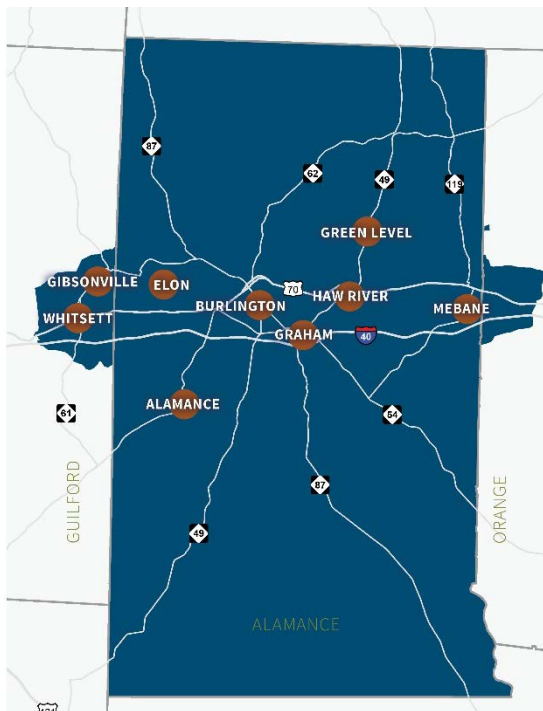


# Burlington-Graham Metropolitan Planning Organization – *Getting There 2045*

## Base Year Conditions Report

### Introduction

The Burlington-Graham Metropolitan Planning Organization (BGMP) is the federally designated agency responsible for working with residents and local, state, and federal agencies to coordinate transportation planning and project development within the Burlington urbanized area. Federal legislation requires urbanized areas with populations greater than 50,000 to have an MPO to carry out the transportation planning process among the member jurisdictions within its established planning area boundary.



In Partnership with FHWA, NCDOT and area transit providers, the Burlington-Graham MPO provides transportation planning for the following jurisdictions:

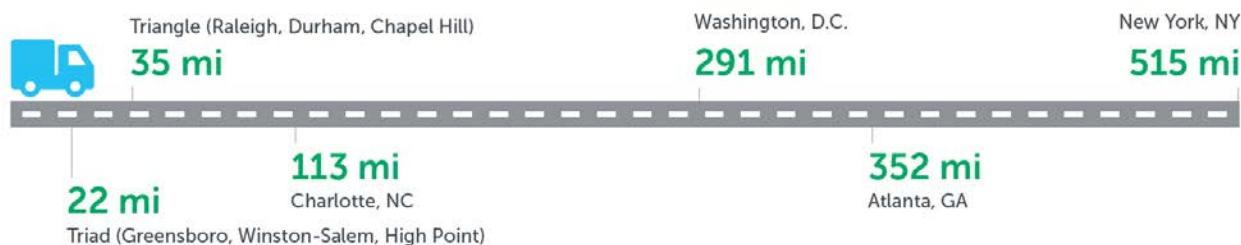
- City of Burlington
- City of Graham
- City of Mebane
- Town of Elon
- Town of Gibsonville
- Town of Green Level
- Town of Haw River
- Town of Whitsett
- Village of Alamance
- Alamance County
- Portions of Guilford and Orange County

**Map: Burlington-Graham MPO Planning Area**

Burlington-Graham MPO Planning Area population was at 176,711 in 2017. The Burlington-Graham region is strategically positioned in the center of North Carolina, between the Piedmont Triad and the Research Triangle regions, and is well-served by transportation networks including the interstates I-40/I-85 running in tandem through the heart of the Burlington-Graham MPO region. Two large commercial airports are present nearby and outside the MPO planning area--Piedmont Triad International Airport

and Raleigh-Durham International Airport. The region also has access to a local general aviation airport, Burlington-Alamance Regional Airport (BUY) with a 6,400-foot runway which serves over 74,000 operations (take-offs and landings) per year. Norfolk Southern operates freight trains on the rail corridor through the region, and the Amtrak passenger train station in Burlington sees four southbound and four northbound trains per day that operate between Charlotte and Raleigh (the Piedmont and the Carolinian; the Piedmont gives passengers an option to travel to New York.)

### TRAVEL DISTANCE

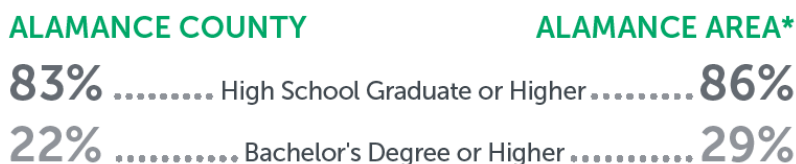


**Travel Distance to Major Metro Areas, Source: Alamance Chamber of Commerce Economic Development Infographics**

While in the past the region’s economic development saw a slowdown due to transition away from textile-oriented industries, currently the economy is growing and is diversified across a variety of manufacturing, medical testing, distribution and consumer goods companies, with LabCorp alone accounting for 3,000 jobs in Alamance County<sup>1</sup>. Government and higher education sectors are also among the top ten employers for the region.

The region’s population has slightly lower postsecondary educational attainment when compared with the larger region encompassing both the Piedmont Triad and the Research Triangle metro areas—22 percent of Alamance County residents have a Bachelor’s or higher degree, versus 29 percent of population with a Bachelor’s or higher degree for the larger area.

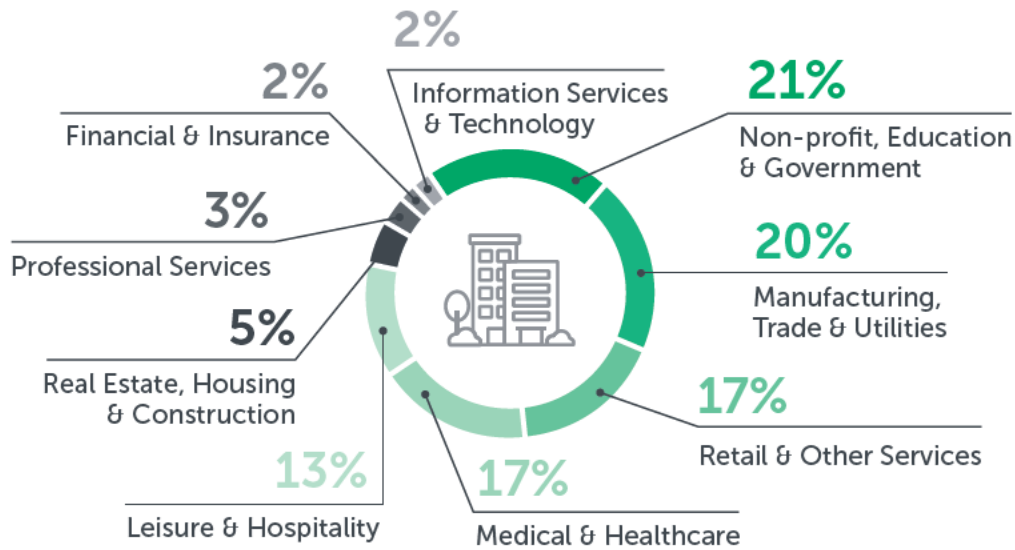
### EDUCATION ATTAINMENT



**Educational Attainment in Alamance County, Source: U.S. Census Bureau, 2015, Alamance Chamber of Commerce Economic Development Infographics**

<sup>1</sup> Alamance County Chamber of Commerce, Economic Development Infographics. Retrieved from <http://www.alamancechamber.com/economic-development-infographic-downloads/>

# EMPLOYMENT BY INDUSTRY












Employment by Industry in Alamance County, Source: Labor & Economic Analysis Division, NC Department of Commerce, 2016 as cited in Alamance Chamber of Commerce Economic Development Infographics

## TOP EMPLOYERS

 <b>ALAMANCE-BURLINGTON SCHOOL SYSTEM</b> Education	<b>3,500</b>
 <b>LABCORP OF AMERICA</b> Medical Testing	<b>3,000</b>
 <b>CONE HEALTH ALAMANCE REGIONAL</b> Healthcare	<b>2,000</b>
 <b>ELON UNIVERSITY</b> Education	<b>1,500</b>
 <b>WAL-MART STORES INC.</b> Food Distribution Center & Retail Stores (3)	<b>1,200</b>
 <b>CITY OF BURLINGTON</b> Government	<b>1,100</b>
 <b>ALAMANCE COUNTY</b> Government	<b>950</b>
 <b>HONDA</b> Small Engine and Jet Engine Manufacturing	<b>850</b>
 <b>GKN DRIVELINE NORTH AMERICA</b> Automotive Parts	<b>800</b>
 <b>ALAMANCE COMMUNITY COLLEGE</b> Education	<b>650</b>

## TOP INDUSTRIAL EMPLOYERS

 <b>LABCORP OF AMERICA</b> Medical Testing	<b>3,000</b>
 <b>GKN DRIVELINE NORTH AMERICA</b> Automotive Parts	<b>800</b>
 <b>HONDA POWER EQUIPMENT</b> Small Engine Manufacturing	<b>750</b>
 <b>WAL-MART STORES INC.</b> Food Distribution Center	<b>600</b>
 <b>GLEN RAVEN, INC.</b> Engineered Textiles	<b>500</b>
 <b>KAYSER-ROTH CORP</b> Hosiery	<b>460</b>
 <b>JABIL PACKAGING SOLUTIONS</b> Medical and Consumer Packaging	<b>400</b>
 <b>LIGGETT GROUP, LLC</b> Tobacco Products Manufacturing	<b>250</b>
 <b>SHEETZ</b> Bakery and Distribution Center	<b>250</b>
 <b>SPORTS ENDEAVORS, INC.</b> Sports Retailer	<b>150</b>

Major Employers in Alamance County, Source: Employer Information 2016-2017, Alamance Chamber of Commerce Economic Development Infographics

The diversity of local employers presents an opportunity to continue to grow the region’s economy and median household income, which as of 2014 was at \$44,209—below North Carolina median household income of \$48,256.

