Regional Transit Feasibility Study

EXISTING CONDITIONS ASSESSMENT

Burlington-Graham MPO
September 2023

BGMPO
Burlington - Graham Metropolitan Planning Organization

Content

REGIONAL TRANSIT FEASIBILITY STUDY
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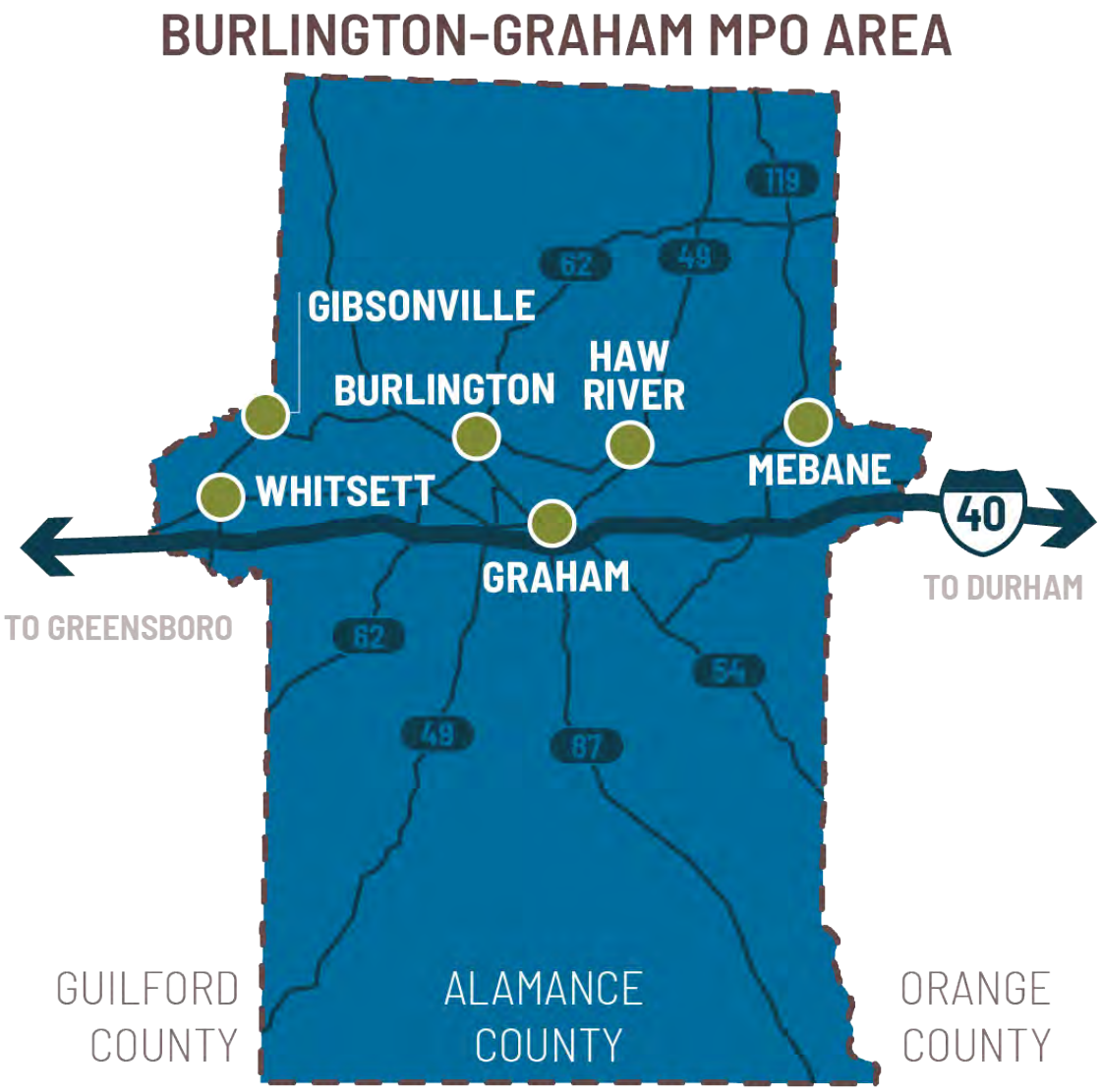
Project Purpose and Goals

Overview

The Burlington-Graham Metropolitan Organization (BGMPO) is studying **opportunities to better coordinate and expand transit service in the region**. This study will look at ways to **improve service frequency and connections** between everyday destinations to meet the region's changing transportation needs.

This report provides **key information regarding the region's transit market potential** and **current use of existing transit services**. An understanding of existing conditions will help **define project-specific goals and objectives, potential transit service coordination,** and **expansion plans and final recommendations.**



Proposed Goals for the BGMPO Regional Transit Plan

Service Plan-Related Goals

1. **Maximize equitable access to transit services**
   a. Improve service span, coverage and frequencies in Justice40-designated areas
2. **Make transit a viable mode choice option for residents and visitors**
   a. Improve service span, coverage and frequencies to major trip destinations
   b. Streamline route alignments where feasible to reduce transit travel times
   c. Provide options for same day on-demand and paratransit service scheduling
3. **Eliminate existing barriers for riders to travel throughout the entire region**
   a. Improve route transfer opportunities (route connections and passenger facilities)
   b. Facilitate easier transfers and coordinate fare payments between different service providers
   c. Simplify and amplify transit information sources available to the public
4. **Improve overall transit service performance in the region**
   a. Identify appropriate transit service modes that align with transit market needs

Proposed Goals for the BGMPO Regional Transit Plan

Governance and Funding-Related Goals

5. **Identify opportunities to better coordinate and/or consolidate transit services**
   a. Reduce service overlaps and/or duplication

6. **Provide a regional transit decision-making forum**
   a. Identify and investigate alternative regional transit governance structures

7. **Maximizing transit funding opportunities (federal, state and local)**
   a. Identify and investigate new local funding opportunities for transit, such as a new tax or fee
   b. Maximize local fund leveraging opportunities for federal and state funds
   c. Identify an equitable means for distributing federal and state funds

8. **Encourage transit-supportive land uses and densities among study area communities**
   a. Work with local jurisdictions to develop policies that encourage density and destination clustering

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Market Analysis

Overview

The market analysis provides an overview of where current and potential transit riders live, work, and travel. Demographic and environmental data are used to **highlight where transit service is most needed and where it will be most effective.**

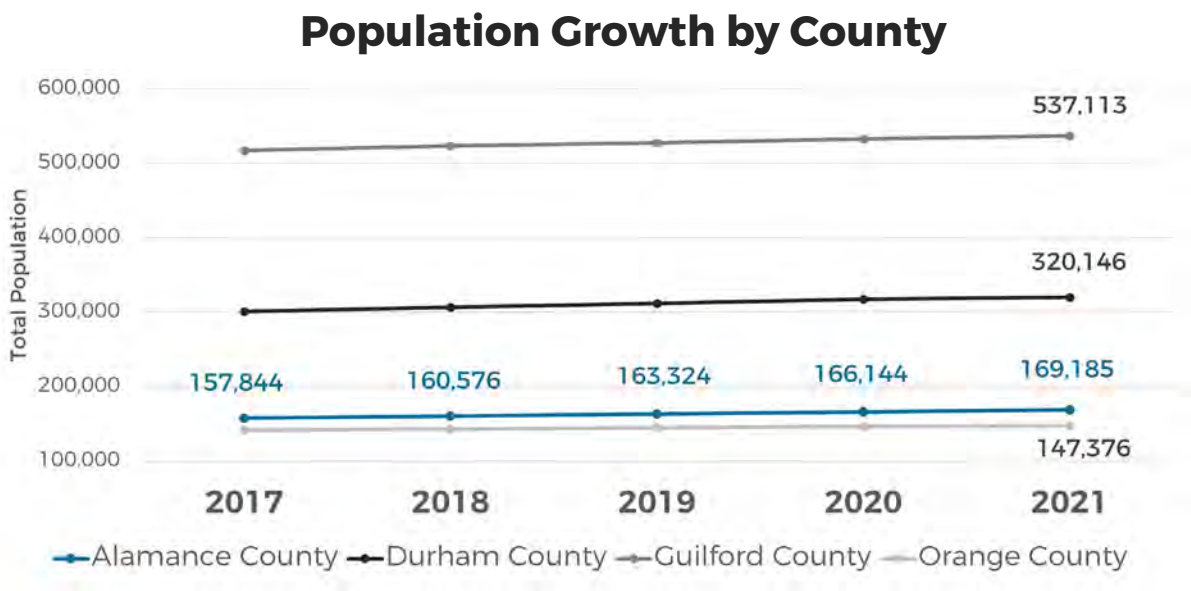
Findings will help the BGMPO better **understand patterns affecting transit demand and equitable access for area residents, informing potential strategies to deliver high-quality transit services for the community**. Additional details on the market analysis methodology and source data is provided in this report's appendix.

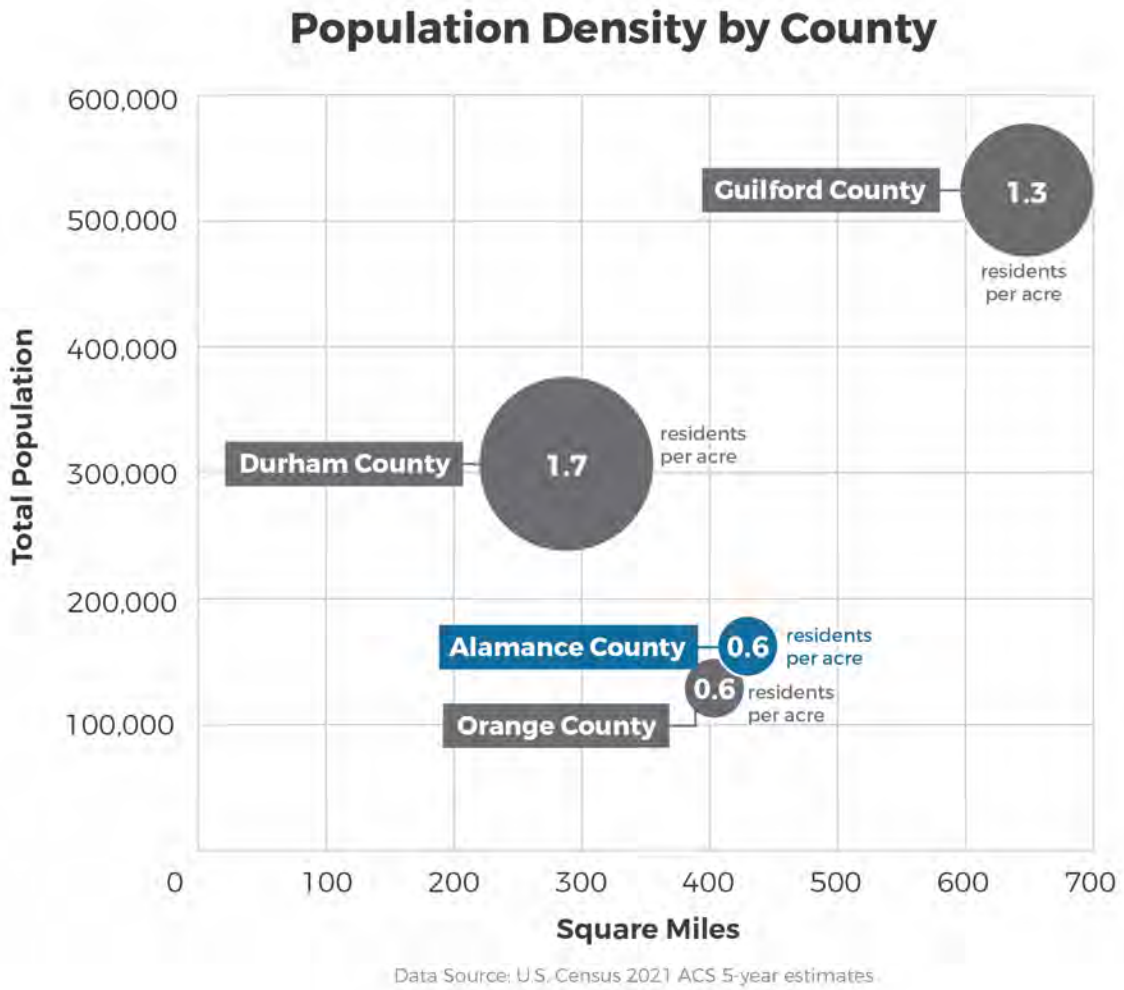
Transit Supportive Density

LAND USE			SUPPORTED TRANSIT	
PLACE TYPE	RESIDENTS PER ACRE	JOBS PER ACRE	APPROPRIATE TRANSIT TYPES	FREQUENCY OF SERVICE
DOWNTOWNS & HIGH-DENSITY CORRIDORS	>45	>25	Rail, BRT, Rapid Bus, Local Bus	10 minutes or better
URBAN MIXED USE	30 - 45	15 - 25	BRT, Rapid Bus, Local Bus	10 - 15 minutes
NEIGHBORHOOD & SUBURBAN MIXED USE	15 - 30	10 - 15	Local Bus	15 - 30 minutes
MIXED NEIGHBORHOODS	10 - 15	5 - 10	Local Bus, On Demand	30 - 60 minutes
LOW DENSITY SUBURBAN	2 - 10	2 - 5	Rideshare, On Demand	up to 60 minutes or on demand
RURAL	<2	<2	Rideshare, On Demand	On demand

Total Population

Alamance County's total population and density is comparable to neighboring Orange County, with **169,185 residents**—0.6 residents per acre—as of 2021. It grew about 1.7% per year between 2017 and 2021, adding a total of 11,341 new residents in 5 years (+7.2%). This **growth rate was higher** than Durham (+6.4%), Guilford (+3.9%), and Orange (+3.9%) Counties during this 4-year period.



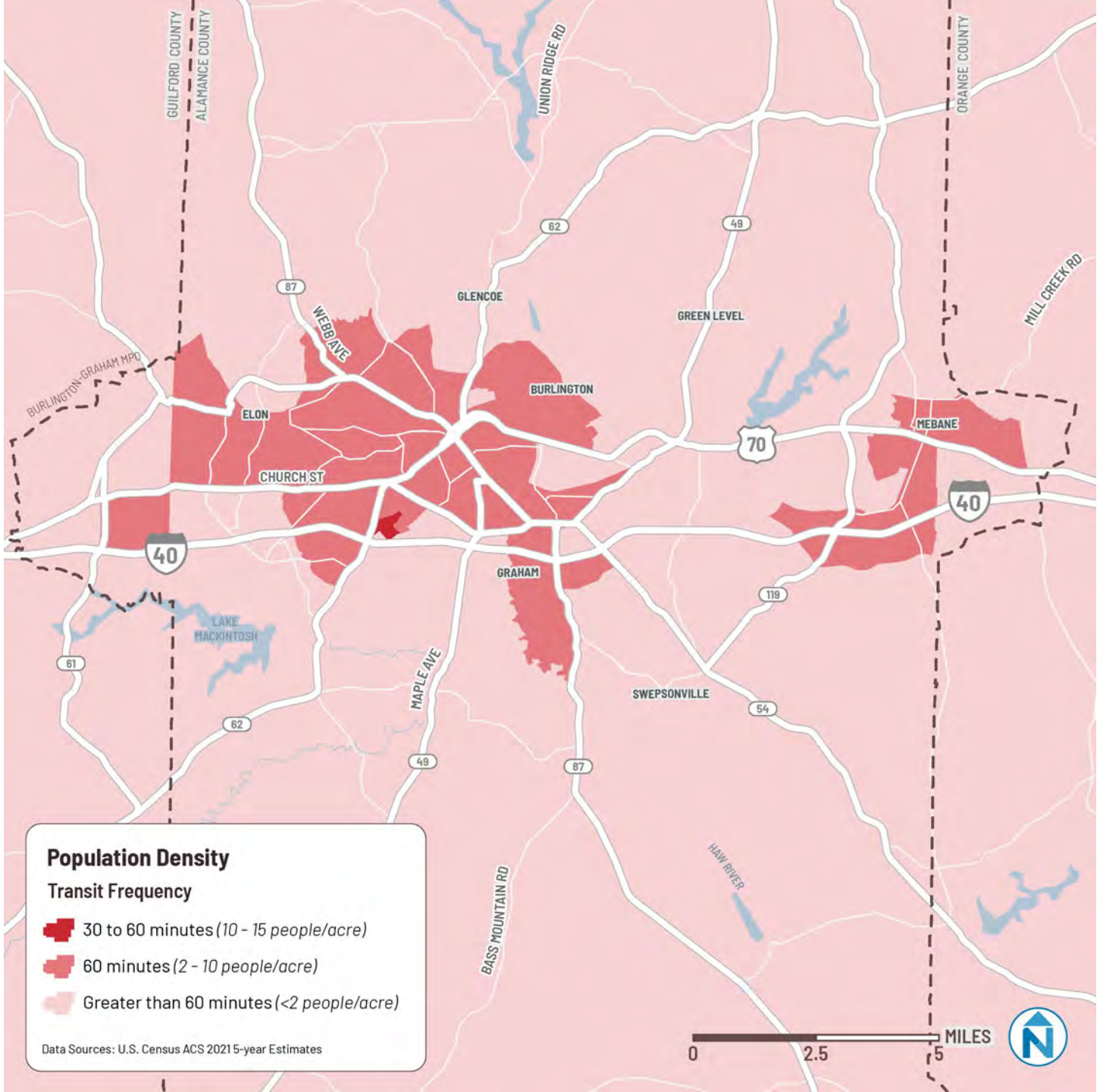


Population Density

Population density is one of the most important factors in determining underlying demand for transit. Higher concentrations indicate there are more people and destinations around to support transit use.

The **most densely populated areas are along the I-40 corridor** in the cities of Burlington, Graham, and Mebane and around Elon University. Even in these areas, the block group with the highest density levels had 10 to15 residents per acre. That level of density typically supports transit service every 30 to 60 minutes.

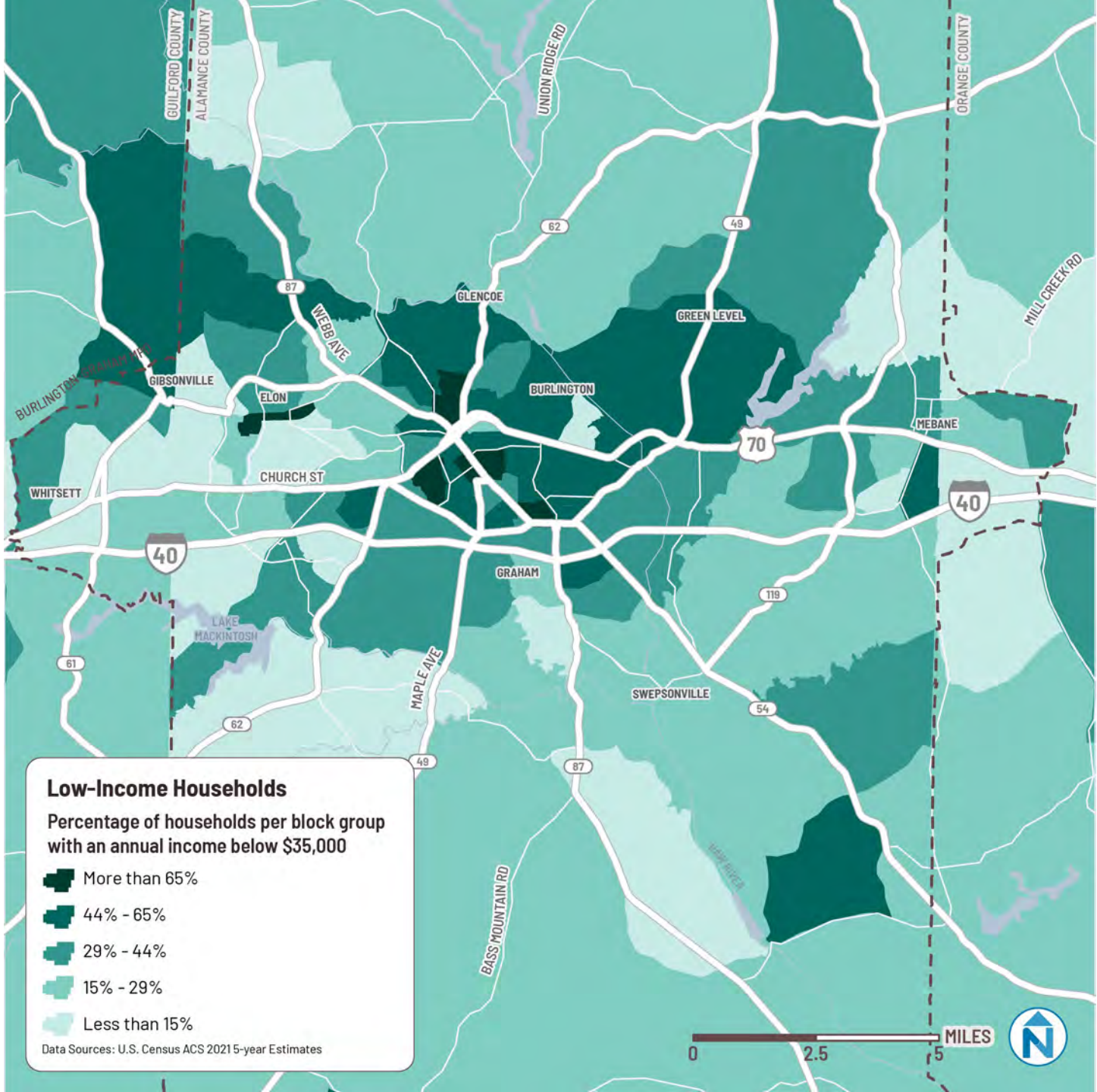
Most of the BGMPO area has fewer than 2 people per acre, a low level of density that is not typically well-suited for fixed route transit service.



Low-Income Households

Concentrations and locations of low-income households is another key factor in determining potential demand for transit.

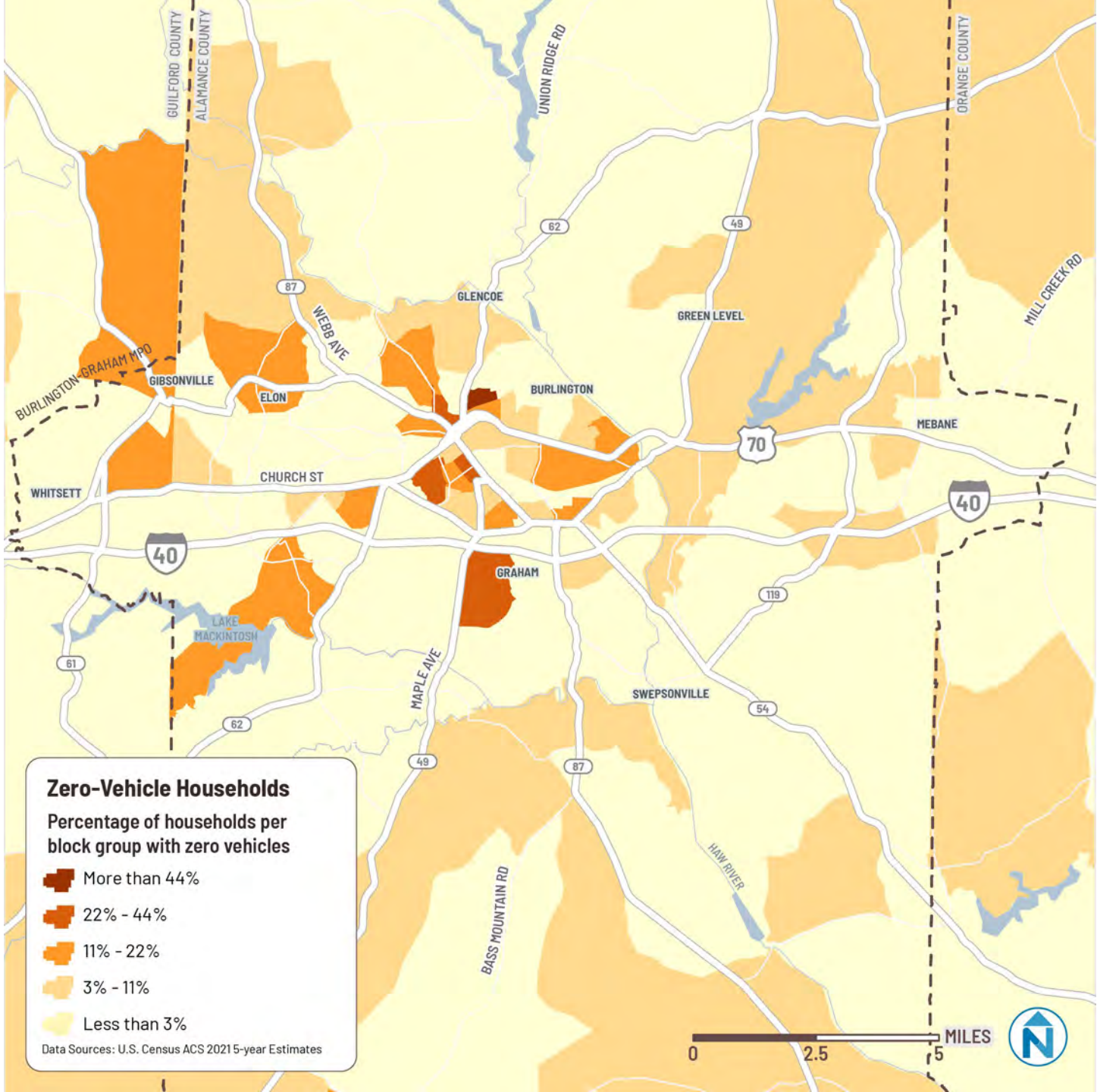
Within the BGMPO boundaries, there are an estimated 73,000 households, of which 31% have an annual income below $35,000. Low-income households are primarily around Burlington, with some census block groups having low-income households exceeding 65% of the block group's total households.



Zero-Vehicle Households

Transit market potential can also be measured by determining concentrations and locations of zero-vehicle households.

