide highway expenditure statistics, an inflation rate of 2.5% was applied to all project cost estimates. It is estimated that the BGUA could receive approximately $484,039,439.00 in federal funds towards transportation improvements in the next 30 years. Approximately 93 percent of the revenues are projected to be expended on new highway and road widening projects.

The same methodology to develop the State revenues was used to develop the Powell Bill and NCDOT Maintenance projections. The Powell Bill revenue projections for the 2040 horizon year were forecast for all eight participating municipalities within the Urban Area. Local government members and NCDOT provided current Powell Bill expenditures. Similarly, a revenue estimate was developed for the maintenance of state facilities in the Urban Area. The revenue projections were developed using a trend line forecast of the current expenditures. A detailed review of State maintenance needs and assessment for highway facilities is documented in a report titled "Condition Assessment and Funding Needs for the North Carolina Highway System."

For a copy of this document, contact NCDOT, District Engineer's office at (336) 570-6833.

Table 12 provides the summary of estimated expenditures for the BGUA in each horizon year. The funding categories include the NCDOT Maintenance, Powell Bill, and State/Federal expenditures. Based on this information, the Urban Area can forecast to expend approximately $1,043,824,000 towards transportation (construction, maintenance, Powell Bill, etc.) over the next 30 years if the Plan is fully implemented/funded.

Table 12
*Total Horizon Year Expenditures Burlington-Graham MPO – (**PROJECTIONS**)*
Expenditures in $1,000

Year	*Federal*	*Powell Bill*	*NCDOT Maintenance*	*Total*
2021	*179,487*	*33,805*	*68,624*	*281,916*
2030	*217,863*	*39,243*	*83,014*	*340,120*
2040	*273,122*	*45,554*	*103,112*	*421,788*

E. COST ESTIMATES

Cost estimates for all projects identified on the Comprehensive Transportation Plan were developed by using base cost figures provided by NCDOT from the Design Services Branch. The cost figures accounted for specific project-related items including:

- New roadways based on cross section (i.e., number of lanes, median, curb and gutter, shoulders, etc.);
- Widening existing facilities;
- New bridges or grade separations;
- Bridge widenings;
- Preliminary engineering; and
- Overhead, administration, and contingency.

Total estimated cost figures include right-of-way (ROW) estimates for all widening and new roadway projects. ROW cost estimates were developed based on a two-phase methodology. The steps to the methodology were to:

- Develop preliminary ROW costs based on current TIP cost figures. This was accomplished by using the TIP project costs. For each project, the percentage of ROW as a function of the total cost of construction was calculated.
- Conduct a "windshield" survey to determine design constraints, grade separations, and utility construction requirements.

Tables 13 and 14 on the following pages list all proposed projects on the current BGUA Comprehensive Transportation Plan. The tables also include all current TIP projects. Each project is also displayed on the CTP map. The project termini, length, existing cross-section, ultimate cross-section, and estimated total cost are listed for each project. The total estimated cost for all projects in the Urban Area is $484,041,451.000.

Burlington-
Graham MPO

Table 13

2040 Recommended Improvements

New Facilities

Roadway	Terminal Points		Miles	Existing X-Section	Ultimate X-Section	Description/ Misc. Information	Estimated Cost (2013 Costs)
	From	To					
S Mebane Cross Town Connector	Mattress Factory Rd	New NC119 Bypass	2.6	n/a	2-lane (U)		$6,118,308.80
Supper Club Dr. Ext.	Oakwood St	Washington St.	0.4	n/a	2-lane (U)	No Bridge at R/R	$941,893.66
Fifth St. Ext.	Third St.	E. Stagecoach Rd.	0.3	n/a	2-lane (U)		$689,965.70
Brown St. Ext.	Fifth St.	First St.	0.3	n/a	2-lane (U)		$1,240,965.70
Eighth St. Ext.	Mebane Eye Rd.	Mebane Oaks Rd.	0.2	n/a	2-lane (U)		$533,727.96
Eastern Alamance Pkway	Cherry Ln/Gibson Rd	Graham-Hopedale Rd	6.8	n/a	4-lane(D)	new US70 interchange	$35,821,158.40
Tyndall St. Ext.	Stone St. Ext	Old Glencoe Rd. Ext	0.3	n/a	2-lane (U)		$665,692.98
Bakatsias Road Extension	Porter Ave.	Cherry Ln.	1.0	n/a	2-lane (U)		$2,269,885.67
Bason St.Realign.	Exist. Bason St	NC49	0.1	n/a	2-lane (U)	No Structures	$287,625.03
Fonville Rd. Ext.	Exist. Fonville Rd.	SR1745	0.7	n/a	2-lane (U)		$1,511,707.85
Southern Alamance Pkway	Cherry Ln.	Cheek Ln.	1.8	n/a	4-lane(D)	Haw River Bridge	$7,395,654.59
Parker St. Ext.	Exist. Parker St.	Trollinger Rd.	0.3	n/a	2-lane (U)		$740,874.79
Swepsonville Rd. Realign.	E Shannon Rd.	NC87	0.1	n/a	4-lane(		$361,933.07

					U)		
Southern Alamance Pkway	NC87	Monroe-Holt Rd.	3.3	n/a	4-lane(D)	TIP # U-3407 (Post year)	$18,418,000.00
Thompson Rd.	S. Graham Bypass	Wedgewood Dr.	0.2	n/a	2-lane (U)		$453,977.13
Thompson Rd.	Rogers Rd.	Broadway Dr.	0.3	n/a	2-lane (U)		$706,420.25
Thompson Rd.	Sadia Tr.	Stonegate Dr.	0.6	n/a	2-lane (U)		$1,412,840.49
Maple St. Ext.	Hanford Rd.	Crescent Square Dr.	2.3	n/a	2-lane (U)	TIP # U-2411	$6,561,000.00
Walker Ave. Ext.	Parker St.	US70	0.9	n/a	2-lane (U)	Grade separation at RR	$4,188,512.18
Sandy Cross Connector	Sandy Cross Rd.	Old Glencoe Rd. Ext	0.1	n/a	2-lane (U)		$281,023.28
Northern Alamance Pkway	Apple St.	Lower Hopedale Rd.	0.5	n/a	4-lane(D)		$1,859,503.97
Bellemont Loop	NC49	NC49	0.3	n/a	2-lane (U)		$777,069.83
Keck Dr. Ext.	Exist. Keck Dr.	Rock Hill Rd.	0.5	n/a	2-lane (U)	Bridge required	$1,310,303.87
Southern Alamance Pkway	Alamance Rd.	Anthony Rd.	1.6	n/a	4-lane(D)	Culvert TIP # U-3407 (Post year)	$8,859,000.00
Sharpe Rd. Ext.	Elmira Rd.	Glen Raven Rd.	0.8	n/a	2-lane (U)	C/G; 2-Ln on 4-Ln ROW	$2,299,283.55
Northern Alamance Pkway	Durham St. Ext.	Glencoe Rd.	1.3	n/a	4-lane(D)		$4,724,407.29
Durham St. Ext.	Old Glencoe Rd.	Durham St.	0.6	n/a	4-lane(U)		$1,925,052.95
Northern Alamance Pkway	Old Glencoe Rd.	Exist. Shallowford Ch.	0.6	n/a	4-lane(D)		$2,180,495.67
Pond Rd. Ext.	Exist. Pond Rd.	SR1150	0.3	n/a	2-lane (U)		$777,069.83
Shadowbrook Dr. Ext.	Lakeview Terr.	Power Line Rd.	1.0	n/a	2-lane (U)	Bridge	$4,870,252.19
Shadowbrook Dr. Ext.	Gerringer Rd.	Shallowford Church Rd.	0.9	n/a	2-lane (U)	shoulder section	$2,102,806.19

Trollinger Ave. Ext.	Shallowford	Summers Dr.	0.4	n/	2 (U)		$1,345,086.37
Whitsett Bypass	NC 61	Whitsett Ave /TBD	1.3	n/a	2-lane (U)		$1,895,460.00
North I-85 Frontage Rd	Springwood Ch. Rd.	St. Marks Ch. Rd.	1.7	n/a	2-lane (U)	shoulder section	$4,173,260.18
South I-85 Frontage Rd.	Springwood Ch. Rd.	St. Marks Ch. Rd.	1.9	n/a	2-lane (U)	shoulder section	$4,482,994.89
Springwood Ch. Rd. Ext.	I-85 South Frontage Rd	Huffman Mill Rd.	2.1	n/a	2-lane (U)	shoulder section	$4,606,578.09
South I-85 Frontage Rd.	Wheeler Bridge Rd.	NC61	0.7	n/a	2-lane (U)	shoulder section	$1,588,919.97
North I-85 Frontage Rd	Whitsett Park Rd	North Frontage (east)	0.6	n/a	2-lane (U)	shoulder section	$1,372,113.22

Burlington-Graham MPO						**Table 14**	
Recommended Improvements							
Proposed Widenings							
Roadway	Terminal Points		Miles	Existing X-Section	Ultimate X-Section	Description	Estimated Cost (2013 Costs)
	From	To					
Buckhorn Rd	I-85	US70	0.5	2-lane	4-lane(U)	Shoulder section	$1,378,480.18
Mebane Oaks Rd	NC119	MPO Boundary	1.4	2-lane	5-lane (D)	C/G; Widen bridge TIP # U-3445 (Partial)	$8,763,374.34
NC119/ Fifth St.	South Mebane Byp.	I-85	2.1	2-lane	4-lane(U)	C/G; Widen Bridge	$9,870,494.27
Gibson Rd.	Third St. Ext.	Trollingwood Rd.	0.9	2-lane	4-lane(U)	Shoulder section	$2,263,157.16
Southern Alam. Pkway	Trollingwood Rd.	Unnamed St.	0.6	2-lane	5-lane (D)	new I-85 Diamond interchange; C/G	$7,895,704.14
Southern Alam. Pkway	Unnamed St.	S. Graham Byp.	1.7	2-lane	4-lane(U)	Shoulder section	$4,428,677.40
NC54	Swepsonville Rd.	MPO Boundary	0.8	2-lane	4-lane(U)	Shoulder section	$2,057,895.24
NC54	Whittmore Rd	NC 119	3.3	2-lane	5-lane (D)	C/G; Major Bridge TIP # R-2538	$12,678,000.00
Jimmy Kerr Rd.	Trollingwood Rd.	Alamance Comm. Col.	1.1	2-lane	4-lane(U)	C/G; I-85 Bridge needs widening	$3,292,208.89
Trollingwood Rd.	Jimmy Kerr Rd.	NC49	1.6	2-lane	3-lane (D)	C/G	$3,152,533.42
Swepsonville Rd.	E. Shannon Rd.	Cooper Rd.	1.1	2-lane	4-lane(U)	C/G	$4,035,258.89
NC87	Thompson Rd.	MPO Boundary/Bridge	0.9	2-lane	4-lane(U)	No bridge widening; C/G	$3,377,264.32
Southern Alam. Pkway	Cheek Ln.	NC87	0.3	2-lane	4-lane(	C/G	$1,692,124.29

Graham-Hopedale Rd	US70	Providence Rd.	1.2	2-lane	5-lane (D)	Grade separation at RR; C/G TIP # U-2410	$14,503,000.00
Apple St.	Sharpe Rd.	Graham-Hopedale Rd.	0.7	2-lane	4-lane(U)	C/G	$2,131,440.01
Northern Alam. Pkway	Glencoe Rd.	Lower Hopedale Rd.	2.3	2-lane	4-lane(D)	C/G	$7,695,302.87
NC54	Kilby St.	NC49	0.4	3-lane	5-lane (D)	C/G TIP # U-2907 (post year)	$1,106,813.93
NC54	US70	Kilby St.	1.6	2-lane	5-lane (D)	C/G TIP # U-2907 (post year)	$5,636,552.42
NC49	I-85	Otway St	2.6	2-lane	4-lane(U)	bridge widening; shoulder section	$7,730,611.94
NC49	Markwood Ln.	Bellemont-Alamance Rd.	0.3	2-lane	4-lane(U)	Shoulder section	$771,710.71
Southern Alam. Pkway	Anthony Rd.	S. Graham Byp.	1.3	2-lane	4-lane(D)	C/G TIP # U-3407 (post year)	$4,429,000.00
NC62	Montgomery Rd.	Hickory Hill Rd.	1.7	2-lane	4-lane(U)	Shoulder section	$4,505,400.11
Western Alam. Pkway	Ardmore Ct.	NC62	0.7	2-lane	4-lane(U)	C/G TIP # U-3304 (post year const.)	$2,625,000.00
NC62	US70	I-85	1.2	2-lane	5-lane (D)	C/G TIP # U-2906 (post year const.)	$3,852,000.00
NC87/100	NC87	Elmira St.	1.9	2-lane	4-lane(U)	C/G; No Bridge Widening	$5,257,366.16
NC87	Durham St. Ext.	Shallowford Ch. Rd.	1.3	2-lane	4-lane(U)	Shoulder section TIP # R-2560 (unfunded)	$5,713,000.00
Western Alam. Pkway	Shallowford Ch. Rd. Ext.	Elon-Ossipe Rd.	1.9	2-lane	4-lane(D)	C/G TIP # U-3110 (partial)	$18,672,000.00
Huffman Mill Rd.	Forestdale Rd.	I-85	0.4	5-lane	7-lane (D)	C/G; Bridge needs widening	$7,076,215.62
Huffman Mill Rd.	I-85	Alam. Pkway	0.7	2-lane	4-lane(U)	C/G;	$2,615,855.00
Huffman Mill Rd.	Alam. Pk	. Ext.	1.1	2-lane			$3,985,324.00

US70	St. Marks Ch. Rd.	MPO Boundary	4.2	2-lane	5-lane (D)	C/G; Bridge widening TIP # R-2910	$8,455,000.00
NC100	Church St.	Shallowford Ch.	0.5	2-lane	4-lane	C/G	$1,482,797.60
W. Stagecoach Rd.	Cooks Mill Rd.	NC119	1.2	2-lane	4-lane(U)	C/G	$3,269,897.15
St. Marks Ch. Rd.	US70	I-85 North Frontage Rd.	0.7	2-lane	4-lane(U)	C/G	$2,075,916.64
NC87	Thompson Rd.	Nicks St.	0.1	2-lane	5-lane (D)	C/G	$337,414.23

F. FINANCING STRATEGY AND SUMMARY

This section outlines the current funds used for capital road projects and road maintenance, and included is the projection of funding for the next 25 years. Additional analysis includes the cost of ROW acquisition and construction of the priority projects as well as the cost of maintaining the existing streets within the next 25 years.