## 2014 MEDIAN INCOME

### HOUSEHOLD

Alamance County	<b>\$43,209</b>
North Carolina	<b>\$48,256</b>
United States	<b>\$55,322</b>

### PER CAPITA

Alamance County	<b>\$23,989</b>
North Carolina	<b>\$26,779</b>
United States	<b>\$29,829</b>

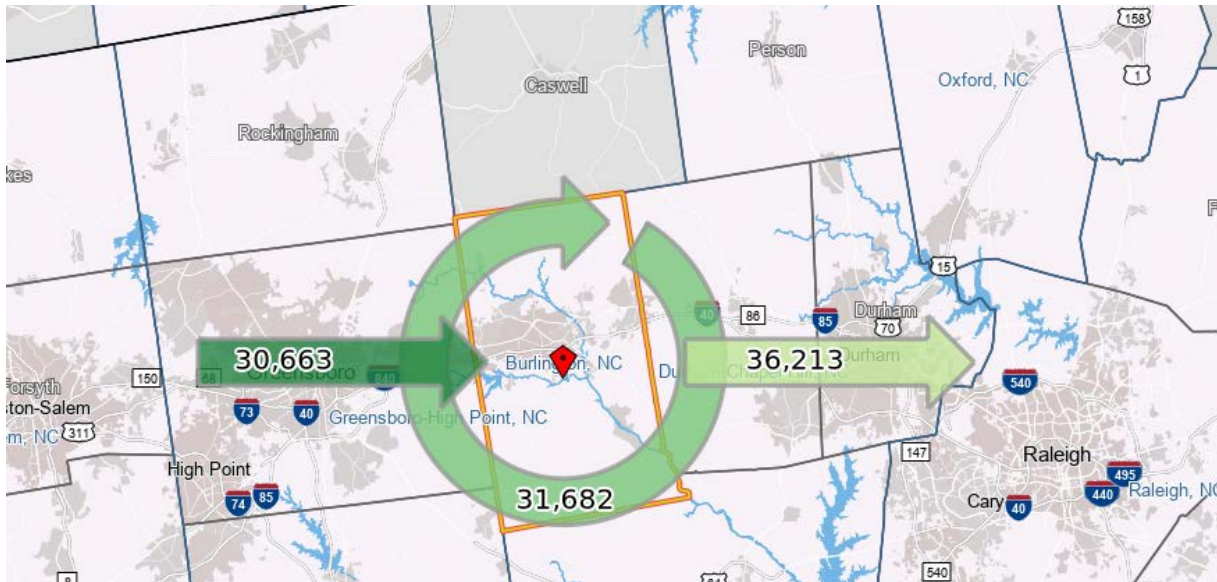
Source: 2011–2015 American Community Survey, US Census Bureau, 2014

**2014 Median Income, Source: 2011-2015 American Community Survey, U.S. Census Bureau 2014, as cited in Alamance Chamber of Commerce Economic Development Infographics**

Due to its unique geography of being located between two fairly large regions – the Piedmont Triad to the west and the Research Triangle to the east – BGMPO sees some unusual commuting patterns. Burlington-Graham region households often choose to commute to nearby job centers in the Piedmont Triad and the Research Triangle metro areas. Of approximately 68,000 people in the labor force in Alamance County as of 2015, a little over 36,000 or 53 percent were working outside the area and just under 32,000 or 47% of the labor force were living and working in Alamance County. Approximately 53% travel to other areas, with the following break-down between neighboring metro areas:

- 24% travel to the Triangle region for work
- 17% travel to the Piedmont Triad region to work
- about 5% travel to to jobs in the greater Charlotte region

An additional 31,000 employees were commuting into Alamance County for work as of 2015. This points to the importance of major transportation corridors like I-40, I-85, US 70 and NC 54 to the economic vitality of the region and to the well-being of households that call Burlington-Graham metropolitan area their home.



**Map: Inflow and Outflow Commuting Patterns for Alamance County, 2015,**  
**Source: Census on the Map, U.S. Census.**

Inflow/Outflow Job Counts in 2015



■ 30,663 - Employed in Selection Area, Live Outside  
■ 36,213 - Live in Selection Area, Employed Outside  
■ 31,682 - Employed and Live in Selection Area

**Inflow/Outflow Job Counts (All Jobs)**  
**2015**

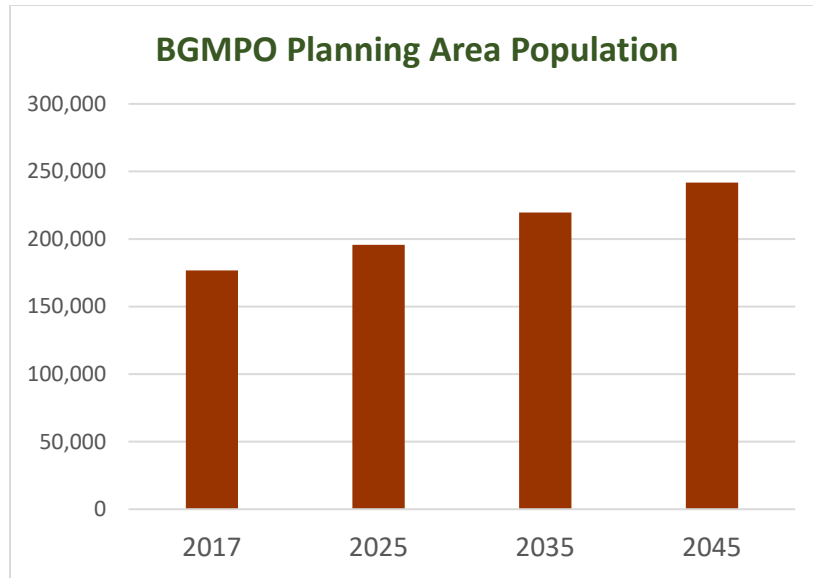
	Count	Share
<a href="#">Employed in the Selection Area</a>	62,345	100.0%
<a href="#">Employed in the Selection Area but Living Outside</a>	30,663	49.2%
<a href="#">Employed and Living in the Selection Area</a>	31,682	50.8%
<a href="#">Living in the Selection Area</a>	67,895	100.0%
<a href="#">Living in the Selection Area but Employed Outside</a>	36,213	53.3%
<a href="#">Living and Employed in the Selection Area</a>	31,682	46.7%

**Inflow and Outflow Commuting Patterns for Alamance County, 2015,**  
**Source: Census on the Map, U.S. Census.**

## Future Population and Employment Distribution

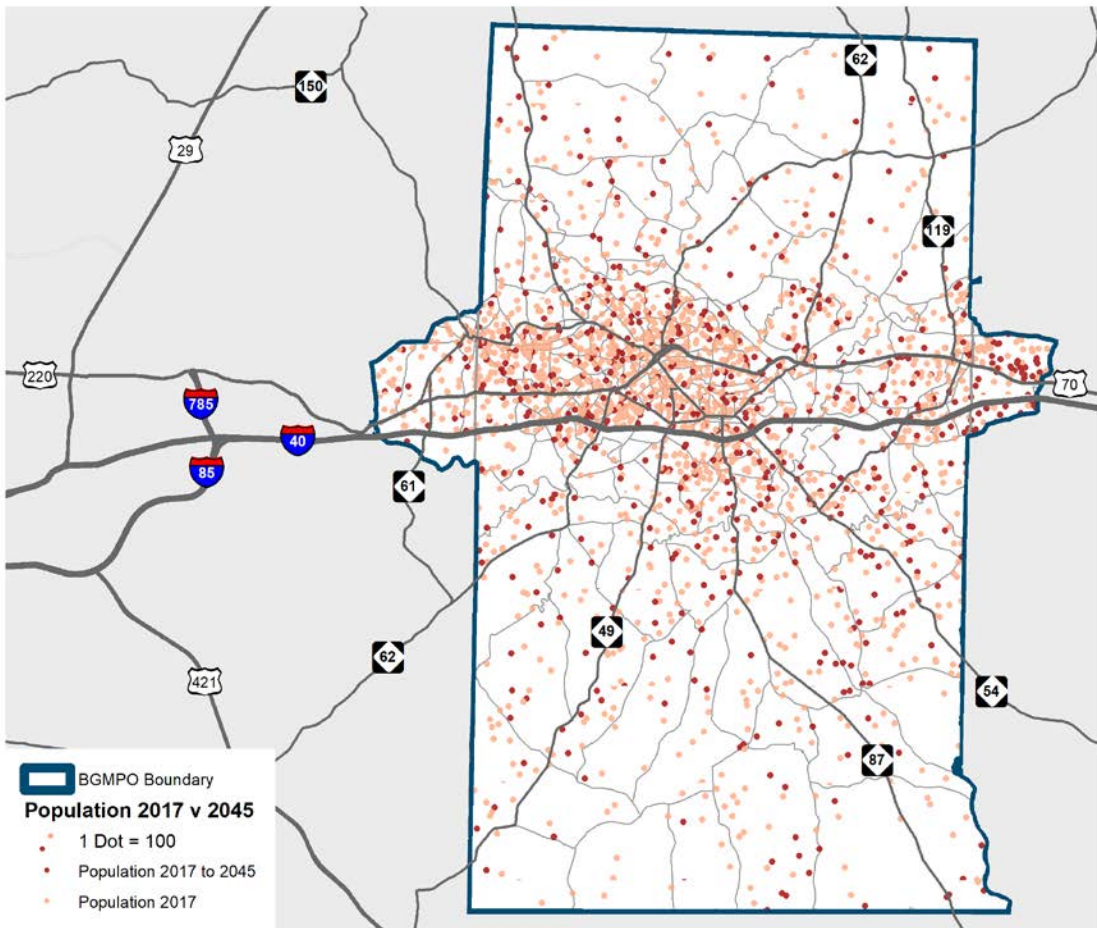
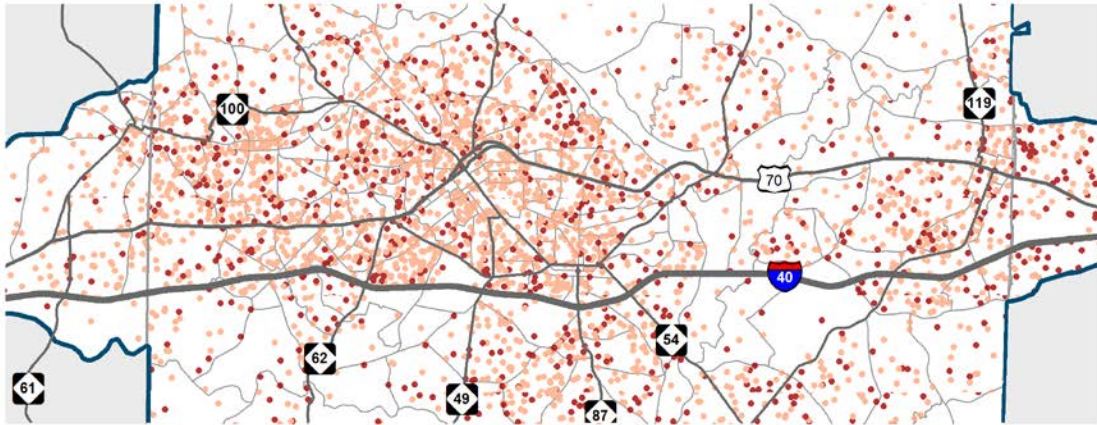
Burlington-Graham MPO Planning Area population is expected to grow from 176,711 in 2017 to 241,734 in 2045—an almost 37% increase—based on the regional Travel Demand Model Socio-Economic Data provided by Piedmont Area Transportation Authority.

The region might cross the 200,000 population threshold as early as 2030, which would provide the MPO with additional access to a set-aside of federal transportation funding (STBG-DA) and would also add new federal transportation planning requirements applicable to Transportation Management Areas (TMAs) which are MPOs over 200,000 in population.



Future population and employment projections out to 2045 were derived from the PART Regional Travel Demand Model. Population growth trends across the region appear to show some concentration in existing municipalities and along the key travel corridors including I-40/I-85 and US 70 and NC 54. A portion of the population growth is more spread out across the region, however.