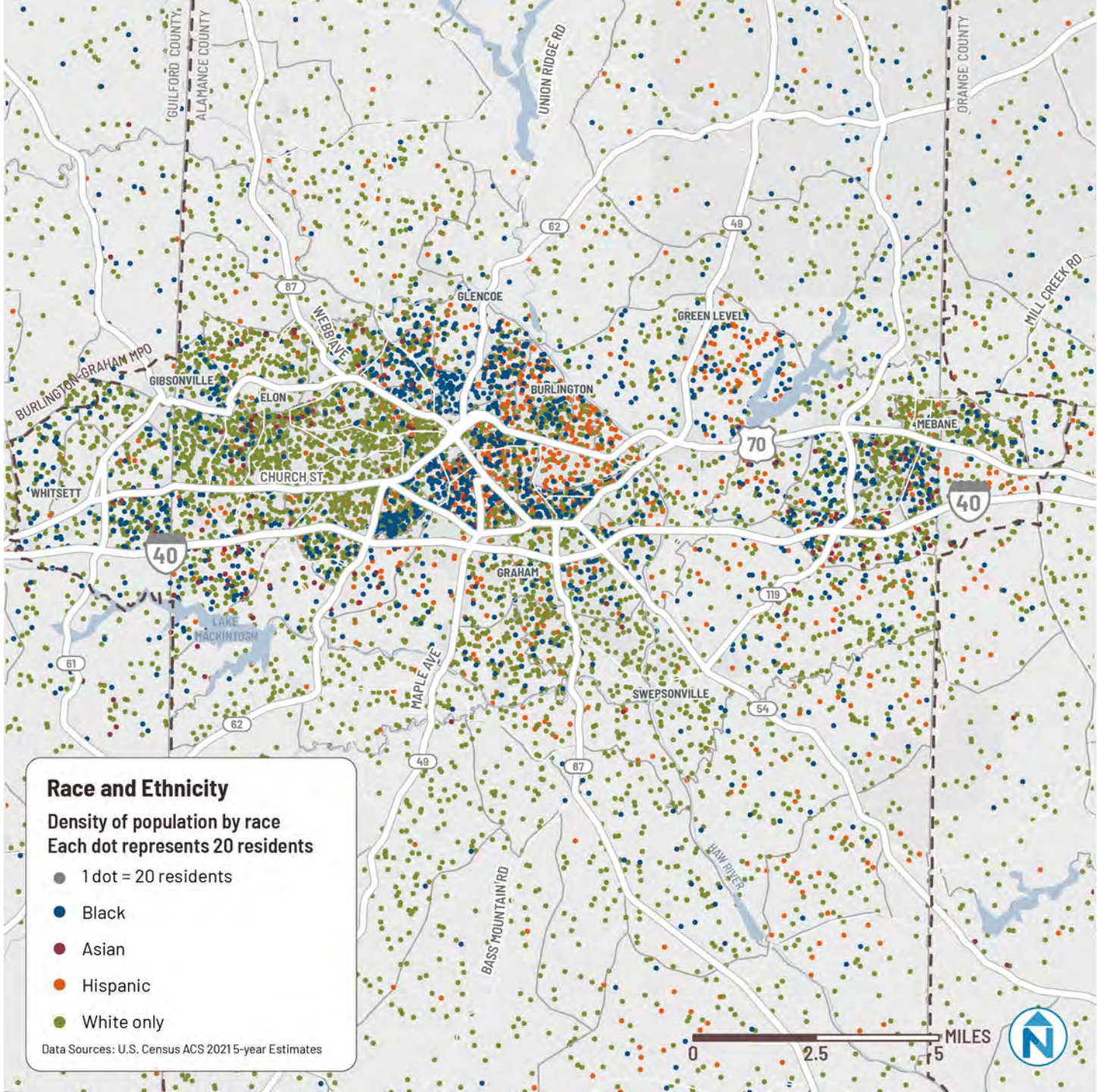
Most block groups within the BGMPO boundary have 11% or fewer zero-vehicle households. There are, however, **higher densities of zero-vehicle households in central Burlington and in southeast Burlington** along Maple Avenue.



Race and Ethnicity

In the United States, race is highly correlated with both personal income and generational wealth. As a result, **residents of color tend to be overrepresented among those who ride transit**, despite legacy policy and planning that historically excluded communities of color.

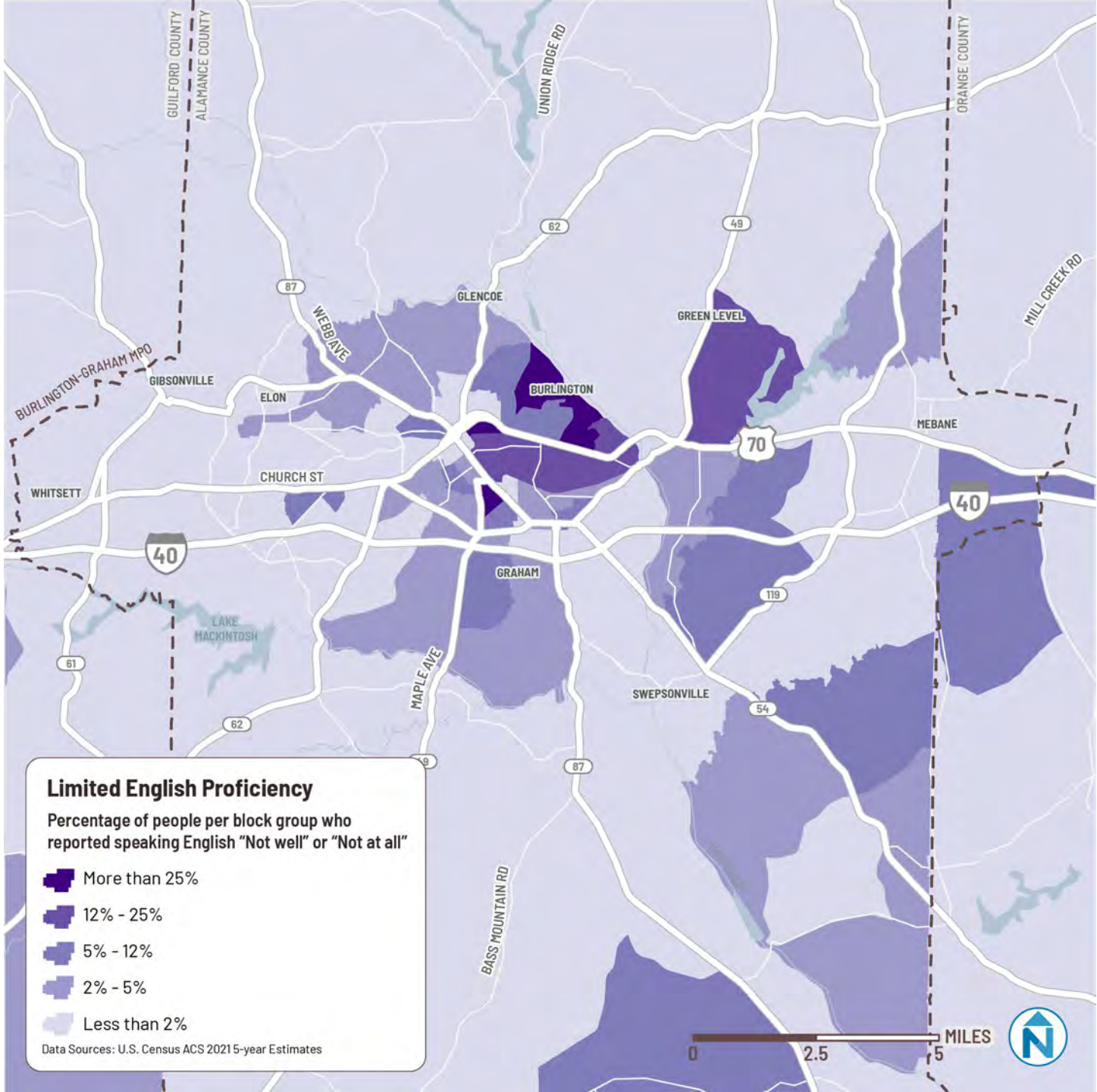
The adjacent figure presents population densities by race and ethnicity. This figure illustrates **higher concentrations of black residents in central Burlington areas** particularly east of Alamance Road and north of I-40, and north of downtown Burlington between Rauhut Street and Webb Avenue**. Hispanic residents are most represented on the east side of Burlington.**



Limited English Proficiency

Residents with limited English proficiency (LEP) are more likely to be recent immigrants with limited access to personal vehicles to meet their transportation needs.

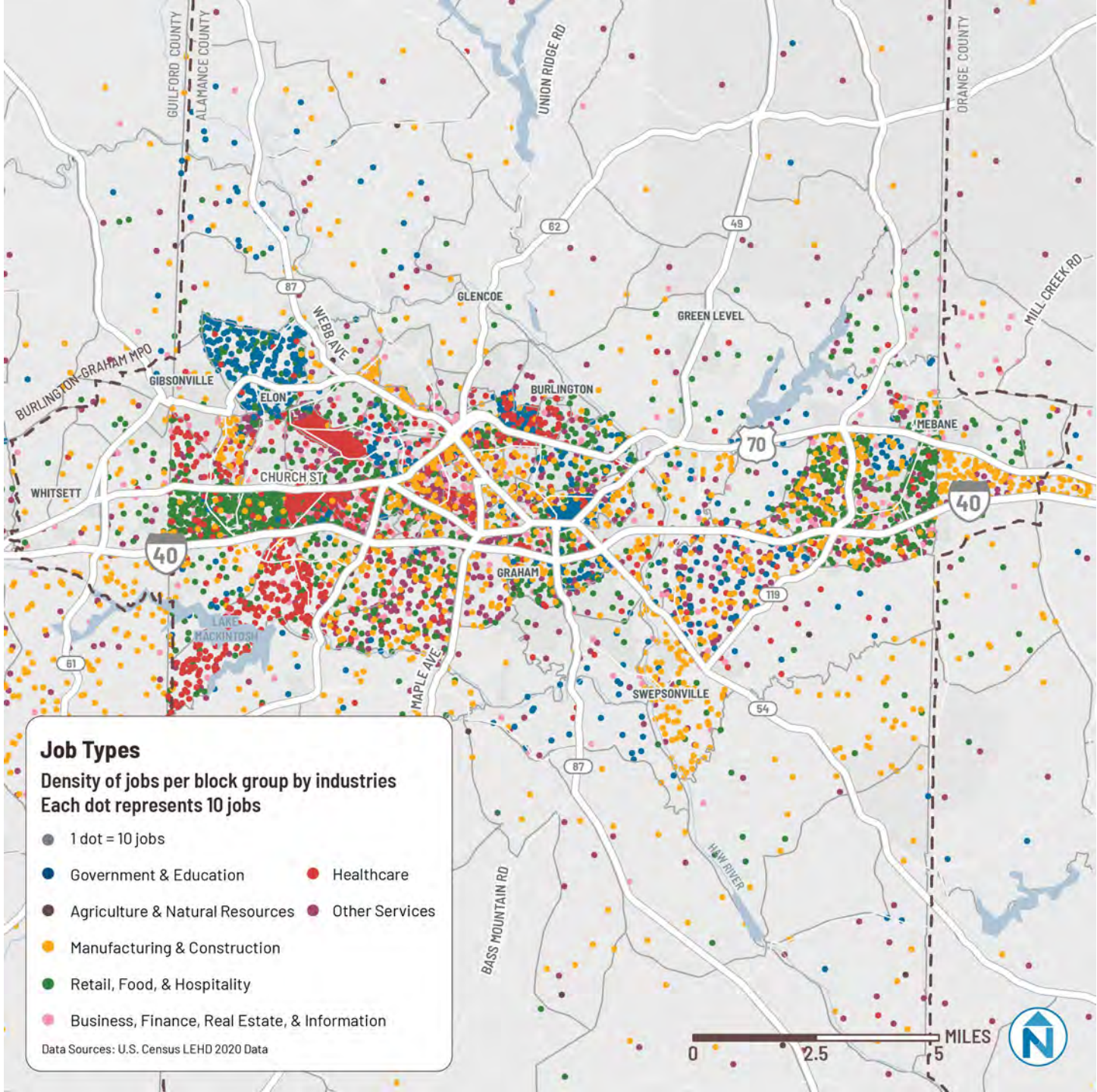
The adjacent figure illustrates where there are concentrations of LEP residents. **Areas with the highest concentrations tend to be on the east side of Burlington**, which aligns with the race and ethnicity data showing this area having a high concentration of Hispanic residents.



Job Types

Clusters of different types of jobs can have implications for transit demand either because of average income per industry, variety in shift times, and remote work flexibility.

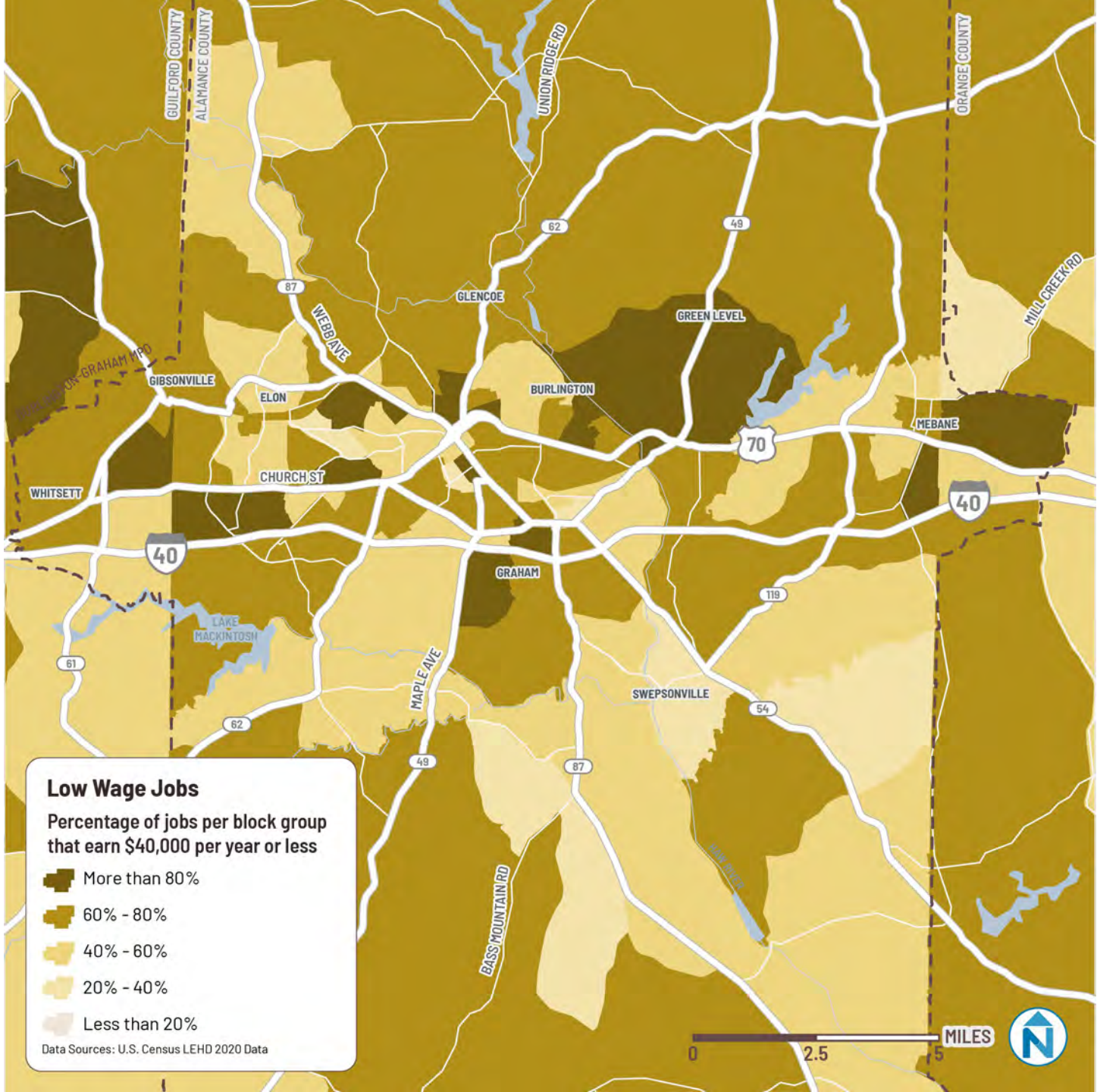
The BGMPO area shows patterns of industry clustering in Retail, Food, & Hospitality around the Huffman Mill Road and Mebane Oaks Road commercial corridors, Government & Education around Elon University and Downtown Graham, Healthcare along western Burlington, and some Manufacturing & Construction in southeast Mebane, Swepsonville, and between Burlington and Graham.



Low-Wage Jobs

People who work in low-wage jobs are more likely to need transit for their commutes, as their income might make the costs associated with vehicle ownership unfeasible.

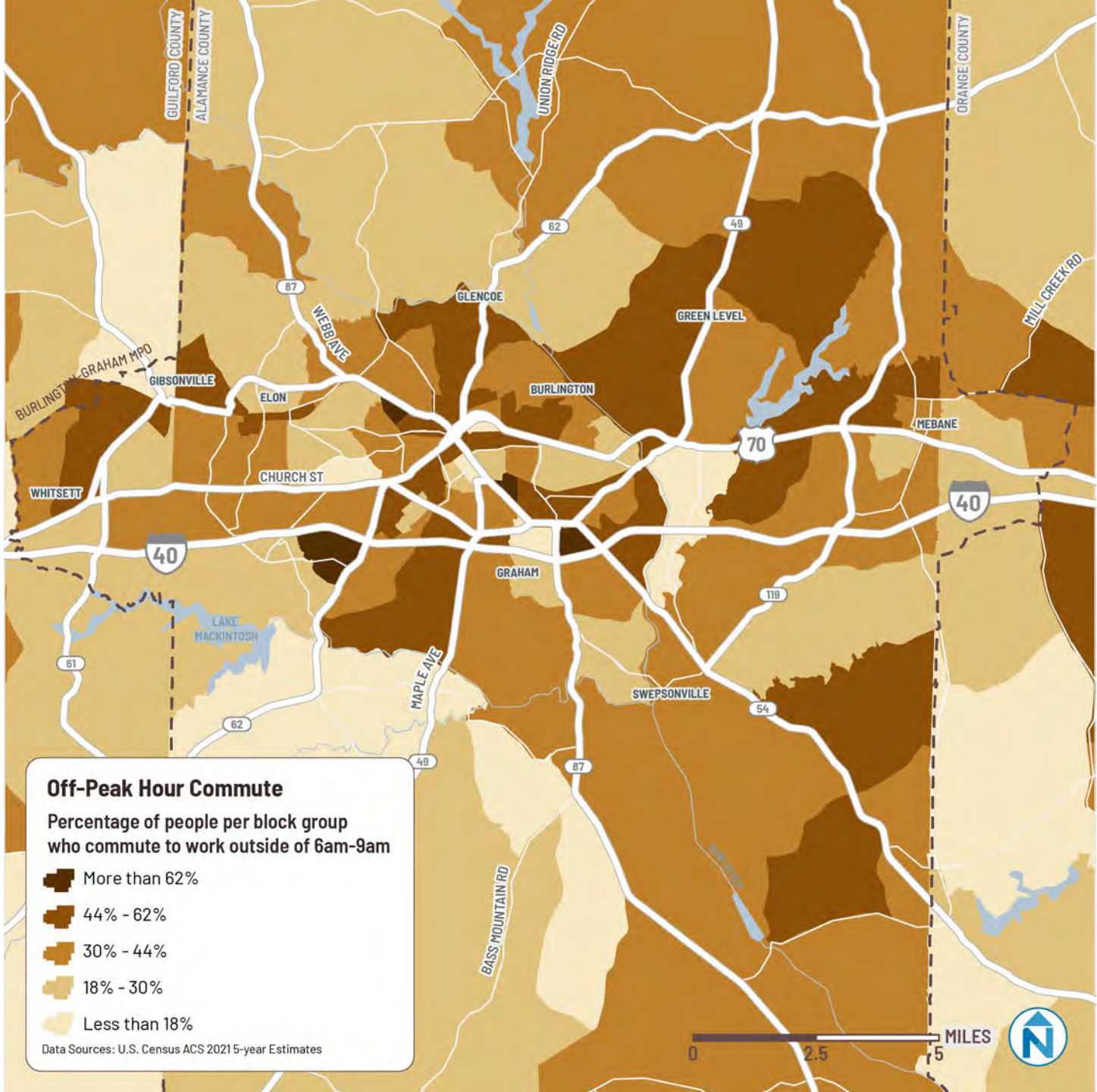
Many areas in the BGMPO region have a significant share of jobs **with wages that equate to $40,000 per year or less.** Several areas have a high density of these jobs including Elon, the Huffman Mill Road commercial corridor, and Downtown Graham, where more than 80% of jobs earn below that benchmark.



Off-Peak Hour Commutes

A review of residents with off-peak commutes can be an indication of the need for all-day transit services.

As noted in the adjacent figure, **a large percentage of BGMPO residents have commutes outside of the typical 6 to 9 a.m. peak period**.



Transit Propensity

Certain demographic and socioeconomic characteristics are related to higher transit usage, including people without cars and people living in low-income households. When significant numbers of individuals and households from these high-transit propensity groups cluster together, they can influence the underlying demand for transit to an extent not captured when only considering total population. Similarly, in a location where transit-supportive demographic groups have low representation, the level of potential transit demand may be lower than total population density alone would indicate.

Factors from **a transit propensity analysis shows relative demand for transit in different areas** as compared to the region and accounts for both issues. These factors measure the **likelihood of the demographic groups listed to use transit** to commute to work relative to the study area's general population.

The table to the right shows the **transit index factor (TIF)** for different demographic groups in Alamance County calculated against the total average to show their propensity to use transit. **Any demographic group with a TIF greater than 1 is more likely than the general population to use transit.**

Demographic Characteristic	Relative Transit Propensity	% BGMPO Pop.
Race & Ethnicity		
White Alone (Not Hispanic or Latino)	0.46	63%
Black or African American	2.81	20%
Asian	4.94	2%
Other Race	0.46	3%
Hispanic or Latino	0.14	12%
Household Vehicle Ownership		
No Car	16.36	4%
One Car	0.49	28%
Two or More Cars	0.74	68%
Country of Origin		
Native	1.02	92%
Foreign Born	0.84	8%
Household Income		
Less than $10,000	5.31	6%
$10,000 - $15,000	0.00	4%
$15,000 - $25,000	0.07	10%
$25,000 - $35,000	0.33	11%
More than $35,000	0.83	69%

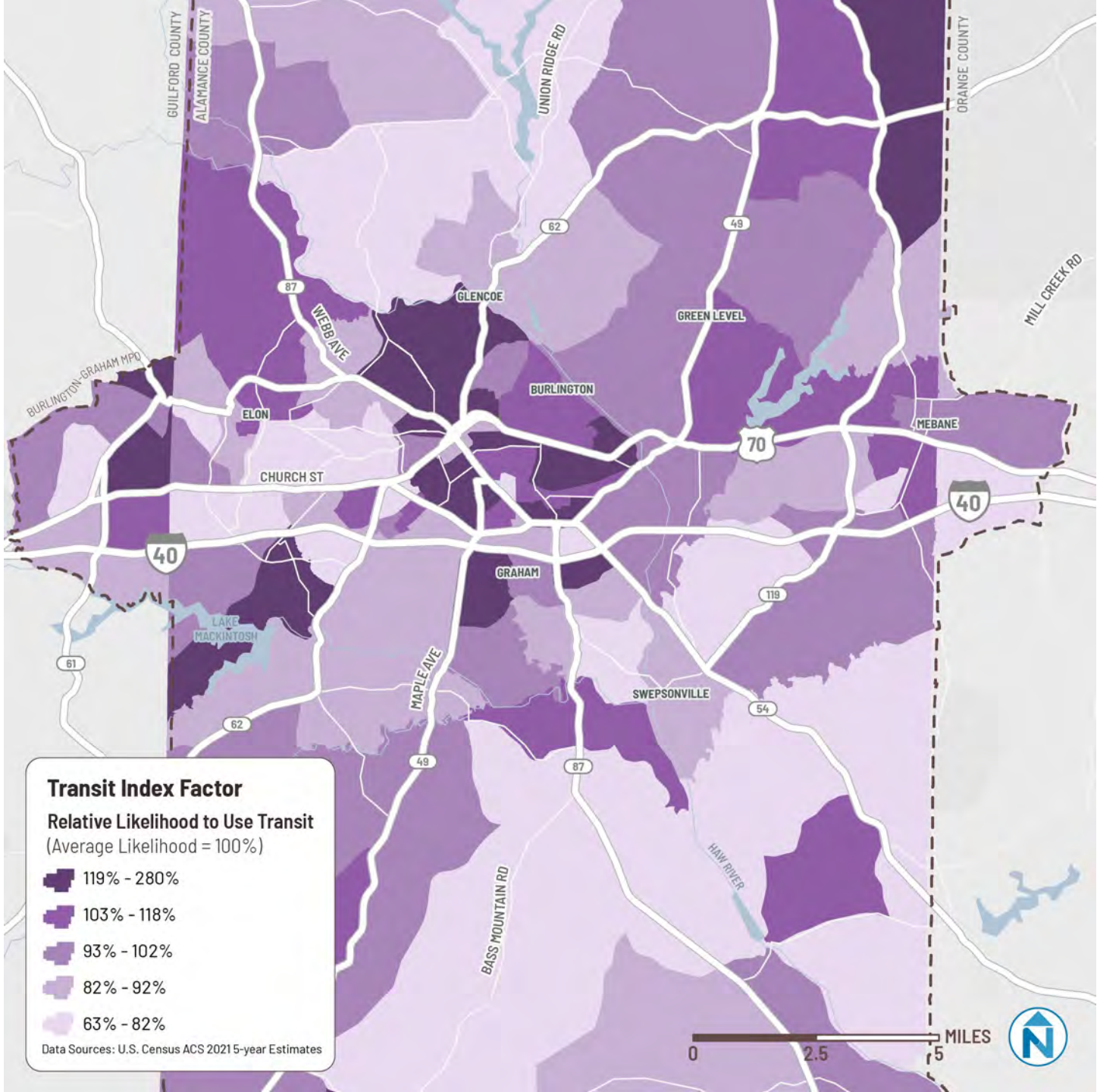
Transit Propensity

A transit index factor (TIF) is assigned to each block group based on its demographics to show the propensity of its residents to use transit.

Block groups that show **above average transit propensity (>100%)** include:

- Downtown Burlington
- Downtown Graham
- Lake Mackintosh
- Elon University
- Gibsonville
- Northeast Alamance County

Residents in rural areas in south central and north central Alamance County, as well as the west side of Downtown Burlington, have the lowest likelihood to use transit.