Based on this analysis, the total cost (in 2013-dollar value) for all projects within the Urban Area is $484,041,451.00. Of this total, approximately $265,083,112.00 is expected to be funded within the 2040-year horizon. This leaves a gap of approximately $218,958,339.00 of unfunded projects in the out years (Vision Plan).

Funding factors not included in the revenue projections were private/developer contributions or pubic financing such as local bond or referendum packages. The urban has not implemented any public financing efforts to date. Through diligent planning and earlier project identification, regulations and procedures could be developed to protect future thoroughfare corridors and require contributions from developers when the property is subdivided. These measures would reduce the cost of right of way and would in some cases require the developer to make improvements to the roadway that would result in a lower cost when the improvement is actually constructed. To accomplish this goal, it will take a cooperative effort between local planning staff, NCDOT planning staff, and the development community.

G. PLANNING FACTORS

As a requirement of federal regulations, the following is a discussion of the planning factors included in the Transportation Plan. Although each factor may have been discussed in prior sections of this report, we are including this list to highlights specific items. The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) was enacted Public Law 109-59. SAFETEA-LU authorized the Federal surface transportation programs for highways, highway safety, and transit for the 5-year period 2005-2009. **Moving Ahead for Progress, MAP-21,** the new federal legislation for transportation funding was adopted in 2012. MAP-21 is a two year funding authorization (vs. three) and maintained funding levels to the year 2014. It is anticipated that a new federal transportation bill or funding extensions will be provided to continue transportation in the urban area.

The primary objective of the Metropolitan Transportation Plan is to provide a comprehensive review of existing and proposed transportation needs for the Urban Area. The Plan should incorporate all aspects of transportation including modal characteristics and infrastructure needs and priorities. In doing so, the Plan:

- **Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.** This planning factor is achieved by identifying existing and future transportation needs and prioritizing those needs. The Comprehensive Transportation Plan is one such component that identifies the needs for highway improvements. The BGUA also coordinates with the trucking industry to determine future corridor improvements for the movement of freight.

The BGUA will continue to work with NCDOT and FHWA to enhance the Urban Area Transportation System. Federal and State funding programs are continuously being reviewed by the BGUA for consideration to fund its transportation planning and capital improvements. The Land Use Plan(s) for BGMPO member agencies has been incorporated into the development of the Comprehensive Transportation Plan. The Land Use Plan(s) will assist in identifying key corridors, which will interconnect people, business, and goods and services. Ultimately, these planning initiatives will help to enhance the economic vitality of the metropolitan area.

- **Increases the safety and security of the transportation system for motorized and non-motorized users.** Bicycle and pedestrian planning efforts are one means through which BGUA accomplishes this planning factor. The funding of bicycle and pedestrian facilities is a primary objective of MPO policy board. Considerable planning efforts have been expended to develop a comprehensive bicycle and pedestrian projects that are needed in the area. These programs may include Powell Bill Funds, NCDOT Division Funds, Capital Improvement Program Funds, Enhancement Funds, and other federal programs. Bicycle and pedestrian projects have already been funded through the TIP process. Additionally, specific goals have been identified the will enhance the existing bicycle and pedestrian system, thereby reducing the potential conflict between vehicles and pedestrians.

- **Increases the accessibility and mobility options available to people and for freight.** A good example of increasing accessibility and mobility options within the Urban Area is the transportation service provided by ACTA. This public transportation service is the focus of the CTSP initiative, which identifies present and future transportation needs. Additionally, the Alamance County Transportation Authority (ACTA) is charged with implementing an outreach program for providing enhanced public mobility and accessibility. ACTA utilize several State programs to supplement the cost associated with public transportation service. Funding programs such as EDTAP, Dial-A-Ride, Work First, and the North Carolina Rural General Public Transportation provide additional support for enhancing the mobility options for the Urban Area. The local freight carriers are provided a position at the MPO meetings and are solicited for data and feedback regarding transportation network changes or improvements. Due to the nature of the freight industry (private enterprise), most freight travel data is not current but is critical to the transportation planning process. PART and the Piedmont Triad MPO's continue to work with freight carriers to encourage participation and involvement with transportation planning.

- **Protects and enhances the environment, promotes energy conservation, and improves the quality of life.** This planning factor is achieved by including preliminary engineering and planning efforts in the development of transportation projects. The corridors have been conceptualized on the Comprehensive Transportation Plan. By conducting planning studies and functional designs on the thoroughfare projects the BGMPO can help to identify potential social and environmental conflicts. This process aids in the selection of the most appropriate alignment. This effort is also beneficial to the public's quality of life and helps to preserve the natural environment.

- **Enhances the integration and connectivity of the transportation system, across and between modes, for people and freight.** Continuous planning efforts have been supported by the BGMPO to achieve an efficient multi-modal Long Range Transportation Plan. Enhancements to the existing bicycle and pedestrian facilities will be greatly improved through future planning efforts, including the Burlington Comprehensive Pedestrian Plan of 2012. Additional work will include pursuing alternative funding measures for multi-modal projects. Several initiatives have begun to improve passenger rail service, including the Piedmont Triad Regional Mobility/Passenger Rail Major Investment Study and the Piedmont Triad Intercity Rail Connection Study. The Mobility/Rail MIS included a Regional Preferred Investment Strategy consisting of transportation and policy solutions. These policy measures will enhance land use, provide transportation choices, and manage future congestion problems.

  One goal for the Urban Area is to enhance the mobility of local residents especially the elderly and disabled with improved transit services. PART completed an Intercity Travel Demand Study, which will consider linking municipal transit systems in the Triad region. The ultimate goal of PART is to interconnect all means of transportation and improve accessibility in the Triad region.

- **Promotes efficient system management and operation.** This planning factor is accomplished by providing continuous and comprehensive needs assessment of the transportation system. This Metropolitan Transportation Plan incorporates a congestion management and traffic monitoring system that identifies system management and operational improvements. The expansion of the PART ride-sharing program into the Urban Area has established the first carpooling/vanpooling program for Alamance County. One example of operational improvements is the computerized traffic signal system for the City of Burlington. The signal system allows traffic to flow easier and safer through coordinated signals.

  The BGMPO has the responsibility of pursuing cost-effective practices that will not only maintain the current transportation system, but will enhance its efficiency and operation through state-of-the-art measures. This task includes securing State and local funding for the support of such programs.

- **Safety in the planning process.** The MPO staff will report to the TCC/TAC comparing the crash rate in the MPO counties with that of North Carolina. Evaluate accident reduction plans for each county served by the MPO and include safety as a metric in project selection.

- **Security in the planning process.** Increase the ability of the transportation system to support homeland security and to safeguard the personal security of users. BGMPO will work to identify parts of the transportation system that, if disrupted would seriously disrupt travel or freight delivery. The MPO will plan for to minimize the disruption associated with loss of these links and begin to identify cargo links or nodes that could cause significant loss to lives or property in the event of a catastrophic accident or other event.

- **Emphasizes the preservation of the existing transportation system.** This planning factor is achieved by establishing control measures that will protect existing transportation facilities and future corridors. An example of this measure is through the reservation of right-of-way for future major and minor thoroughfares with the use of local ordinances and subdivision requirements. These key corridors and the associated right-of-ways are being protected from development; so that when the need arises, they can be implemented into the transportation system. The BGMPO conducts annual planning and feasibility studies for projects on the Urban Area Transportation Plan. The Urban Area is also committed to securing the necessary resources for maintaining and preserving the existing transportation system.

Appendix

CITIZENS INFORMATION SESSION
BURLINGTON GRAHAM METROPOLITAN PLANNING ORGANIZATION
METROPOLITAN TRANSPORTATION PLAN UPDATE (MTP) AND AIR QUALITY CONFORMITY REPORT

The Burlington - Graham Metropolitan Planning Organization (BGMPO), the Transportation Planning Agency for the Alamance County urban area, will hold a citizen information meeting in regards to the update of the Metropolitan Transportation Plan and Air Quality Conformity Report. This workshop will be an informal drop-in session from 4pm to 6pm to view planning maps and projects included in the MTP. The information session will be held on **July 21, 2015 in the Burlington Municipal Building / Municipal Conference Room** located at 425 South Lexington Avenue in Burlington. The informal meeting will seek the public's input towards updating the Metropolitan Transportation Plan and associated elements. Citizens are invited to drop-in any time during the workshop between **4pm and 6pm** to view the maps/information. No formal presentation or hearing will be held. The Burlington Graham Urban Area encompasses all of Alamance County plus portions of Guilford County and Orange County.

We welcome participation of all citizens in the urban area. If any disabled person has a special request for a hearing interpreter or other assistance, please contact Mike Nunn at 336-513-5418 one week prior to the scheduled event. If you need additional information please call 336-513-5418 or access the BGMPO transportation planning website at www.bgmpo.org

ACCESO A INFORMACION
TODOS LOS DOCUMENTOS Y DATOS DE MPO SE PUEDEN PROPORCIONAR EN FORMATOS ALTERNOS A PETICION
POR FAVOR COMUNIQUESE CON LA OFICINA DE MPO PARA INFORMACION E ASISTENCIA ADICIONAL
336-513-5418

It is the policy of the Burlington Graham Metropolitan Planning Organization to ensure that no person shall, on the ground of race, color, sex, age, national origin, or disability, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity as provided by Title VI of the Civil Rights Act of 1964, the Civil Rights Restoration Act of 1987, and any other related non-discrimination Civil Rights laws and authorities.

2040 Revenue Projections								***Table A1***
BGMPO								
Federal								
Shown in $1,000								
Year		*Expenditure*		*Adjusted (2.5%)*		*Highway*	*Bridge*	*Transit, Rail, Enhancement, Safety*
2013		14856		15227		14009	914	213
2014		15298		15680		14426	941	220
2015		15741		16135		14844	968	226
2016		16153		16557		15232	993	232
2017		16626		17042		15678	1022	239
2018		17069		17496		16096	1050	245
2019		17511		17949		16513	1077	251
2020		17954		18403		16931	1104	258
2021		18397		18857		17348	1131	264
2022		18839		19310		17765	1159	270
2023		19282		19764		18183	1186	277
2024		19725		20218		18601	1213	283
2025		20167		20671		19017	1240	289
2026		20610		21125		19435	1268	296
2027		21052		21578		19852	1295	302
2028		21433		21969		20211	1318	308
2029		21829		22375		20585	1342	313
2030		22738		23306		21442	1398	326
2031		23518		24106		22177	1446	337
2032		24319		24927		22933	1496	349
2033		25258		25889		23818	1553	362
2034		26558		27222		25044	1633	381
2035		27957		28656		26363	1719	401
2036		35890		36787		33844	2207	515
2037		46074		47226		43448	2834	661
2038		59147		60626		55776	3638	849
2039		75930		77828		71602	4670	1090
2040		77980		79930		73535	4796	1119
Total		679931		776859		714710	46612	10876
% of Total	(rounded)	100%				92%	6%	1%