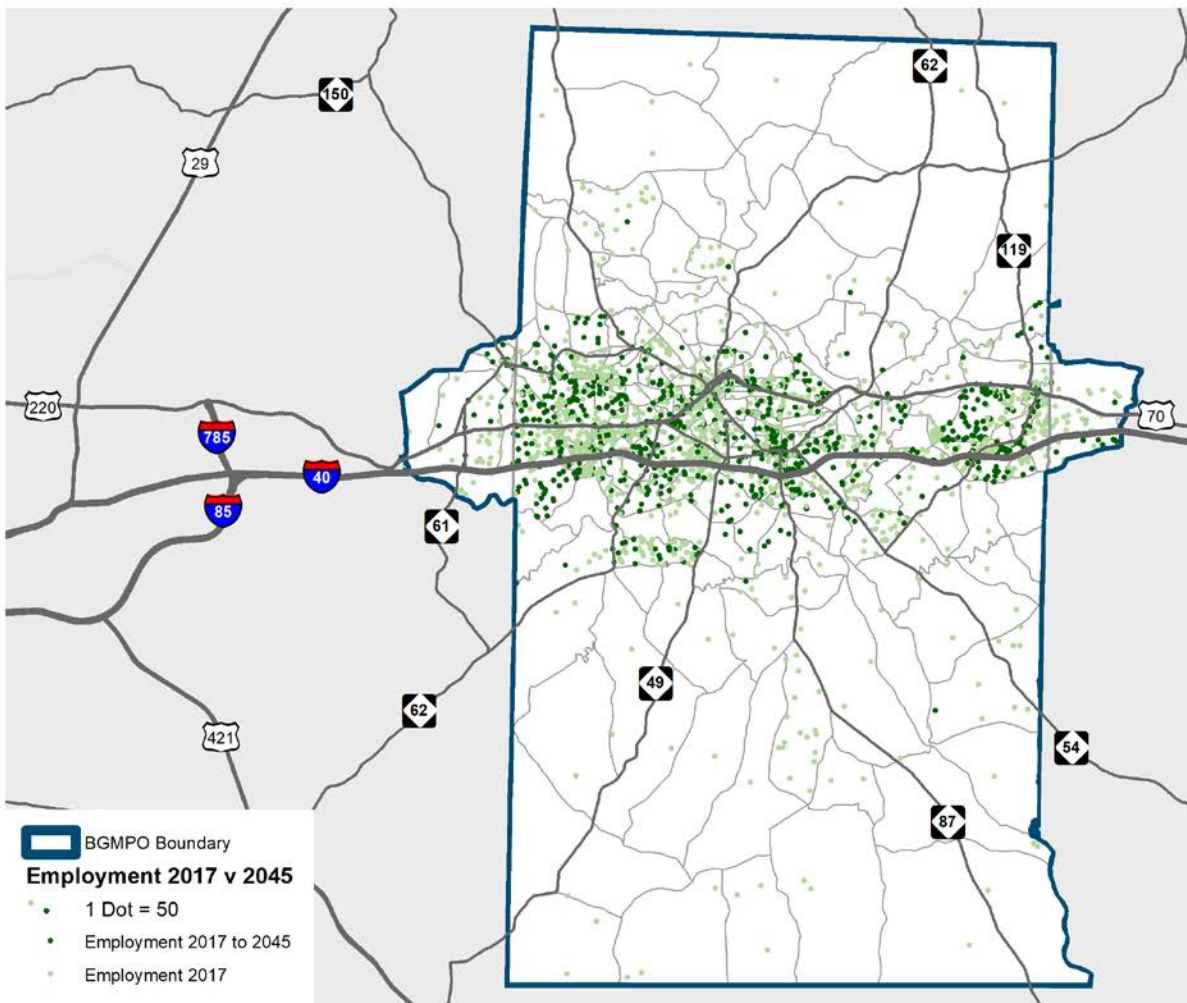
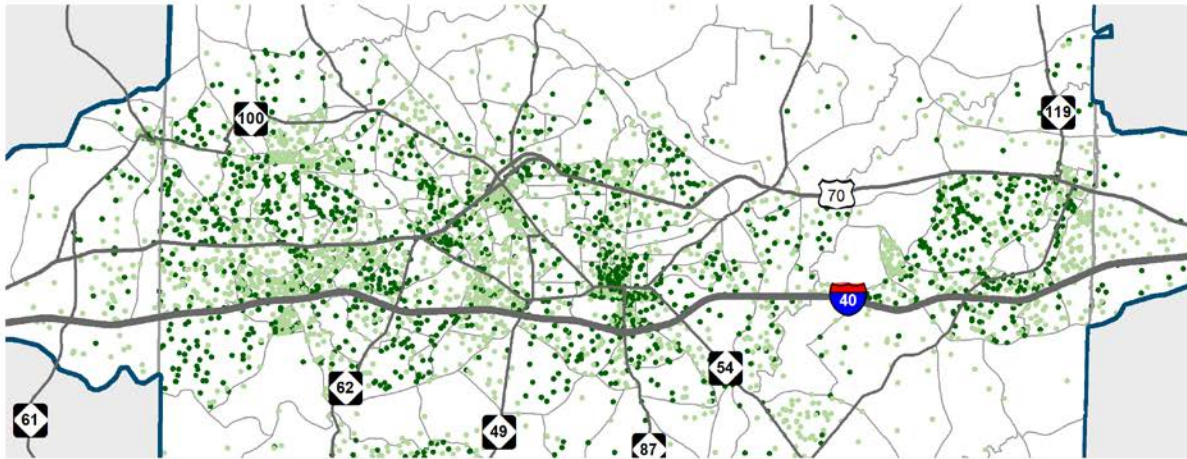




**SOCIOECONOMIC COMPARISON (2017 v 2045)**  
**MTP 2045**



Employment growth between 2017-2045 is projected to be more concentrated than population growth, largely concentrated within the region’s core—and falling mostly within existing municipalities. Employment in the planning area is expected to grow from 73,611 in 2017 to 114,934 in 2045 (by approximately 40,000 jobs).



**SOCIOECONOMIC COMPARISON (2017 v 2045)  
MTP 2045**





## Existing Transportation Infrastructure Conditions

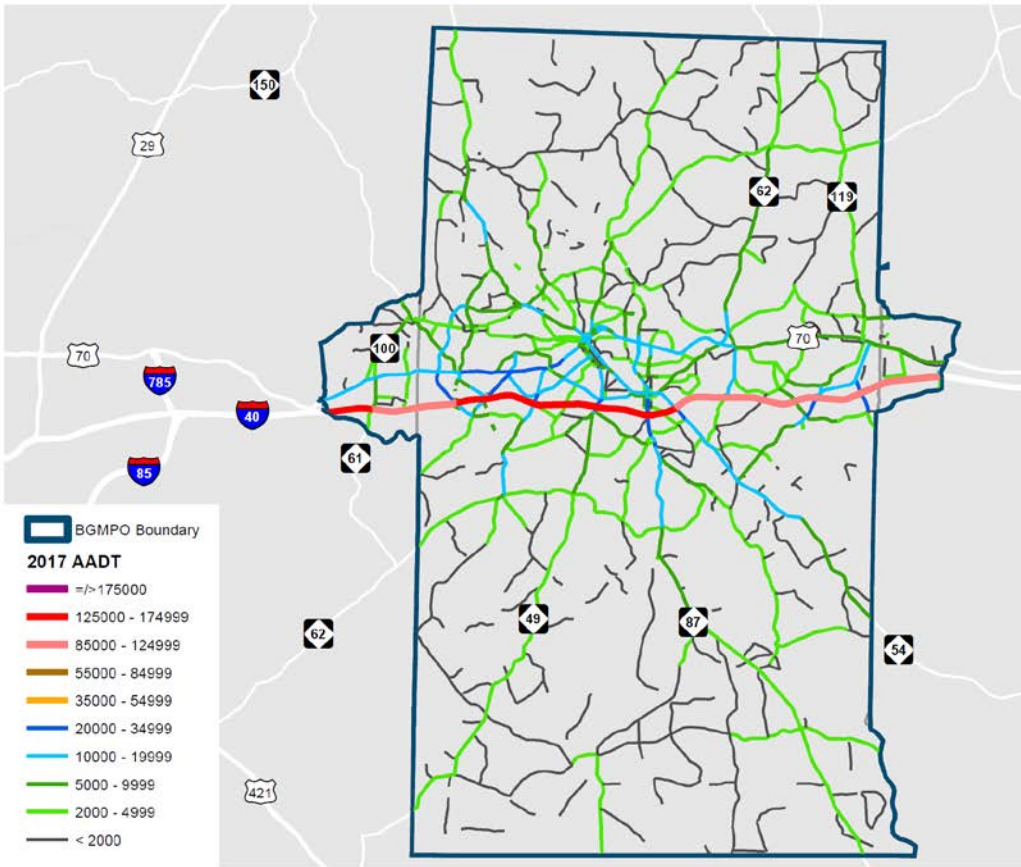
### *Traffic Volumes and Congestion*

Burlington-Graham MPO planning region includes approximately 1,950 roadway miles, including:

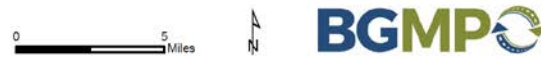
- One interstate facility: I-40/I-85
- One US route: US 70
- Six NC routes—NC 49, NC 54, NC 61, NC 62, NC 87 & NC 119

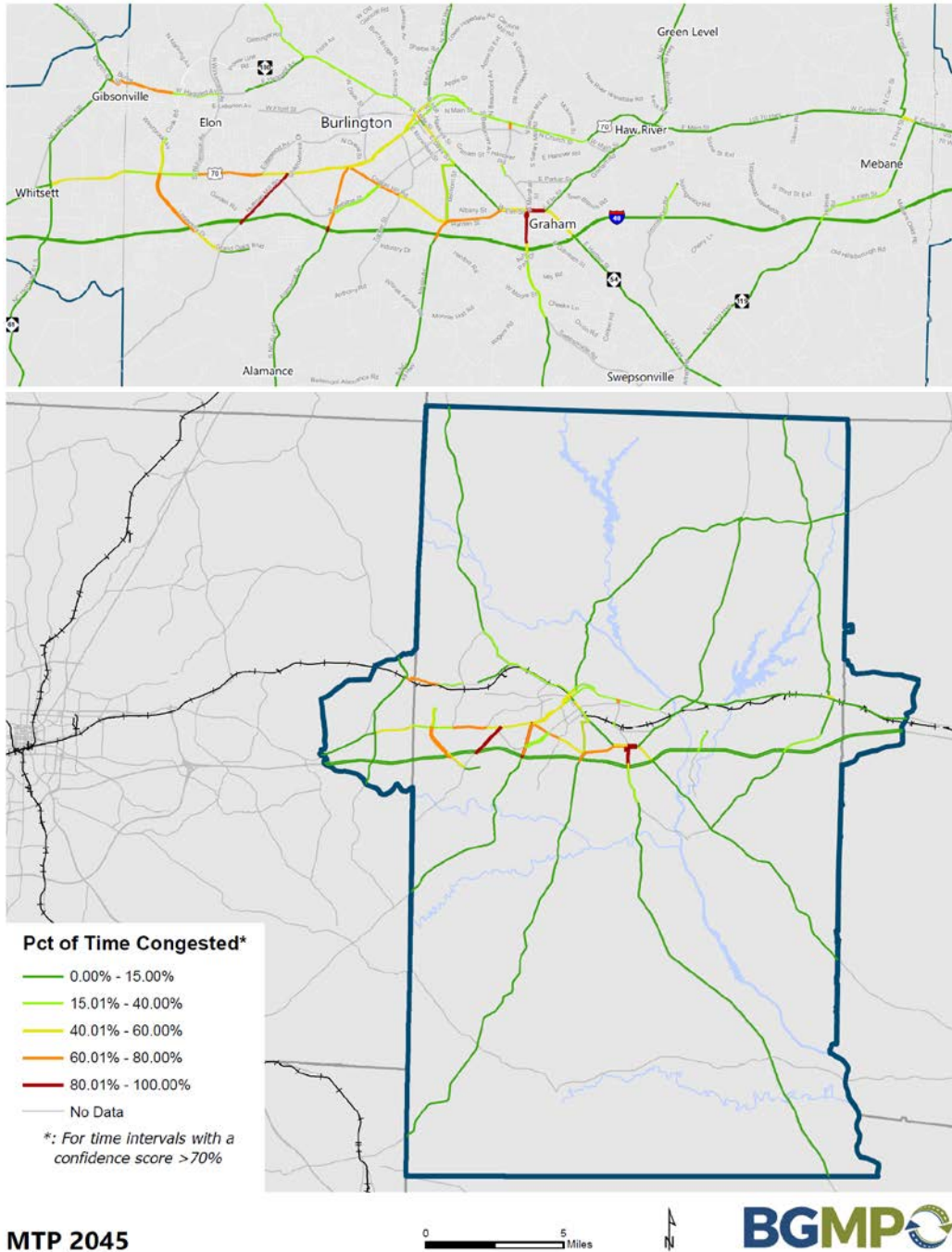
When looking at traffic volumes and congestion, I-40/I-85 corridor carries the highest volumes of traffic across the region, peaking at around 134,000 vehicles per day near Exit 143 for NC 63 Alamance Road (Burlington exit). Outside of interstate traffic volumes, several key corridors that carry higher volumes include Huffman Mill Road between I-40 at Exit 141 and US 70 (at 34,000 vehicles per day) and University Drive just north of I-40 at Exit 140 (at 31,000 vehicles per day). US 70 west of downtown Burlington, between Chapel Hill Road and Huffman Mill Road, tends to average around 27,00-29,000 vehicles per day based on 2017 counts.