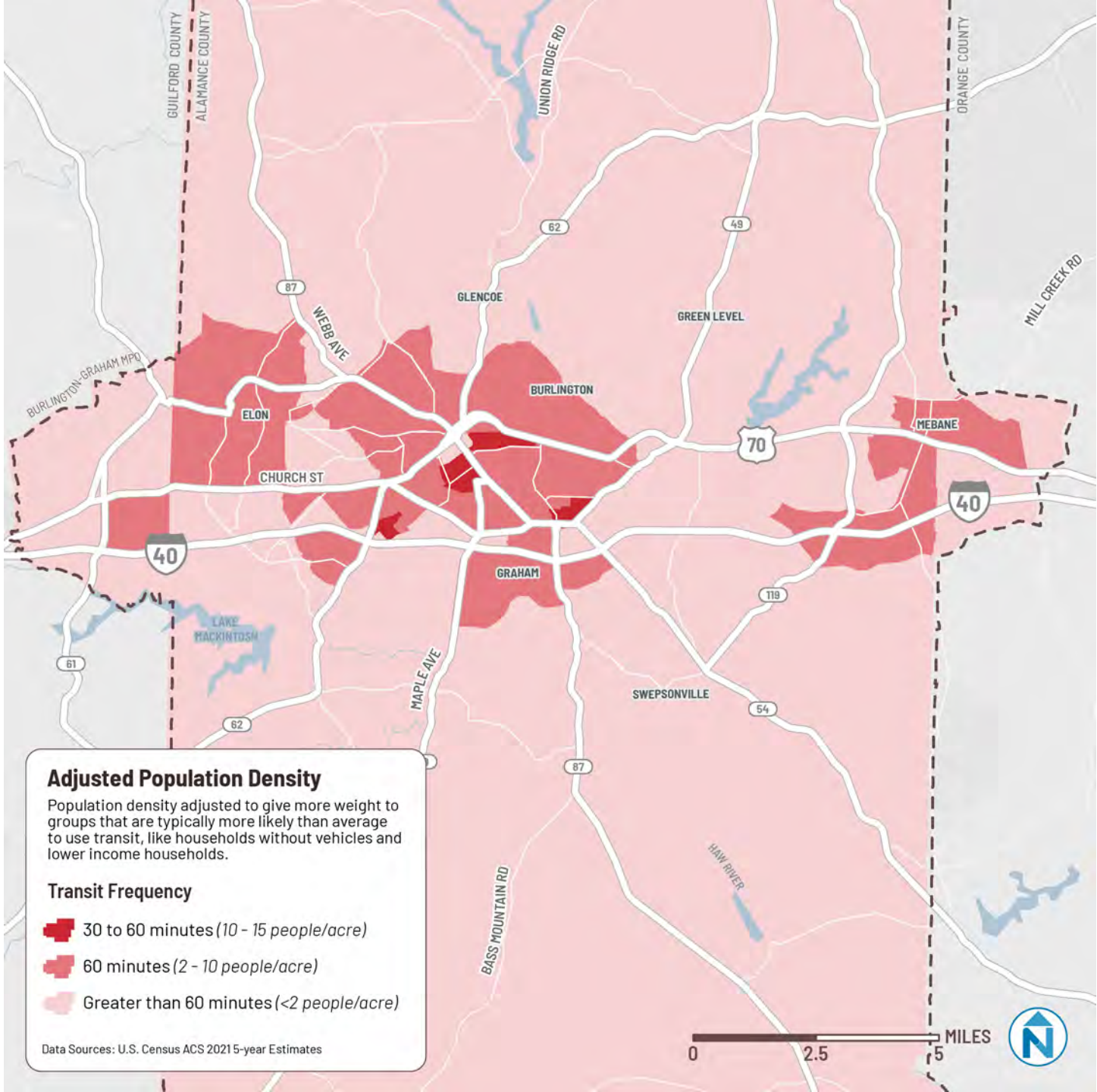


Adjusted Population Density

A block group's **Transit Index Factor** is multiplied by its unadjusted population density to provide an adjusted population density that reflects the **likelihood of residents using transit**.

Adjusting for population density allows for identification of areas by corresponding transit service frequencies.

Areas that may support transit service every 30 to 60 minutes include parts of **Downtown Burlington** just south of Church Street and part of **Downtown Graham.**



Employment Density

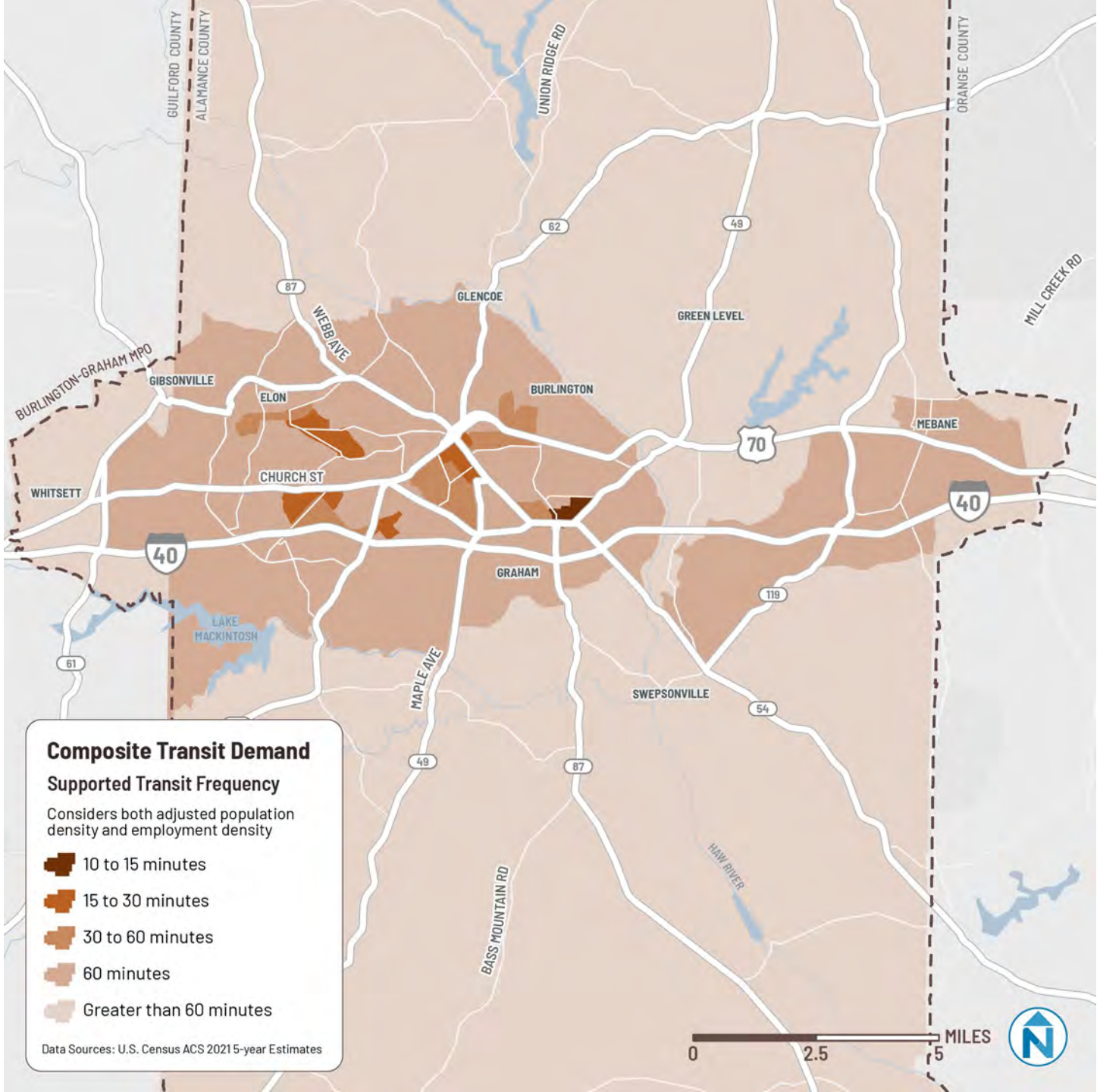
Commuting for work is the most common and consistent reason for taking transit, making job density another strong indicator of demand. Job locations also highlight add-on demand. For example, where restaurant, retail, and medical workers commute, customers and patients also travel to shop or receive care.

Like population density, **employment density in the BGMPO area is low**, with fewer than 2 jobs per acre in most places. **Jobs are concentrated around Downtown Burlington, Downtown Graham, Elon University, and a few commercial corridors like Huffman Mill Road and Webb Avenue.** The densest job centers would support transit service every 30 to 60 minutes.

Composite Demand

The **composite transit demand score combines adjusted population density and employment density**. Looking at population density, socioeconomic characteristics, and employment density combined is the best way to get a **complete understanding of the underlying demand** as none of these three aspects of demand exist in isolation from one another.

Using a composite score of population and employment densities, **most of the Burlington-Graham urban area, as well as Mebane, can support 60-minute local fixed route service**, with some pockets having demand that could support 30-minute service (e.g., around Elon, the I-40 corridor, and central Burlington).



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Travel Patterns

Travel Patterns 2022

Replica is an online planning tool that shows actual travel pattern characteristics in a region. It uses location-based services (LBS) data (such as cell phone data) to track trip origin and destination data at a census block group level.

For this study, fall 2022 data was reviewed to determine travel pattern characteristics within and to/from Alamance County and adjacent counties. As noted in the adjacent table, **most weekday trips originating in Alamance County remain in Alamance County (86%)**. Of those **trips leaving Alamance County, 55% are traveling west to Guilford County and 45% are traveling east to Orange and Durham Counties**.

For those **trips originating in adjacent counties and traveling to Alamance County, the split is identical** (55% from Guilford County and 45% from Orange and Durham Counties).

Fall 2022 Weekday Trips

Origins & Destinations by County

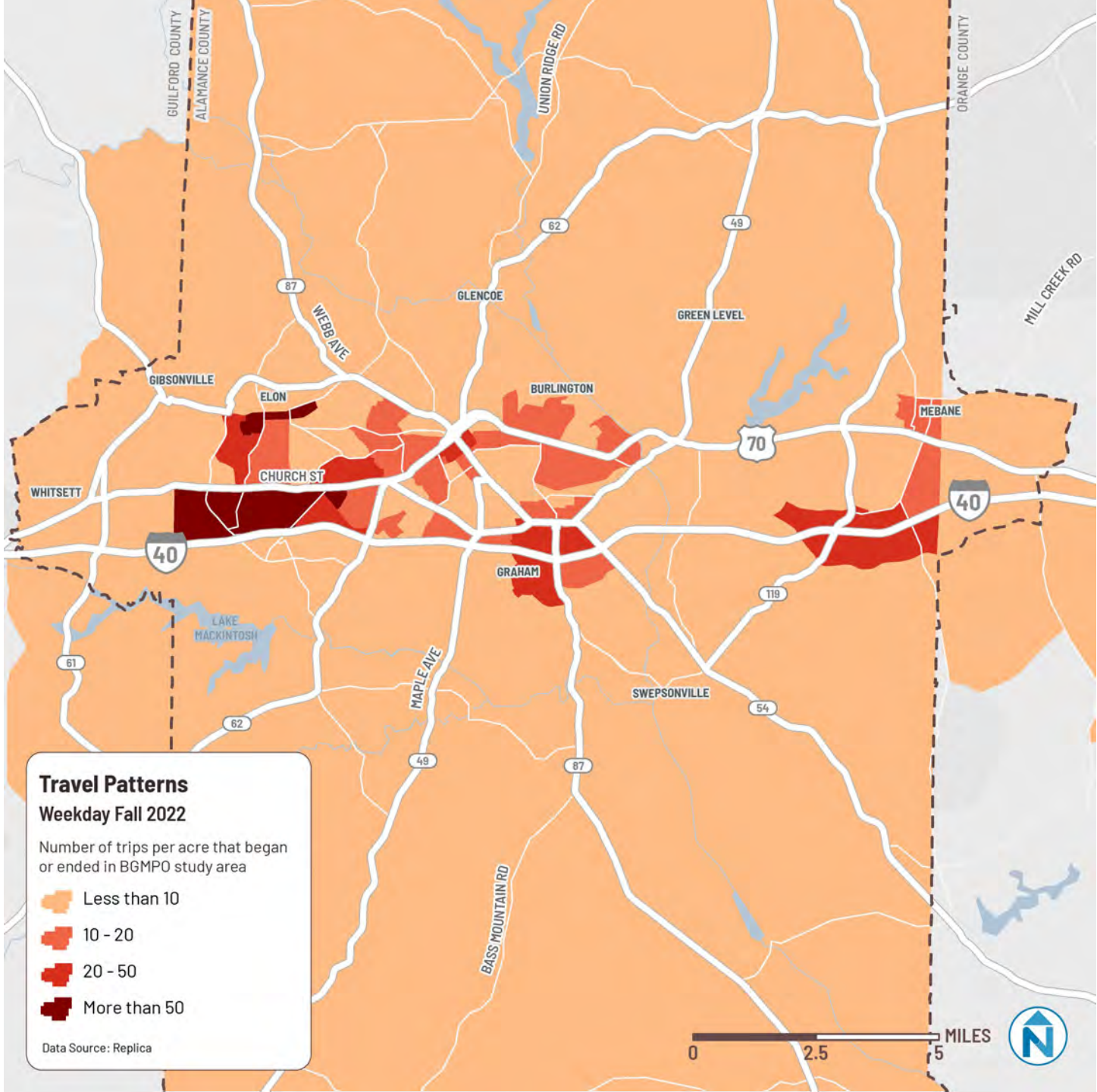
	Origin	Weekday Trips	Destination	Weekday Trips
FROM ALAMANCE	Alamance	647,554	Alamance	554,363
			Guilford	51,619
			Orange	28,270
			Durham	13,302
TO ALAMANCE	Guilford	1,912,010	Alamance	50,491
	Orange	457,603		28,595
	Durham	994,592		13,234

Travel Densities 2022

Internal Trips

The adjacent figure illustrates trip activity on a census block group and average weekday basis for trips that begin and end within the BGMPO study area.

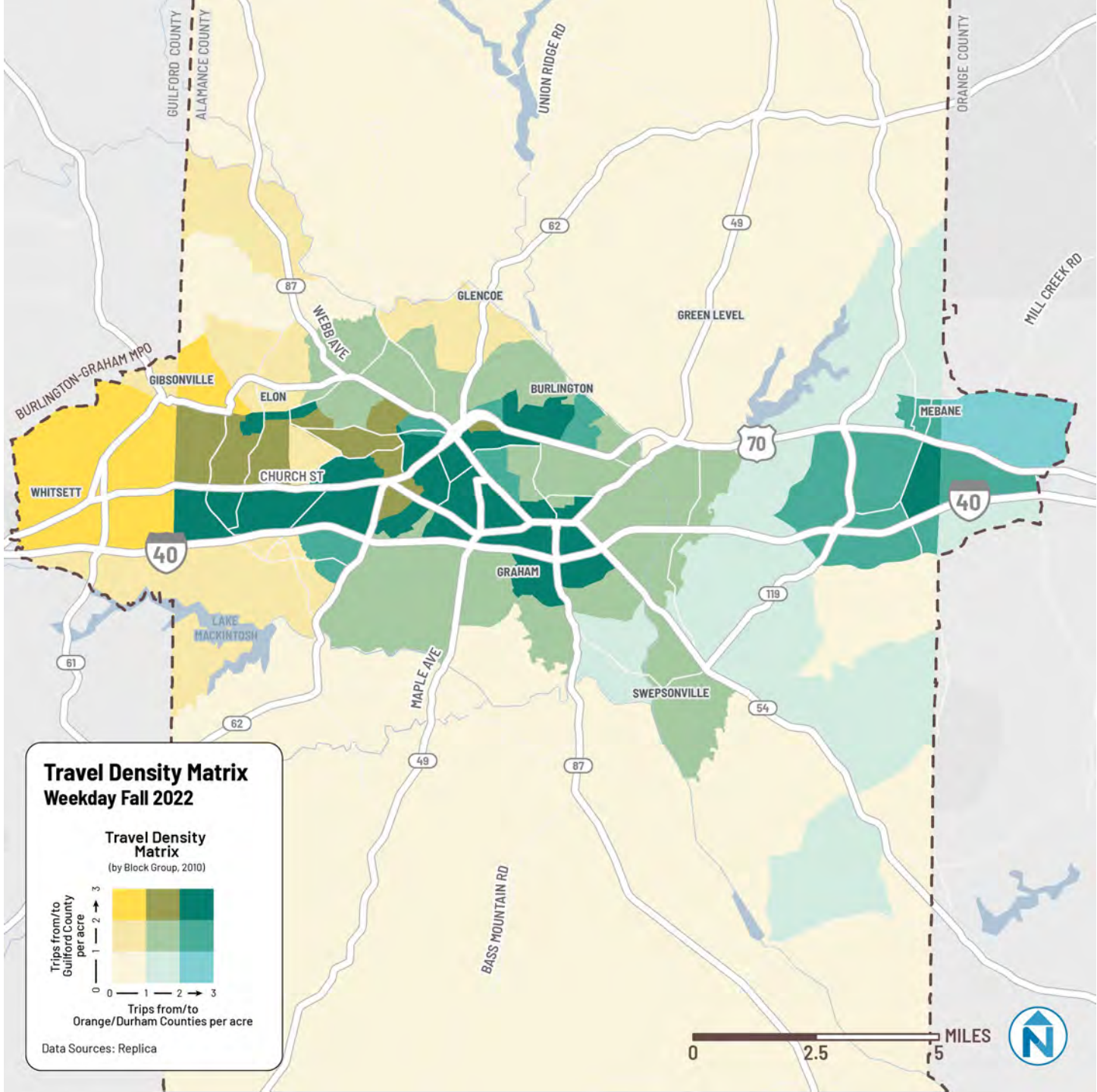
Most of the **study area has fewer than 10 daily person trips per acre**. The areas with the highest trip activity are commercial areas along the I-40 and US 70 corridors.



Travel Patterns 2022
External Trips

The adjacent figure illustrates trip activity on a census block group basis for trips that begin or end OUTSIDE of the BGMPO area. The colors indicate both relative level of travel based on trip density and where that level of travel is coming or going.

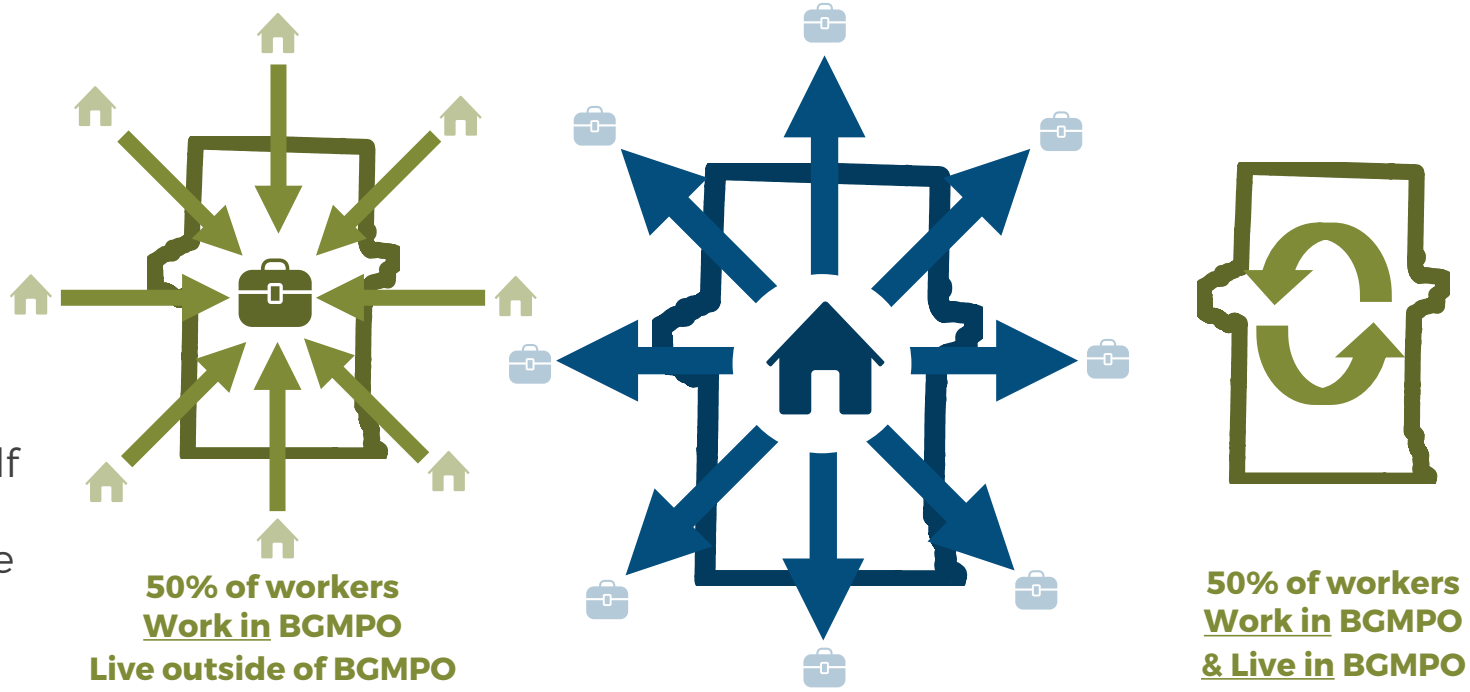
Areas with the **highest trip density from both the east and west are nearest to the I-40 corridor** covering Burlington, Graham, and South Mebane. **Block groups on the west side of the BGMPO area typically have more trips connected to Guilford County, while block groups on the east side have more trips to/from Orange/Durham Counties**. One exception appears to be along Hanover Rd between Burlington and Graham, which is central, but has more trips coming from Orange/Durham. Another exception is around Elon, which is further to the east, but has relatively even trip density from both east and west.



Work Travel

Where BGMPO Workers Live

The 2020 US Census Longitudinal Employer-Household Dynamic (LEHD) Data indicates there are approximately 67,000 total jobs in the BGMPO area. Half of these jobs are held by people living outside the BGMPO boundaries while the other half live within the BGMPO area.



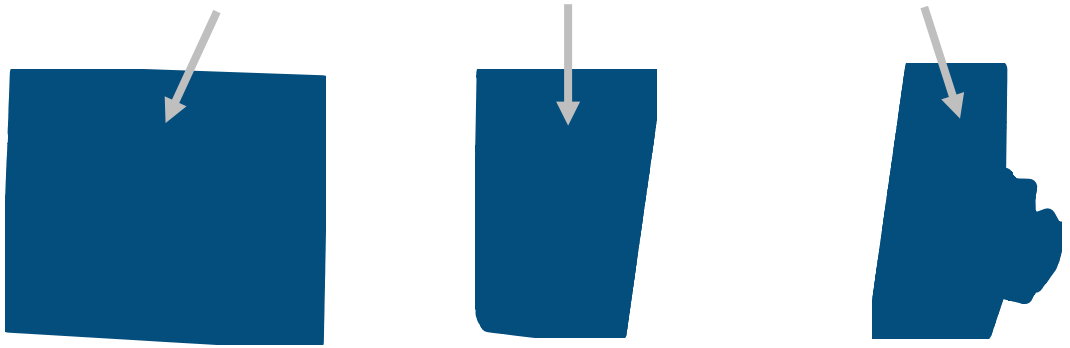
50% of workers Work in BGMPO Live outside of BGMPO

50% of workers Work in BGMPO & Live in BGMPO

Where BGMPO Residents Work

Of the 79,000 employed **residents** living within the BGMPO area, **58% of residents commute out for work**. The main destinations are Guilford, Orange, and Durham Counties, comprising 32% of BGMPO residents. These work travel flows indicate significant demand for transportation services that can facilitate easy and convenient regional travel between counties.

58% of residents Live in BGMPO & Work outside of BGMPO



14% Work in Guilford County

10% Work in Orange County

8% Work in Durham County

Distance/Direction:

Commute Trips to BGMPO Jobs

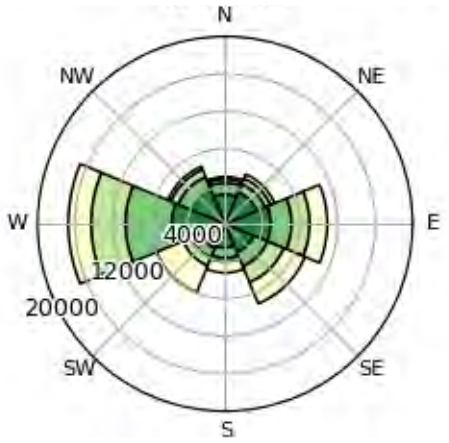
2020 LEHD data was used to determine commute patterns to jobs within the BGMPO area.