2040 Powell Bill Revenue Projections										
BGMPO										***Table A2***
Shown in $1,000										
Year		Alamance	Burlington	Elon	Gibsonville	Graham	Green Level	Haw River	Mebane	Total
2013		26.70	1435.20	241.73	180.20	389.80	65.71	61.72	321.02	2722.09
2014		27.30	1448.70	242.44	185.32	392.30	66.70	62.35	332.00	2757.11
2015		27.50	1452.37	245.25	187.56	394.00	67.70	63.32	335.46	2773.16
2016		27.91	1474.16	248.93	190.37	399.91	68.71	64.27	340.49	2814.75
2017		28.33	1496.27	252.66	193.23	405.91	69.74	65.24	345.60	2856.97
2018		28.76	1518.71	256.45	196.12	412.00	70.79	66.21	350.78	2899.83
2019		29.19	1541.49	260.30	199.07	418.18	71.85	67.21	356.05	2943.33
2020		29.63	1564.61	264.20	202.05	424.45	72.93	68.22	361.39	2987.48
2021		30.07	1588.08	268.17	205.08	430.82	74.02	69.24	366.81	3032.29
2022		30.52	1611.91	272.19	208.16	437.28	75.13	70.28	372.31	3077.77
2023		30.98	1636.08	276.27	211.28	443.84	76.26	71.33	377.89	3123.94
2024		31.44	1660.63	280.42	214.45	450.50	77.40	72.40	383.56	3170.80
2025		31.91	1685.53	284.62	217.67	457.25	78.56	73.49	389.32	3218.36
2026		32.39	1710.82	288.89	220.93	464.11	79.74	74.59	395.15	3266.64
2027		32.88	1736.48	293.23	224.25	471.07	80.94	75.71	401.08	3315.63
2028		33.37	1762.53	297.62	227.61	478.14	82.15	76.84	407.10	3365.37
2029		33.87	1788.97	302.09	231.02	485.31	83.39	78.00	413.20	3415.85
2030		34.38	1815.80	306.62	234.49	492.59	84.64	79.17	419.40	3467.09
2031		34.90	1843.04	311.22	238.01	499.98	85.91	80.35	425.69	3519.09
2032		35.42	1870.68	315.89	241.58	507.48	87.19	81.56	432.08	3571.88
2033		35.95	1898.74	320.63	245.20	515.09	88.50	82.78	438.56	3625.46
2034		36.49	1927.22	325.43	248.88	522.82	89.83	84.03	445.14	3679.84
2035		37.04	1956.13	330.32	252.61	530.66	91.18	85.29	451.82	3735.04
2036		37.59	1985.47	335.27	256.40	538.62	92.54	86.56	458.59	3791.06
2037		38.16	2015.26	340.30	260.25	546.70	93.93	87.86	465.47	3847.93
2038		38.73	2045.48	345.40	264.15	554.90	95.34	89.18	472.45	3905.65
2039		39.31	2076.17	350.59	268.11	563.22	96.77	90.52	479.54	3964.23
2040		39.90	2107.31	355.84	272.13	571.67	98.22	91.88	486.73	4023.70
Total		724.95	38286.95	6465.21	4944.32	10386.51	1784.58	1669.28	8843.30	73105.09
Average		29.00	1531.48	258.61	197.77	415.46	71.38	66.77	353.73	2924.20

2040 Revenue Projections					***Table A3***
NCDOT Maintenance					
BGMPO					
Shown in $1,000					
		Expenditure		Adjusted (2.5%)	
2013		5850		5996	
2014		5989		6139	
2015		6129		6282	
2016		6269		6426	
2017		6407		6567	
2018		6547		6711	
2019		6687		6854	
2020		6825		6996	
2021		6965		7139	
2022		7153		7332	
2023		7243		7424	
2024		7383		7568	
2025		7523		7711	
2026		7662		7854	
2027		7801		7996	
2028		7941		8140	
2029		8099		8301	
2030		8323		8531	
2031		8406		8616	
2032		8611		8826	
2033		9130		9358	
2034		9366		9600	
2035		9859		10105	
2036		10378		10637	
2037		10925		11198	
2038		11500		11788	
2039		12106		12409	
2040		12433		12744	
Total		229510		235248	
Average		9180		9410	

Burlington-Graham MPO							
2021 Horizon							**Table 6**
Recommended Improvements (STIP)							
Roadway	Terminal Points		Miles	Existing X-Section	Ultimate X-Section	Description/Misc. Information	Estimated Cost (STIP)
	From	To					
Mebane Oaks Road Interchange	I85/40	Mebane Oaks Rd	N/A	N/A	N/A	TIP I-5711Upgrade exist	**$1,545,000.00**
St. Marks @ Church St Intersection	St. Marks Church Rd	Church St.	N/A	N/A	N/A	TIP U-5752,Upgrade exist	**$930,000.00**
Graham Hopedale Rd. @ Church St Int.	Graham Hopedale Rd	Church St	N/A	N/A	N/A	TIP U-5843,Upgrade exist	**$1,163,000.00**
						Total	**$3,638,000.00**

Burlington-Graham MPO							**Table 7**
2030 Horizon							
Recommended Improvements							
Roadway	Terminal Points		Miles	Existing X-Section	Ultimate X-Section	Description/Misc. Information	Estimated Cost
	From	To					
NC119 Bypass (A)	I-40/85	US 70	2.1	2-lane	4-lane(D)	new US70 interchange TIP # U-3109	**$112,589,000.00**
NC 62 / Alamance Road widening	Ramada Rd	Church St	1.1	2-lane	4-lane (D)	C/G TIP # U-5844, sidewalks	**$7,100,000.00**
Williamson Avenue	Boone Station Dr.	E. Lebanon Ave	2.2	2-lane	4-lane (D)	C/G,sidewalk,bike TIP #5853	**$24,800,000.00**
US70*	St. Marks Ch. Rd.	MPO Boundary / Greensboro MPO	5.4	2-lane	4-lane (D)	C/G; sidewalks	**$9,655,000.00**
NC 54	Maple Ave	Church St	2.2	3-lane	4-lane (D)	C/G, mast arms, sidewalks	**$5,890,000.00**
Rockwood/O'Neal Ext.	NC87/100	Exist. Rockwood Rd.	0.6	n/a	4-lane(D)	Narrow concrete median, sidewalks	**$2,863,112.42**
Tucker Street Interchange	Tucker St	Tucker St	0.1	n/a	4-lane	New full access interstate interchange at I-85/40	**$1,800,000.00**
Mattress Factory Rd Interchange	Mattress Factory Rd	I-85	0.1	n/a	4-lane	New full access interstate interchange at I-85/40	**$1,800,000.00**
						Total	**$166,497,112.42**
***Regionally Significant**							

Burlington-Graham MPO							**Table 8**
2040 Horizon							
Recommended Improvements							
Roadway	Terminal Points		Miles	Existing X-Section	Ultimate X-Section	Description /Misc. Information	Estimated Cost
	From	To					
NC119 Bypass (B)	US 70	South of Mrs. White Rd	2.1	2-lane	4-lane (D)	TIP # U-3109	**$27,200,000.00**
Southern Loop	NC 62	NC 87	5.3	n/a	4-lane(D)	sidewalks, bike	**$18,418,000.00**
NC 62 Bypass	Bellmont-Alamance Rd	Kirkpatrick Rd	1.8	n/a	4-lane (D)	New location	**$7,380,000.00**
Southern Alam. Loop	Trollingwood Rd.	Cherry Lane	0.6	2-lane	5-lane (U)	new I-85 Diamond interchange; C/G	**$9,125,000.00**
Southern Alam. Loop	Cherry Lane	Southern Alamance Loop	1.7	2-lane	4-lane(U)	Shoulder section	**$4,415,000.00**
Southern Alam. Loop	Cheek Lane	NC87	0.3	2-lane	4-lane(D)	C/G	**$2,100,000.00**
Trollingwood Rd.	Jimmy Kerr Rd.	NC49	1.6	2-lane	3-lane (U)	C/G	**$3,195,000.00**
Boone Station Dr. Ext.	Exist. Boone Station Rd	East of Forestdale Dr.	0.1	n/a	2-lane (U)	bridge over creek; C/G;sidewalks	**$3,100,000.00**
Jimmy Kerr Rd.	Trollingwood Rd.	Alamance Comm. Col.	1.1	2-lane	4-lane(U)	C/G; I-85 Bridge needs widening	**$4,680,000.00**
Forestdale Drive	US70 / Church Street	Huffman Mill Rd.	0.7	2-lane	4-lane(U)	C/G	**$2,450,000.00**
Huffman Mill Rd. Intersection	US70 / Church St.	Huffman Mill Rd	0			Improve Existing	**$1,800,000.00**
NC 54 Intersection	US70 / Church St.	NC 54	0			Improve Existing	**$1,800,000.00**
NC 54 Intersection	Maple St.	NC 54	0			Improve Existing	**$1,800,000.00**
						Total	**$4,948,000.00**

Section from BGMPO Comprehensive Transportation Plan: Problem Statements

A Comprehensive Transportation Plan (CTP) is developed to ensure that the progressively developed transportation system will meet the needs of the region for the planning period. The CTP serves as an official guide to providing a well-coordinated, efficient, and economical transportation system for the future of the region. This document should be utilized by the local officials to ensure that planned transportation facilities reflect the needs of the public, while minimizing the disruption to local residents, businesses and the environment. The complete BGMPO CTP can be found at: https://connect.ncdot.gov/projects/planning/Pages/CTP-Details.aspx?study_id=Burlington-Graham

The Burlington-Graham MPO is required by federal law to develop a Metropolitan Transportation Plan (MTP). The Burlington-Graham MPO MTP is the fiscally constrained portion of the Burlington-Graham MPO CTP. This report documents the development of the Burlington-Graham MPO CTP as shown in Figure 1. This chapter presents recommendations for each mode of transportation in the MPO.

Implementation

The CTP is based on the projected growth for the planning area. It is possible that actual growth patterns will differ from those logically anticipated. As a result, it may be necessary to accelerate or delay the implementation of some recommendations found within this plan. Some portions of the plan may require revisions in order to accommodate unexpected changes in development. Therefore, any changes made to one element of the Comprehensive Transportation Plan should be consistent with the other elements.

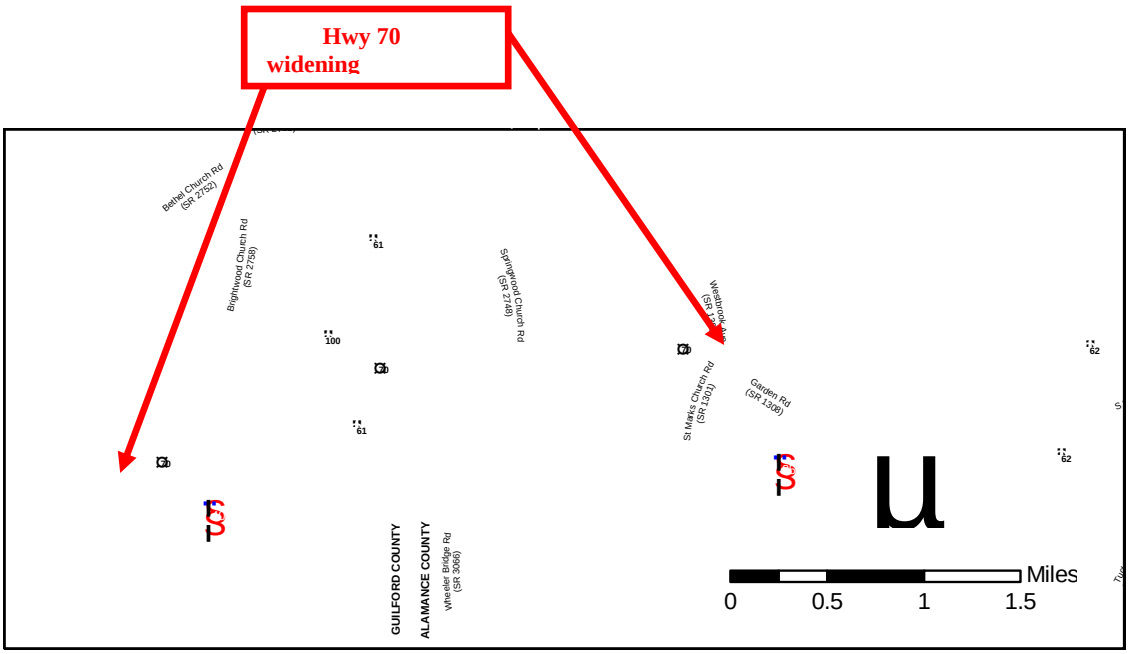
Initiative for implementing the CTP rests predominately with the policy boards and citizens of the MPO and its member jurisdictions. As transportation needs throughout the State exceed available funding, it is imperative that the local planning area aggressively pursue funding for priority projects. Projects should be prioritized locally and submitted to NCDOT. Refer to Appendix A for contact information on funding. Local governments may use the CTP to guide development and protect corridors for the recommended projects. It is critical that NCDOT and local government coordinate on relevant land development reviews and all transportation projects to ensure proper implementation of the CTP. Local governments and

the North Carolina Department of Transportation share the responsibility for access management and the planning, design and construction of the recommended projects. Prior to implementing projects from the CTP, additional analysis will be necessary to meet the National Environmental Policy Act (NEPA) or the North Carolina (or State) Environmental Policy Act (SEPA). This CTP may be used to provide information in the NEPA/SEPA process.

Problem Statements

The following pages contain problem statements for each project recommendation or improvement.