Looking at PM Peak congestion map (based on real-time HERE data from 2018), US 70 and major arterials connecting to I-40 including NC 87 and NC 54 arise as some of the areas of concern due to congestion.



**Traffic Volume (2017)**  
**MTP 2045**





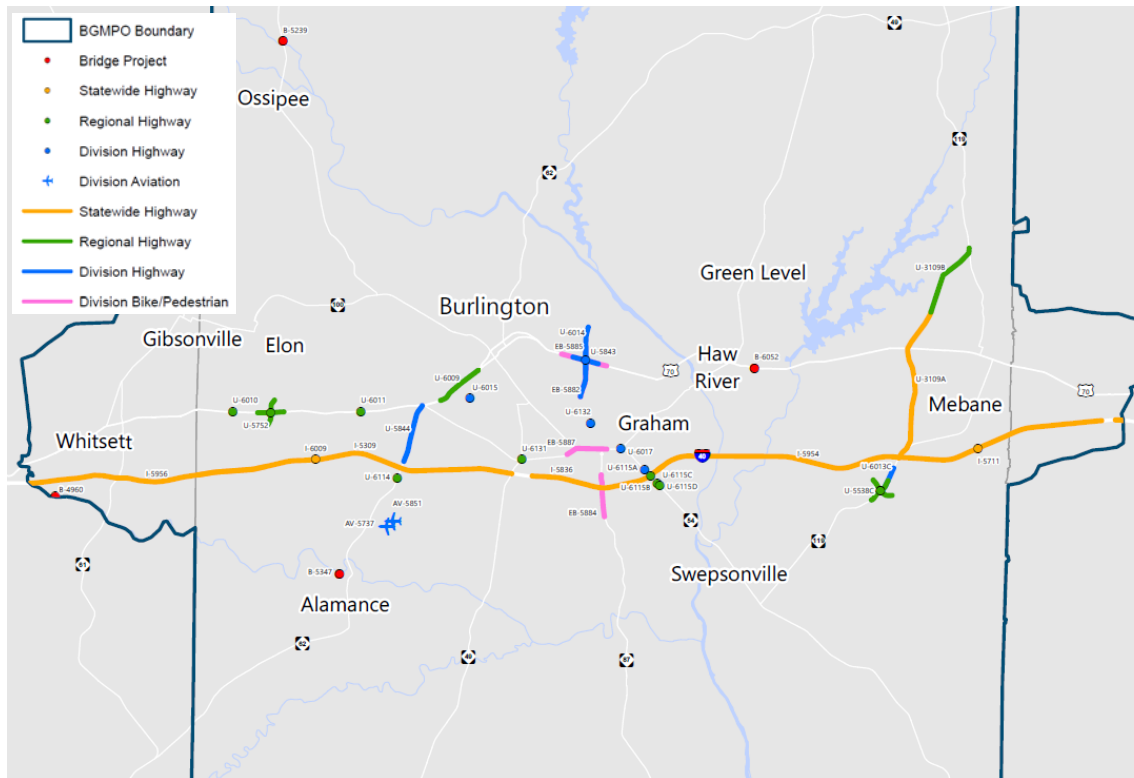
*Projects Funded in the STIP*

A variety of interstate, roadway improvements, aviation, bike ped, transit and passenger rail improvements in the Burlington-Graham MPO region are included for funding in the 2020-2029 STIP. As a result of the latest two-year prioritization process, P 5.0, fourteen new projects have been added to the draft 2020-2029 STIP, including one sidewalk project and a variety of intersection, interchange improvement and modernization projects.

The following interchange improvements are funded in the 2020-2029 STIP:

- I-6009 I-40/I-85 at Huffman Mill Road (Burlington)
- I-5711 I-40/I-85 at Mebane Oaks Road (Mebane)
- I-6059 I-40/I-85 at Trollingwood Hawfields Road (Mebane)
- I-6004 I-40/I-85 at Rock Creek Dairy Road (Guilford County, just outside of BGMPo planning area)

The map and the tables below illustrate those projects, with the map only showing those projects considered “committed”- funding for ROW or PE in FY 2025 or earlier. The tables exclude pavement rehabilitation and transit operations projects except transit operations for new or expanded transit routes.



**Map: Projects Committed for Funding in the Draft 2020-2029 STIP**



**Table: Projects Included in the Draft 2020-2029 STIP  
(Repaving and Transit Operations on Existing Routes not Included)**

STIP ID	Facility	City/ County	Location	Project Description	PE/ROW	Construction	Cost
<b>INTERSTATE</b>							
I-6009	I-40/85	Burlington	Huffman Mill Road	Construct left turn lane and improve Garden Road Operations	FY 2025	FY 2026	\$ 1,533,000
I-5711	I-40/85	Mebane	Mebane Oaks Road	Interchange Improvements		FY 2019/21	\$ 16,176,000
I-6059	I-40/85	Mebane	Trollingwood-Hawfields Road	Interchange Improvements	FY 2027	FY 2028	\$ 12,400,000
I-6004	I-40/85	Guilford	Rock Creek Dairy Road	Upgrade Interchange	FY 2025	FY 2026	\$ 5,510,000
<b>HIGHWAY</b>							
R-5787	Various	Division 7	Division wide	ADA Intersection Upgrades		Under Construction	\$ 3,089,000
U-6011	US 70	Burlington	Huffman Mill Road	Intersection Improvements	FY 2020	FY 2021	\$ 1,750,000
U-5752	US 70	Burlington	St. Marks Church Road	Intersection Improvements		Under Construction	\$ 4,278,000
U-6009	US 70	Burlington	Tarleton Avenue to Fifth Street	Widen and Construct Center Turn Lane	FY 2020	FY 2021	\$ 11,719,000
U-6183	NC 49	Haw River	Wilkins Road and Bason Road	Intersection Improvements	FY 2027	FY 2028	\$ 2,700,000
U-6115	NC 54	Graham	Riverbend Road to Whitemore Road	Intersection Improvements and Upgrade Culvert	FY 2025	FY 2026	\$ 6,700,000
U-6184	NC 54	Burlington	South O'Neal Street	Intersection Improvements	FY 2027	FY 2028	\$ 1,900,000
U-6010	US 70	Burlington	University Drive	Intersection Improvements and Widening of US 70	FY 2020	FY 2021	\$ 1,750,000
U-5844	NC 62	Burlington	Ramada Road to Church Street	Widen to Multilanes	FY 2020	FY 2021/22	\$ 11,400,000
U-6182	NC 87	Burlington	Flora Avenue	New Traffic Signal/Turn Lanes	FY 2027	FY 2028	\$ 1,300,000
U-3109	NC 119	Mebane	I-85 to S. Mrs. White Road	Widen to Multilanes, New Location		In Progress	\$ 155,840,000
U-6013	NC 119	Mebane	Trollingwood-Hawfields Road to Lowe	Widen to Multilanes	FY 2021	FY 2023	\$ 9,100,000
U-6214	E. Haggard	Elon	W. Webb at University Drive	Improve Intersection	FY 2027	FY 2029	\$ 13,100,000
U-5538	New Route	Mebane	Trollingwood-Hawfields Road to Indus	Construct Two-Lane Road		In Progress	\$ 3,740,000
U-3110	New Route	Elon	US 70 to NC 100	Construct Multilane Facility		Under Construction	\$ 30,477,000
U-6114	NC 62	Burlington	Hatchery Road at Bonnie Lane	New Traffic Signal/Turn Lanes	FY 2025	FY 2027	\$ 1,310,000
U-6014	Graham-Hopedale Road	Burlington	W. Hanover Road to Morningside Drive	Widen to Multilanes with Bike/Ped Lanes	FY 2021	FY 2023/25	\$ 15,600,000
U-6132	N. Main Street	Graham	W. Parker Street	Intersection Improvements	FY 2025	FY 2026	\$ 3,000,000
U-6010	US 70	Burlington	University Drive	Intersection Improvements and Widening		Coordinate with U-5752	\$ 1,750,000
U-6131	NC 54	Burlington	Maple Avenue	Intersection Improvements	FY 2025	FY 2026	\$ 1,600,000
U-6017	NC 54	Graham	East Elm Street	Intersection Improvements	FY 2020	FY 2021	\$ 1,566,000
U-5843	US 70	Burlington	Graham-Hopedale Road	Intersection Improvements	In Progress	FY 2019	\$ 3,998,000
<b>SIGNAL SYSTEM</b>							
U-6015	Burlington	Burlington/ Graham	Upgrade	Upgrade Signal System		Under Construction	\$ 15,075,000
<b>BRIDGE REPLACEMENT</b>							
B-5239	NC 87	Alamance	Mill Race and Haw River	Bridge Replacement		Under Construction	\$ 5,865,000
B-5347	Pond Road	Alamance	Alamance Creek	Bridge Replacement		Under Construction	\$ 1,560,000
<b>SAFETY</b>							
W-5207	Various	Division 7	Division wide	Safety improvements at various locations in Division 7	In Progress		\$ 5,636,000
W-5707	Various	Division 7	Division wide	Safety improvements at various locations in Division 7	In Progress		\$ 1,350,000
R-5787	Various	Division 7	Division wide	Intersection Upgrades for ADA Compliance	In Progress		\$ 3,089,000