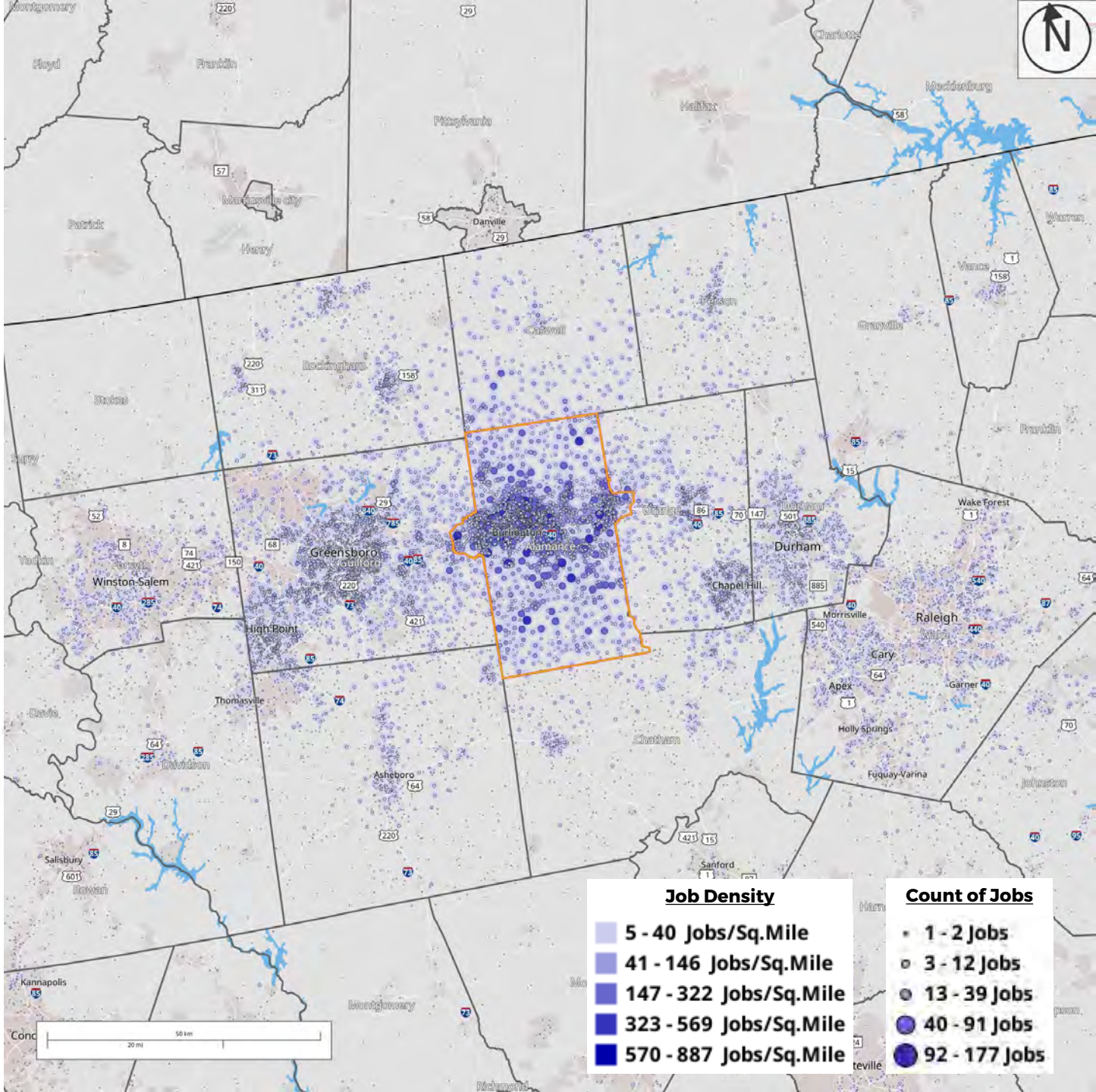
- More trips from outside of the study area come from the west (Guilford County) than from the east (46% vs. 38%).
- Workers commuting into the area have shorter commutes than BGMPO residents: 45% travel less than 10 miles compared to 38% of BGMPO residents.
- Over half of all inbound workers travel more than 10 miles away to jobs within the BGMPO area.

Jobs by Distance
Work Census Block to Home Census Block

	2020 Count	Share
Total All Jobs	67,330	100.0%
Less than 10 miles	30,059	44.6%
10 to 24 miles	14,597	21.7%
25 to 50 miles	10,598	15.7%
Greater than 50 miles	12,076	17.9%

Job Counts by Distance/Direction in 2020
All Workers





Distance/Direction:

BGMPO Resident Trips to Jobs

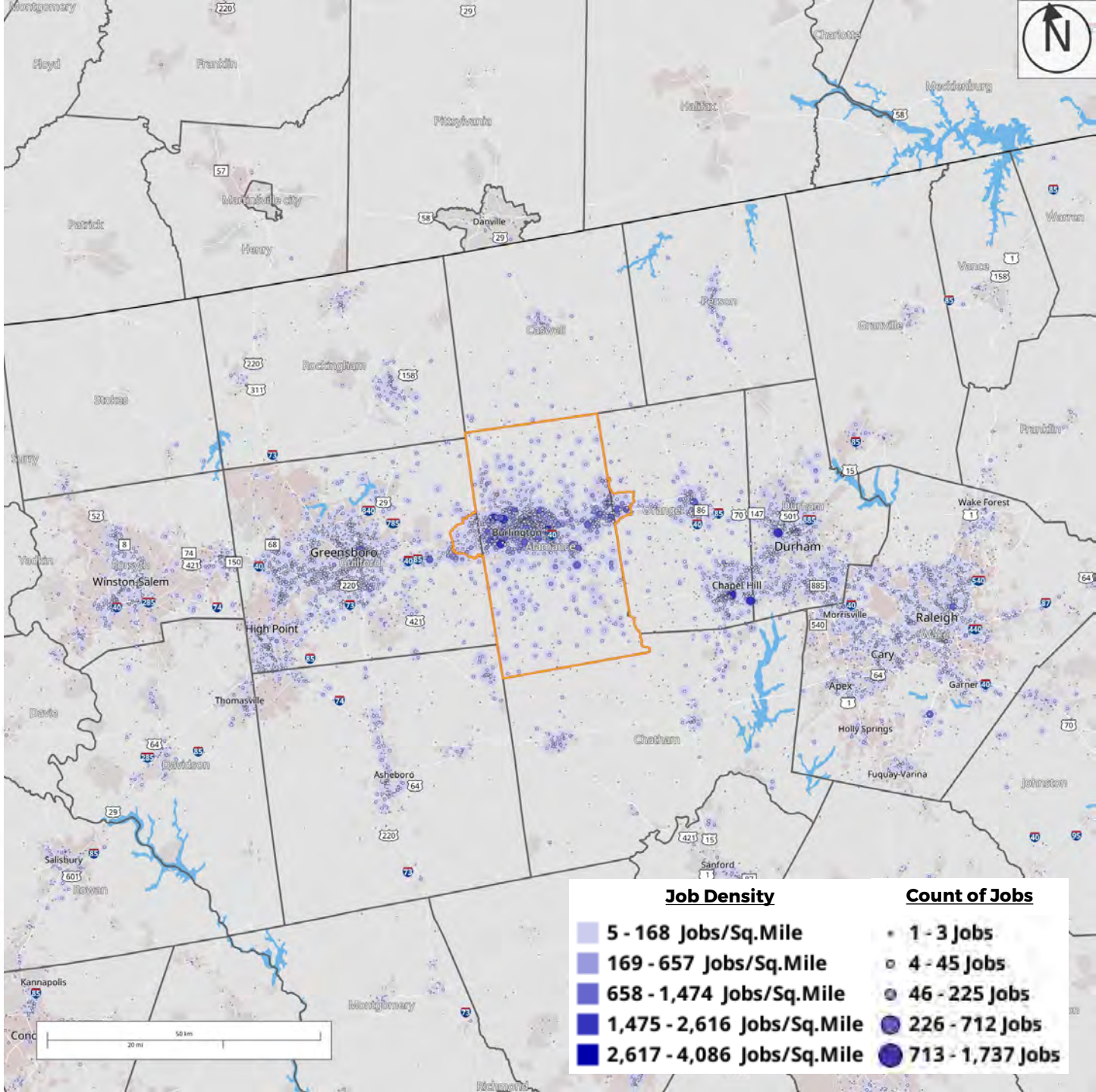
2020 LEHD data was also used to determine commute patterns for BGMPO area residents.

- **Resident work trips leaving the study area are oriented slightly more towards the east and southeast** to Orange, Durham and Wake Counties than to the west (46% vs. 43%).
- Over 60 percent of all BGMPO area residents travel more than 10 miles to their jobs.

Jobs by Distance
Home Census Block to Work Census Block

	2020 Count	Share
Total All Jobs	79,052	100.0%
Less than 10 miles	29,797	37.7%
10 to 24 miles	19,333	24.5%
25 to 50 miles	17,503	22.1%
Greater than 50 miles	12,419	15.7%

Job Counts by Distance/Direction in 2020
All Workers



EXISTING CONDITIONS ASSESSMENT

Transit Service Assessment

Existing Transit Service

Local Fixed Route Service

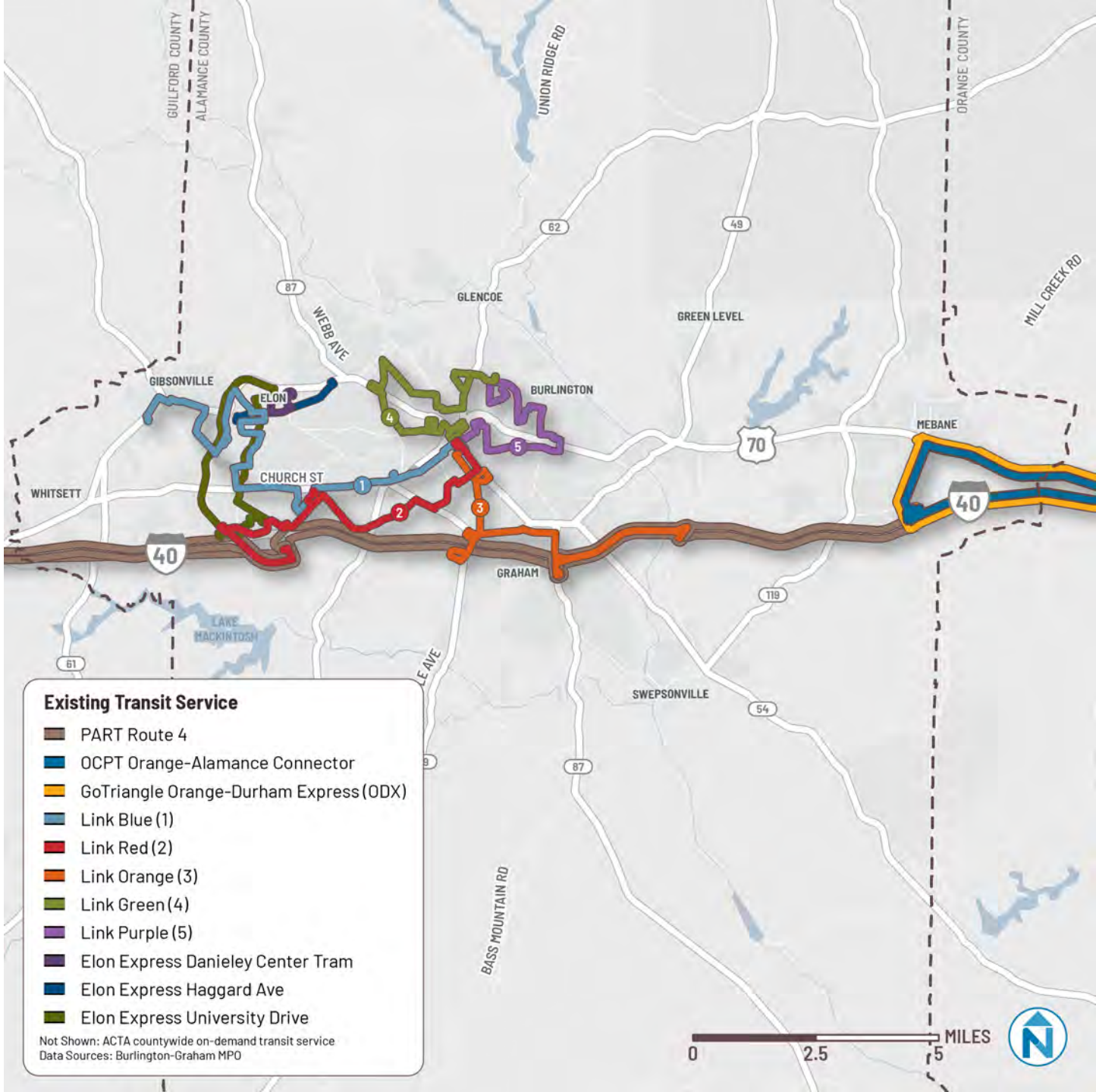
- Link Blue (1)
- Link Red (2)
- Link Orange (3)
- Link Green (4)
- Link Purple (5)
- Elon Express Danieley Center Tram
- Elon Express Haggard Avenue
- Elon Express University Drive

Regional Service

- PART Route 4
- OCPT Orange-Alamance Connector
- GoTriangle Orange-Durham Express (ODX)

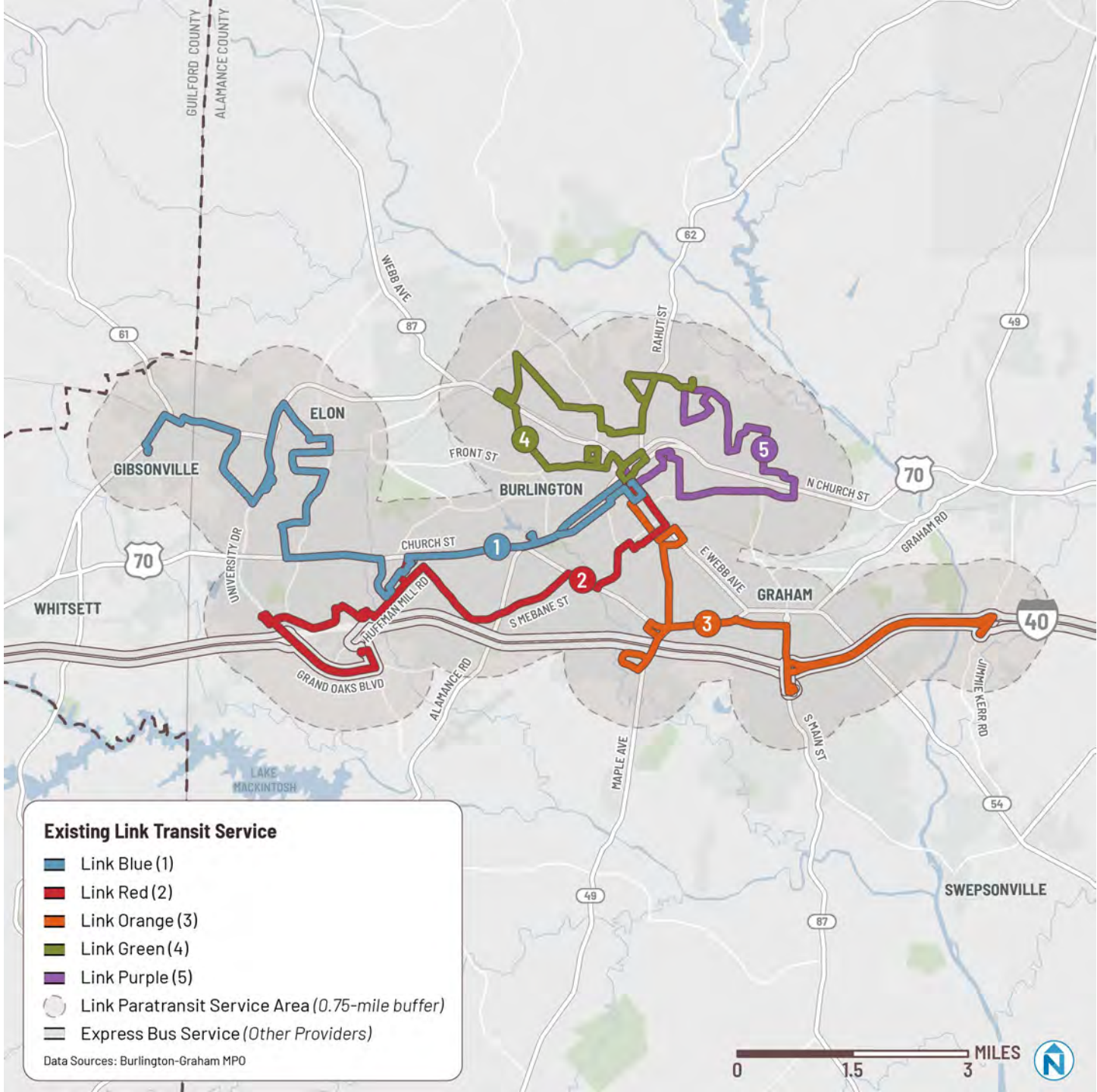
On-Demand Service

- Link Paratransit Service (¾ mile buffer around Link fixed routes)
- ACTA (countywide service)



Link Transit

- Link Transit operates five fixed routes plus paratransit (3/4-mile buffer around fixed routes)
- Fixed route and paratransit service is provided Monday through Saturday
  - Weekday service span is generally 6:30 am to 9:30 pm
  - Saturday service span is generally 9:30 am to 6:30 pm
- All routes operate at 90-minute service frequencies with timed transfers in Downtown Burlington
- All routes operate with one bus each

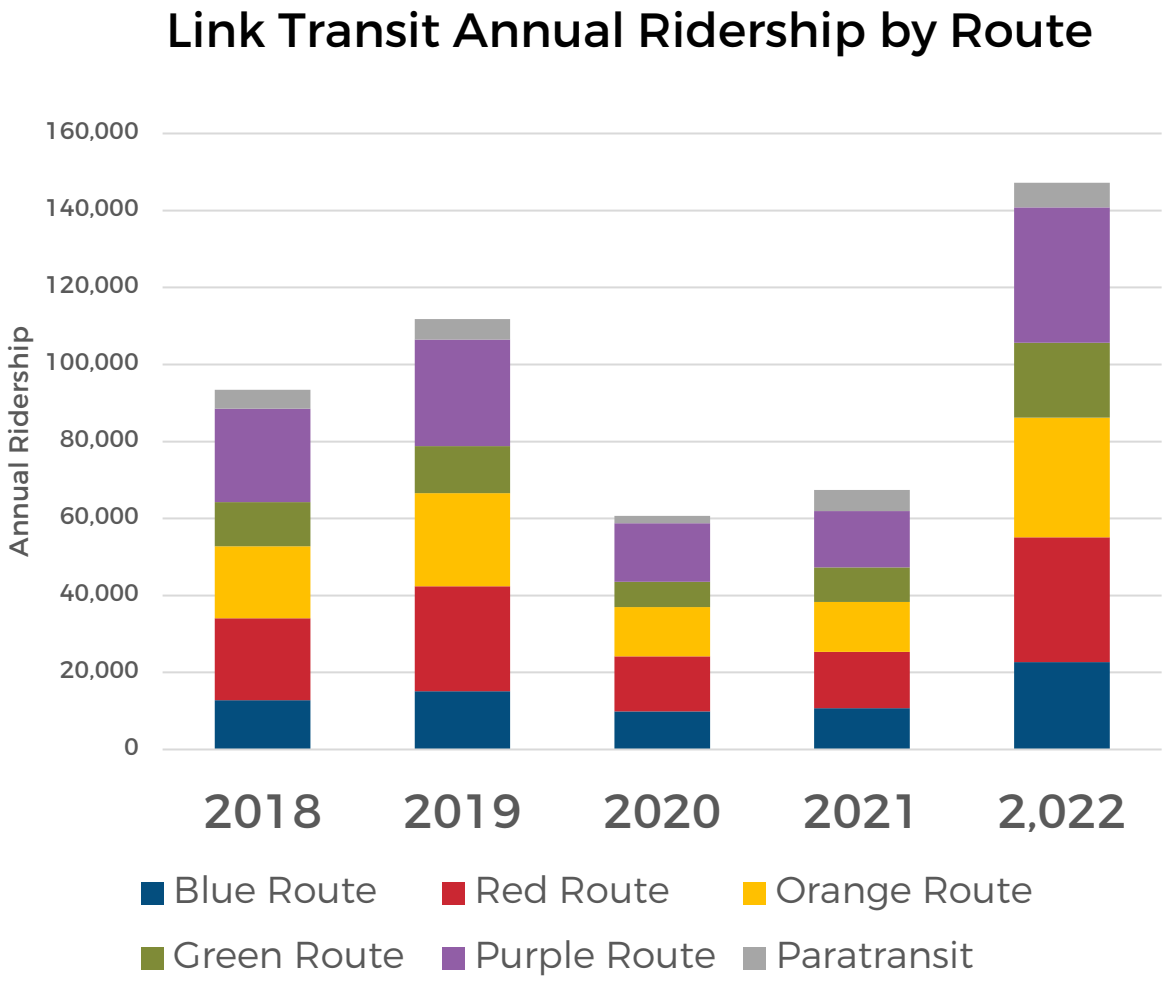


Link Transit

Link Transit service began in 2016. By 2019, system ridership had grown to nearly 112,000 annual passenger trips. Service was scaled back during the COVID-19 pandemic and fully restored in June 2021. FY 2022 system ridership was over 147,000 annual passenger trips, **32% above 2019 (pre-COVID) levels.**

The Purple, Red and Orange routes account for 70% of Link Transit's fixed route ridership. Paratransit trips are approximately 4% of total ridership.

Modifications were made this year to the Blue Route alignment and stops, and evening service was extended to 9:30 pm.

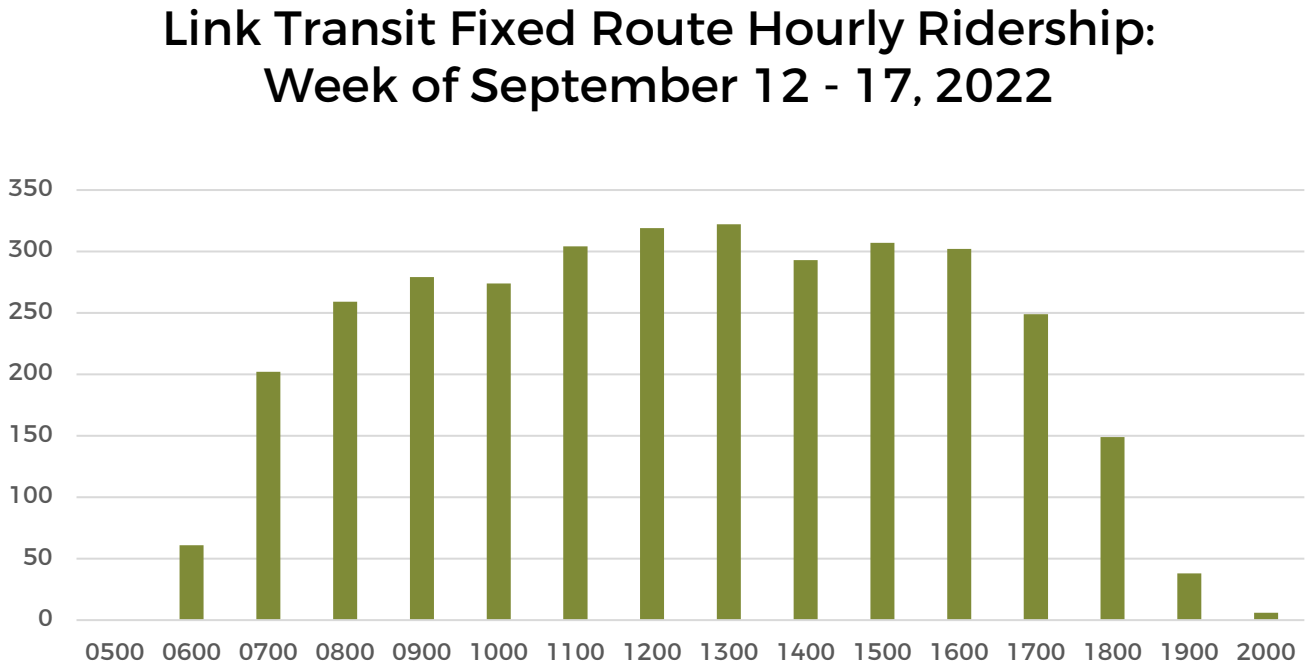


Link Transit

The adjacent graph presents Link Transit fixed route ridership by time-of-day for a week in September 2022 (i.e., before evening service was extended to 9:30 pm). This graph reflects total ridership for the week (i.e., six days of ridership).

Fixed route ridership is fairly consistent from 8 am to 6 pm, peaking around noon to 2 pm.

Paratransit ridership for this single week was 148 passenger trips, averaging about 29 to 30 trips per weekday.