US 70 Proposed improvements from Westbrook Avenue (SR 1309) to the Western MPO Boundary



Identified Problem

Existing US 70 is projected to be over capacity by 2040 near Whitsett from Westbrook Avenue (SR 1309) to the Western MPO Boundary. Improvements are needed to relieve congestion on the existing facility such that a minimum Level of Service (LOS) D can be achieved and to facilitate safe and efficient east-west travel through Alamance County as an alternative route to I-40/I-85.

Justification of Need

US 70 is a major east-west corridor in Alamance County. This facility is a vital artery in moving people and goods from the surrounding counties of Orange and Guilford while traveling through Alamance County and the Burlington-Graham Urban Area. US 70 is currently a 2-lane major thoroughfare, with segments of 4 to 5 lanes, from the Eastern MPO Boundary to the Western MPO Boundary. It serves regional and statewide mobility and connectivity and is part of the regional tier of the NC Multimodal Investment Network (NCMIN).

By 2040, this facility is projected to be near or over capacity from Westbrook Avenue (SR 1309) to the Western MPO Boundary. Near Whitsett, traffic is projected to increase from 10,000 vehicles per day (vpd) in 2010 to 32,000 vpd in 2035, compared to a capacity of 15,800 vpd.

Community Vision and Problem History

Due to the Burlington-Graham Urban Area's close proximity to Greensboro and the rest of the greater Triad area, population along this corridor is expected to increase at a greater rate than the rest of the county. It is expected that the greatest residential and commercial growth will be near the Town Whitsett.

Currently, US 70 is a two-lane major thoroughfare with 12 foot lanes from the Westbrook Avenue (SR 1309) to the Western MPO Boundary. Residents who live in and around Burlington-Graham use this facility to access jobs and other amenities in this urban area. Due to existing US 70 being used as an alternative travel route to the I-40/I-85 corridor, more travelers use this route to access jobs and shopping centers within the Burlington-Graham area, thereby creating congestion problems on US 70.

CTP Project Proposal

Project Description and Overview

The proposed project (Local ID: R-2910) is to widen US 70 from 2-lanes to a 4-lane divided boulevard from Westbrook Avenue (SR 1309) to the Western MPO Boundary.

The proposed improvements to US 70 will help reduce congestion along the existing east-west corridor through Alamance County. The project would provide a LOS D or better and improve mobility along US 70 within the project area.

Linkages to Other Plans and Proposed Project History

This project directly connects to proposed improvements of NC 100 and St. Marks Church Road (SR 1301). In addition, US 70 extends into the Greensboro MPO under the TIP Project U-2581B and is recommended to be widened to multi-lanes by the year 2025.

Relationship to Land Use Plans

The Alamance County 2025 Land Use Plan indicates this area has a moderate to high density of population with land developed for urban purposes such as public services and recreational facilities within the surrounding area of the Town of Whitsett. Primarily commercial and urban development is expected along this corridor. Mobility on this facility can be maximized by limiting driveway access. Future land use plan amendments and land use decisions should consider the mobility of this corridor.

Natural & Human Environmental Context

A planning level environmental analysis was conducted to assess the potential environmental impacts of the roadway projects recommended for inclusion in the 2040 Burlington-Graham Urban Area MTP. A portion of US 70 is located within the Cape Fear River Basin water supply shed protected area. Based on project and environmental features mapping using available GIS data, the proposed facility may potentially impact watershed and farmland areas.

A section of this proposed facility is located in Guilford County and has been identified as regionally significant in the 2040 Burlington-Graham Urban Area MTP. Guilford County is non-attainment for Particulate Matter (PM 2.5) pollutants and has been redesignated to attainment for ozone. An air quality conformity determination for the MTP was completed in March 2009 and includes analyses for ozone and PM 2.5.

Multi-modal Considerations

The Burlington-Graham Urban Area CTP includes recommendations for public transportation, bicycle, and pedestrian facilities around the Burlington-Graham Urban area.

There are several multi-modal recommendations that surround, but are not located on, this facility. On-road bicycle routes are recommended for improvement on Cook Road (SR 1311) and University Parkway north and south of the proposed facility and Springwood Church Road (SR 2748) south of the facility.

Public/ Stakeholder Involvement

The Burlington-Graham Urban Area CTP and the updated 2040 MTP were released for public review in 2015. No comments were received relating directly to the project.

NC 62 Proposed improvements from US 70 to I-40/I-85 **TIP ID: U-5844**

Identified Problem

Existing NC 62 is projected to be over capacity by 2040 in Burlington from I-40/I-85 to US 70. The primary purpose of this project is to relieve congestion on the existing facility such that a minimum Level of Service (LOS) D can be achieved and to facilitate safe and efficient north-south travel through Alamance County.

Justification of Need

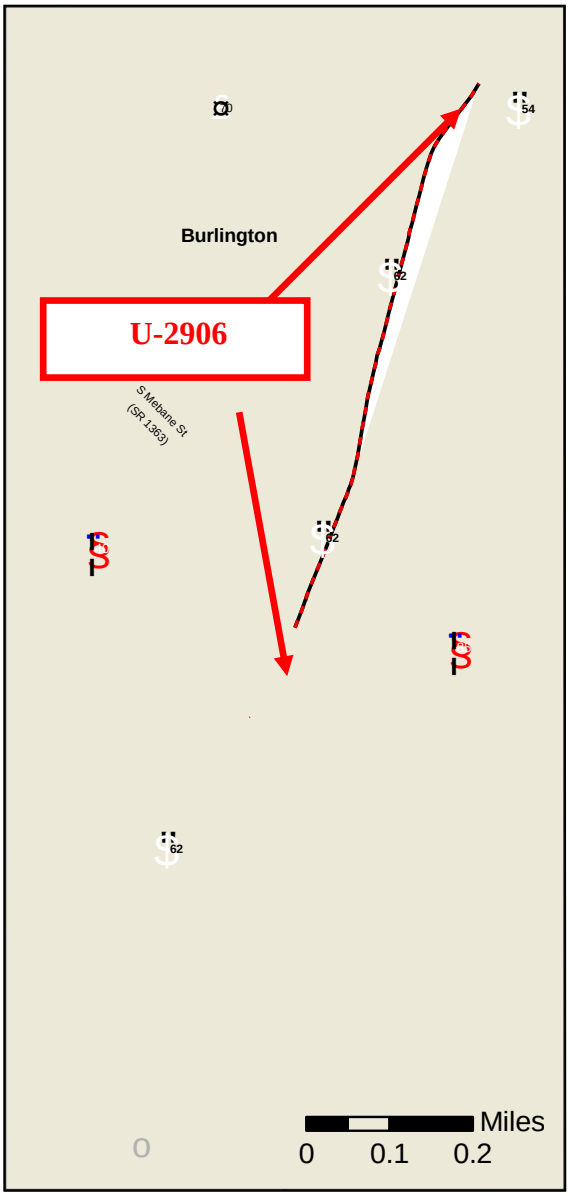
This section of NC 62 is a major north-south corridor in Alamance County. This facility is a vital artery in moving people and goods through this section of the county from Guilford County to northern Alamance County while traveling through the Burlington-Graham Urban Area.

NC 62 is currently a 2-lane major thoroughfare with 12 foot lanes and is a part of the regional tier of the NC Multimodal Investment Network (NCMIN).

By 2040, this facility is projected to be near or over capacity from US 70 to I-40/I-85. South of Mebane Street (SR 1306), traffic is projected to increase from 19,000 vehicles per day (vpd) in 2010 to 24,000 vpd in 2035, compared to a capacity of 13,800 vpd.

Community Vision and Problem History

Currently, NC 62 is a two-lane major thoroughfare from the Northern MPO Boundary to Alamance County. This facility is used by most residents who live in and around the Burlington Urbanized Area to connect to US 70 and I-40/I-85 for access to jobs, shopping districts, the Burlington-Alamance Regional Airport, and other amenities in this urban area.



CTP Project Proposal

Project Description

The proposed project (TIP U-5844) is to widen NC 62 from a 2-lane section to a 4-lane divided boulevard from US 70 to I-40/I-85. The proposed improvements to this corridor will help reduce congestion within the Burlington-Graham Urban Area. This project would improve mobility along this section of NC 62 and provide for a LOS D or better within the project area.

Linkages to Other Plans and Proposed Project History

This project directly connects to proposed improvements on US 70, NC 54, and S. Mebane Street (SR 1306).

Relationship to Land Use Plans

The Alamance County 2025 Land Use Plan indicates this area as primarily developed land associated with the downtown business district within the city limits of Burlington. Land use along this corridor and near the I-40/I-85 interchange consists of large commercial stores, small local businesses, industrial property, restaurants, shops, and a car dealership along with residential housing. Primarily urban growth is expected to continue in this area.

Natural & Human Environmental Context

A planning level environmental analysis was conducted to assess the potential environmental impacts of the roadway projects recommended for inclusion in the 2040 Burlington-Graham Urban Area MTP. Based on project and environmental features mapping using available GIS data, the proposed facility may potentially impact lakes, watershed and farmland areas.

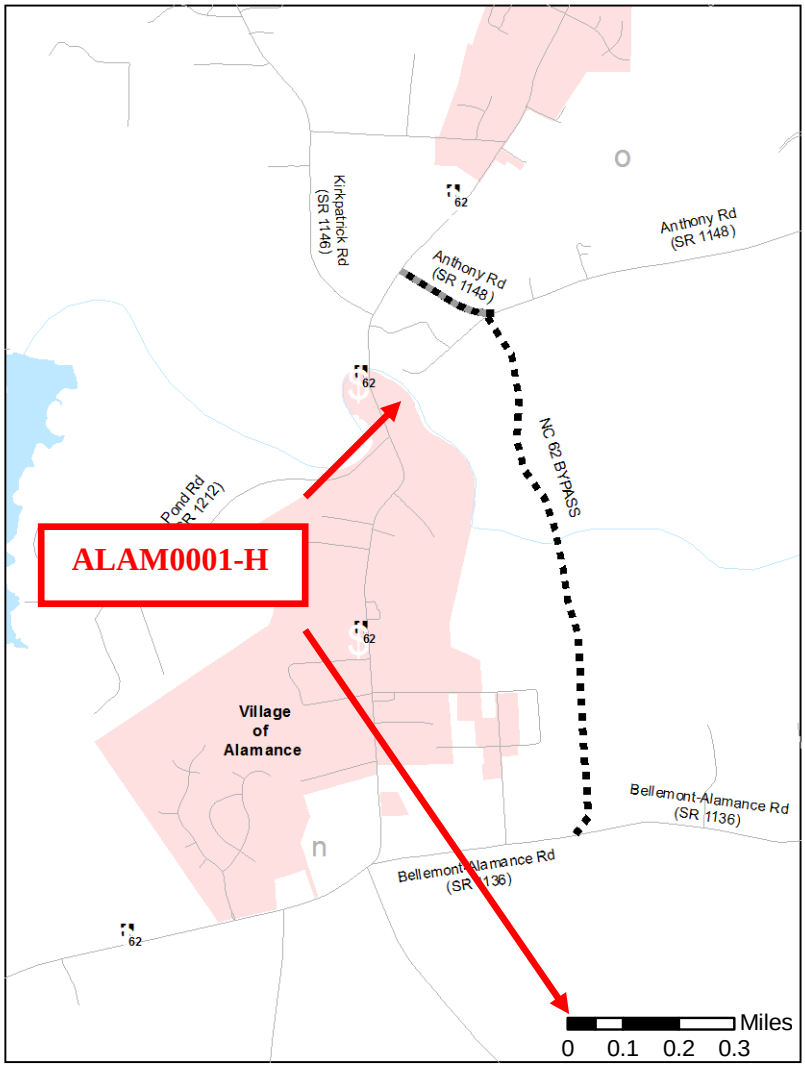
Multi-modal Considerations

There are no other modes of transportation associated with this proposed project.

Public/ Stakeholder Involvement

The Burlington-Graham Urban Area CTP and the updated 2040 MTP were released for public review in 2015. No comments were received relating directly to the project.

NC 62 Bypass from SR 1146 (Kirkpatrick Road) to SR 1136 (Bellemont-Alamance Road) **Local ID: ALAM0001-H**



Identified Problem

NC 62 is projected to be over capacity by 2040. The primary purpose of this project is to relieve congestion on existing NC 62 through the Village of Alamance such that a minimum Level of Service (LOS) D can be achieved.

Justification of Need

NC 62 is a major north-south corridor in Alamance County. This facility is a vital artery in moving people and goods through this section of the county from northern Alamance County to western Alamance County while traveling through the Burlington-Graham Urban Area. The proposed NC 62 Bypass will provide an alternate route from existing NC 62 for residents traveling north and south through Alamance County and provide more efficient travel to the Burlington-Alamance Regional Airport and the surrounding area.

By 2040, the existing NC 62 is projected to be over capacity. Traffic is projected to increase from 12,700 vpd in 2010 to 20,700 vpd in 2040 compared to a capacity of 13,800 vpd. This segment of NC 62 is currently a 2-lane major thoroughfare with 10 foot lanes with many driveways through the Village of Alamance and is part of the regional tier of the NC Multimodal Investment Network (NCMIN). Improvements are needed to alleviate congestion in the Village of Alamance's central business district.