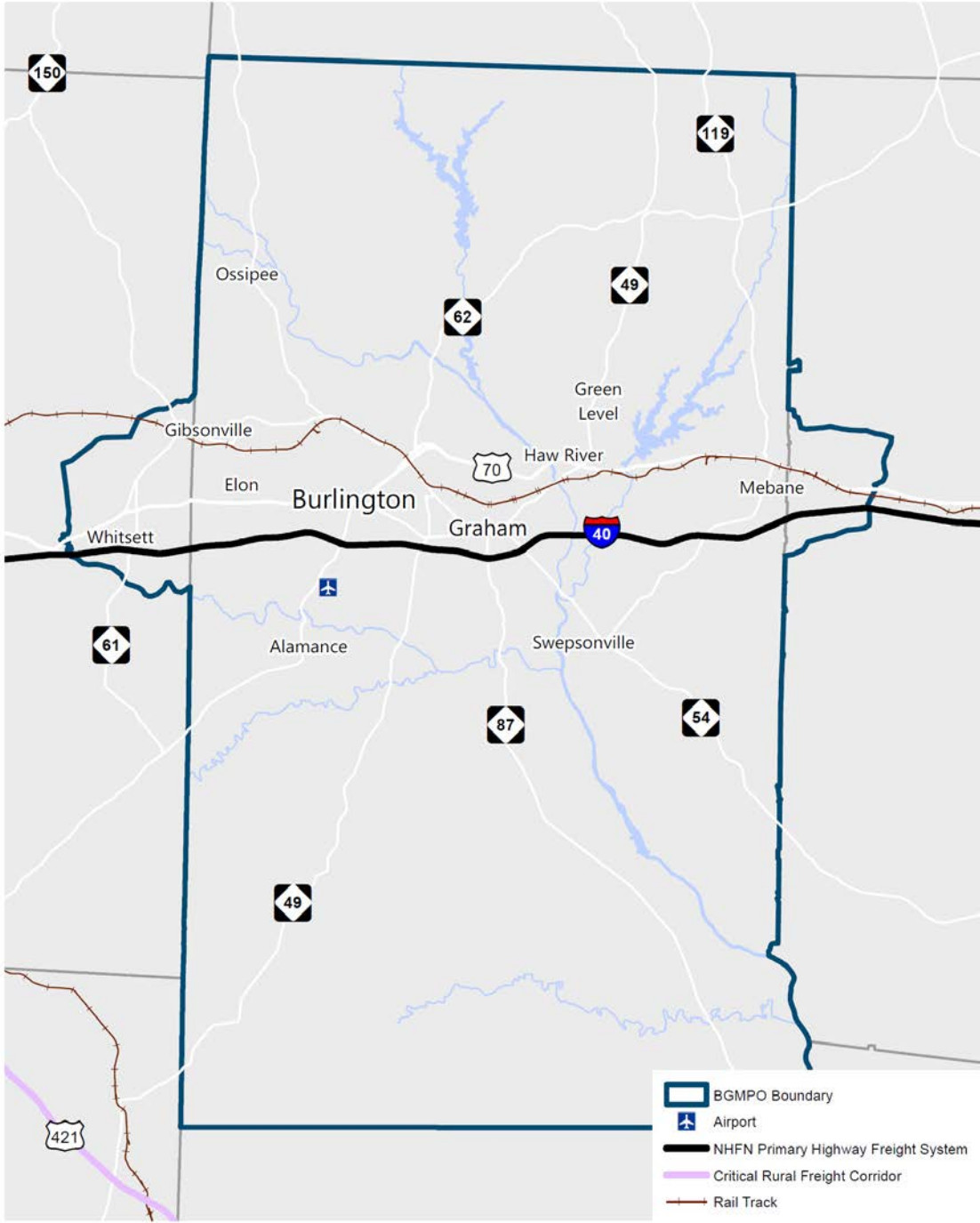
**Table: Projects Included in the Draft 2020-2029 STIP -Continued  
(Repaving and Transit Operations on Existing Routes not Included)**

STIP ID	Facility	City/ County	Location	Project Description	PE/ROW	Construction	Cost
<b>AVIATION</b>							
AV-5851	Burlington/Alamance Airport	Burlington	Runway	Construct Paved Overrun/Safety Improvements		FY 2020	\$ 2,080,000
AV-5737	Burlington/Alamance Airport	Burlington	Runway 24 Approach Improvements	Easements and Construction Clearance		FY 2019	\$ 1,363,000
<b>BICYCLE AND PEDESTRIAN</b>							
EB-5879	US 70	Burlington	Graham-Hopedale Road to Sellars Mill Road	Construct Sidewalk		FY 2019	\$ 110,000
EB-5885	US 70	Burlington	Beaumont Avenue to Graham-Hopedale Road	Construct Sidewalk		FY 2020	\$ 120,000
EB-5882	Graham-Hopedale	Burlington	W. Hanover Road to N. Mebane Street	Construct Sidewalk		FY 2020	\$ 137,000
EB-5887	NC 49/ NC 54	Graham	W. Pine Street to N. Marshall Street	Construct Sidewalk		FY 2019/21	\$ 175,000
EB-5884	NC 87	Graham	Ivey Road to East Gilbreath Street	Construct Sidewalk		FY 2020	\$ 539,000
EB-5988	Lee Avenue	Elon	W. Lebanon Avenue to W. Haggard Avenue	Construct Sidewalk		FY 2025	\$ 246,000
<b>TRANSIT</b>							
TA-6664	ACTA	Alamance		Capital Assistance			\$ 259,000
TA-6116	ACTA	Alamance		Capital Assistance			\$ 1,875,000
TA-5176	Link Transit	Burlington/Gibsonville		Purchase Five Vehicles			\$ 1,068,000
TG-6794	Link Transit	Burlington/Gibsonville		Capital Assistance			\$ 749,000
TG-5259	Link Transit	Burlington/Gibsonville		ADA Services			\$ 75,000
TG-5258	Link Transit	Burlington/Gibsonville		Routine Capital Assistance			\$ 2,347,000
TD-5155	Orange Public Transit	Alamance/Orange		Vehicle Replacement and Capital			\$ 111,000
TO-5206	Orange Public Transit	Alamance/Orange		Two New Circulator Routes /Eastern Burlington			\$ 480,000
TG-6137B	PART	Alamance		Capital			\$ 1,000,000
TO-6145	PART	Alamance		Expansion of Route 4			\$ 217,000
TS-5115	PART	Alamance		Safety and Security			\$ 39,000
TS-6187	Statewide	Alamance Providers		Capital Assistance/Urban Area			\$ 3,761,000
TA-5195	Triangle Transit Authority	Alamance		Purchase One Replacement Vehicle			\$ 475,000
TA-5193	Triangle Transit Authority	Orange		Purchase One Replacement Vehicle			\$ 475,000
TA-5175	Triangle Transit Authority	Orange		Purchase One Transit Bus for Mebane Park and Ride			\$ 498,000
<b>PASSENGER RAIL</b>							
P-4405	Various	Division 7		Private Crossings Safety		In Progress	\$ 10,291,000
P-5719	NCRR	Division 7		Purchase and Refurbish Rail Cars		In Progress	\$ 45,277,000
P-5205	Piedmont Corridor	Alamance	Graham to Haw River	Siding and Curve Realignment		Under Construction	\$ 11,605,000
P-2918	Piedmont Corridor	Division 7	Train 74/75	Equipment and Capital Yard Maintenance		In Progress	\$ 174,422,000

**Freight Network**

The Burlington-Graham Metropolitan Planning Area is served by Norfolk Southern operating along the primary rail corridor owned by the North Carolina Railroad Company. I-40/I-85 Corridor through the region is designated as a primary freight route in the current statewide freight plan, North Carolina Multimodal Statewide Freight Plan. No intermodal yard currently exists within the region, but a Norfolk Southern intermodal facility is located just outside of Greensboro, about a thirty-minute trip from Burlington in uncongested conditions. Over 6.7 million freight tons move within and through Alamance County per year; 97.5% of the freight by weight is moved via truck; pipelines account for 1.34% of freight by weight and railroad shipments are responsible for moving 0.92% of freight by weight.<sup>2</sup>

<sup>2</sup> Cambridge Systematics. North Carolina Freight Flow Tool, 2015 Data.  
<https://public.tableau.com/profile/cambridge.systematics#!/vizhome/NorthCarolinaFreightFlowTool/Story1>



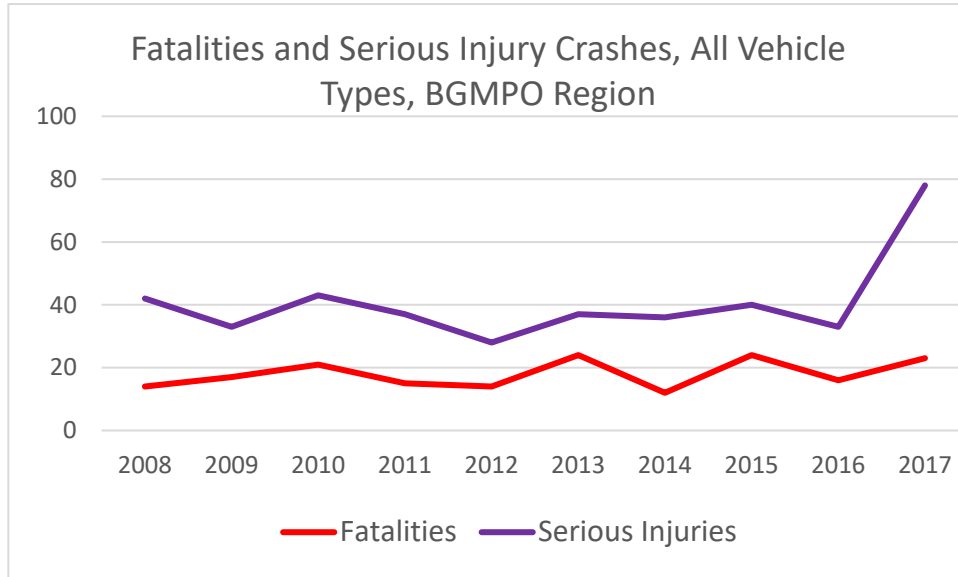
Freight  
MTP 2045

0 5 Miles



*Safety*

In looking at existing safety conditions, two primary types of data were considered-safety section scores from NCDOT and total crash frequency by intersection. The safety section score compares roadways with similar-type roadways across the state in terms of the frequency of crashes. This type of analysis spreads out red lines across the region—those roadway sections scoring between 66-100 on the safety section score-more uniformly across the MPO planning area. When looking at the density of crashes by intersection, the central more developed part of the region has more pronounced safety concerns along key corridors such as I-40/I-85, US 70, NC 54, NC 87/NC 100 (Webb Avenue), NC 62 Alamance Road, Huffman Mill Road, NC 49 Maple Avenue and others.