Route Profile

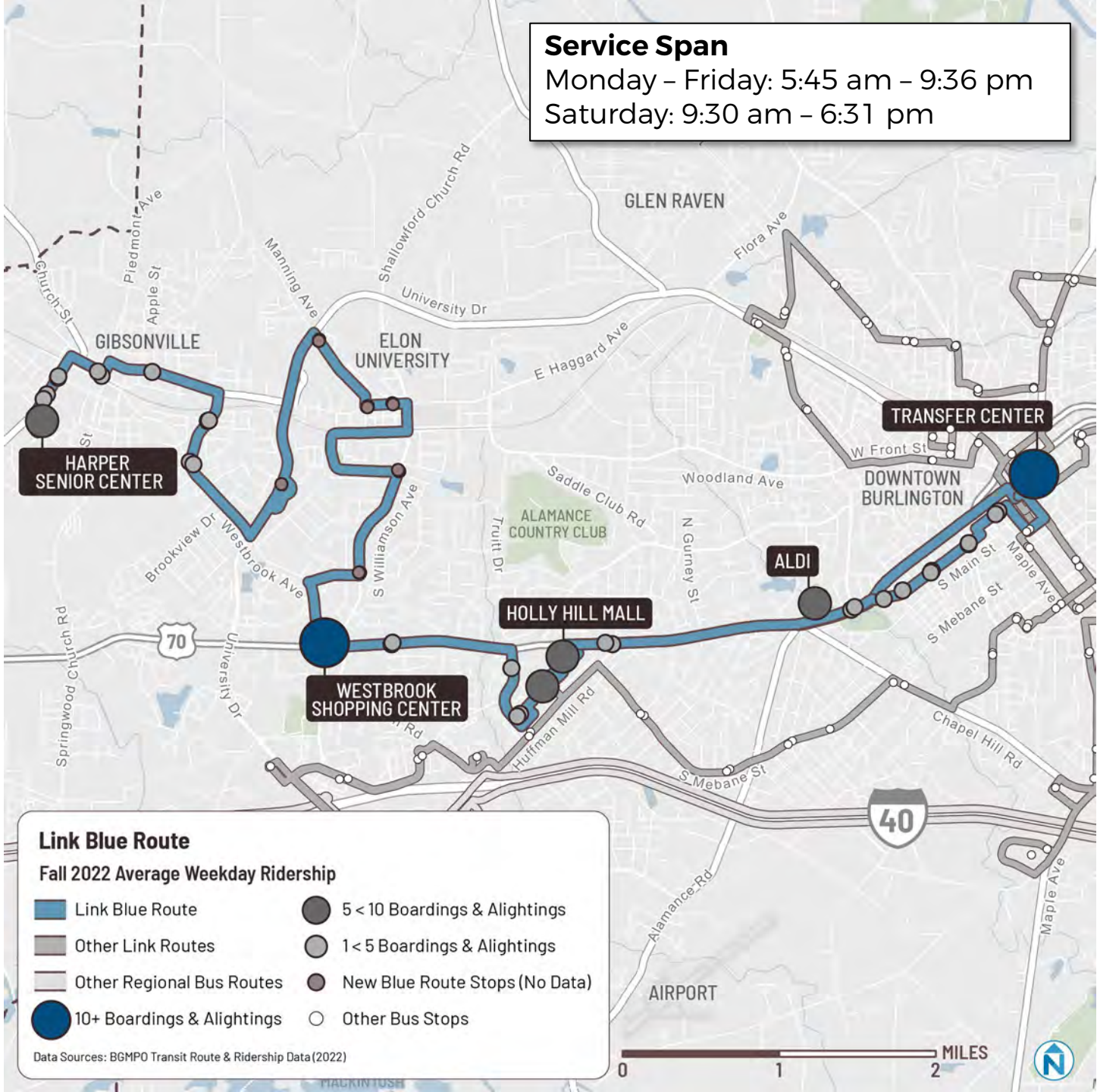
Link Blue (1)

FIXED ROUTE

	2022 Avg. Daily Ridership	Revenue Hours	Riders per Rev. Hour
Weekday	80	13.5	5.9
Saturday	46	9.0	5.1
Sunday	No Sunday Service		

Major Ridership Hotspots (10+ boardings & alightings)

- Worth Street Transfer Hub - 62
- Westbrook Shopping Center - 15



Route Profile

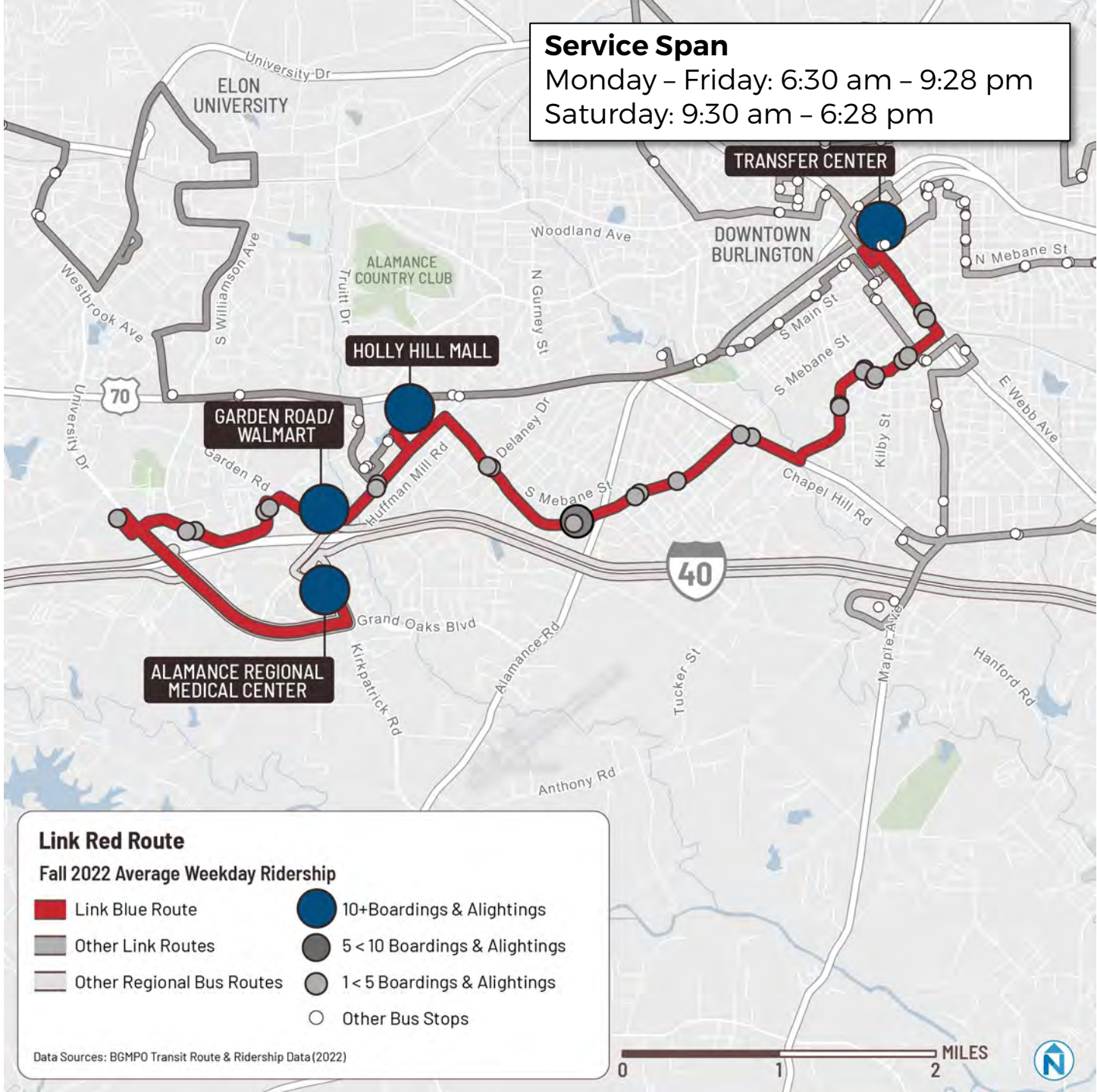
Link Red (2)

FIXED ROUTE

	2022 Avg. Daily Ridership	Revenue Hours	Riders per Rev. Hour
Weekday	120	13.5	8.9
Saturday	56	9.0	6.2
Sunday	No Sunday Service		

Major Ridership Hotspots (10+ boardings & alightings)

- Worth Street Transfer Hub - 68
- Alamance Regional Medical Center - 35
- Garden Road / Walmart – 34
- Holly Hill Mall - 21



Route Profile

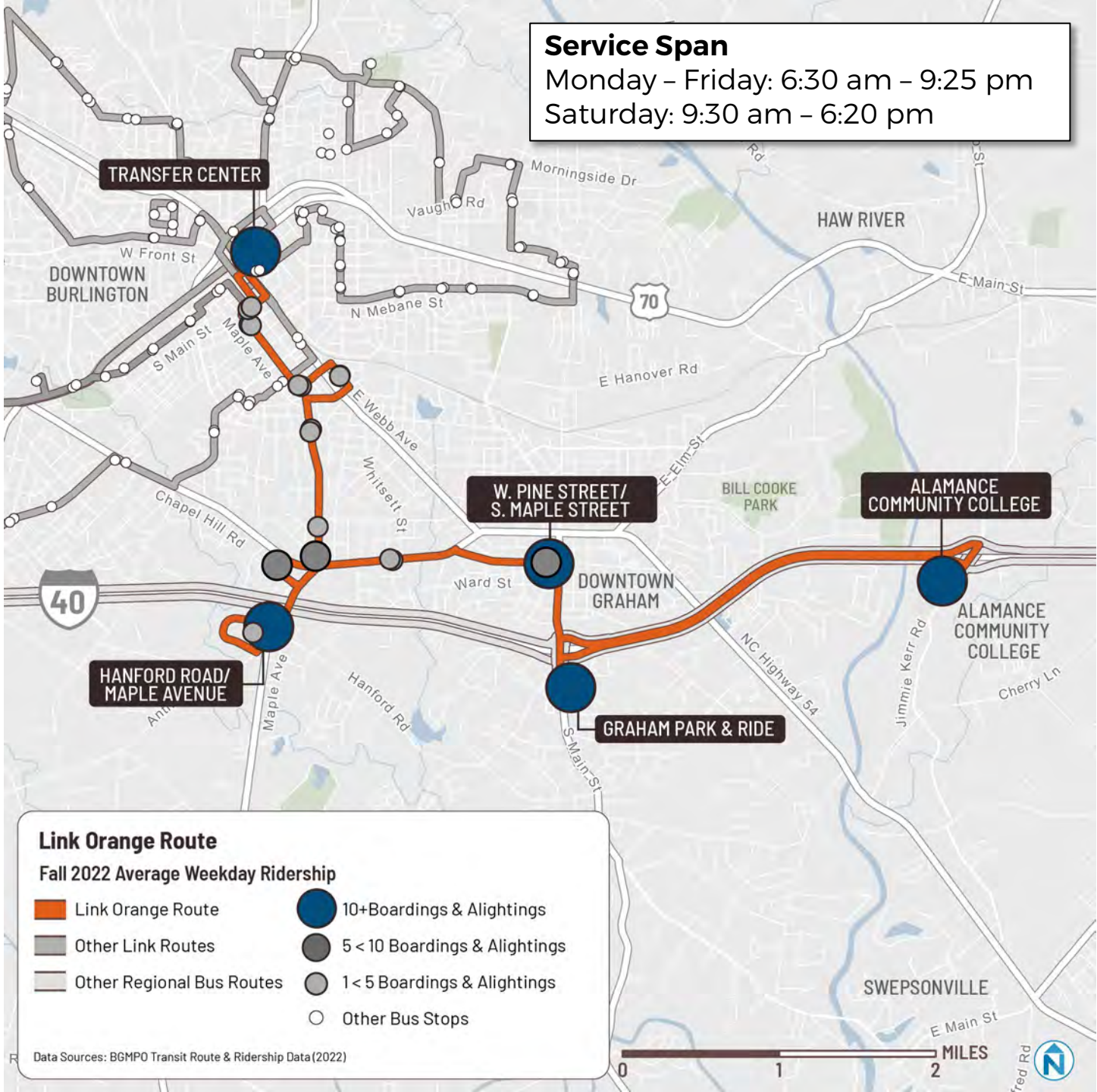
Link Orange (3)

FIXED ROUTE

	2022 Avg. Daily Ridership	Revenue Hours	Riders per Rev. Hour
Weekday	100	13.5	7.4
Saturday	38	9.0	4.3
Sunday	No Sunday Service		

Major Ridership Hotspots (10+ boardings & alightings)

- Worth Street Transfer Hub - 80
- Alamance Community College - 31
- Graham Park & Ride Stop - 18
- Hanford Road/Maple Avenue - 16
- W. Pine Street/S. Maple Street - 13



Route Profile

Link Green (4)

FIXED ROUTE

	2022 Avg. Daily Ridership	Revenue Hours	Riders per Rev. Hour
Weekday	73	13.5	5.4
Saturday	22	9.0	2.4
Sunday	No Sunday Service		

Major Ridership Hotspots (10+ boardings & alightings)

- Worth Street Transfer Hub - 50
- Hatch Street/Logan Street - 26
- North Park Library Green - 23

Route Profile

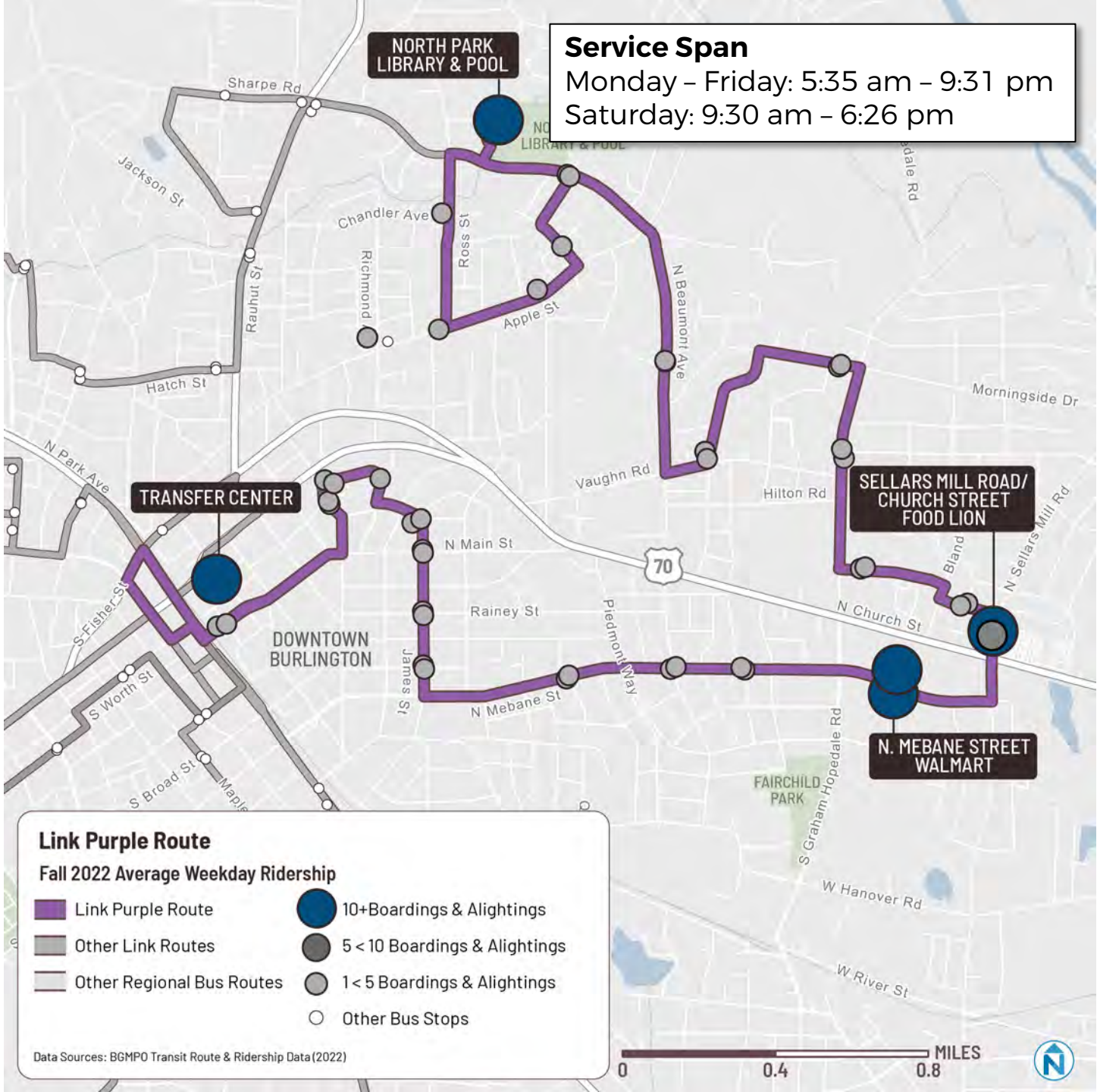
Link Purple (5)

FIXED ROUTE

	2022 Avg. Daily Ridership	Revenue Hours	Riders per Rev. Hour
Weekday	116	13.5	8.6
Saturday	61	9.0	6.8
Sunday	No Sunday Service		

Major Ridership Hotspots (10+ boardings & alightings)

- Worth Street Transfer Hub - 96
- N. Mebane Street Walmart - 41
- Sellars Mills Church Street (Food Lion) - 24
- North Park Library Green - 21

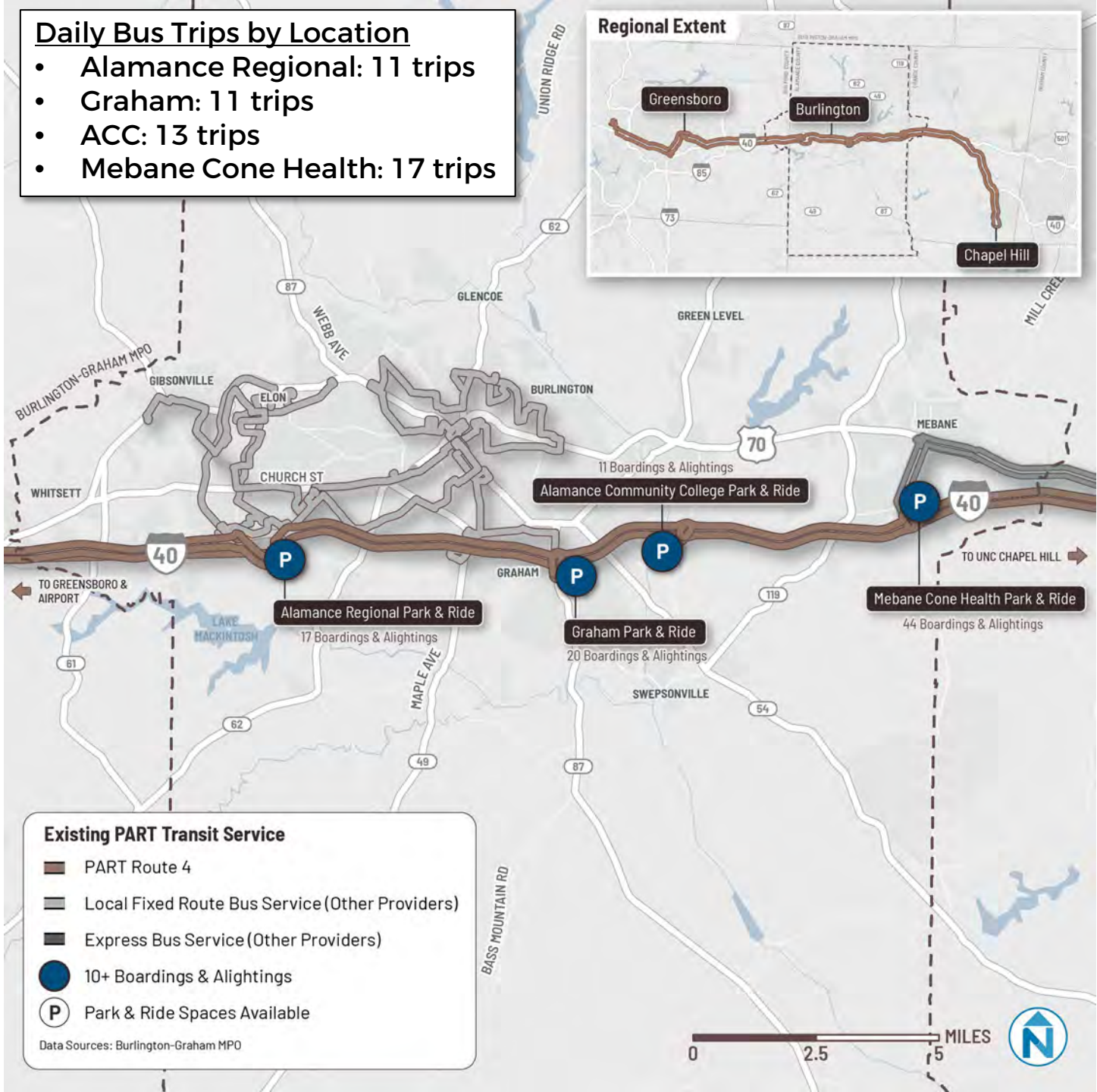


PART Route 4

FIXED ROUTE

	2019 Daily Ridership	2022 Daily Ridership	Percent Change
Route Total	238	115	-54%
Alamance County	101	46	-52%

- Route 4 service between Greensboro and Chapel Hill is generally peak period-focused, with four stops within the study area
- Study area stops account for approximately 40% of total route ridership
- The highest ridership activity within the study area is at Mebane Cone Health Park & Ride (about half of total study area route ridership)



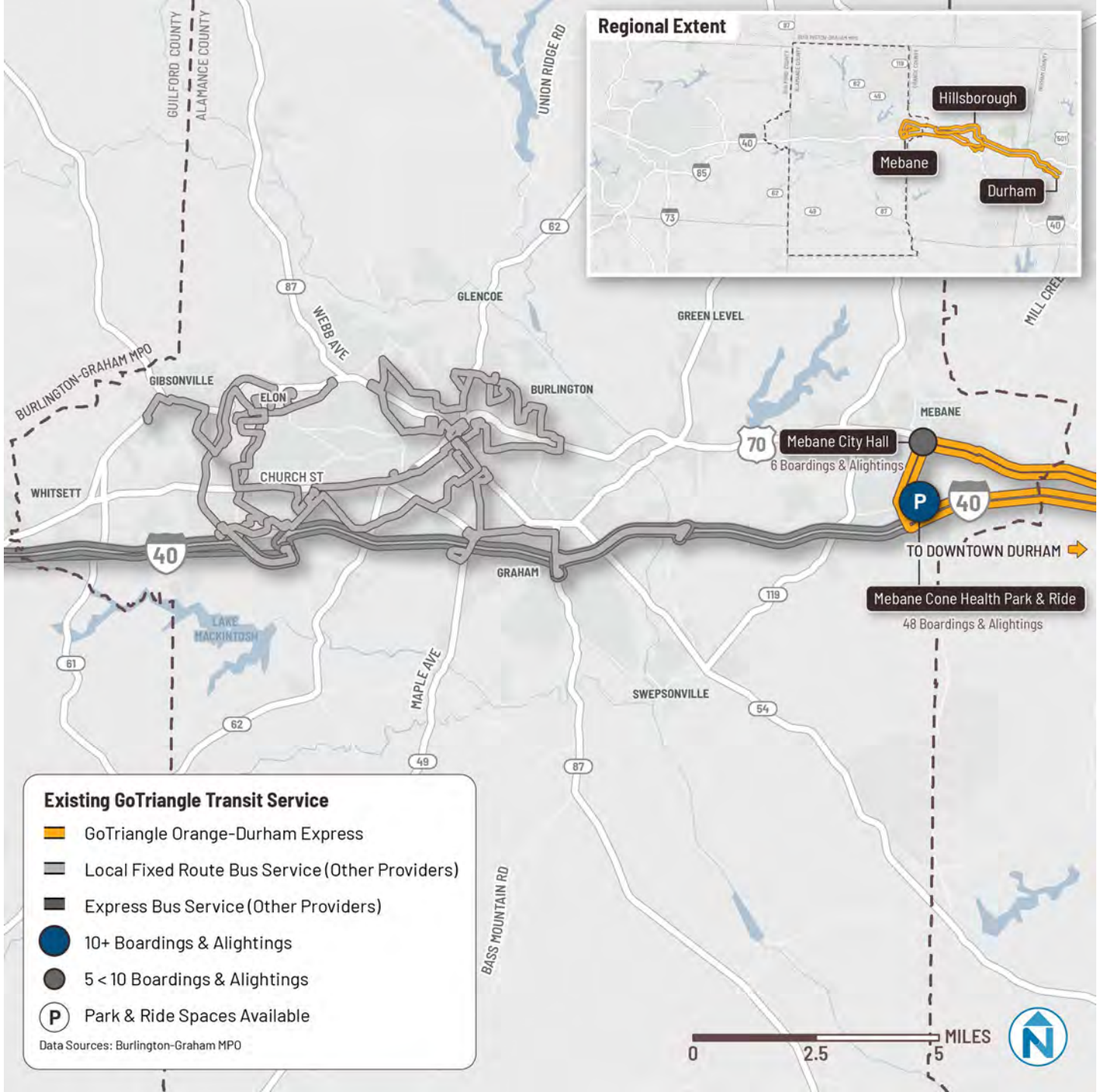
Route Profile

GoTriangle Orange-Durham Express (ODX)

FIXED ROUTE

	2019 Daily Ridership	2022 Daily Ridership	Percent Change
Route Total	192	63	-67%
Alamance County	81	26	-67%

- ODX service is peak period-focused connecting Mebane and Hillsborough with Durham
- The two stops in Mebane are at the Mebane City Hall and the Mebane Cone Health park-and-ride
- Mebane stops account for just over 40% of total route ridership, with higher ridership activity at the Mebane Cone Health park-and-ride



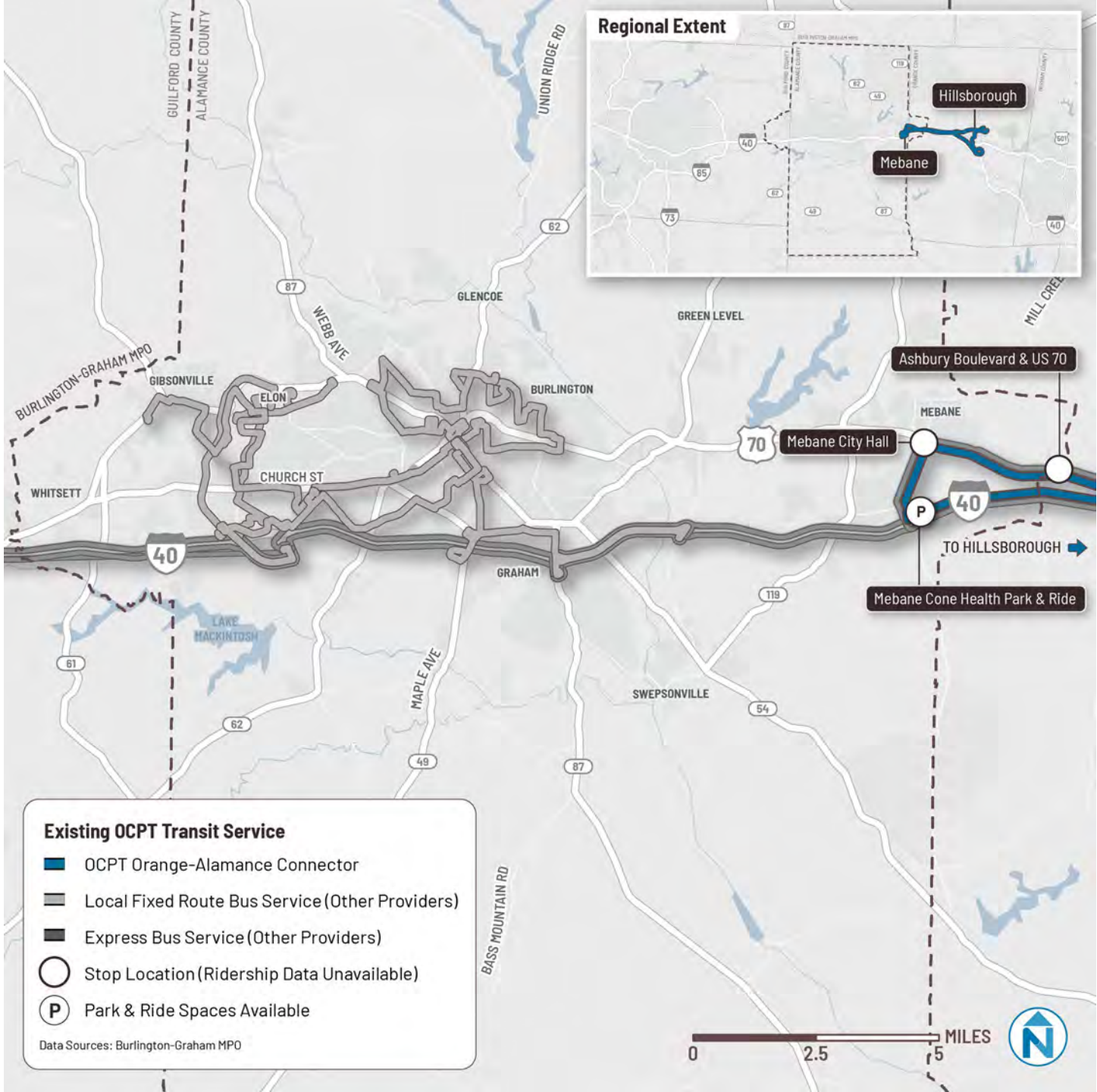
Route Profile

Orange-Alamance Connector (OCPT)

FIXED ROUTE

	2019 Daily Ridership	2022 Daily Ridership	Percent Change
Route Total	376	229	-39%
Alamance County	Unknown	Unknown	--

- The Orange-Alamance Connector provides hourly midday service between Mebane and Hillsborough. The route alignment in Mebane is the same as Go Triangle's Route ODX
- Three stops are located in Mebane:
  - Ashbury Blvd./US 70
  - Mebane City Hall
  - Mebane Cone Health Park-and-Ride
- Stop level ridership is not available for this route



ACTA On Demand

ON DEMAND SERVICE

ACTA provides on-demand transportation throughout Alamance County for all county residents. Service operates Monday to Friday between 5 am and 5:30 pm. Reservations must be made by phone no later than 11 am the working day before the requested trip.