Community Vision and Problem History

Residents who live in and around Burlington-Graham and the Village of Alamance use this facility to access jobs, the Edwin M. Holt Elementary School, churches, and other amenities in this urban area, as well as the Burlington-Alamance Regional Airport.

CTP Project Proposal

Project Description and Overview

The proposed project (Local ID ALAM0001-H) is to construct a 4-lane divided boulevard from Kirkpatrick Road (SR 1146) to Bellemont-Alamance Road (SR 1136). At the north end of the proposed NC 62 Bypass, improvements are needed along Anthony Road (SR 1147) to provide better connectivity to the proposed Bypass. The northern section of Anthony Road (SR 1147) is recommended to be upgraded from a 2 lane facility with 10 foot lanes to a 3 lane major thoroughfare before transitioning to the proposed NC 62 Bypass.

The proposed improvements to this corridor will help reduce congestion on existing NC 62 by providing a LOS D or better near the Village of Alamance as well as more efficient travel to the Burlington-Alamance Regional Airport.

Linkages to Other Plans and Proposed Project History

This project directly connects to proposed improvements on NC 62 north of Anthony Road (SR 1148) and Bellemont-Alamance Road (SR 1136) to the south. According to the 2035 Burlington-Graham MPO MTP, the NC 62 Bypass is scheduled to be constructed to a 4-lane divided boulevard with limited driveways by the year 2021.

Relationship to Land Use Plans

The Alamance County 2025 Land Use Plan indicates this area has a low to moderate density of population with land developed east and west of the Village of Alamance for residential neighborhoods. This section of existing NC 62 runs directly through the Alamance Mill Village Historic District which was listed on the National Register of Historic Places in 2007. This historic district consists of textile mills and numerous historic houses located on both sides of

NC 62 at the entrance of the Village of Alamance. This 2 lane corridor is located in the central business district of the Village which consists of businesses, restaurants, and shops. Due to right of way restrictions, location of the historic district, and commercial/industrial property, widening along this area of NC 62 is not recommended. Also, this area is congested with heavy truck traffic from local industrial businesses.

Natural & Human Environmental Context

A planning level environmental analysis was conducted to assess the potential environmental impacts of the roadway projects recommended for inclusion in the 2040 Burlington-Graham Urban Area MTP. Based on project and environmental features mapping using available GIS data, the proposed facility may potentially impact watershed and farmland areas.

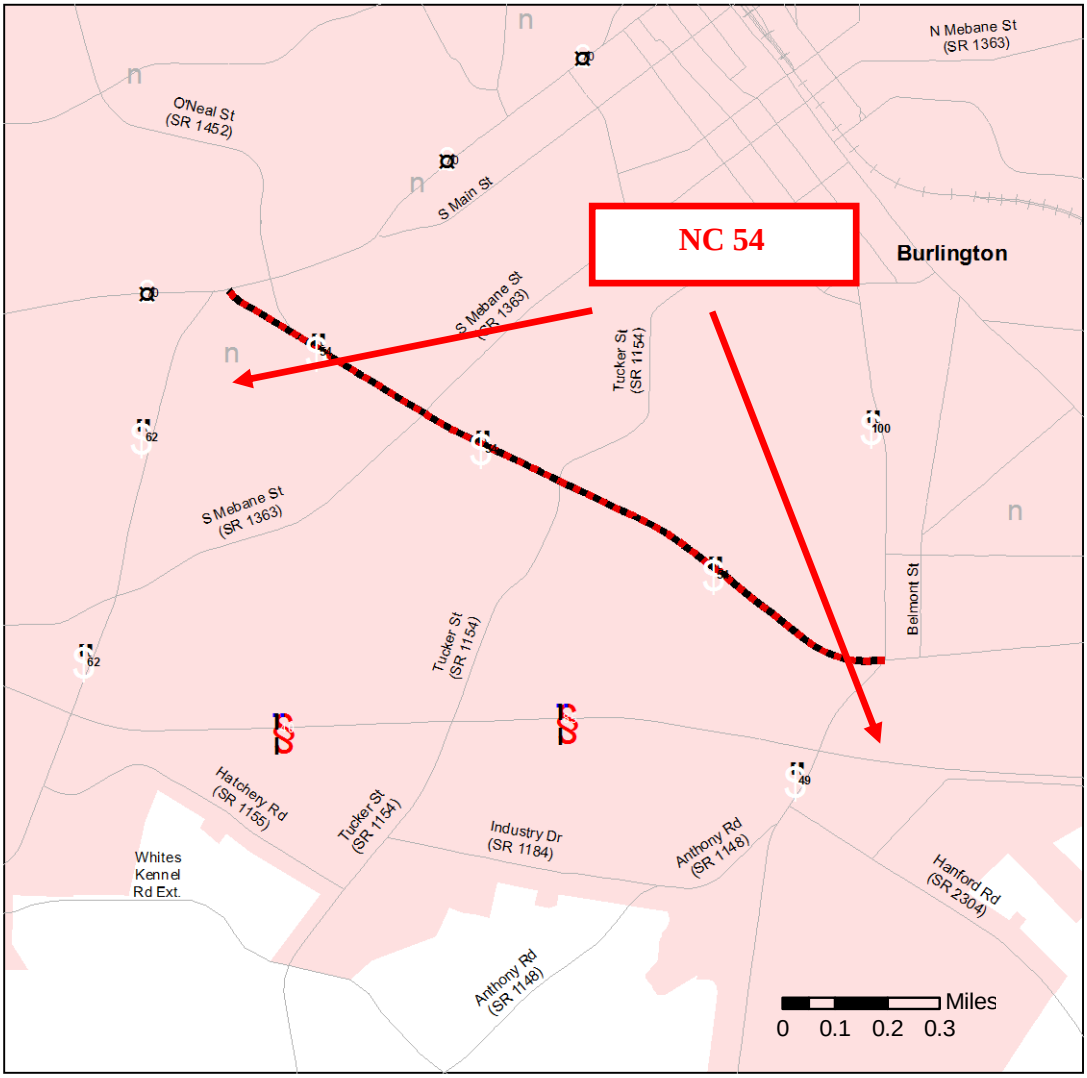
Multi-modal Considerations

The Burlington-Graham Urban Area CTP includes recommendations for public transportation, bicycle, and future pedestrian facilities around the Burlington-Graham Urban area and Alamance County. There are no multi-modal improvements along this facility. On-road bicycle improvements are recommended near the project area on SR 1146 (Kirkpatrick Road) and SR 1148 (Anthony Road) north of the facility.

Public/ Stakeholder Involvement

The Burlington-Graham Urban Area CTP and the updated 2040 MTP were released for public review in 2015. No comments were received relating directly to the project.

NC 54 Proposed improvements from US 70 to NC 49



Identified Problem

NC 54 is projected to be over capacity by 2040 in Burlington from US 70 to NC 49. Improvements are needed to relieve congestion on the existing facility such that a minimum Level of Service (LOS) D can be achieved.

Justification of Need

NC 54 is a major east-west corridor in Alamance County. This facility is a vital artery in moving people and goods through this section of the county from Guilford County to Orange County while traveling through the Burlington-Graham Urban Area.

NC 54 is currently a 2 to 3 lane major thoroughfare with 12 foot lanes beginning at US 70 within the urbanized area of Burlington to Orange County. NC 54 serves statewide mobility and connectivity and is part of the regional tier of the NC Multimodal Investment Network (NCMIN).

By 2040, this facility is projected to be near or over capacity through the Burlington-Graham Urban Area based on providing a LOS D. Traffic is projected to increase from 19,000 vehicles per day (vpd) in 2010 to 28,000 vpd in 2035, compared to a capacity of 15,300 vpd.

Community Vision and Problem History

Residents who live in and around Burlington-Graham use this facility to access jobs, local shops and business, recreational parks, and other amenities in this urban area.

CTP Project Proposal

Project Description and Overview

The proposed project (Local ID U-2907) is to widen NC 54 from 2 to 3 lanes to a 4-lane divided boulevard from US 70 to NC 49.

The proposed improvements to this corridor will help reduce congestion within the Burlington-Graham Urban Area. This project would improve mobility along this section of NC 54 and provide for a LOS D or better within the project area.

Linkages to Other Plans and Proposed Project History

The project proposal for NC 54 directly connects to proposed improvements on US 70, NC 62, and NC 49. According to the 2035 Burlington-Graham MPO MTP, NC 54 was previously scheduled to be upgraded to a 4-lane divided boulevard by the year 2020.

Relationship to Land Use Plans

The Alamance County 2025 Land Use Plan indicates this area has a moderate to high density of population with land developed for urban purposes such as public services and recreational facilities. Land use within this area consists of many local businesses, commercial/industrial properties, restaurants, shops, churches, and a school. NC 54 provides access from major routes such as US 70 and I-40/I-85 to nearby amenities such as the Grove Park Elementary School, the Burlington Aquatics Center, and the Burlington Outlet Village. Primarily commercial and urban development is expected along this corridor.

Natural & Human Environmental Context

A planning level environmental analysis was conducted to assess the potential environmental impacts of the roadway projects recommended for inclusion in the 2040 Burlington-Graham Urban Area MTP. Based on project and environmental features mapping using available GIS data, the proposed facility does not impact any of the environmental features as examined as part of the study.

Multi-modal Considerations

There are no other modes of transportation associated with this proposed project.

Public/ Stakeholder Involvement

The Burlington-Graham Urban Area CTP and 2040 MTP were released for public review From public meetings and other comment opportunities, the primary public concern on this section of NC 54 was the high traffic congestion.

Other BGMPO Project Descriptions from the CTP:

NC 61 Bypass, Local ID: ALAM0002-H

The proposed NC 61 Bypass from University Drive and County Farm Road is within the 2040 horizon year of the 2040 Burlington-Graham Long Range Transportation Plan. The primary purpose of this project is to remove through traffic from the existing NC 61 in order to alleviate congestion in Gibsonville's Central Business District and to provide a safe and efficient travel around the Town of Gibsonville. This proposed project is to construct a 4-lane divided boulevard from University Drive to County Farm Road.

Jimmy Kerr Road (SR 1928), Local ID: ALAM0003-H

Jimmy Kerr Road (SR 1928) between SR 1940 (Trollingwood Road) and the entrance of the Alamance Community College near the Haw River is expected to be over capacity by 2040. Improvements are needed to accommodate projected traffic in order to maintain a LOS D.

This section of Jimmy Kerr Road currently has a 2 to 3 lane, 12-foot cross section. The proposed project is to widen the existing facility to a 4-lane divided boulevard. The 2012 travel demand is approximately is 9,900 vehicles per day (vpd); by 2035, the volumes are projected to be 17,000 vpd compared to a capacity of 15,300 vpd for the existing cross section.

Rockwood Avenue(SR 1446)/Rockwood Road Extension Local ID: ALAM0004-H

Rockwood Avenue (SR 1446) between US 70 to the Rockwood Avenue Extension and the new location from the Extension to NC 87/NC 100/ Webb Avenue, is expected to be near capacity by 2040. Improvements are needed to accommodate projected traffic in order to maintain a LOS D.

This section of Rockwood Avenue currently has a 2-lane divided, 12-foot cross section. The proposed project is to widen the existing facility to a 4-lane divided boulevard as well as constructing a new 4-lane divided boulevard, known as the Rockwood Road Extension, from the end of Rockwood Avenue (SR 1446) to NC 87/NC 100/Webb Avenue. The 2012 travel demand is approximately is 7,200 vehicles per day (vpd); by 2035, the volumes are projected to be 11,000 vpd compared to a capacity of 13,800 vpd for the existing cross section.

Southern Alamance Parkway

Southern Alamance Parkway between NC 87 and NC 62 is within the 2040 horizon year of the 2035 Burlington-Graham Long Range Transportation Plan. The primary purpose of this project is to improve mobility and connectivity for east-west travel through Alamance County. The proposed project is to construct a new 4-lane divided boulevard from NC 87 to NC 62.

Tucker Street (SR 1154) @ I-40/I-85 Interchange, Local ID: ALAM0006-H

The primary purpose of the Tucker Street (SR 1154) Interchange on I-40/I-85 is to improve mobility and connectivity within the Burlington-Graham Urban Area. This proposed interchange will provide direct access from I-40/I-85 to the central business district of the Burlington-Graham Urban Area.

Mattress Factory Road(SR 1146) @ I-40/I-85 Interchange, Local ID: ALAM0007-H

The primary purpose of the Mattress Factory Road (SR 1146) Interchange on I-40/I-85 is to improve mobility and connectivity within the Burlington-Graham and Mebane Urban Area. This proposed interchange will provide direct access from I-40/I-85 to the central business district of the City of Mebane.

Southern Alamance Parkway, Local ID: ALAM0008-H

Existing I-40/I-85 is projected to be over capacity by 2035 within the Burlington-Graham Urban Area. Improvements are needed to accommodate projected traffic volumes and relieve congestion in order to maintain a LOS D.