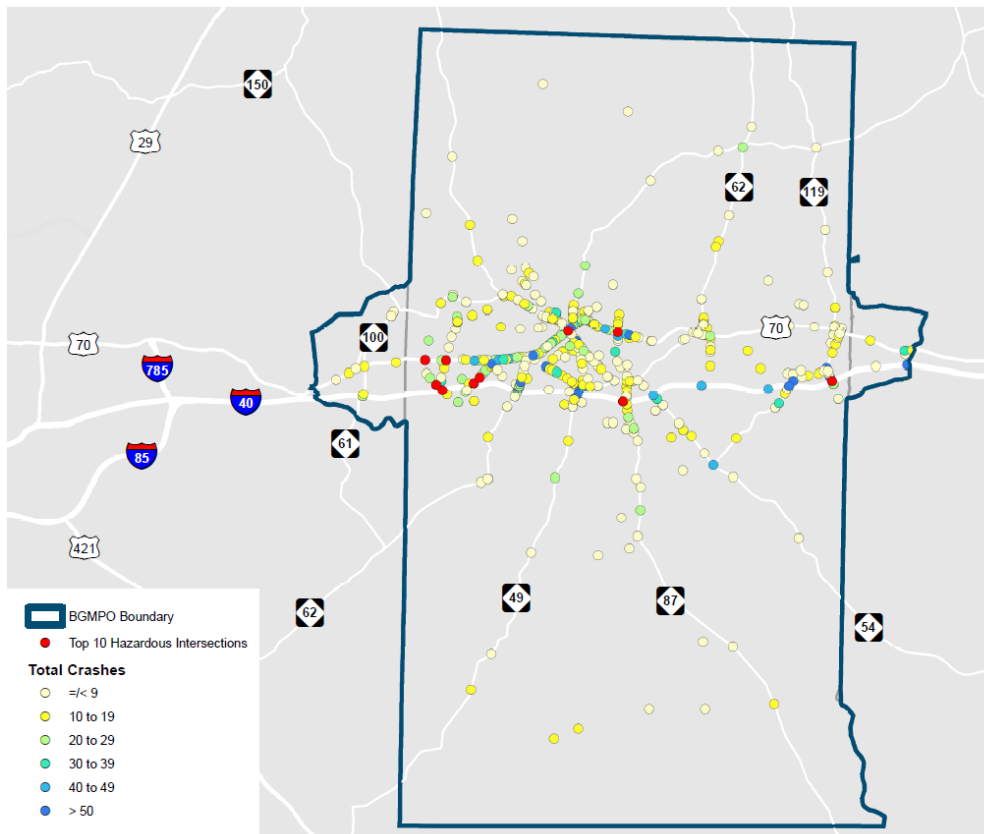
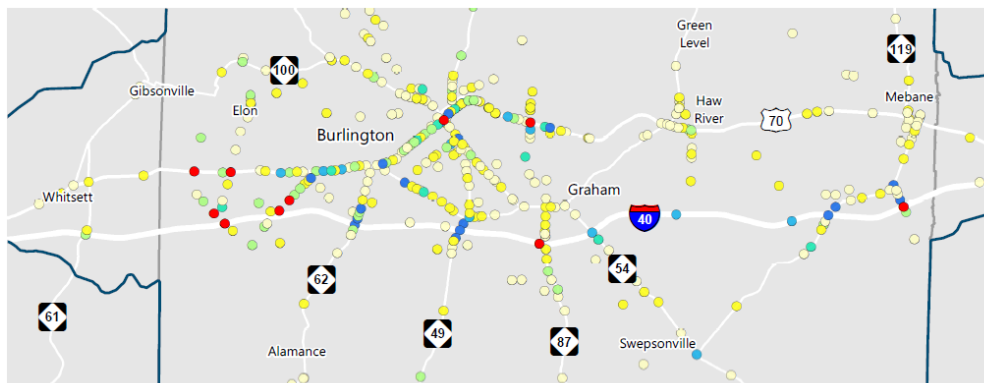
Top ten most dangerous intersections in the BGMPO have been identified based on the number of crashes -see table below. Four of them fall along US 70 Church Street, two fall along University Drive (SR 1226), and two fall along Huffman Mill Road (SR 1158).

**Table: Top 10 Most Dangerous Intersections based on Number of Crashes, 2014-2018.**

Rank	Intersection	Total Crashes (2014-2018)	Fatality & Type A Injury Crashes (2014 - 2018)
1	I 40 at University Dr (SR 1226)	180	0
2	US 70 S Church St at University Dr (SR 1226)	142	2
3	University Dr (SR 1226) at Boone Station Dr (SR 1301)	122	1
4	I 40 at NC 87 S Main St	112	1
5	Huffman Mill Rd (SR 1158) at Garden Rd (SR 1308)	105	0

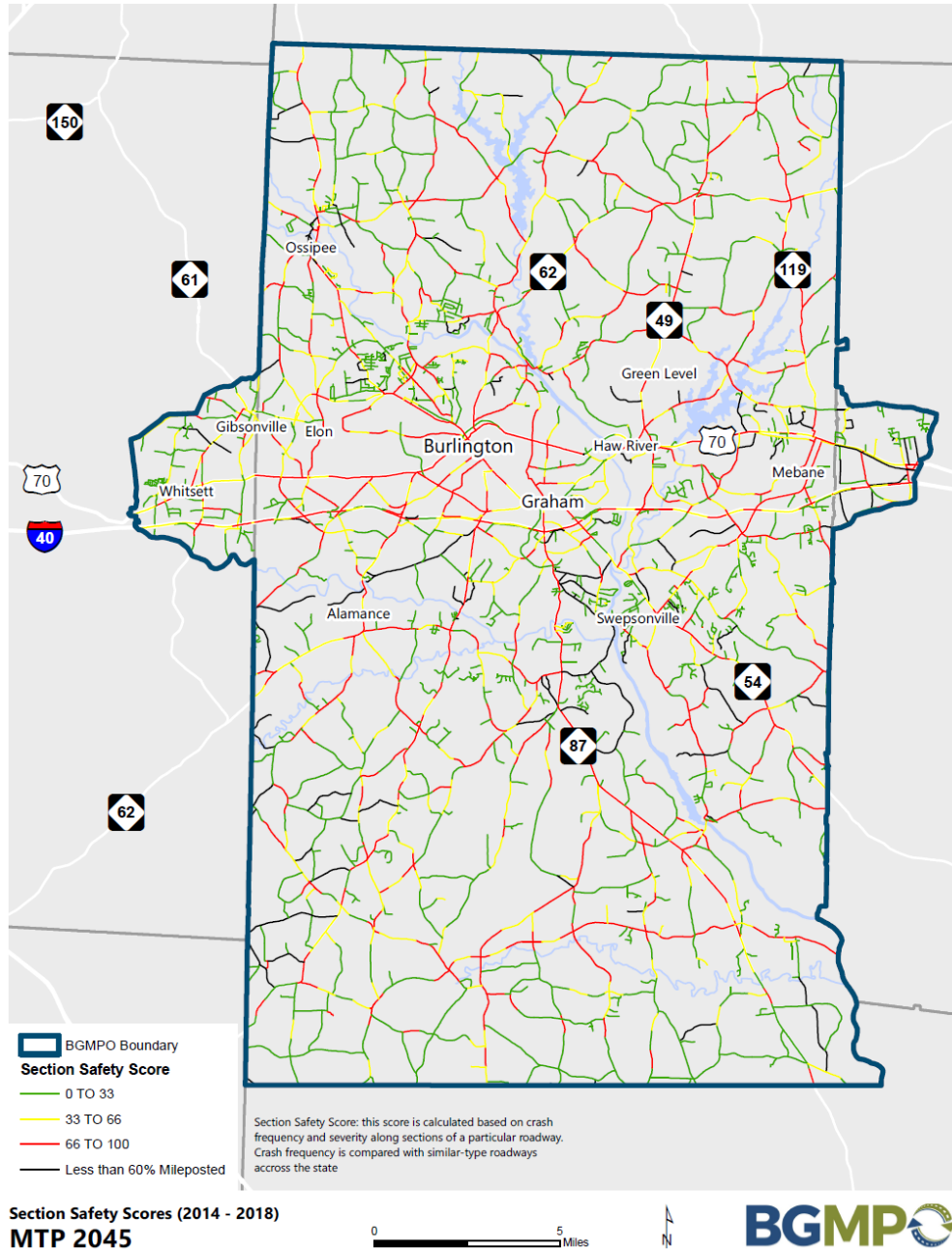


6	US 70 N Church St at N/S Graham Hopedale Rd (SR 1716)	104	2
7	US 70 N/S Church St at NC 87 E/W Webb Ave	103	3
8	I 40 at Mebane Oaks Rd (SR 1007)	101	1
9	Huffman Mill Rd (SR 1158) at Forestdale Dr	94	0
10	US 70 S Church St at S Williamson Ave/St. Marks Church Rd (SR 1301)	88	1



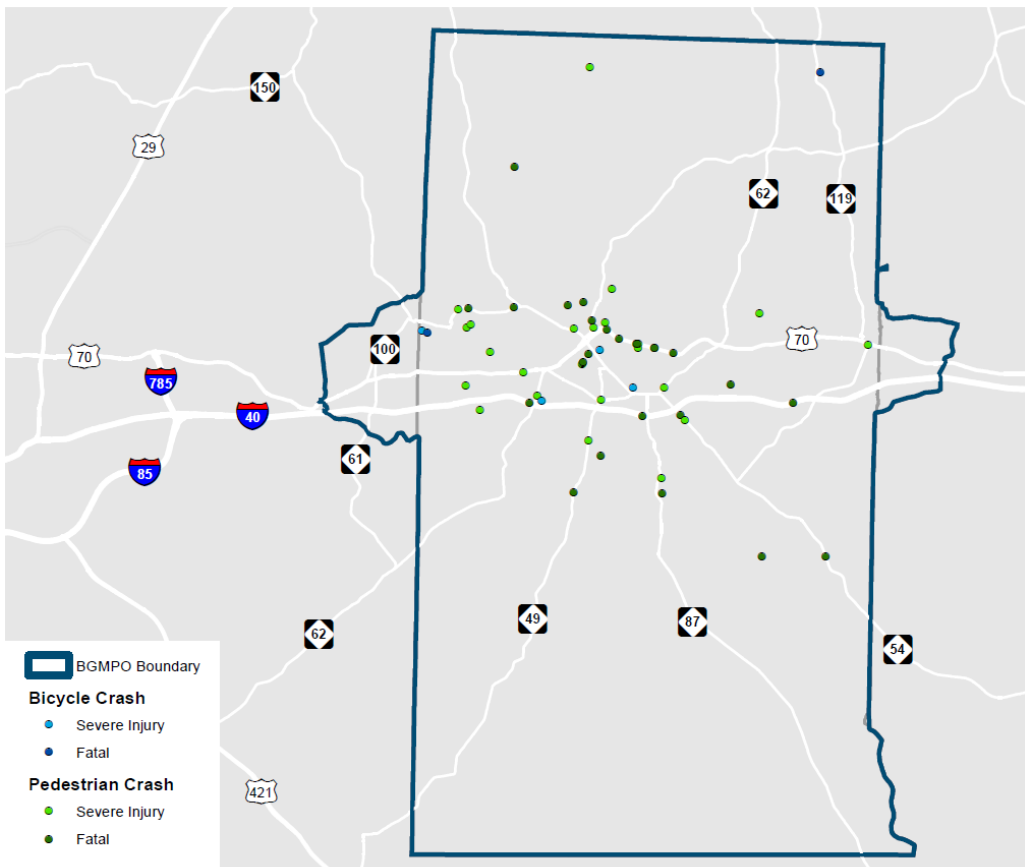
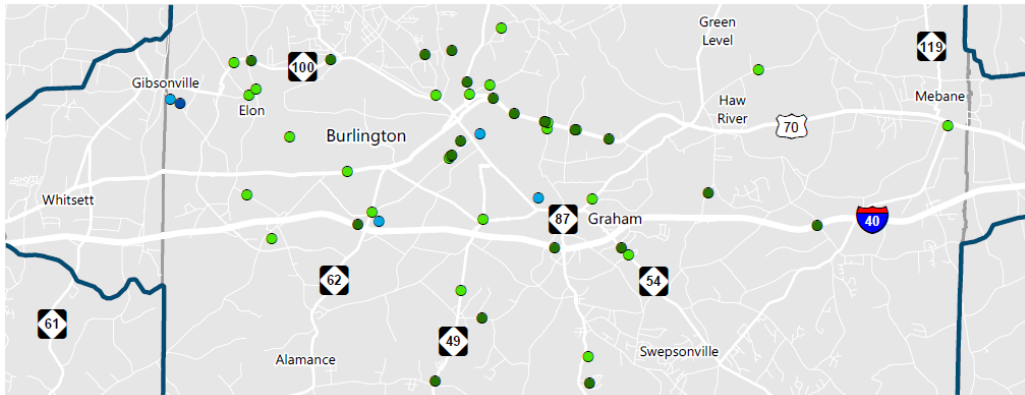
Total Crash Frequency by Intersection (2014 - 2018)  
MTP 2045