ACTA strives to provide a ride time of no more than 60 minutes. Passengers must allow for potential variations in pick-up and drop-off times of up to 30 minutes. This allowance is needed to accommodate the scheduling of multiple passenger trips.

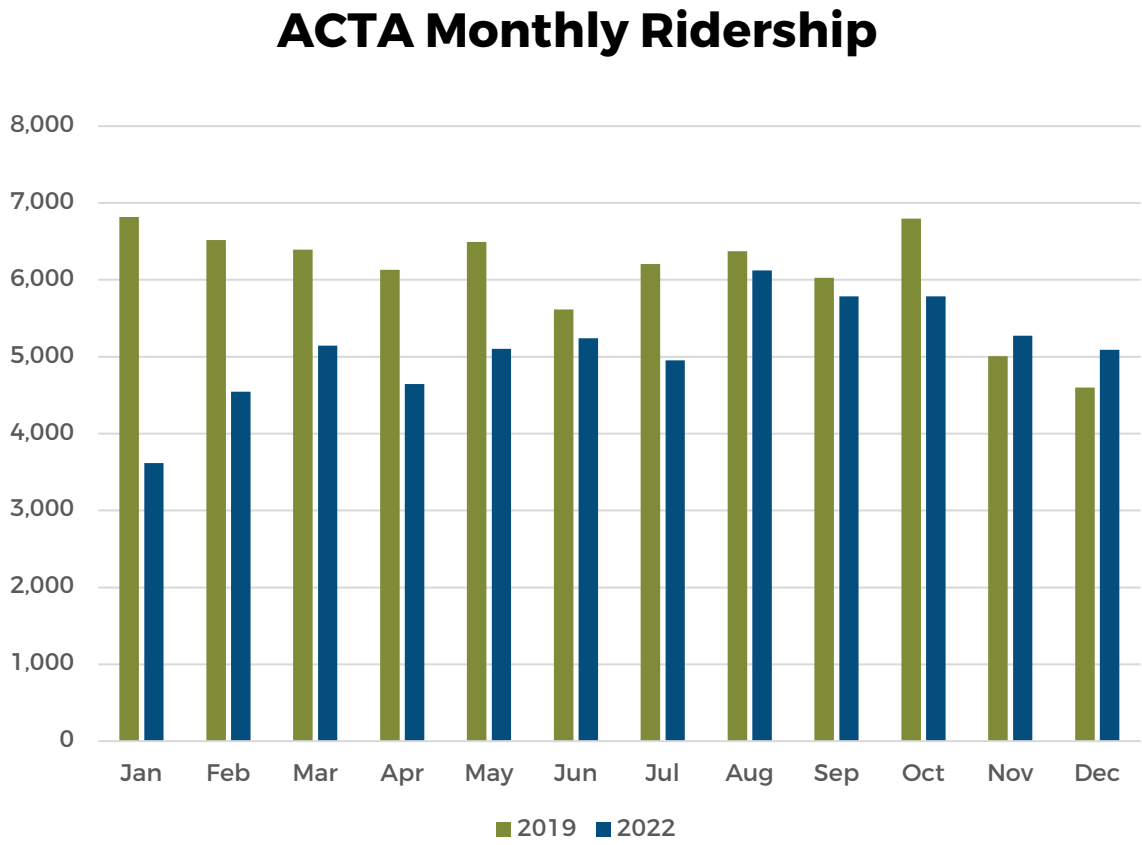
Within the Link Transit service area, ACTA can pick-up or drop-off passengers only if one end of the trip is outside of the Link Transit service area.

ACTA On Demand

ON DEMAND SERVICE

ACTA transported nearly 73,000 passenger trips in 2019 and 61,300 trips in 2022. As shown in the adjacent graph, 2022 monthly ridership was generally lower than 2019 ridership at the beginning of the year but is more comparable towards the end of the year, indicating that **ridership has returned to pre-COVID levels**.

In the Fall of 2022, ACTA was carrying approximately 300 passenger trips each weekday, an average of approximately 1.5 passenger trips per revenue-hour. Saturday ridership is much lower and is typically around 15 passenger trips each weekday.



ACTA On Demand

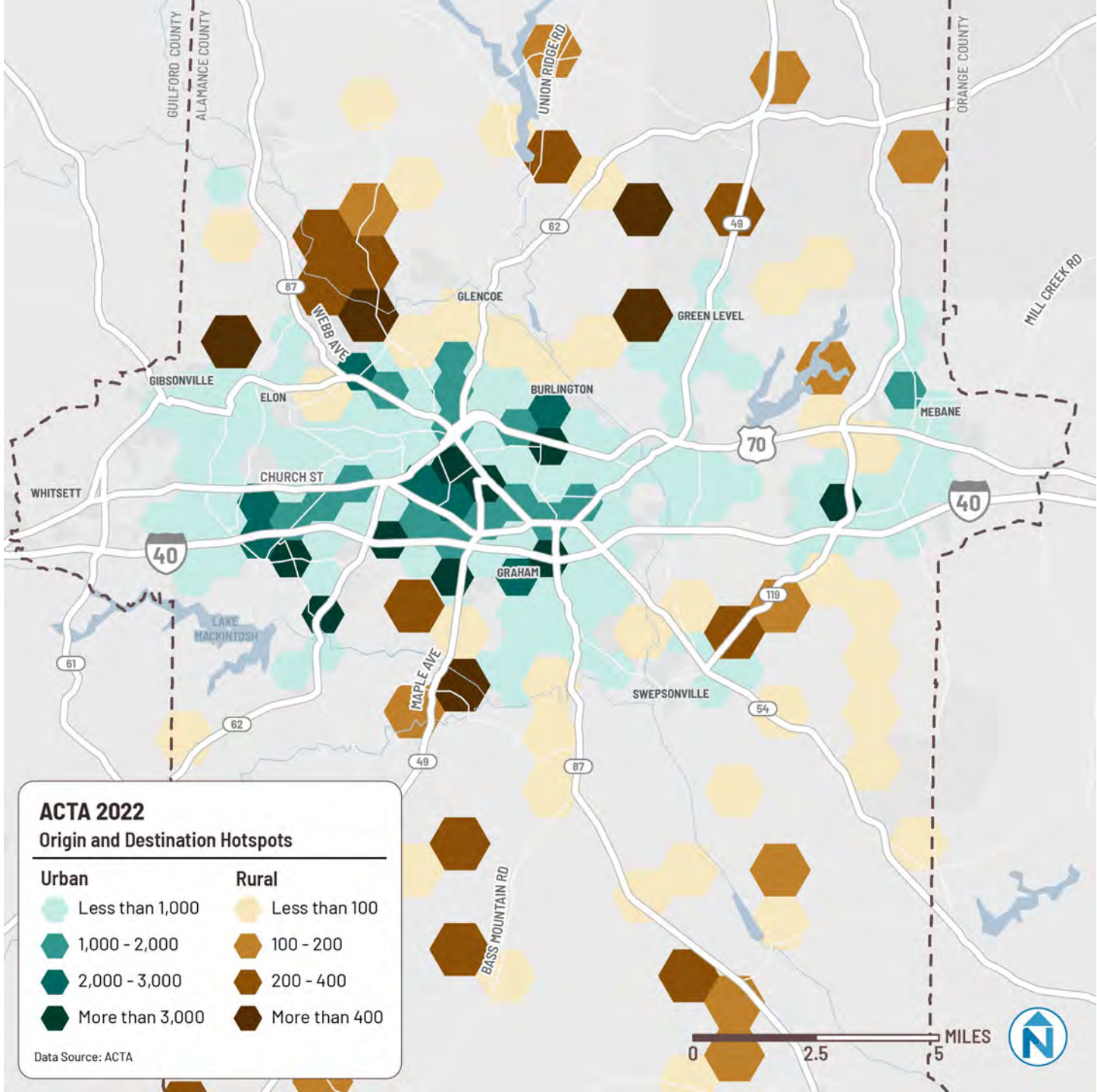
ON DEMAND SERVICE

2022 Trip Origins and Destinations

The adjacent map used 2022 ACTA ridership data to illustrate “hot spot” locations of significant pick-up/drop-off activity. Most ACTA trip activity occurs in the urbanized area (i.e., Burlington, Graham, Elon, Gibsonville and Mebane).

Over 60 percent of ACTA trips have both an origin and a destination within the urbanized area. Another 36 percent have one end of the trip (either origin or destination) in the urbanized area with the other end in a rural area.

Origin	Destination	Trips	% of Trips
Urban	Urban	33,692	61%
Urban	Rural	9,350	17%
Rural	Urban	10,788	19%
Rural	Rural	1,586	3%



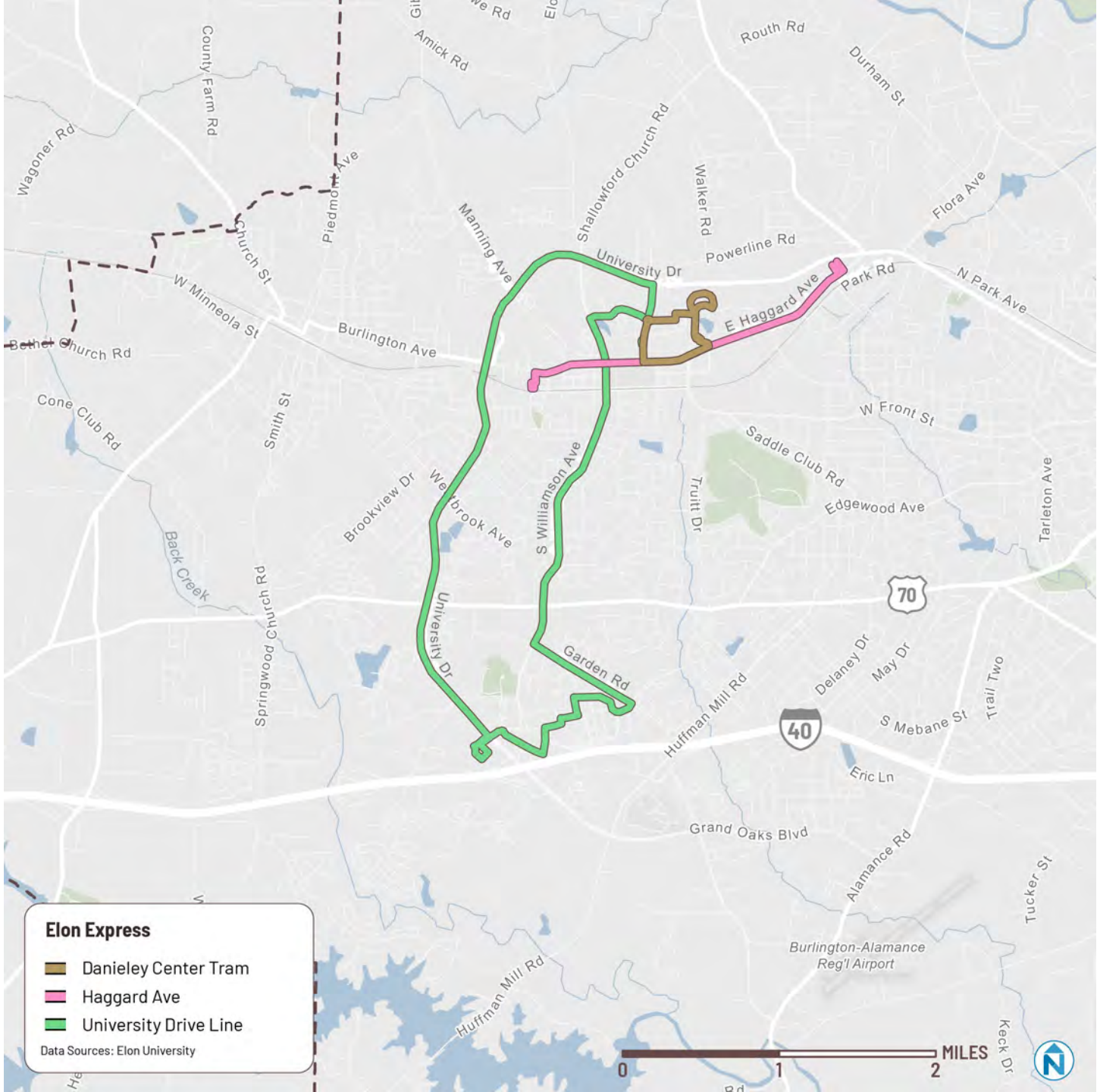
Route Profile

Elon Express

FIXED ROUTE

Elon Express provides free transportation to Elon University students, faculty, staff and is open to the public.

- The Danieley Center Tram operates every 10 minutes from 7 am to 2 am, seven days a week.
- The Haggard Avenue route operates every 15 minutes from 7 am to 6 pm and every 30 minutes from 6 pm to 10 pm, Mondays through Friday.
- The University Drive Line operates every 35 minutes Wednesday through Sunday and provides service to commercial areas that are off-campus. Service starts at 4 pm on Wednesdays through Fridays and at noon on weekends. Service ends at 10 pm on Wed., Thur., and Sunday and at midnight on Friday and Saturday.

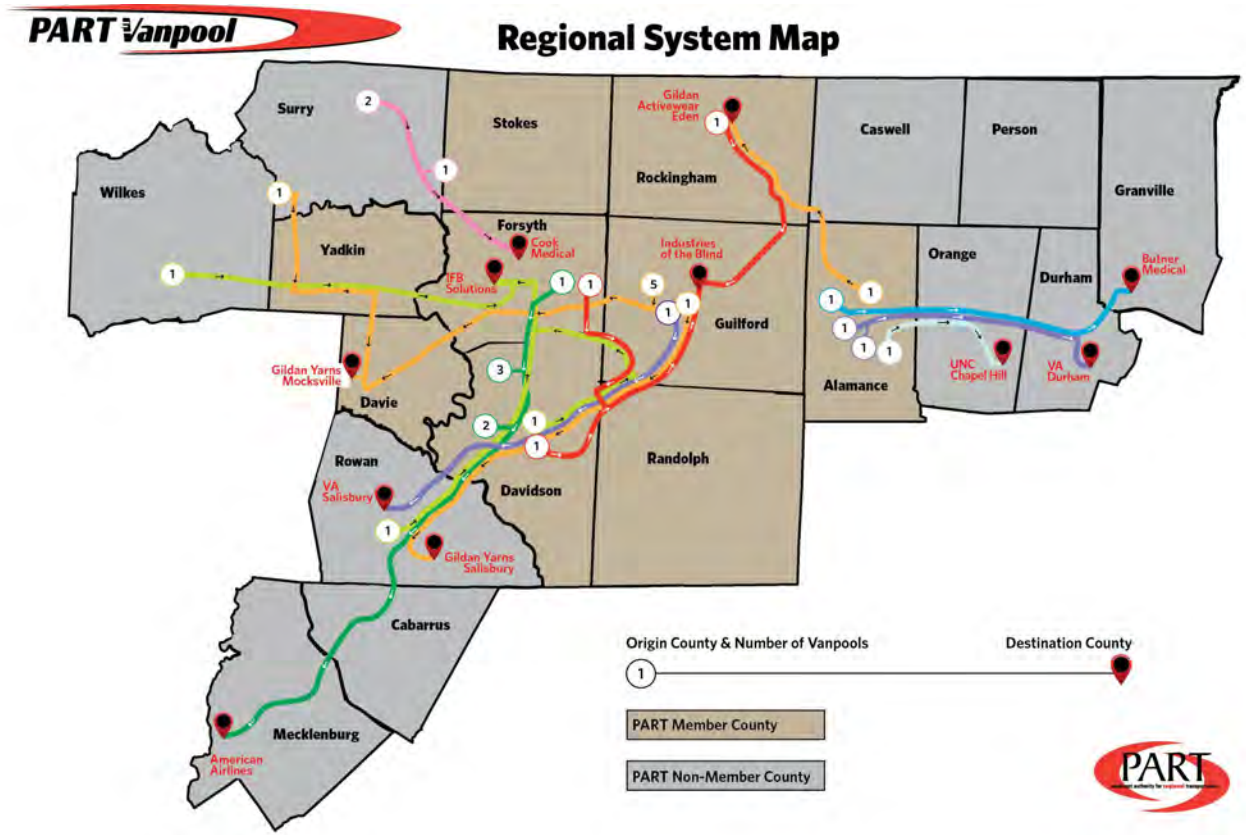


Vanpools

RIDESHARE PROGRAM

PART also provides regional vanpool service in the BGMPO service area. This program provides eligible groups of three or more commuters with a 7 or 15 passenger van to use for work commutes. Monthly leases include the vehicle, insurance, maintenance, gas and an Emergency Ride Home. Monthly fares are based on the average daily round trip miles with monthly costs divided among the riders.

PART's website identifies three active vanpools in the study area. One van operates between Graham and Chapel Hill. The second operates between Graham and Durham. The third vanpool operates between Burlington and Durham.



Share the Ride NC

RIDESHARE PROGRAM

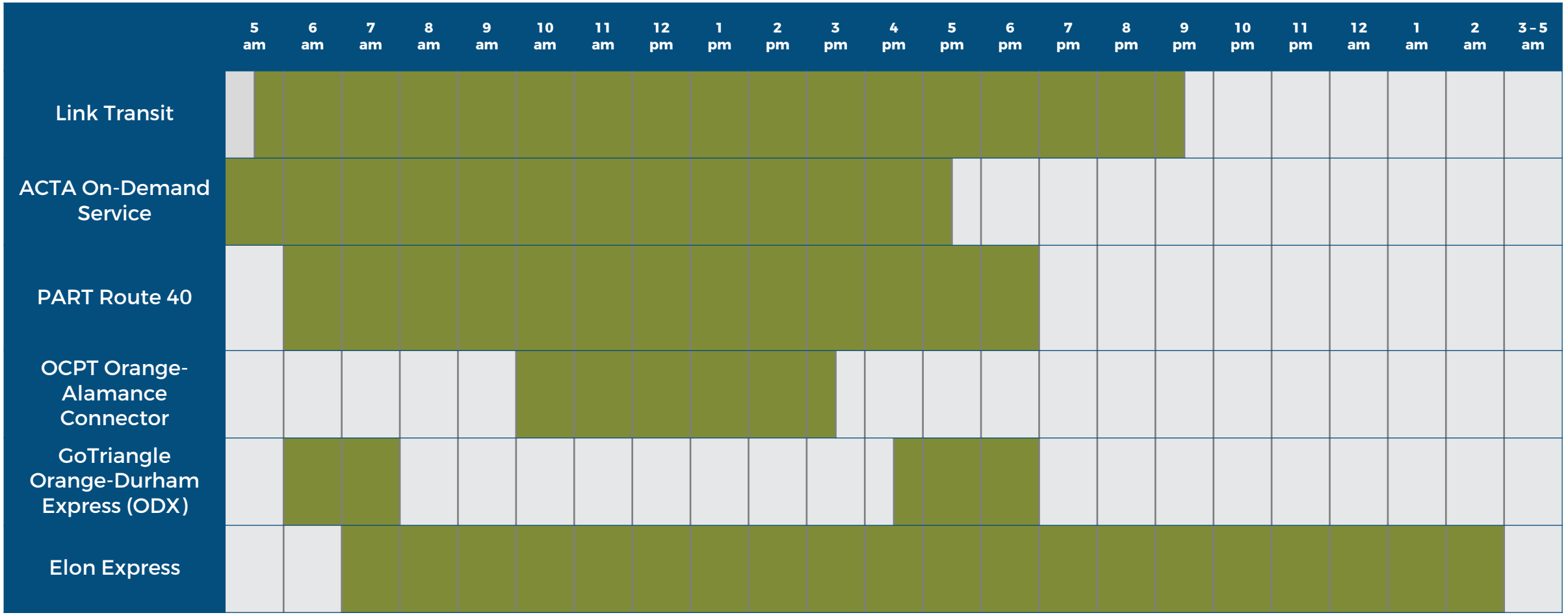
Share the Ride is a statewide program that helps commuters find alternative transportation options. Their website includes a carpool match database, where commuters can find commuters with similar commuting patterns and form carpools. Commuters can search their database by employer or university. The website also includes an option to find one-time trip matching, such as to concerts and sporting events.

Current Fare Structure by Provider

Provider	One-Way Trip Fee
Link Transit	**Free** (fares to be reinstated Fall of 2023)
Alamance County Transportation Authority (ACTA)	$5 for on-demand rides
Piedmont Authority for Regional Transportation (PART)	$2.50 *Free for UNC employees and students with UNC Xpass*
Orange County Public Transportation (OCPT)	$2 *Free for riders over age 60 or under age 6 and people with disabilities* *$1 for children ages 6 – 17*
GoTriangle	Free through June 30th, 2024, then: • Regional: $2.25 • Express: $3.00 *Free for riders over age 65 or under age 18* *Discounted fees for people with Medicare or disabilities (Regional: $1.00, Express: $1.25)* *Various multi-day passes also available*
Elon Express	Free & open to the public

Current Time Coverage by Provider - Weekdays

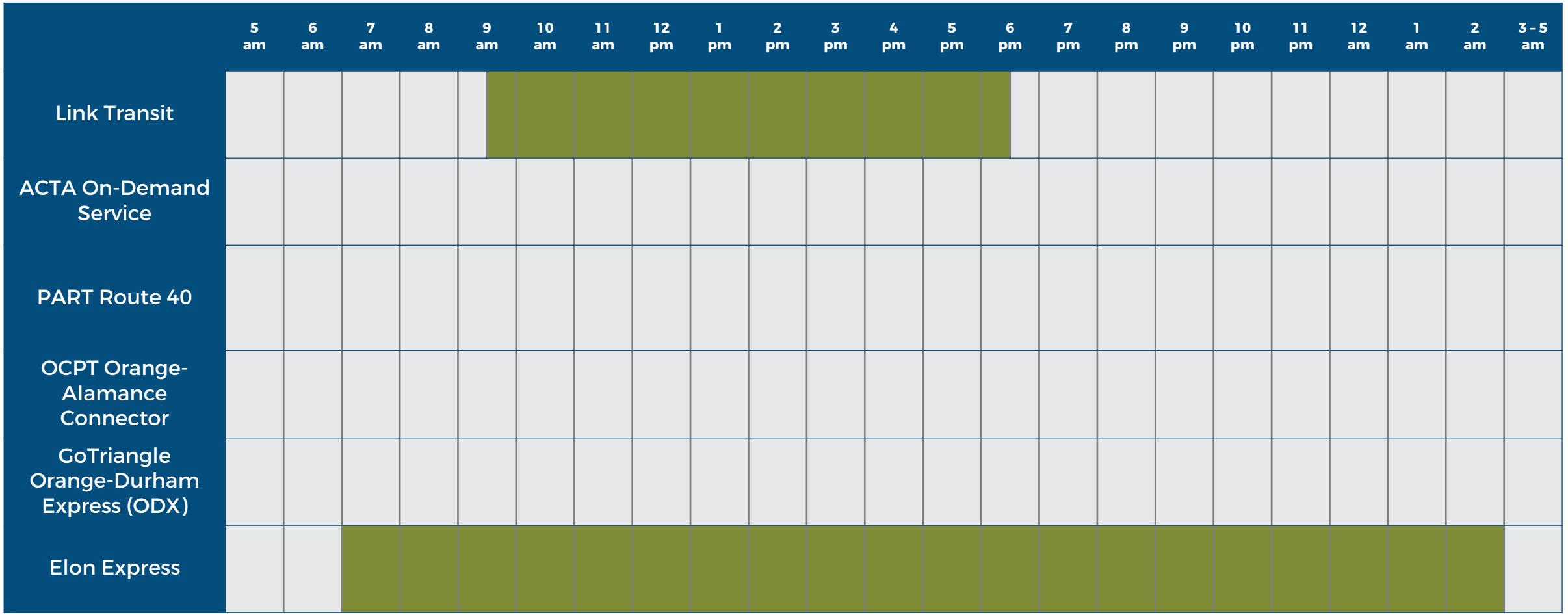
Service Operating* No Service Operating



Service spans shown reflect approximate service availability within BGMPO boundaries. Not all Elon Express routes operates the full service span shown in this table.

Current Time Coverage by Provider - Saturday

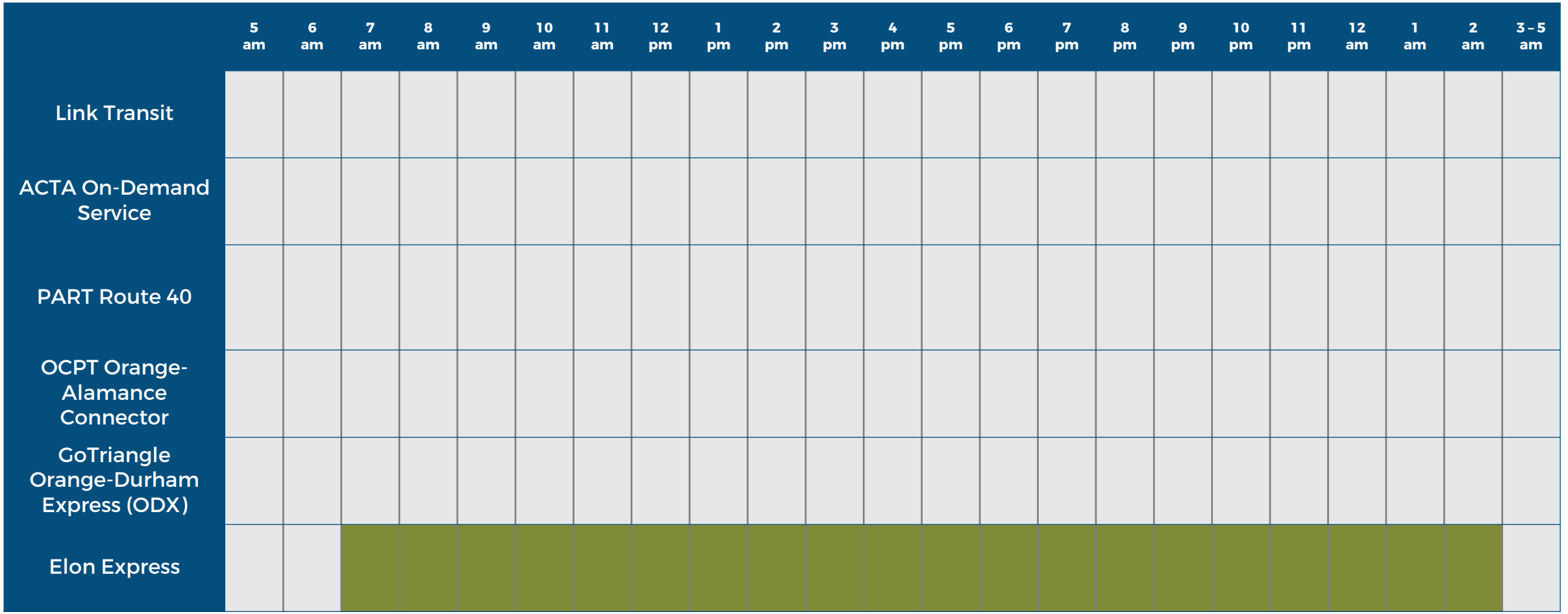
Service Operating* No Service Operating



Service spans shown reflect approximate service availability within BGMPO boundaries. Not all Elon Express routes operates the full service span shown in this table.