By 2040, existing I-40/I-85 is projected to be over capacity within the Burlington-Graham Urban Area. Traffic is projected to increase from 121,000 vehicles per day (vpd) in 2014 to 172,000 vpd in 2040, compared to a LOS D capacity of 116,400 vpd. The proposed project will provide an alternate route to the existing interstate for residents traveling east-west through Alamance County and provide more efficient travel to the surrounding urban area.

The Alamance Parkway is a loop facility that will surround portions of Burlington, Graham, Elon, and Haw River. The Southern Alamance Parkway is a 4.4 mile section of this loop from Trollingwood Road (SR 1940) to NC 87. The Southern Alamance Parkway project includes:

- Widening the existing Cherry Lane Road (SR 2123) from a 2-lane major thoroughfare with 12 foot lanes to a 4-lane divided expressway from Trollingwood Road (SR 1940) to east of Jimmy Kerr Road (SR 1928);
- Constructing a 4-lane divided expressway on new location from east of Jimmy Kerr Road (SR 1928) to the Cheeks Lane (SR 2111)/ Nicks Street (SR 2112) intersection;
- Widening the existing Nicks Street (SR 2112) from a 2 lane facility to a 4-lane divided expressway from Cheeks Lane (SR 2111) to NC 87; and,
- Construction of a new interchange at Cherry Lane Road (SR 2123) and I-40/I-85.

NC 87 / NC 100 (Webb Avenue), Local ID: ALAM0009-H

NC 87/NC 100 (Webb Avenue) between Elmira Street (SR 1530) and NC 87 is expected to be over capacity by 2040. Improvements are needed to accommodate projected traffic and relieve congestion in order to maintain a LOS D.

This section of NC 87/NC 100 currently has a 2-3 lane, 12-foot cross section. The 2010 traffic volume is approximately 11,700 vehicles per day (vpd); by 2035, the volumes are projected to be 14,500 vpd compared to a LOS D capacity of 11,700 vpd. This facility is a major thoroughfare that provides direct access to several restaurants, retail stores, and local businesses in Burlington. In order to accommodate future traffic growth in the area, the proposed project is to widen the existing facility to 4-lanes with curb and gutter.

East Haggard Avenue (SR 1454), Local ID: ALAM0010-H

East Haggard Avenue (SR 1454) between N. Williamson Avenue (SR 1301) and NC 87/100 is currently a 2-3 lane facility with 12-foot lanes. This section of E. Haggard Avenue (SR 1454) serves as a major thoroughfare for access to Elon University, the Elon Elementary School, and various local businesses. Mobility along this facility is hampered due to the discontinuity of the existing cross-section from a 3-lane section with a center turn lane to a 2 lane section. The primary purpose of this project is to improve mobility along the facility as well as in and around the University. The proposed project is to widen the existing facility to a 4-lane major thoroughfare with curb and gutter.

Eastern Alamance Parkway, Local ID: ALAM0011-H

The primary purpose of this project is to improve mobility and connectivity for north-south travel through Alamance County.

The Eastern Alamance Parkway is part of a loop facility called the Alamance Parkway that will encompass Burlington, Graham, Elon, and Haw River. The Eastern Alamance Parkway is a 6.8 mile section of this loop from Cherry Lane Road (SR 2123) to Graham-Hopedale (SR 1716). The Eastern Alamance Parkway will provide drivers with an alternative route to US 70 and other local routes, as well as helping to relieve congestion on I-40/I-85. The proposed project is to construct a four-lane divided expressway on new location.

Forestdale Drive, Local ID: ALAM0012-H

Forestdale Drive between US 70 to Huffman Mill Road (SR 1149) is expected to be near capacity by 2035. Improvements are needed to accommodate projected traffic volumes in order to maintain a LOS D.

This section of Forestdale Drive currently has a 2-3 lane, 11-foot cross section. The 2013 traffic volume is approximately 9,400 vehicles per day (vpd); by 2040, the volumes are projected to be 10,700 vpd compared to a LOS D capacity of 11,300 vpd. The proposed project is to widen the existing facility to a 4-lane facility with curb and gutter.

Graham-Hopedale Road (SR 1716)

Graham-Hopedale Road (SR 1716) from US 70 to Providence Road is expected to be near capacity by 2040. Improvements are needed to accommodate projected traffic volumes such that a minimum Level of Service LOS D can be maintained.

This section of Graham-Hopedale Road (SR 1716) currently has a 2-3 lane,12-foot cross section. The 2012 traffic volume is approximately 6,500 vehicles per day (vpd); by 2040, the volumes are projected to be 13,200 vpd compared to a LOS D capacity of 13,800 vpd. The proposed project is to widen the existing facility to a five-lane major thoroughfare with a center turn lane from US 70 to Providence Road. A grade separation will also be constructed over the railroad as a part of the project.

US 70 – Widen US 70 from NC 49 to Charles Street from a two lane facility to a five lane major thoroughfare with curb & gutter. The proposed project is 4.6 miles in length and is currently unfunded.

Burlington-Graham MPO Problem Statements Phase III - Vision Plan

Swepsonville Road (SR 2116), Local ID: ALAM0005-H -Swepsonville Road (SR 2116) between E. Shannon Drive to Cooper Road (SR 2109) near Swepsonville is expected to be near capacity by 2040. Improvements are needed to accommodate projected traffic in order to maintain a LOS D. This section of Swepsonville Road currently has a 2-lane, 12-foot cross section. The proposed project is to convert the existing facility to a 3-lane major thoroughfare. The 2010 travel demand is approximately is 5,500 vehicles per day (vpd); by 2035, the volumes are projected to be 10,500 vpd compared to a capacity of 13,800 vpd for the existing cross section.

NC 119, Local ID: ALAM0013 – Widen NC 119 from I-40/I-85 south to Hawfields Road from an existing two lane facility to a five lane major thoroughfare with curb & gutter for a length of 0.7 miles.

NC 119/Fifth Street, Local ID: ALAM0014 - Widen NC 119/Fifth Street from the South Mebane Bypass to I-40/I-85 from an existing two lane facility to a four lane undivided major thoroughfare with curb & gutter for a length of 2.1 miles. The bridge along this route shall also be widened.

NC 87, – Widen NC 87 from Durham Street Extension (SR 1529) to Shallowford Church Road (SR 1301) from an existing two lane facility to a four lane undivided major thoroughfare with shoulder section. The proposed project is 1.3 miles in length and is currently unfunded.

NC 87, Local ID: ALAM0015 – Widen NC 87 from Thompson Road (SR 2316) to the MPO Boundary from an existing two lane facility to a four lane undivided major thoroughfare with curb & gutter for a length of 0.9 miles. The bridge on this route will not be widened.

NC 87, Local ID: ALAM0016 – Widen NC 87 from Thompson Road (SR 2316) to Nicks Street (SR 2112) from an existing two lane facility to a five lane major thoroughfare with curb & gutter for a length of 0.1 miles.

NC 62, Local ID: ALAM0017 – Widen NC 62 from Montgomery Road to Hickory Hill Road (SR 1161) from an existing two lane facility to a four lane undivided major thoroughfare with shoulder section for a length of 1.7 miles.

NC 54, Local ID: ALAM0018 – Widen NC 54 from Swepsonville Road (SR 2116) to the MPO Boundary from an existing two lane facility to a four lane undivided major thoroughfare with shoulder section for a length of 0.8 miles.

NC 49, Local ID: ALAM0019 – Widen NC 49 from I-40/I-85 to Otway Street from an existing two lane facility to a four lane undivided major thoroughfare with shoulder section for a length of 2.6 miles. The bridge on this route will be widened.

NC 49, Local ID: ALAM0020 – Widen NC 49 from Markwood Lane to Bellemont-Alamance Road (SR 1936) from an existing two lane facility to a four lane undivided major thoroughfare with shoulder section for a length of 0.3 miles.

Apple Street (SR 1700), Local ID: ALAM0021 – Widen Apple Street (SR 1700) from Sharpe Road (SR 1537) to Graham-Hopedale Road (SR 1716) from an existing two lane facility to a four lane undivided major thoroughfare with curb & gutter for a length of 0.7 miles.

Bakatsias Road Extension, Local ID: ALAM0022 – Construct a new 1.0 mile, two lane minor thoroughfare from Porter Avenue (SR 2249) to Cherry Lane (SR 2123).

Bason Road Realignment (SR 1927), Local ID: ALAM0023 – Realign Bason Road (SR 1927) on new location from existing Bason Road (SR 1927) to NC 49. The proposed project is to be constructed as a new 0.1 mile, two lane minor thoroughfare.

Bellemont Loop, Local ID: ALAM0024 – Construct a new 0.3 mile, two lane minor thoroughfare from NC 49 and reconnecting to NC 49.

Brown Street Extension, Local ID: ALAM0025 – Construct a new 0.3 mile, two lane minor thoroughfare from Fifth Street to First Street.

Buckhorn Road (SR 1114), Local ID: ALAM0026 – Widen Buckhorn Road (SR 1114) from I-40/I-85 to US 70 from an existing two lane facility to a four lane undivided major thoroughfare with shoulder section for a length of 0.5 miles.

Durham Street Extension (SR 1529), Local ID: ALAM0027 – Construct a new 0.6 mile, four lane undivided major thoroughfare from Old Glencoe Road (SR 1545) to Durham Street.

Eight Street Extension, Local ID: ALAM0028 – Construct a new 0.2 mile, two lane minor thoroughfare from Eight Street to Mebane Oaks Road (SR 1007).

Fifth Street Extension, Local ID: ALAM0029 – Construct a new 0.3 mile, two lane minor thoroughfare from Third Street to East Stagecoach Road (SR 1996).

Fonville Road Extension, Local ID: ALAM0030 – Construct a new 0.7 mile, two lane minor thoroughfare from existing Fonville Road (SR 1735) to McCray Road (SR 1745).

Gibson Road (SR 1940), Local ID: ALAM0031 – Widen Gibson Road (SR 1940) from Third Street Extension to Trollingwood Road (SR 1928) from an existing two lane facility to a four lane undivided major thoroughfare with shoulder section for a length of 0.9 miles.

Huffman Mill Road (SR 1149), Local ID: ALAM0032 – Widen Huffman Mill Road (SR 1149) from Forestdale Road to I-40/I-85 from an existing five lane facility to a seven lane major thoroughfare with curb & gutter for a length of 0.4 miles. The bridge on this route will be widened.

Huffman Mill Road (SR 1149), Local ID: ALAM0033 – Widen Huffman Mill Road (SR 1149) from I-40/I-85 to Alamance Parkway from an existing two lane facility to a four lane undivided major thoroughfare with curb & gutter for a length of 0.7 miles.

Huffman Mill Road (SR 1149), Local ID: ALAM0034 – Widen Huffman Mill Road (SR 1149) from Alamance Parkway to Springwood Church Road Extension (SR 2748) from an existing two lane facility to a four lane undivided major thoroughfare with shoulder section for a length of 1.1 miles.

Keck Drive Extension, Local ID: ALAM0035_– Construct a new 0.5 mile two lane minor thoroughfare from existing Keck Drive (SR 1204) to Rock Hill Road (SR 1160). A new bridge will be required.

Northeast Mebane Bypass, Local ID: ALAM0037 – Construct a new 2.3 mile two lane major thoroughfare from US 70 to NC 119.

Northern Alamance Parkway, Local ID: ALAM0038 – Widen Northern Alamance Parkway from Glencoe Road to Lower Hopedale Road (SR 1700) from an existing two lane facility to a four lane divided expressway with curb & gutter for a length of 2.3 miles.

Northern Alamance Parkway, Local ID: ALAM0039 – Construct a new 1.3 mile, four lane divided expressway from the Durham Street Extension to Glencoe Road.

Northern Alamance Parkway, Local ID: ALAM0040 – Construct a new 0.6 mile, four lane divided expressway from Old Glencoe Road (SR 1545) to existing Shallowford Church Road (SR 1301).

North I-85 Frontage Road, Local ID: ALAM0041 – Construct a new 1.7 mile, two lane minor thoroughfare with shoulder section from Springwood Church Road (SR 2748) to Williams Mill Road (SR 1203).

North I-85 Frontage Road, Local ID: ALAM0042 – Construct a new 0.6 mile, two lane minor thoroughfare with shoulder section from Whitsett Park Road to the existing North Frontage Road.

Parker Street Extension, Local ID: ALAM0043 – Construct a new 0.6 mile, two lane minor thoroughfare from existing Parker Street to Trollinger Road (SR 1943).

Pond Road Extension, Local ID: ALAM0044 – Construct a new 0.3 mile, two lane minor thoroughfare from existing Pond Road (SR 1145) to Harris Road (SR 1150).

Sandy Cross Connector, Local ID: ALAM0045 – Construct a new 0.1 mile, two lane minor thoroughfare from Sandy Cross Road (SR 1735) to Old Glencoe Road Extension (SR 1545).

Shadowbrook Drive Extension, Local ID: ALAM0046 – Construct a new 1.0 mile, two lane minor thoroughfare from Lakeview Terrace to Power Line Road (SR 1506). A bridge will span both Haggard Avenue (SR 1454) and the railroad. Parking will be available on both sides of the proposed extension.