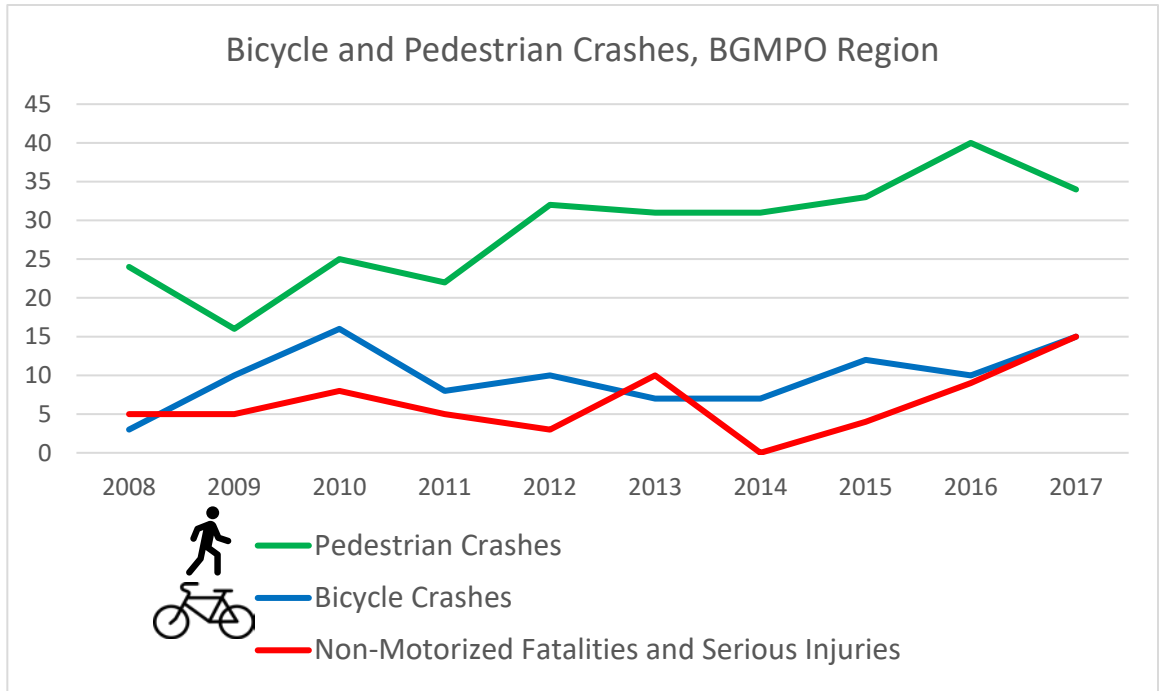
Taking all types of vehicular crashes into account, a total of 4720 crashes was recorded in Burlington-Graham region in 2017, an increase from 3517 in 2008. This increase in crashes mirrors national patterns that saw the number of vehicular crashes climb back up after the recovery from the recession fully took hold. Of the total vehicular crashes, the fatal and serious injury crashes represent a small but significant percentage.

When considering bicycle and pedestrian crashes over time, the trend has been going up although there is a fair amount of fluctuation from year to year. Major arterials including US 70, NC 54, NC 87 and NC 100 through the urban core of the region appear to see a disproportionate concentration of pedestrian crashes resulting in fatalities and serious injuries.



**Pedestrian and Bicycle Severe and Fatal Crashes (2007 - 2016)**  
**MTP 2045**





#### *Existing Transit Service and Transportation-Disadvantaged Populations*

Six public transit systems providing fixed-route, vanpool, commuter express bus, and demand response services operate in the Burlington-Graham MPO planning area:

- Piedmont Authority for Regional Transportation (regional commuter/express bus)
- GoTriangle (regional commuter/express bus)
- Link Transit (fixed route)
- Orange County Public Transportation (fixed route)
- Alamance County Transportation Authority (demand-response system)
- Elon BioBus (student shuttle routes which are open to the general public)



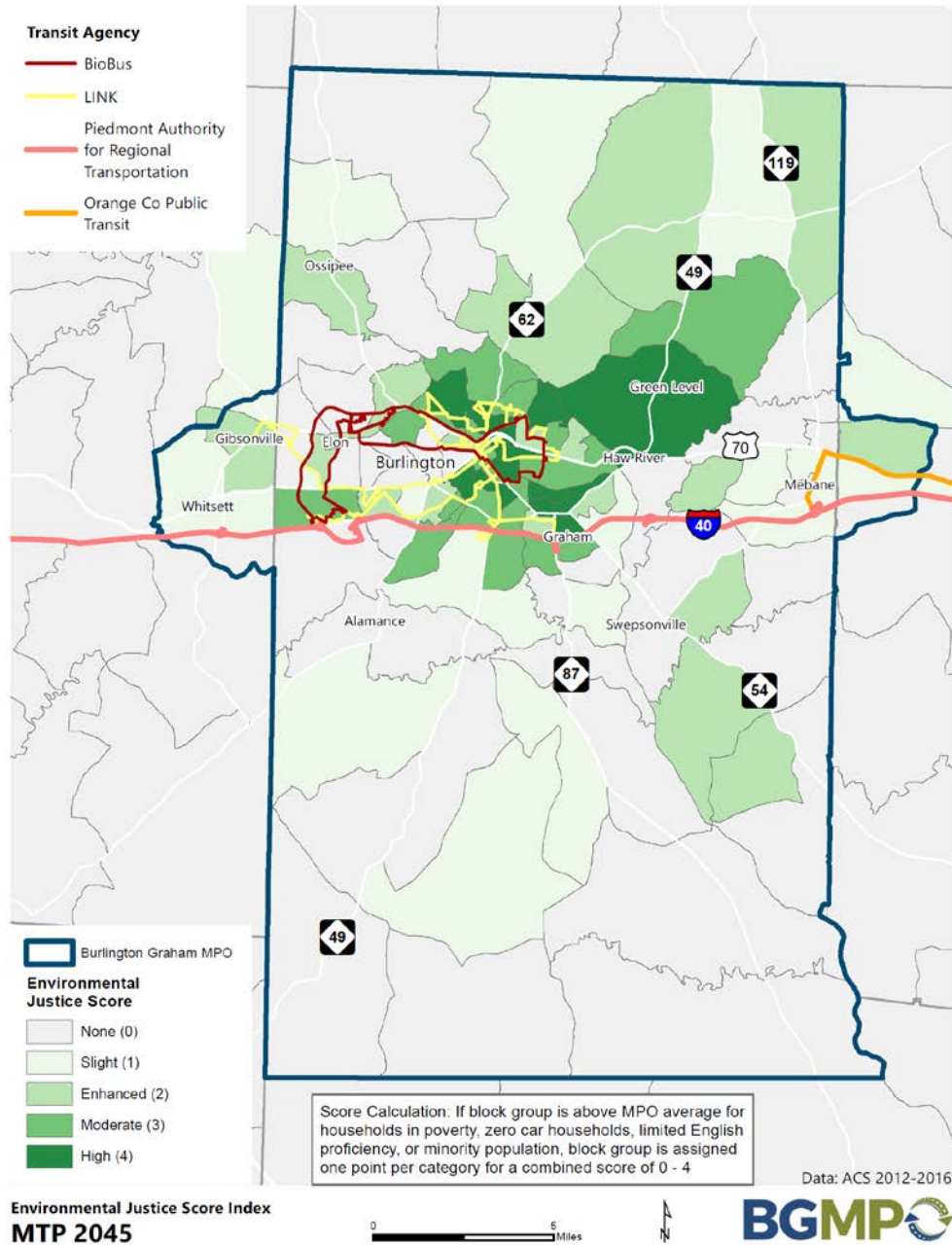
**Image left: BioBus Stop, right: Link Transit Bus at Alamance Regional Medical Center Park & Ride Lot**

The map below illustrates the existing transit service routes overlaid with a combined Environmental Justice Score for the planning region. The Environmental Justice score of 0-4 was calculated at the block



group level based on the following criteria, utilizing 2012-2016 American Community Survey Data from U.S. Census:

- Percentage of households with zero vehicles above the region’s average
- Limited English Proficiency population above the region’s average
- Percentage of households in poverty above the region’s average
- Minority population above the region’s average



Parts of the region with an EJ score of 3 or 4 (moderate or high EJ concern) that appear to have limited connection to existing fixed route service include norther part of Graham, and some of the areas in and

around Haw River and Green Level, in between Burlington and Mebane and north of US 70 corridor. In addition, areas in Graham north of Harden Street and between Webb Avenue and NC 49 have a concentration of transportation-disadvantaged populations (high EJ concern-score of 4) without a direct link to fixed route transit service.

*Bicycle and Pedestrian Infrastructure*

In addition to reviewing existing bicycle and pedestrian planning studies, data on existing and planned pedestrian facilities were collected based on PBIN and ATLAS data:

- All planned/proposed mileage is based on Pedestrian and Bicycle Information Network geodatabase (PBIN; data initially collected by ITRE; updates subject to data submitted by local government staff<sup>3</sup>)
- All existing facilities data have been collected for NCDOT through project ATLAS: Advancing Transportation through Linkages Automation and Screening<sup>4</sup>
- Existing on-road bike facilities include roadways with bikeable (wide) shoulders
- Regional Trails data is gathered from stakeholder agencies and shared through NC OneMap