Current Time Coverage by Provider - Sunday

Service Operating* No Service Operating



Service spans shown reflect approximate service availability within BGMPO boundaries. Not all Elon Express routes operates the full service span shown in this table.

EXISTING CONDITIONS
ASSESSMENT

Service Equity

Service Equity

Equity in the provision of transit services is a core consideration of the BGMPO. Populations of an equity focus include low-income households, zero-vehicle households, persons of color, and persons with limited English proficiency (LEP). These groups tend to use transit at higher rates than the public and have high overlap in the central BGMPO area.

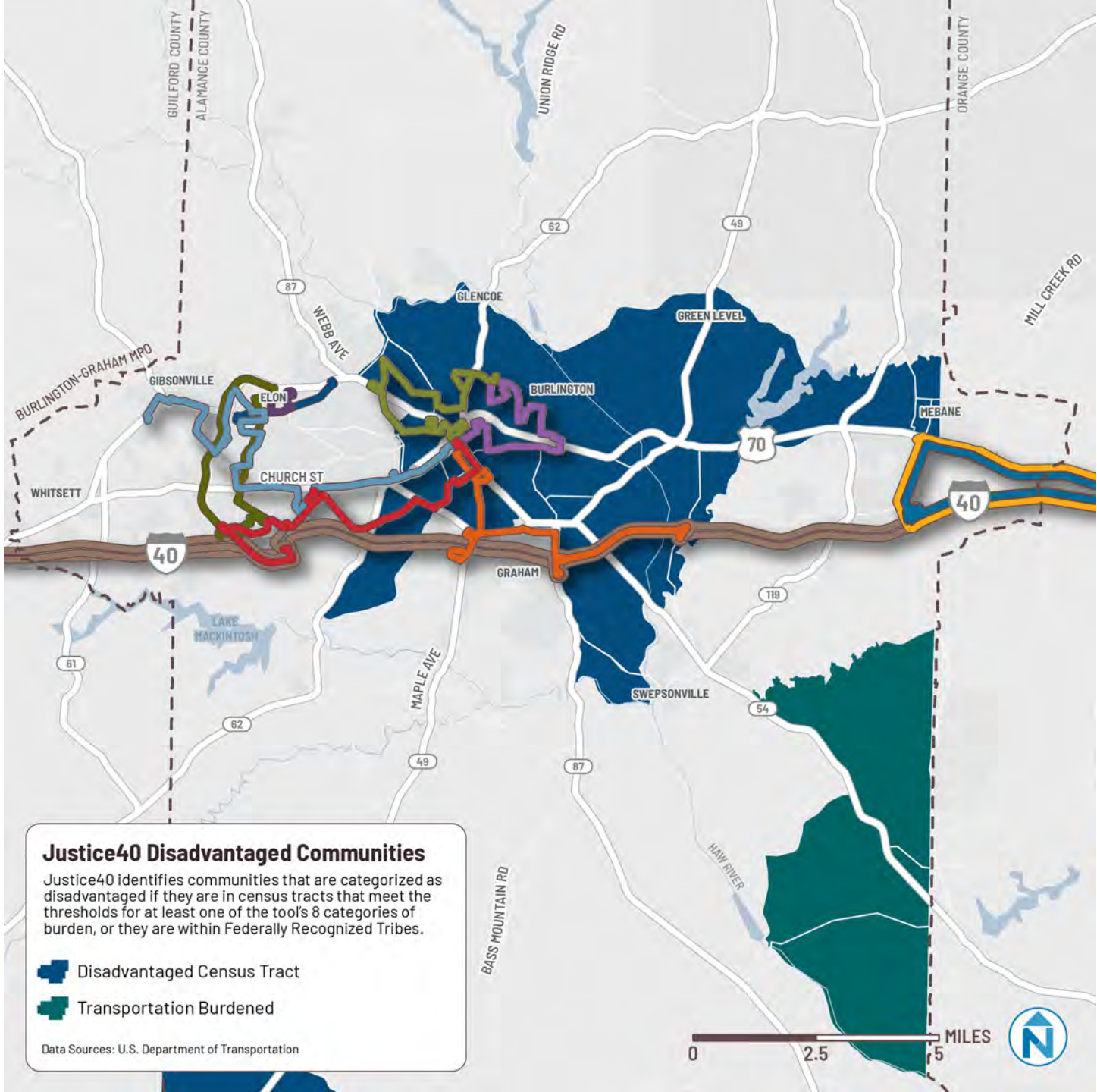
- **Nearly one-third of BGMPO households are in poverty.** These households, comprising 44% to over 65% of all households within some block groups, generally live in central Burlington and near Graham where population densities are highest as well as near Elon University and in less urbanized areas north of Burlington.
- **About 1 in 10 BGMPO households do not have a car.** Households without access to a car rely more on transit. These households have high overlap with low-income residents and tend to live centrally in Burlington.
- **Residents of color are also centrally located in Burlington**, with higher concentrations of Black and Hispanic residents to the north and east of Downtown Burlington as well as around Graham.
- **Persons with LEP have overlap with Burlington's Hispanic population, comprising up to 1 in 4 people** in some block groups in central and east Burlington.

Data Source: U.S. Census ACS 2021 5-year estimates

Justice40

The federal government has a recent initiative that 40% of the overall benefits of certain federal investments flow to disadvantaged communities that are marginalized, underserved, and overburdened by pollution. The goal of this Justice40 Initiative is to **transform federal programs across the government to ensure that disadvantaged communities receive the benefits of new and existing federal investments**.

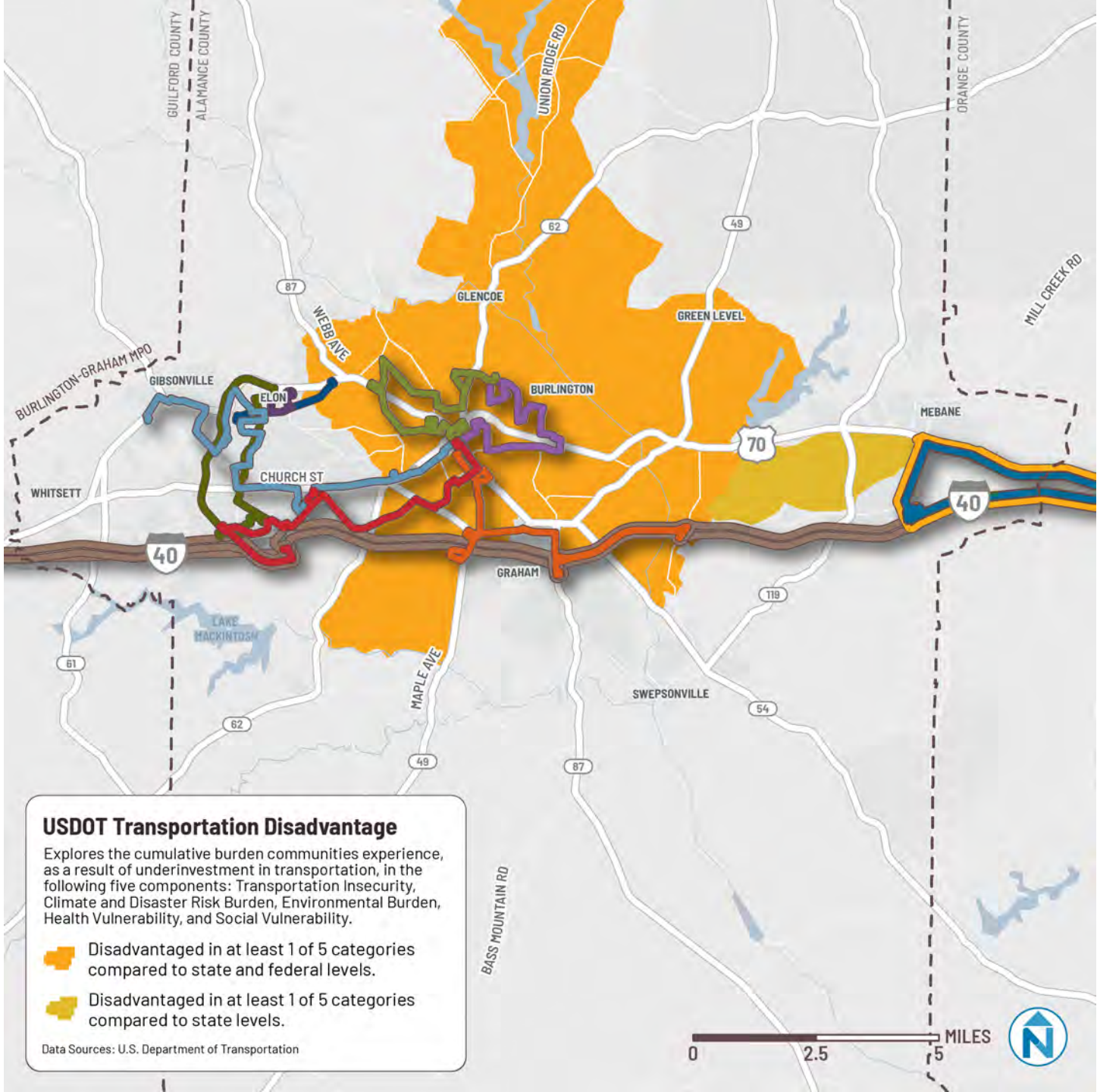
Several regions in the BGMPO study area are considered disadvantaged communities under Justice40 from Burlington to Mebane along the I-70 corridor, as well as areas in the southeast. Among the disadvantaged communities, only the census tracts along Hwy 54 were considered transportation burdened. Existing transit routes are overlayed on this map.



USDOT Transportation Disadvantaged Tracts

In addition to Justice40, USDOT has analyzed communities burdened by underinvestment in transportation through the dimensions of Transportation Insecurity, Climate and Disaster Risk Burden, Environmental Burden, Health Vulnerability, and Social Vulnerability. These metrics are then compared to other census tracts at both a federal and state level.

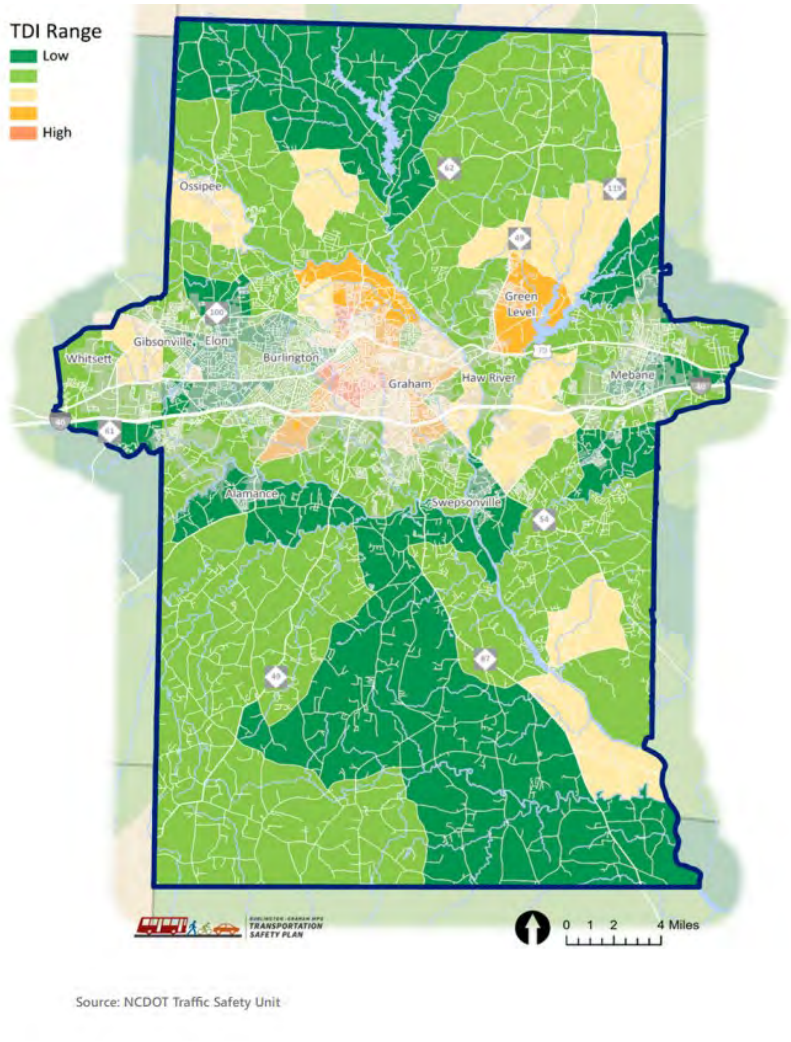
Areas considered disadvantaged in the BGMPO boundaries surround Burlington and reach north and east. Most of the disadvantaged areas are facing burdens related to Health Vulnerability, Social Vulnerability, and Transportation Insecurity, with people living in the disadvantaged areas around Webb Ave also facing disadvantage related to environmental, climate, and disaster burdens.



North Carolina DOT Transportation Disadvantaged Index

The recently-completed BGMPO Transportation Safety Plan includes findings from an equity analysis following methodology from the NCDOT. A Transportation Disadvantaged Index (TDI) is calculated for each census block by considering poverty and zero-vehicle households, and BIPOC, disability, senior and under 18 populations.

The adjacent map from the Transportation Safety Plan illustrates **several block groups with a high TDI factor on the east side of Burlington, in Graham and in Green Level**. Many of these block groups in Burlington have fixed route transit service with Link Transit, but only select block groups in Graham and no block groups in Green Level have fixed route transit service.

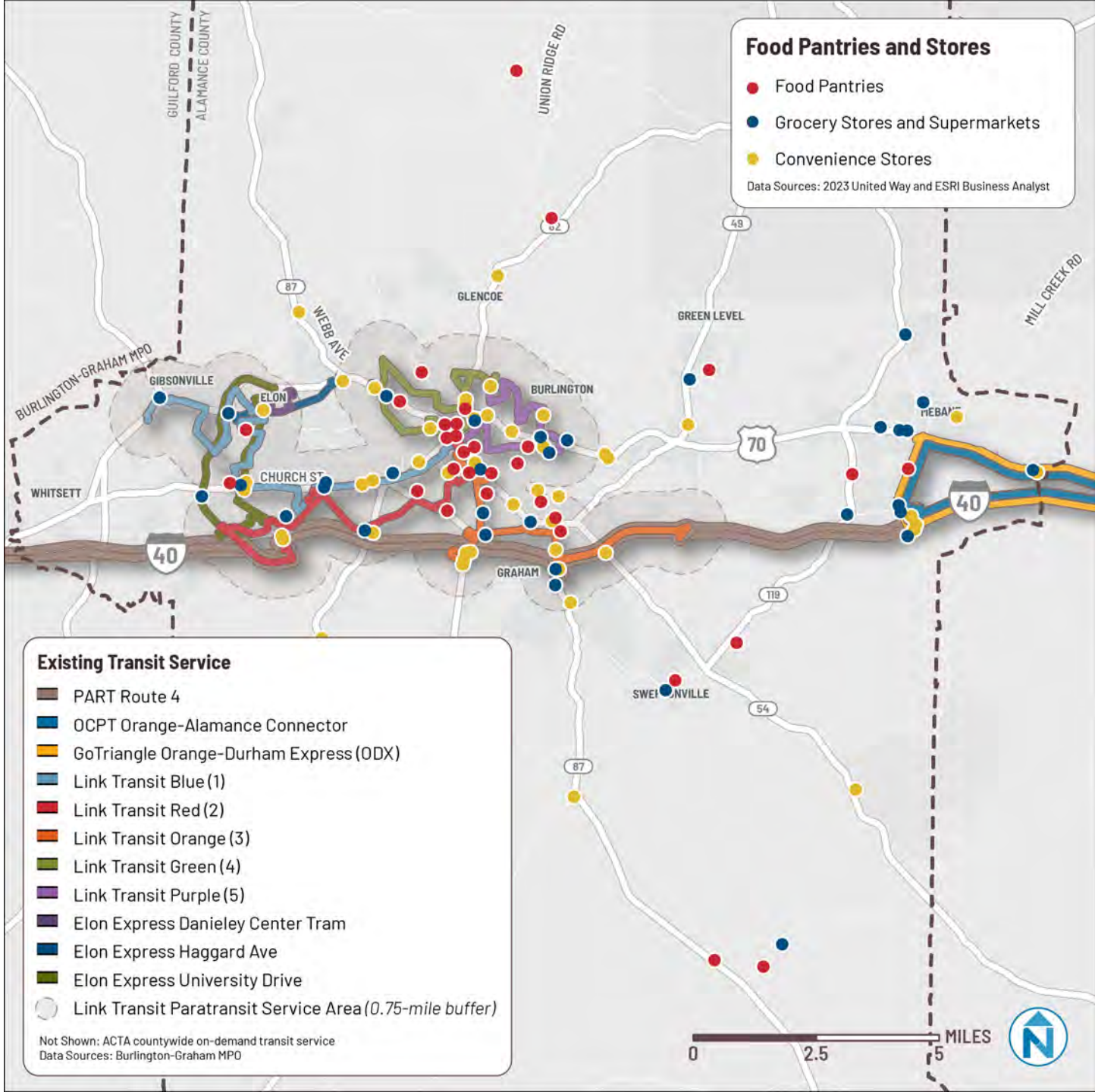


From the BGMPO Transportation Safety Plan

Food Access

While locations providing food access cover most of the Burlington, Graham, and Mebane urbanized areas, many options for residents are convenience stores, which typically lack a large selection and variety of healthy foods. Food pantries provide relief to low-income and underserved communities and are primarily located in central areas with some rural locations.

Of all locations that offer food, 28% are food pantries, while 58% are convenience stores.



EXISTING CONDITIONS
ASSESSMENT

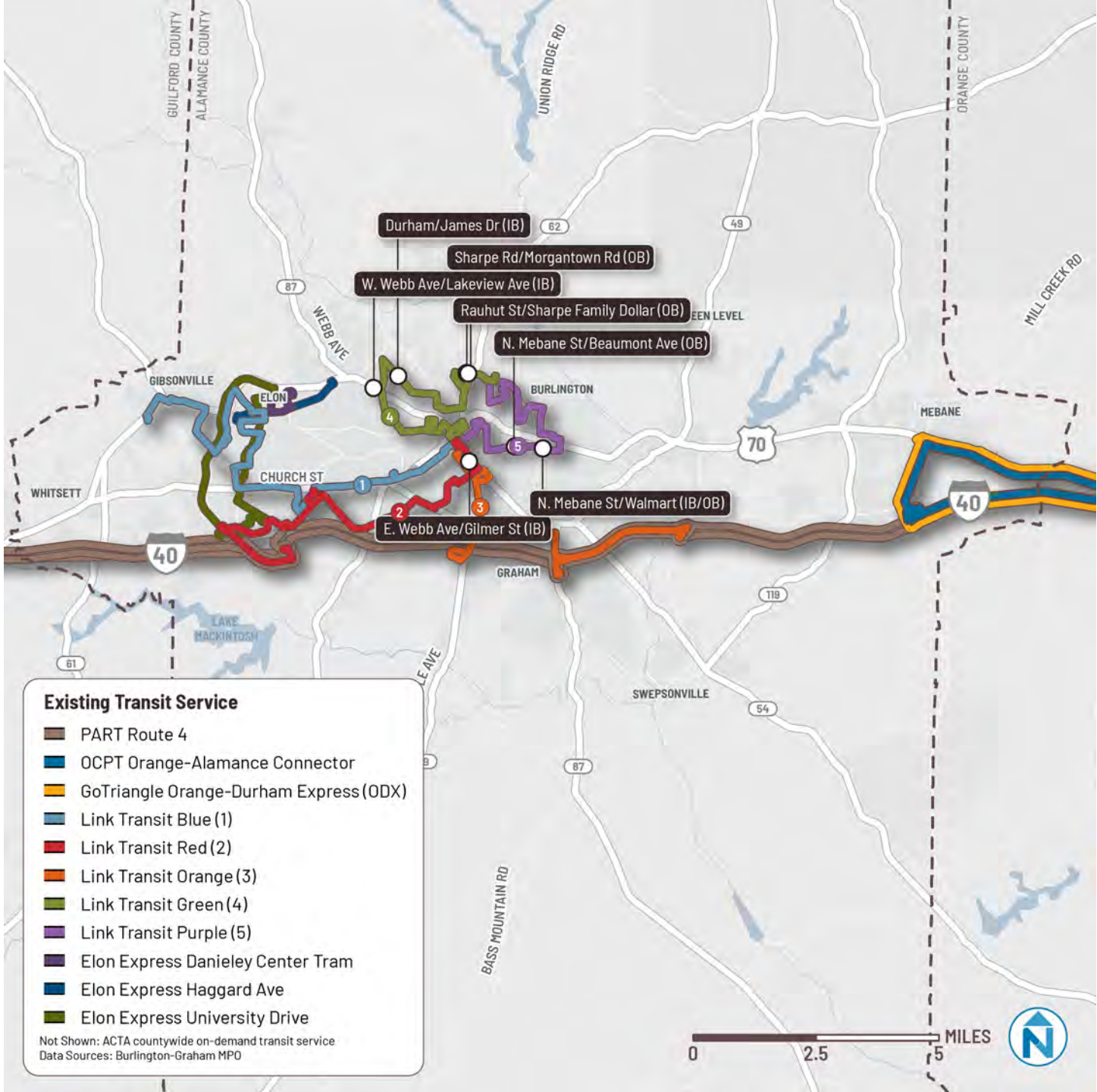
Safety

Safety

The BGMPO's Transportation Safety Plan includes an appendix identifying **existing bus stops with a high priority for safety improvements**. Criteria used to identify those bus stops were:

- Is the bus stop located along the project's defined High Injury Network?
- What is the crash history at that location?
- Do causes of crashes fall within any of the study's defined Emphasis Areas (e.g., alcohol, speed-related)?
- Is the bus stop within a defined equity area?
- What is the stop ridership?

Eight stop locations were identified as being a priority for safety improvements, as shown on the adjacent map. Potential countermeasure treatments identified in the report include sidewalks, high visibility crosswalks, HAWK signals and lighting.