Shadowbrook Drive Extension, Local ID: ALAM0047 – Construct a new 0.9, two lane minor thoroughfare with shoulder section from Gerringer Road (SR 1509) to Shallowford Church Road (SR 1301).

Sharpe Road Extension, Local ID: ALAM0048 – Construct a new 0.8 mile, two lane minor thoroughfare with curb & gutter from Elmira Road to Glen Raven Road (SR 1523).

South I-85 Frontage Road, Local ID: ALAM0049 – Construct a new 0.7 mile, two lane minor thoroughfare with shoulder section from Wheeler Bridge Road to NC 61.

South I-85 Frontage Road, Local ID: ALAM0050 – Construct a new 1.9 mile, two lane minor thoroughfare with shoulder section from Springwood Church Road (SR 2748) to St. Marks Church Road (SR 1301).

South Mebane Cross Town Connector, Local ID: ALAM0051 – Construct a new 2.6 mile, two lane minor thoroughfare from Mattress Factory Road (SR 1146) to the NC 119 Bypass.

Springwood Church Road Extension (SR 2748), Local ID: ALAM0052 – Construct a new 2.1 mile, two lane minor thoroughfare with shoulder section from South I-85 Frontage Road to Huffman Mill Road (SR 1158).

Supper Club Drive Extension, Local ID: ALAM0053 – Construct a new 0.4 mile, two lane minor thoroughfare from Oakwood Street to Washington Street with an at grade crossing at the railroad.

Thompson Road (SR 2316), Local ID: ALAM0054 – Construct a new 0.2 mile, two lane minor thoroughfare from South Graham Bypass to Wedgewood Drive.

Thompson Road (SR 2316), Local ID: ALAM0055 – Construct a new 0.3 mile, two lane minor thoroughfare from Rogers Road (SR 2309) to Broadway Drive.

Thompson Road (SR 2316), Local ID: ALAM0056 – Construct a new 0.6 mile, two lane minor thoroughfare from Sadia Trail to Stonegate Drive.

Trollinger Avenue Extension, Local ID: ALAM0057 – Construct a new 0.4 mile, two minor thoroughfare with curb & gutter and parking on one side from Shallowford Church Road Extension (SR 1301) to Summers Drive.

Trollingwood Road (SR 1928), Local ID: ALAM0058 – Widen Trollingwood Road (SR 1928) from Jimmy Kerr Road (SR 1928) to NC 49 from an existing two lane facility to a three lane minor thoroughfare with curb & gutter for a length of 1.6 miles.

Tyndell Street Extension, Local ID: ALAM0059 – Construct a new 0.3 mile, two lane minor thoroughfare from Stone Street Extension to Tyndall Street.

Walker Avenue Extension, Local ID: ALAM0060 – Construct a new 0.9 mile, two lane minor thoroughfare with shoulder section from Parker Street to US 70. A grade separation is recommended over the railroad.

West Stagecoach Road (SR 1996), Local ID: ALAM0061 – Widen West Stagecoach Road (SR 1996) from Cooks Mill Road (SR 1920) to NC 119 from an existing two lane facility to a four lane undivided major thoroughfare with curb & gutter for a length of 1.2 miles.

Whitsett Bypass, Local ID: ALAM0062 – Construct a new 1.3 mile, two lane minor thoroughfare with shoulder section from NC 61 to Whitsett Avenue.

Figure 14: BGMPO Area Bike Routes

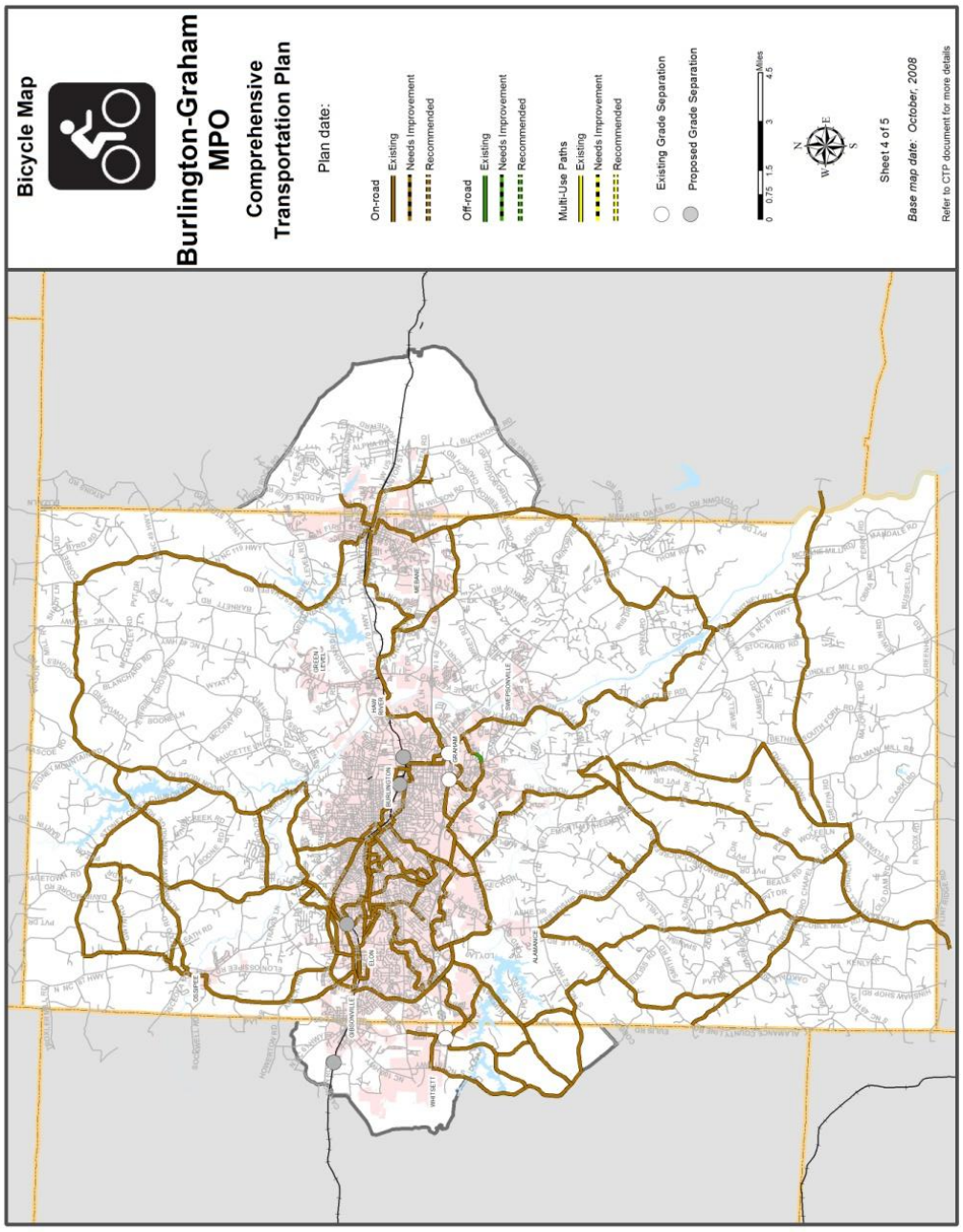


Table 15. City of Graham Sidewalk and Greenway Projects

Corridor	From	To	Estimated Total Cost	Comments
SHORT-TERM				
Town Branch Rd	E Elm St	Teer Rd	$223,600	*1600ft of existing on one side, from High School to far end of Bill Cooke Park*
S Melville St	Robin Ln	E Harden St	$145,600	
Trollinger Rd	E Elm St	Town Branch Rd	$267,800	
W Elm St	Oneida St	Boone St	$182,000	
W Pine St	Home Ave	S Maple St	$101,400	
N Marshall St	E Parker St	E Harden St	$145,600	
E Market St	N Main St	N Marshall St	$26,000	
W & E Harden St	W Pine St	Melville St	$156,000	
E Pine St	Goley St	E Harden St	$70,200	
S Main St	Thompson Rd	Rogers Rd	$239,200	
E Gilbreath St	Ivey Rd	Ray St	$187,200	*Partially complete on one side; Includes I-40 bridge*
Robin Ln	S Main St	Apple St	$57,200	
E Harden St	Ivey Rd	E Pine St	$241,800	
E Parker St	N Melville St	dead end	$241,800	
Goley St	Johnson Ave	E Pine St	$31,200	
Ray St	E Gilbreath St	dead end	$18,200	*One side is complete*
S Maple St	Gant Rd	Ward St	$148,200	
Ward St	S Maple St	Banks St	$143,000	
E Harden St	Cooper Rd	Ivey Rd	$234,000	
E Harden St	Main St	E Gilbreath St	$288,600	
Rogers Rd	Thompson Rd	S Main St	$260,000	
Poplar St	North St	W Elm St	$67,600	
MID-TERM				
W Gilbreath St	S Main St	Denny Cir	$171,600	
Apple St	Robin Ln	E Gilbreath St	$13,000	
S Marshall St	E Gilbreath St	E McAden St	$33,800	
Carter Rd	Trollinger Rd	Town Branch Rd	$49,400	
Washington St	W Harden St	College St	$101,400	
Town Branch Rd	Teer Rd	Trollinger Rd	$236,600	
Oneida St	W Harden St	W Elm St	$26,000	
N Melville St	E Parker St	E Harden St	$150,800	
Rogers Rd	Lacy Holt Rd	Rockwood Dr	$114,400	
Rogers Rd	Rockwood Dr	Thompson Rd	$57,200	*One side is complete*

Corridor	From	To	Estimated Total Cost	Comments
College St	North St	N Main St	$88,400	
Oakley St	W Elm St	Border St	$85,800	
Lacy Holt Rd	Monroe Holt Rd	Rogers Rd	$369,200	
Weaver Way	Town Branch Rd	Doggett Dr	$26,000	
Cooper Rd	Cheeks Ln	E Harden St	$150,280	
Banks St	Wilson St	McBride St	$184,600	
Washington St	Providence Rd	River St	$52,000	
Hill St	Pomeroy St	N Melville St	$46,800	
LONG-TERM				
Noah Rd	Woody Dr	Lancelot Ln	$231,400	
Providence Rd	Washington St	N Main St	$23,400	
Pomeroy St	Travora St	Parker St	$20,800	
Home Ave	Ward St	W Elm St	$72,800	
Ivey Rd	E Gilbreath St	E Harden St	$91,000	
Monroe Holt Rd	Lacy Holt Rd	Hanford Rd	$275,600	
Border St	Oakley St	Sideview St	$59,800	
Cheeks Ln	Nicks St/Hortense St	Cooper Rd	$353,600	
Woody Dr	E Harden St	Noah Rd	$93,600	
Denny Cir	W Gilbreath St	Ward St	$36,400	
Hortense St	S Main St	Nicks St/Cheeks Ln	$13,000	
Auto Park Dr/Hanford Rd	Monroe Holt Rd	S Main St	$273,000	
Hanford Rd	Old Coach Rd	Monroe Holt Rd	$156,000	
Raspberry Run	E Harden St	dead end	$29,900	*One side only*

City of Graham Greenway Projects

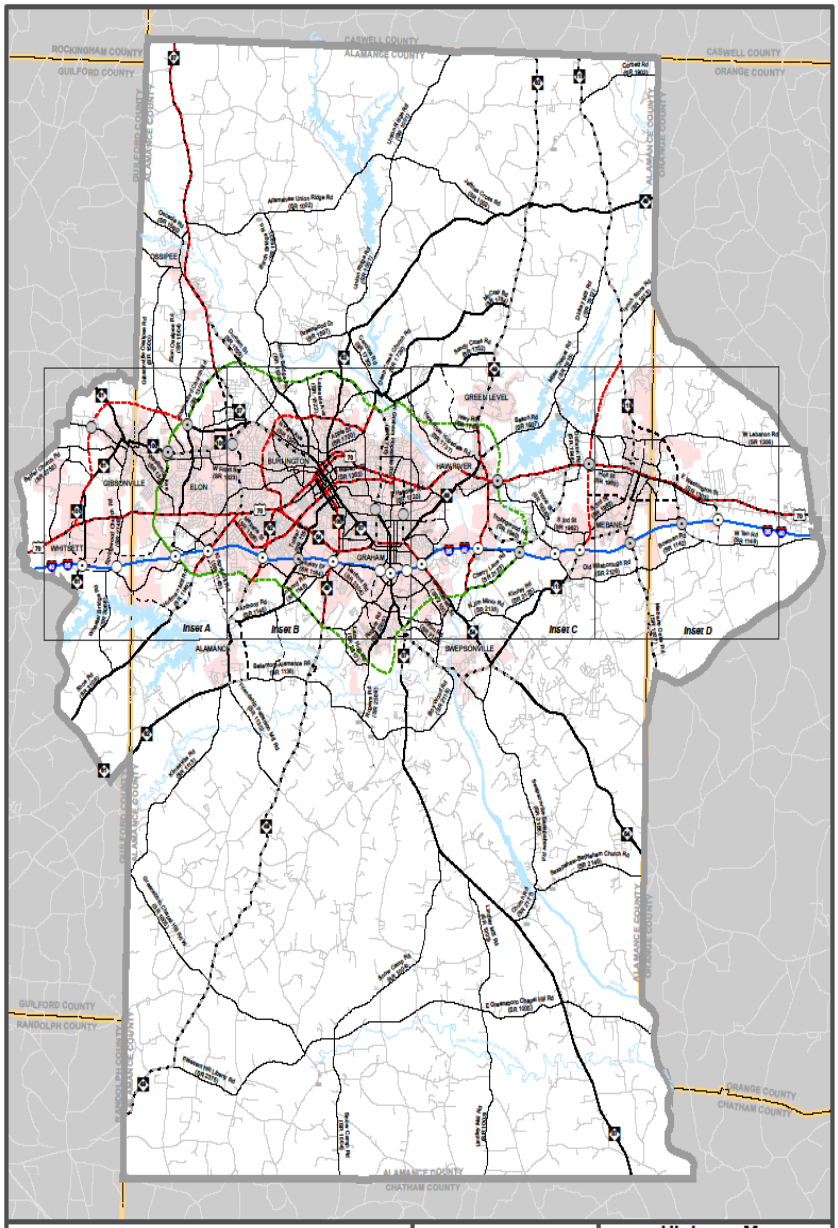
Corridor	Estimated Total Cost
Haw River Greenway (Mountains to Sea Trail)	$2,018,016
N Graham Elem.-Graham High-Bill Cooke Park Connector	$120,120
Little Alamance Creek Greenway	$1,729,728
Main St to Ray St Connector	$168,168
Big Alamance Creek Greenway	$2,546,544