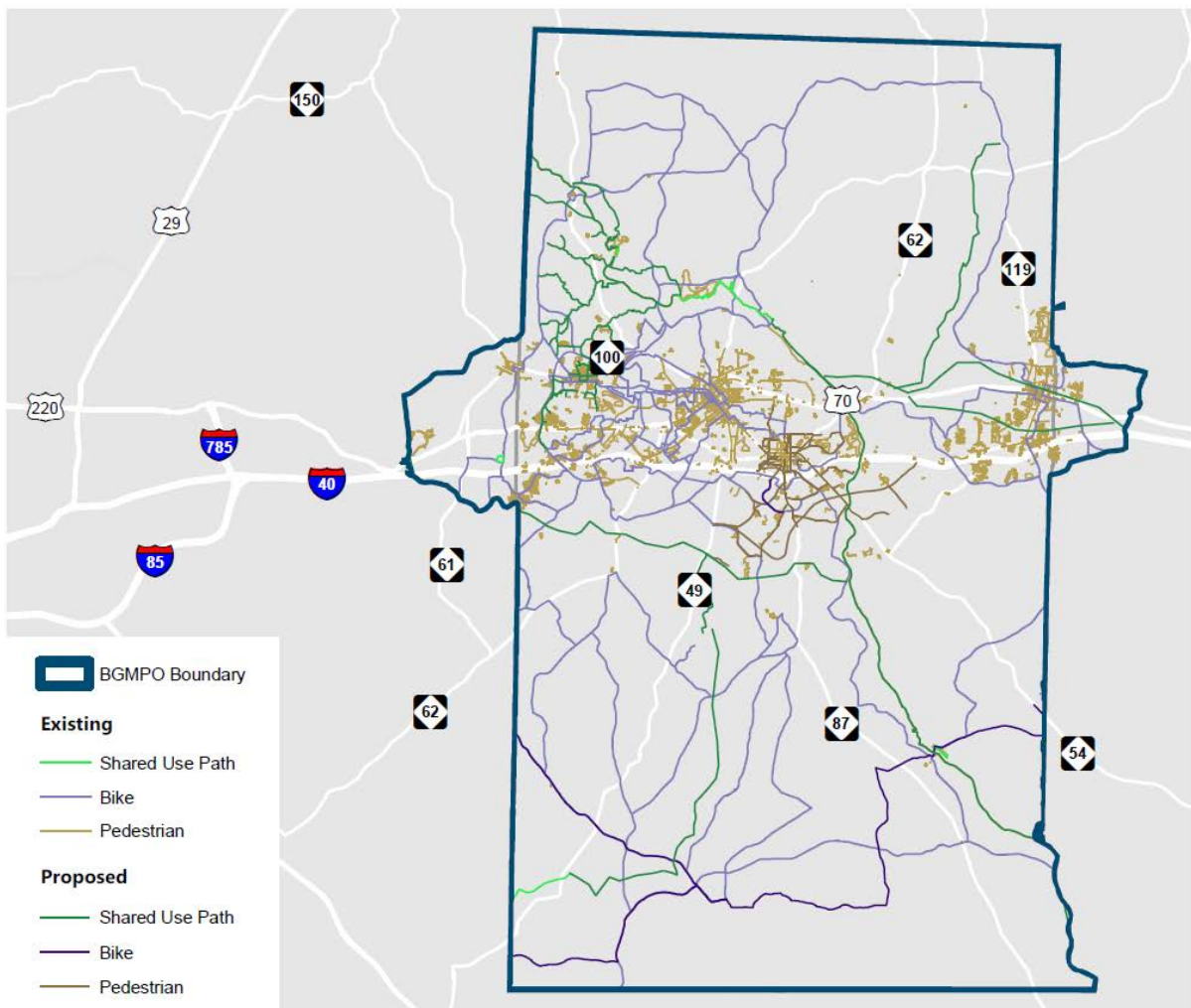
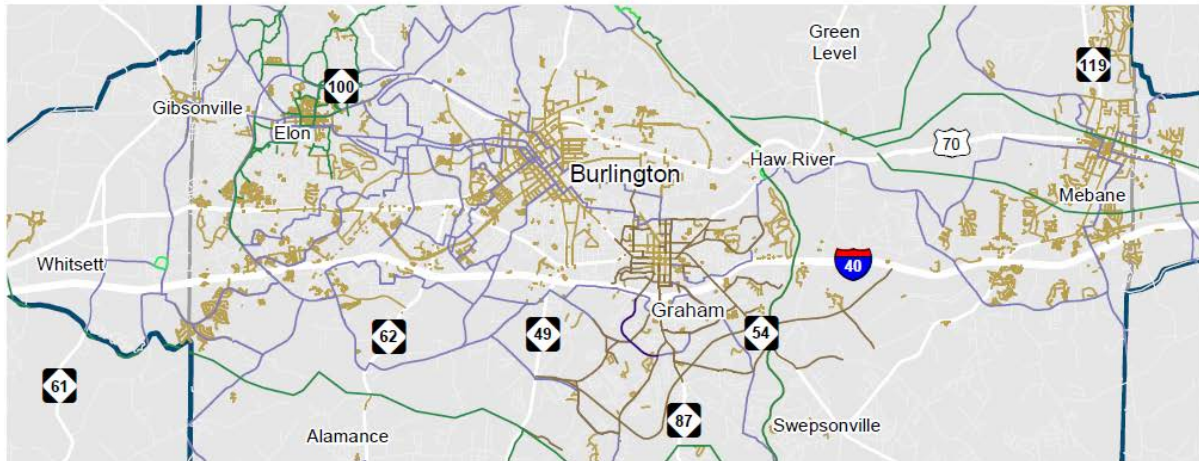
Looking at the map of existing and planned pedestrian facilities in the region, Burlington, Graham, Elon and Mebane account for the bulk of existing sidewalk facilities. A significant number of on-road bicycle facilities miles is present in the region. This includes bikeable shoulder sections and six designated bicycle route loops connected by state designated bike routes covering more than 150 miles. The table below summarizes existing sidewalks, multi-use path and on-road bicycle facilities. Note: based on the existing data, sidewalk mileage was counted twice for roadway segments where a sidewalk is present on both sides.

**Table: Existing and Planned Pedestrian and Bicycle Facilities**

Bicycle and Pedestrian Facility Type	Existing, in Miles	Planned or Proposed, in Miles
Sidewalks	431.94	40.77
Shared Use Paths/Greenways/Regional Trails	13.90	128.25
On-Road Bike Facilities (Including Bikeable Shoulder, Bike Lanes, Signed Bike Routes)	297.93	33.77

<sup>3</sup> Additional information about PBIN available at <https://connect.ncdot.gov/projects/BikePed/Pages/PBIN.aspx>

<sup>4</sup> Additional information about ATLAS available at <https://connect.ncdot.gov/resources/Environmental/Project%20ATLAS/Forms/AllItems.aspx>



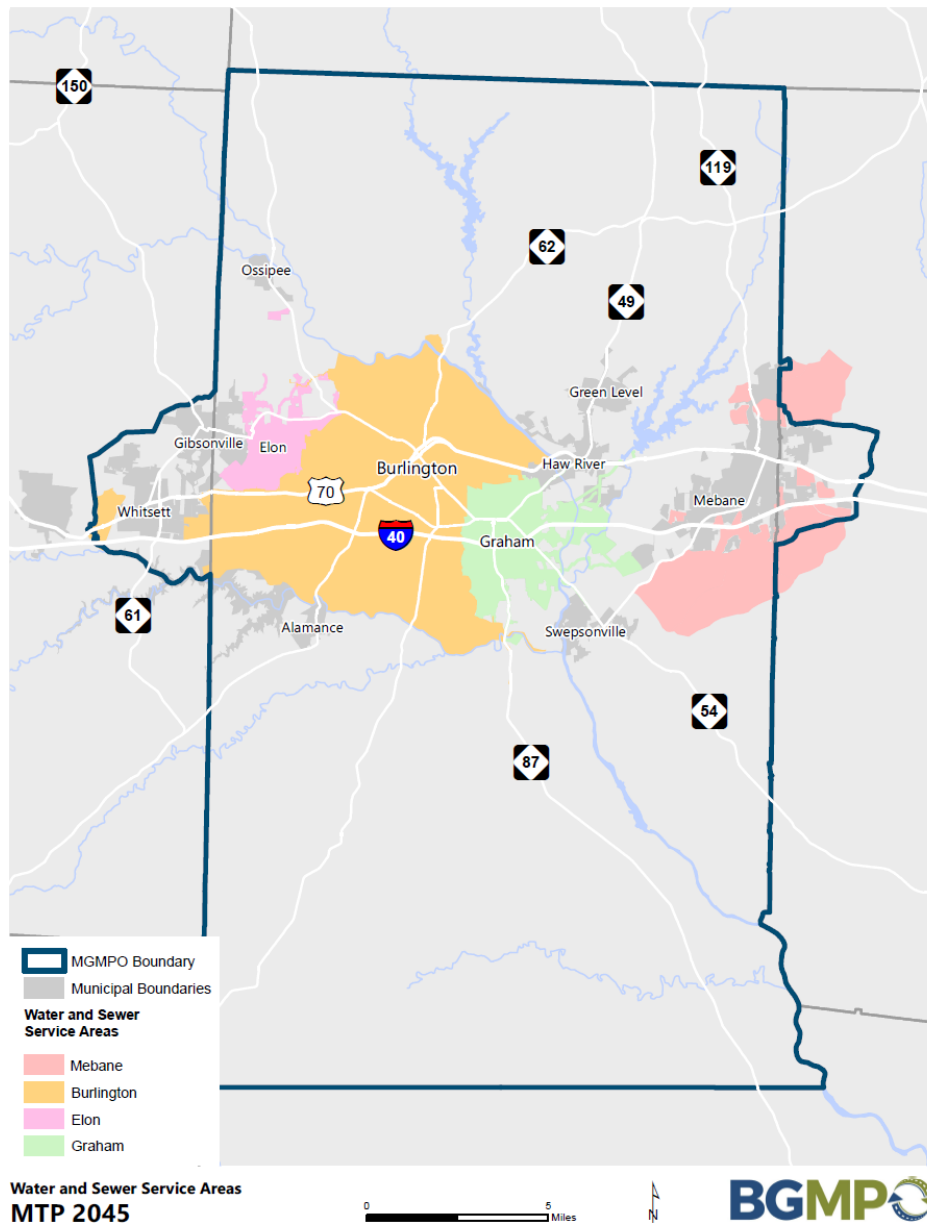
**Bicycle and Pedestrian Facilities  
MTP 2045**



*Natural Resources, Water and Sewer Service Area and Future Growth*

Development patterns in the region are currently concentrated where people already live and work—the wider corridor along I-40/I-85, which generally corresponds to existing municipal boundaries.

Water and sewer infrastructure are likely to have an influence on the type and density of future development across the region. Three municipal governments in the BGMPPO area operate water and sewer systems: Burlington, Graham and Mebane. Remaining municipalities rely on neighboring jurisdictions for provision of water and sewer services and might be somewhat more limited in their opportunities for growth and expansion.





Natural and Cultural Resources in the region could also have an impact on future growth and development and impose constraints on improvements to the transportation infrastructure. The Haw River flows through the region and several critical watershed areas and lakes are important for the region's water supply:

- Graham-Mebane Lake, a 650-acre municipal reservoir, fed by Quaker Creek and four other creeks (Otter Creek, Mill Creek, Stagg Creek, and Back Creek) --the lake's primary purpose is as a source of drinking water for the citizens of Graham, Mebane, Green Level, and Swepsonville, and no swimming or wading is allowed<sup>5</sup>.
- Stoney Creek Watershed
- Big Alamance Creek Watershed



**Image: Southern Railway Passenger Station in Downtown Burlington**

Historic Preservation sites and districts can be a source of community pride and provide local landmarks and a sense of place. When it comes to transportation projects, it is important to avoid any negative impacts to historic districts and places. Burlington-Graham region historic districts and historic landmarks are numerous, including but not limited to the following districts and places<sup>6</sup>:

- Alamance Battleground State Historic Site (Alamance vicinity)
- Alamance County Courthouse (Graham)
- Alamance Mill Village Historic District (Alamance)
- Bellemont Mill Village Historic District (Bellemont)
- Beverly Hills Historic District (Burlington)
- Cedarrock Park Historic District (Coble Township)
- Cross Roads Presbyterian Church and Cemetery and the Stainback Store (Cross Roads)
- Downtown Burlington Historic District (Burlington)
- East Davis Street Historic District (Burlington)
- Elon College Historic District (Elon College)
- Glencoe Mill Village Local Historic District (Burlington/Glencoe)
- Granite Mill (Haw River)

<sup>5</sup>Graham Recreation and Parks. <https://www.cityofgraham.com/departments-2/recreation-and-parks/graham-mebane-lake/>

<sup>6</sup> A selection of historic districts and landmarks obtained from <https://www.ncdcr.gov/about/history/division-historical-resources/state-historic-preservation-office/architectural-3>



- James Monroe Thompson House (Saxapahaw vicinity)
- Mebane Commercial Historic District (Mebane)
- North Main Street Historic District (Graham)
- Saxapahaw Spinning Mill (Saxapahaw)
- South Broad-East Fifth Street Historic District (Burlington)
- Southern Railway Passenger Station (Front & Main Streets, Burlington)
- West Davis Street-Fountain Place Historic District (Burlington)