Table 16: City of Graham Pedestrian Project Cost Estimates

Corridor	From	To	Description	Estimated Total Cost
Town Branch Rd	E Elm St	Teer Rd	Sidewalk, 5ft, both sides	$223,600
S Melville St	Robin Ln	E Harden St	Sidewalk, 5ft, both sides	$145,600
Trollinger Rd	E Elm St	Town Branch Rd	Sidewalk, 5ft, both sides	$267,800
W Elm St	Oneida St	Boone St	Sidewalk, 5ft, both sides	$182,000
W Pine St	Home Ave	S Maple St	Sidewalk, 5ft, both sides	$101,400
N Marshall St	E Parker St	E Harden St	Sidewalk, 5ft, both sides	$145,600
E Market St	N Main St	N Marshall St	Sidewalk, 5ft, both sides	$26,000
W & E Harden St	W Pine St	Melville St	Sidewalk, 5ft, both sides	$156,000
E Pine St	Goley St	E Harden St	Sidewalk, 5ft, both sides	$70,200
S Main St	Thompson Rd	Rogers Rd	Sidewalk, 5ft, both sides	$239,200
E Gilbreath St	Ivey Rd	Ray St	Sidewalk, 5ft, both sides	$187,200
Robin Ln	S Main St	Apple St	Sidewalk, 5ft, both sides	$57,200
E Harden St	Ivey Rd	E Pine St	Sidewalk, 5ft, both sides	$241,800
E Parker St	N Melville St	dead end	Sidewalk, 5ft, both sides	$241,800
Goley St	Johnson Ave	E Pine St	Sidewalk, 5ft, both sides	$31,200
Ray St	E Gilbreath St	dead end	Sidewalk, 5ft, both sides	$18,200
S Maple St	Gant Rd	Ward St	Sidewalk, 5ft, both sides	$148,200
Ward St	S Maple St	Banks St	Sidewalk, 5ft, both sides	$143,000
E Harden St	Cooper Rd	Ivey Rd	Sidewalk, 5ft, both sides	$234,000
E Harden St	Main St	E Gilbreath St	Sidewalk, 5ft, both sides	$288,600
Rogers Rd	Thompson Rd	S Main St	Sidewalk, 5ft, both sides	$260,000
Poplar St	North St	W Elm St	Sidewalk, 5ft, both sides	$67,600
W Gilbreath St	S Main St	Denny Cir	Sidewalk, 5ft, both sides	$171,600
Apple St	Robin Ln	E Gilbreath St	Sidewalk, 5ft, both sides	$13,000

S Marshall St	E Gilbreath St	E McAden St	Sidewalk, 5ft, both sides	$33,800
Carter Rd	Trollinger Rd	Town Branch Rd	Sidewalk, 5ft, both sides	$49,400
Washington St	W Harden St	College St	Sidewalk, 5ft, both sides	$101,400
Town Branch Rd	Teer Rd	Trollinger Rd	Sidewalk, 5ft, both sides	$236,600
Oneida St	W Harden St	W Elm St	Sidewalk, 5ft, both sides	$26,000
N Melville St	E Parker St	E Harden St	Sidewalk, 5ft, both sides	$150,800
Rogers Rd	Lacy Holt Rd	Rockwood Dr	Sidewalk, 5ft, both sides	$114,400
Rogers Rd	Rockwood Dr	Thompson Rd	Sidewalk, 5ft, both sides	$57,200
College St	North St	N Main St	Sidewalk, 5ft, both sides	$88,400
Oakley St	W Elm St	Border St	Sidewalk, 5ft, both sides	$85,800
Lacy Holt Rd	Monroe Holt Rd	Rogers Rd	Sidewalk, 5ft, both sides	$369,200
Weaver Way	Town Branch Rd	Doggett Dr	Sidewalk, 5ft, both sides	$26,000
Cooper Rd	Cheeks Ln	E Harden St	Sidewalk, 5ft, both sides	$150,280
Banks St	Wilson St	McBride St	Sidewalk, 5ft, both sides	$184,600
Washington St	Providence Rd	River St	Sidewalk, 5ft, both sides	$52,000
Hill St	Pomeroy St	N Melville St	Sidewalk, 5ft, both sides	$46,800
Noah Rd	Woody Dr	Lancelot Ln	Sidewalk, 5ft, both sides	$231,400
Providence Rd	Washington St	N Main St	Sidewalk, 5ft, both sides	$23,400
Pomeroy St	Travora St	Parker St	Sidewalk, 5ft, both sides	$20,800
Home Ave	Ward St	W Elm St	Sidewalk, 5ft, both sides	$72,800
Ivey Rd	E Gilbreath St	E Harden St	Sidewalk, 5ft, both sides	$91,000
Monroe Holt Rd	Lacy Holt Rd	Hanford Rd	Sidewalk, 5ft, both sides	$275,600
Border St	Oakley St	Sideview St	Sidewalk, 5ft, both sides	$59,800
Cheeks Ln	Nicks St/Hortense St	Cooper Rd	Sidewalk, 5ft, both sides	$353,600
Woody Dr	E Harden St	Noah Rd	Sidewalk, 5ft, both sides	$93,600
Denny Cir	W Gilbreath St	Ward St	Sidewalk, 5ft, both sides	$36,400

Hortense St	S Main St	Nicks St/Cheeks Ln	Sidewalk, 5ft, both sides	$13,000
Auto Park Dr/Hanford Rd	Monroe Holt Rd	S Main St	Sidewalk, 5ft, both sides	$273,000
Hanford Rd	Old Coach Rd	Monroe Holt Rd	Sidewalk, 5ft, both sides	$156,000
Raspberry Run	E Harden St	dead end	Sidewalk, 5ft, one side	$29,900
Haw River Greenway (Mountains to Sea Trail)			Greenway, 10ft	$2,018,016
N Graham Elem.-Graham High-Bill Cooke Park Connector			Greenway, 10ft	$120,120
Little Alamance Creek Greenway			Greenway, 10ft	$1,729,728
Main St to Ray St Connector			Greenway, 10ft	$168,168
Big Alamance Creek Greenway			Greenway, 10ft	$2,546,544



Freeways
- Existing
- Needs Improvement
- Recommended

Expressways
- Existing
- Needs Improvement
- Recommended

Boulevards
- Existing
- Needs Improvement
- Recommended

Other Major Thoroughfares
- Existing
- Needs Improvement
- Recommended

Minor Thoroughfares
- Existing
- Needs Improvement
- Recommended

- Existing Interchange
- Proposed Interchange
- Existing Grade Separation
- Proposed Grade Separation

0 1 2 3 Miles

N W E S

Sheet 2 of 5

Base map date: October 2008

Refer to CTP document for more details

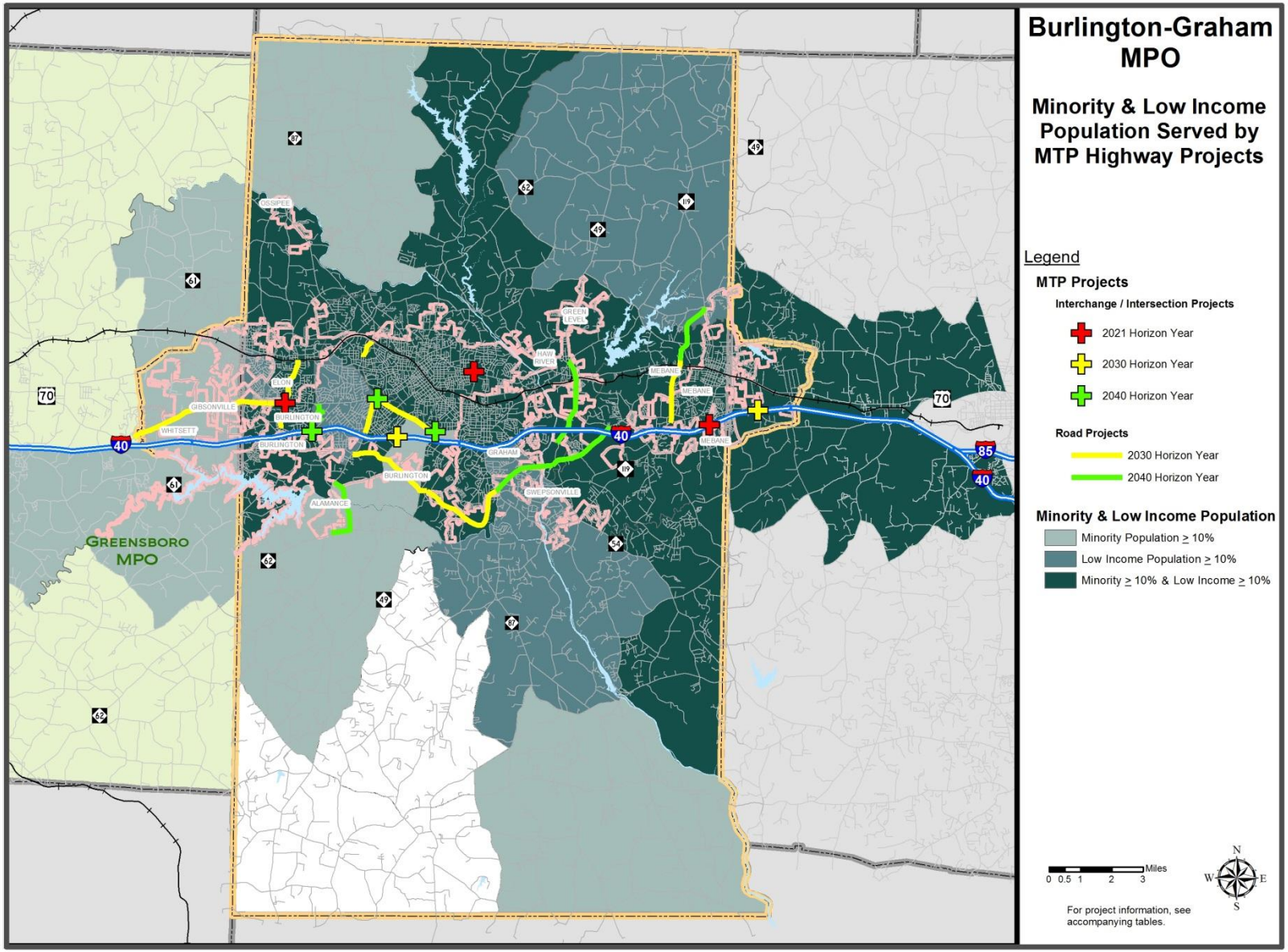
Highway Map

Burlington-Graham MPO

DRAFT

Comprehensive Transportation Plan

Plan date: September 2, 2010


Burlington-Graham MPO
Minority & Low Income Population Served by MTP Highway Projects
Legend
MTP Projects
Interchange / Intersection Projects
2021 Horizon Year
2030 Horizon Year
2040 Horizon Year
Road Projects
2030 Horizon Year
2040 Horizon Year
Minority & Low Income Population
Minority Population ≥ 10%
Low Income Population ≥ 10%
Minority ≥ 10% & Low Income ≥ 10%
Miles
0 0.5 1 2 3
N
W
E
S
For project information, see accompanying tables.
GREENSBORO MPO
OSSIPEE
GREEN LEVEL
HAW RIVER
MEBANE
ELON
GIBSONVILLE
BURLINGTON
WHITSETT
GRAHAM
SWEPSONVILLE
ALAMANCE
70
40
85
49
42
61
54
119
67