EXISTING CONDITIONS
ASSESSMENT

Governance and Funding

Current Transit Funding Sources

- Federal Transit Administration (FTA) funds, supplemented with State funds, provide operating and capital assistance for area service providers
- Local funding sources used to fund transit service within the BGMPO study area include:
  - **Passenger fares**
  - **Vehicle registration tax** (e.g., Burlington has a $5.00 per vehicle tax in place to help support Link Transit)
  - **Rental vehicle tax:** (e.g., PART has 5% rental vehicle tax in place to help support Express service)
  - **½ cent sales tax:** (e.g., Orange County has a ½ cent sales tax in place to support OCPT and GoTriangle service)
  - **Local government general funds** (e.g., Alamance County provides some support to ACTA through general funds)
  - **Other contracted service / funding agreements:** (e.g., Alamance Community College provides funds to support transit to their campuses)

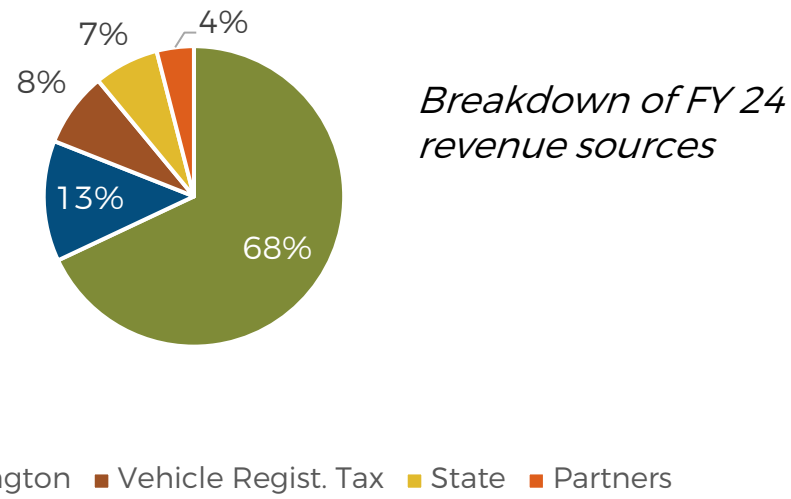
Link Transit

Governance

- Governed by Burlington City Council
- Advised by Public Transportation Advisory Commission with representation from:
  - Burlington
  - Gibsonville
  - Alamance County
  - Elon
- Operations administered by Burlington Department of Transportation
- Service contracted to Transdev

Budget/Funding

- FY 24 budget = $3.4 million
  - $2.69 million Operations
  - $0.72 million Capital



Breakdown of FY 24 revenue sources

- Federal funding from FTA Section 5307 and 5339
- Local funding includes $5.00 vehicle registration tax for vehicles registered in City of Burlington
- Additional local funding partners are Gibsonville, Alamance County, Elon & Alamance Community College

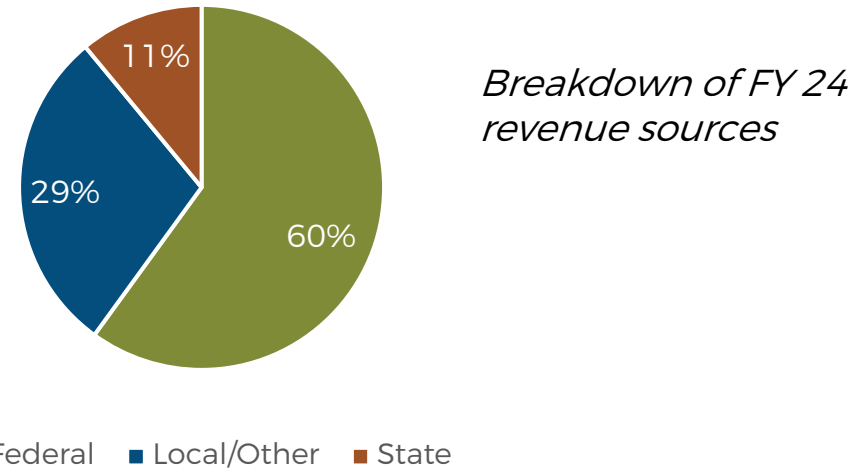
ACTA

Governance

- Governed a 5-member Board of Trustees with representation from:
  - 3 members assigned by Alamance County
  - 1 member assigned by Burlington
  - 1 member assigned by Burlington-Graham MPO
- A Transportation Advisory Board meets quarterly to provide guidance
- Service is operated directly by ACTA staff

Budget/Funding

- FY 24 budgeted expenditures = $2.5 million
  - $1.96 million Operations
  - $0.53 million Administrative



Breakdown of FY 24 revenue sources

- Federal funds include 5307, 5310, 5311, 5399
- Local funding sources include contracted services (e.g., DSS) and from Alamance County general funds
- Revenue from local contracted services eligible for use for federal match

PART

Governance

- PART is a regional government created under NCCGS 160A, Article 27
- Governed by a 22-member Board of Trustees with representation from:
  - A commissioner from 9 member counties
  - Representatives from four largest cities (Burlington, Greensboro, High Point, Winston-Salem
  - Representatives of the four MPOs
  - Representatives of the two regional airports
  - Two representatives from NCDOT Board of Transportation
- Service contracted through National Express
- Also provides Regional Program Management to member agencies that includes vanpool, TDM, call center and custodian of the regional travel demand model

Budget/Funding

- FY 24 expenditures budget = $7.38 million PART Express Operations
  - $1.25 million – PART Route 4 operations costs
- Rental vehicle tax/vehicle registration taxes are collected for services provided in the territory PART Express operates across 9 member counties
- Alamance County vehicle registration tax generates about $200,000
- Federal funding from FTA Section 5307

Orange County Public Transportation

Governance

- Governed by the Orange County Board of County Commissioners
- Advised by the Orange Unified Transportation Board (OUTBoard)
- Service is operated directly by Orange County

Budget/Funding

- FY 24 operating budget = $1.3 million
- Majority of local funding through countywide ½ cent sales tax with additional funds from rental car tax and vehicle registration fee
- OCPT receives a portion of these funds, with other recipients being GoTriangle, Chapel Hill Transit and DCHC MPO
- Federal funds received by OCPT from FTA: Section 5307 and 5311

GoTriangle

Governance

- Governed a 13-member Board of Trustees with representation from:
  - Wake, Durham and Orange Counties
  - Cities of Raleigh, Durham and Cary
  - Town of Chapel Hill
  - NC Board of Transportation

Budget/Funding

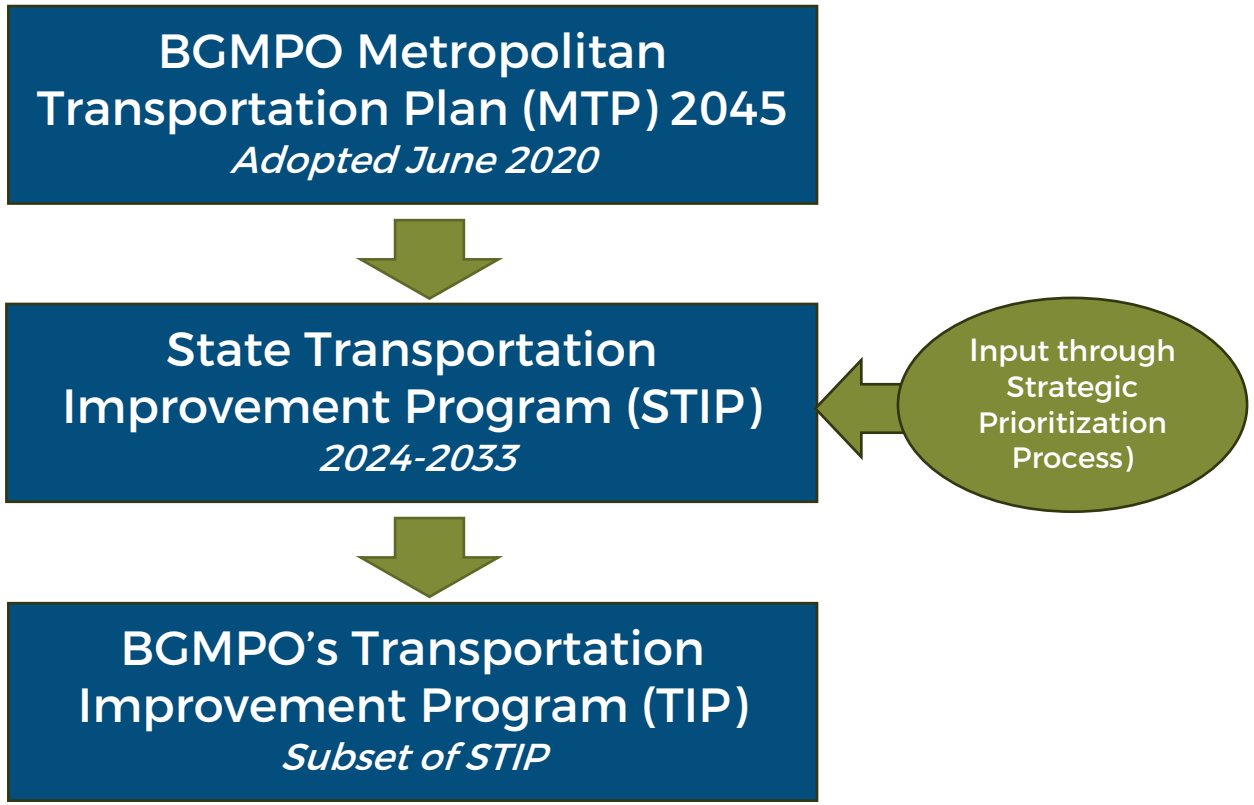
- FY 24 operating budget = $37.7 million (for All GoTriangle services)
  - $28.6 million towards transit operations
- Local funds generated from vehicle registration fees, rental car tax and ½ cent local sales tax in member counties
- Orange and Durham Transit Plan Funds provide local funding for Route ODX (50% each)
- Federal funds from FTA Section 5307

Transit Funding Process

The MTP is the Burlington-Graham's fiscally-constrained long-range transportation plan (LRTP). The STIP is a state plan that identifies projected funding for North Carolina transportation projects over a 10-year period. Projects identified in the TIP need to be in the MPO's long-range plan. The BGMPO TIP is a subset of the STIP.

BGMPO's FY 24 draft TIP identifies the following committed funding projections for the FY 2024-FY 2027 four years of the STIP for transit services within the BGMPO study area:

- $47.4 million in operating assistance
- $14.2 million in capital assistance
- $3.3 million for preventative maintenance
- $1.4 million for other projects/services



Federal Transit Administration Section 5307 Allocation Process

- The City of Burlington, in partnership with the BGMPO, administers FTA Section 5307 funds apportioned to the Burlington-Graham Urbanized Area (UZA).
- Suballocation methodology follows data-driven approach based on each agency's share of the UZA population, population density share, and UZA low-income population.

FY 2023 Section 5307 Suballocation Amounts

Transit Buffer Areas	UZA Population Buffer	Area (sq. mi.)	Population Density	Density Share	Weighted Population Density Allocation	TDI* Population	UZA Allocation < 200,000	Nov. 15, 2023 TC Approved Allocation	March 2023 Revised %	Revised Allocation
Link Transit	75,633	37.870	1,997.175	1,079.600	1,270.369	40,859	117,762.369	$ 1,993,549.80	0.603	$ 2,004,627.10
PART	29,225	16.210	1,802.899	376.584	400.022	n/a	29,625.022	$ 4,319,935.79	0.152	$ 504,296.26
ACTA	23,621	41.470	569.592	96.161	32.271	8,005	31,658.271	$ 631,290.71	0.162	$ 538,907.54
GoTriangle	5,718	3.225	1,773.023	72.459	75.694	2,277	8,070.194	$ 132,903.32	0.041	$ 137,376.05
OCPT	5,718	3.225	1,773.023	72.459	75.695	2,277	8,070.194	$ 132,903.32	0.041	$ 137,376.05
Transit Buffer Total	139,915	102.000	7,915.713	1,697.264			195,186.049	**$ 3,322,583.00**		**$ 3,322,583.00**
UZA Total Area	139,915	102.000	7,915.713	1,697.264			195,186.049			

**Transportation Disadvantaged Index*

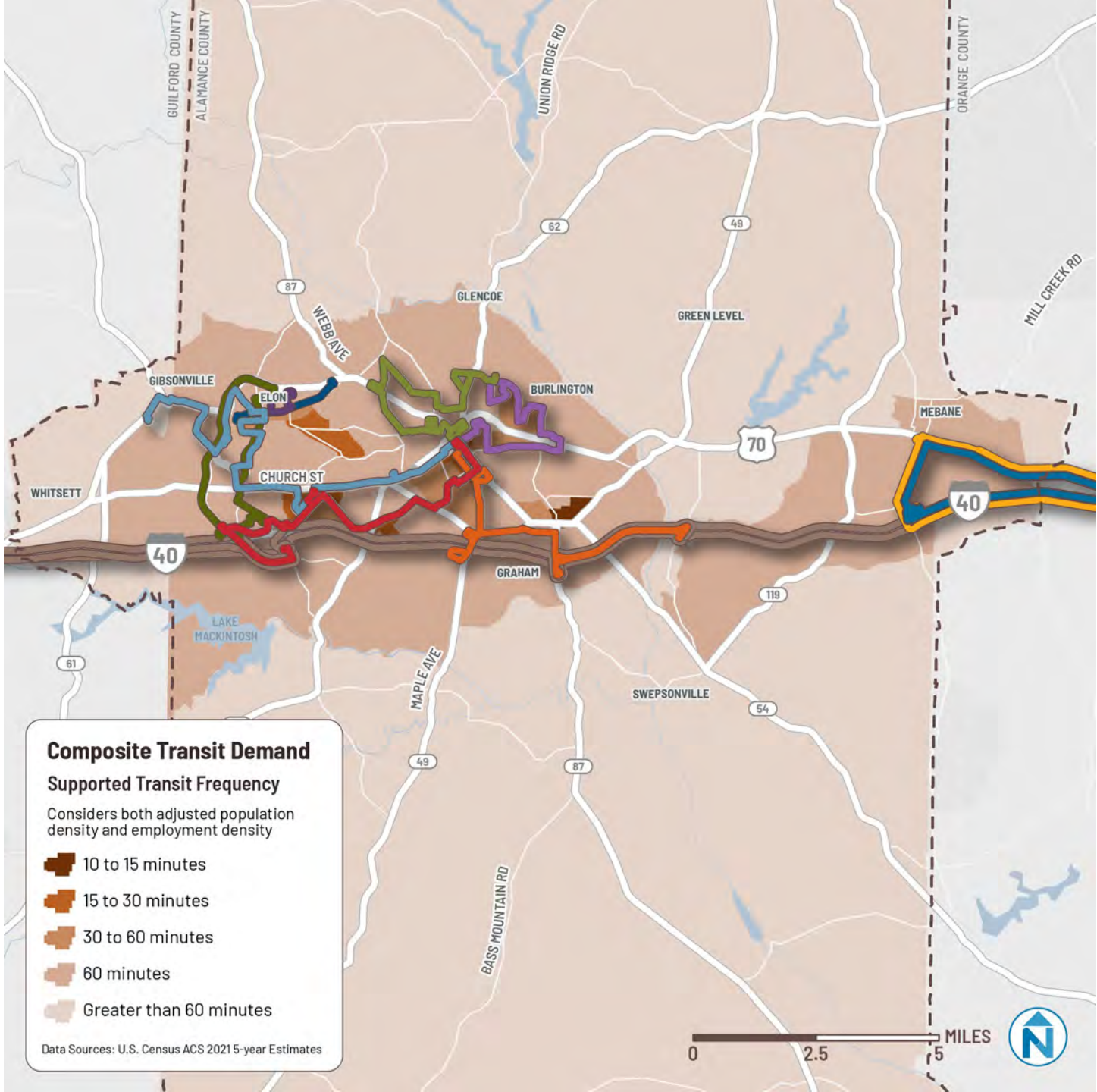
EXISTING CONDITIONS
ASSESSMENT

Conclusions

Market Analysis

A composite transit demand analysis indicates that **most of the Burlington-Graham urban area**, as well as Mebane, **can support 60-minute local fixed route service, with some pockets exhibiting demand that might support 30-minute service** (e.g., around Elon, the I-40 corridor, and central Burlington).

All Link Transit fixed routes operate at 90-minute service frequencies. Further, **there are areas that are likely supportive of 60-minute or better service frequencies that presently have little or no service**, such as areas within Graham and Mebane.

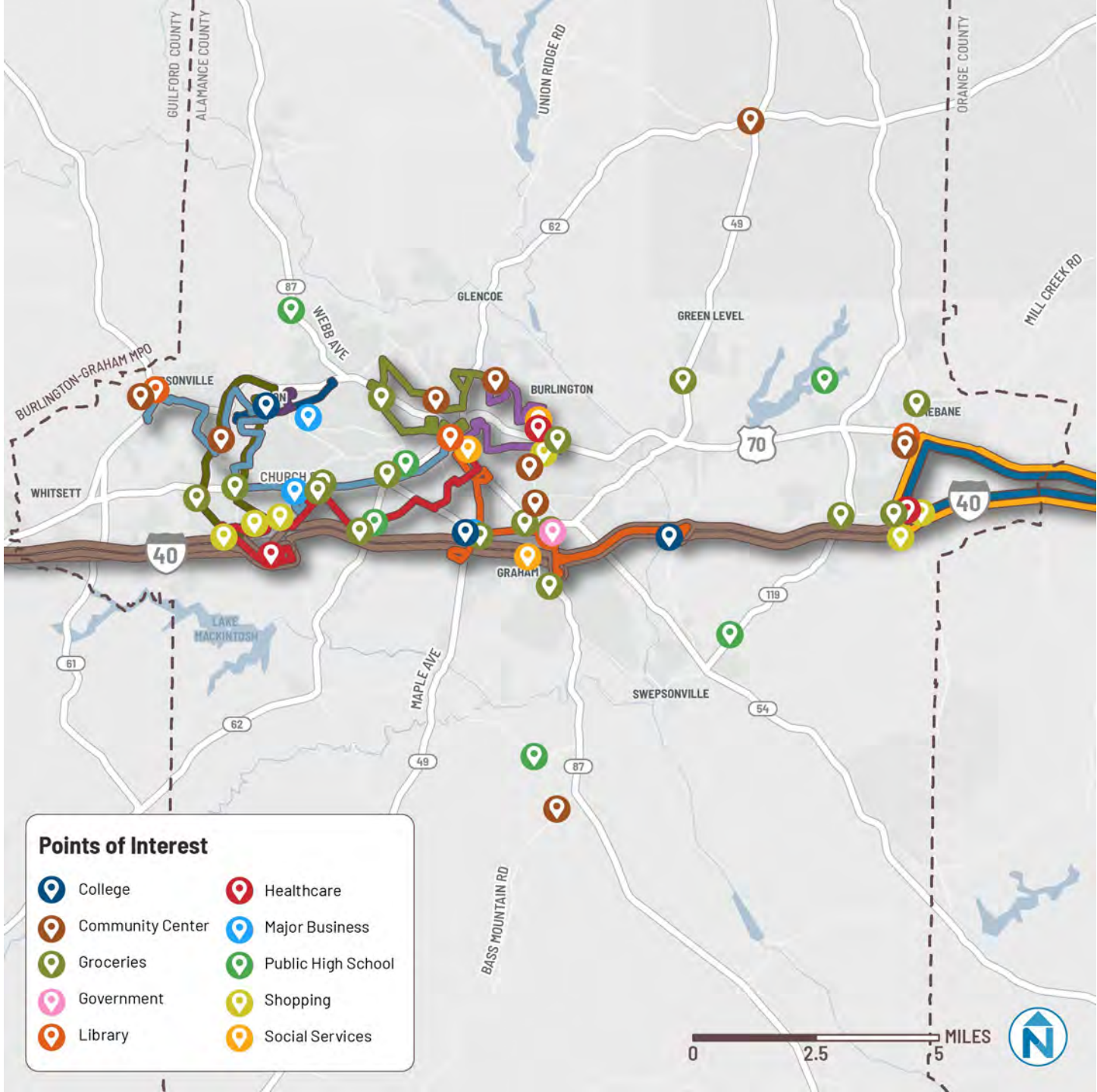


Service to Points of Interest

The adjacent map presents major points of interest in the BGMPO study area, overlaid with the existing transit network. Most major points of interest have some level of connection to fixed route transit. Notable service gaps include:

- Public high schools to the south including Southwest Alamance High School and Southern Alamance High School and Mt. Hermon Community Center
- Eastern Alamance High School, Pleasant Grove Community Center, and Food Lion to the northwest of Mebane
- Western Alamance High School to the northwest of Burlington

It is important to keep in mind that this map illustrates current fixed route service coverage in relation to major points of interest and does not indicate if current service frequencies and/or span are adequately addressing service needs at each point of interest.



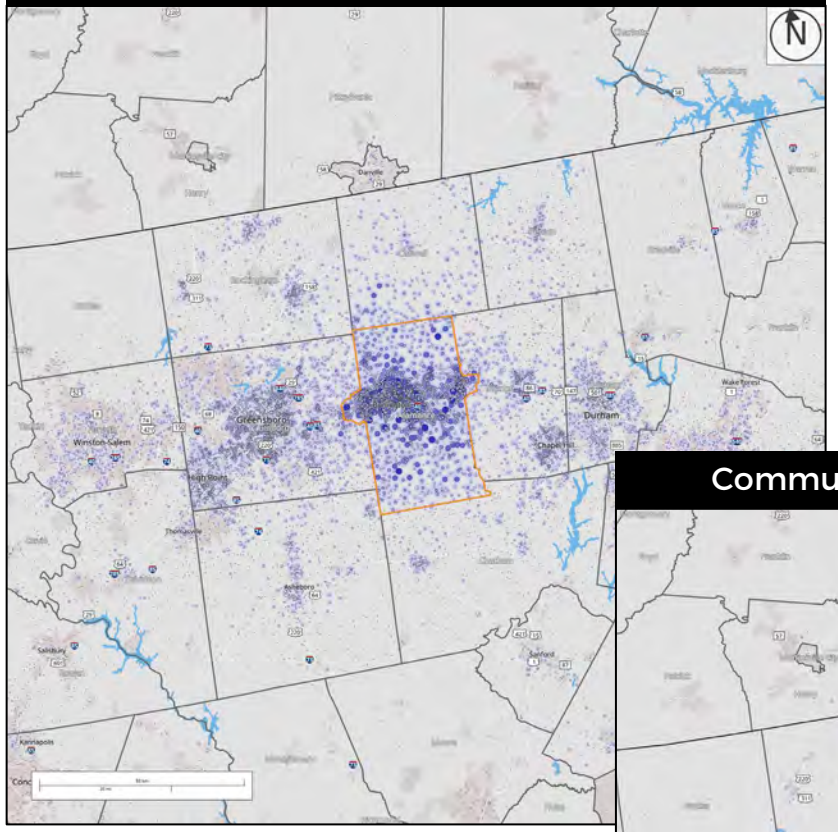
Travel Patterns

When analyzing total travel patterns, **most trips overall remain within the BGMPO study area boundaries**.

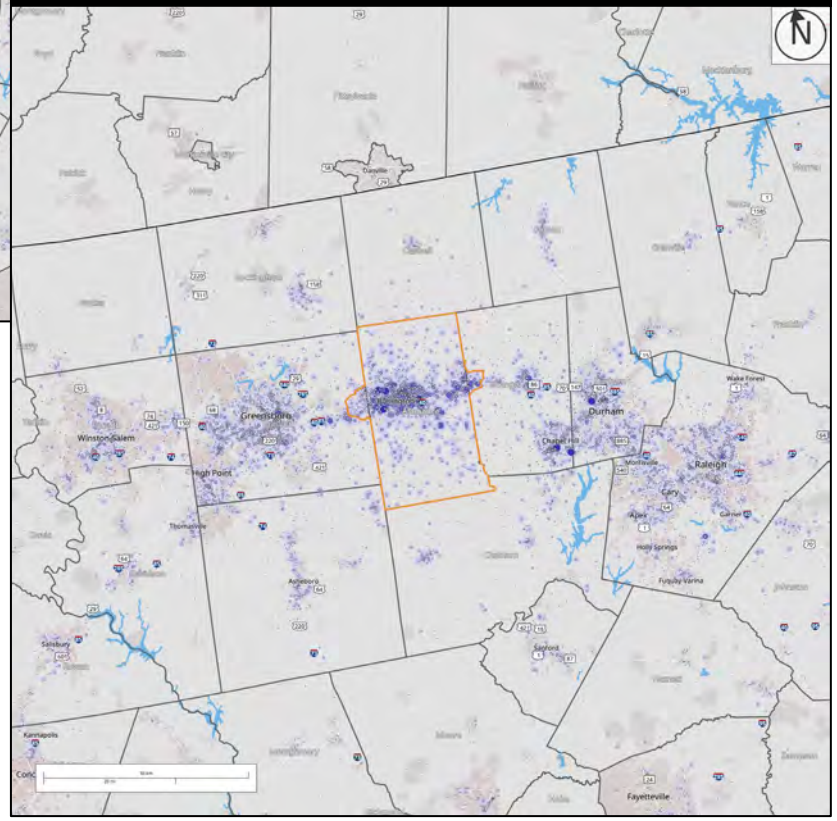
However, a closer review indicates **significant work trips to the west (Greensboro area) and to the east (Durham and Chapel Hill areas)**.

About 58% of BGMPO area resident work trips travel outside of the area, with an approximate 43% split to the west and 46% split to the east.

Commute Patterns to BGMPO Employment Sites

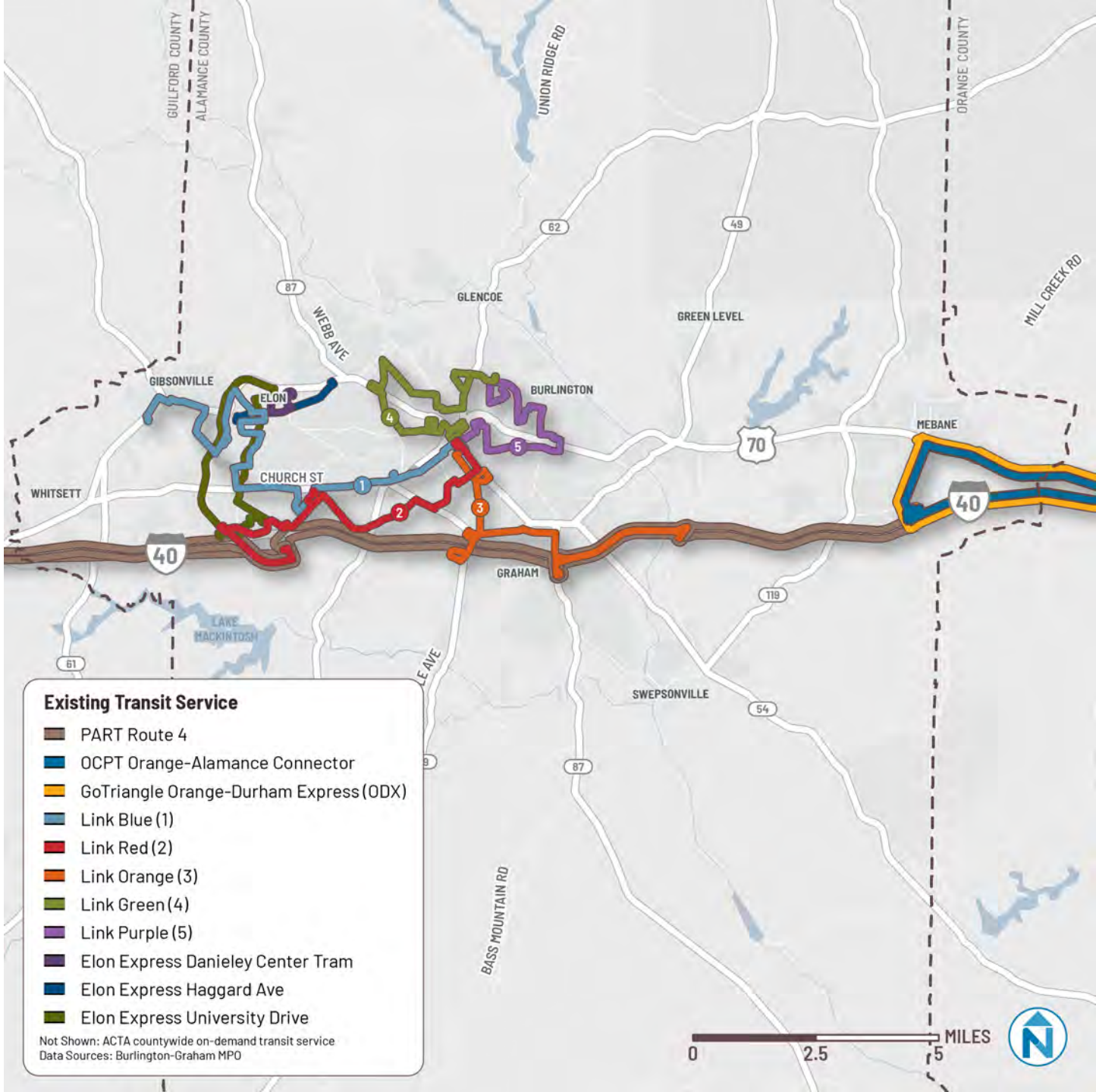


Commute Patterns of BGMPO Residents



Transit Service Assessment

- **Link Transit ridership has surpassed pre-pandemic levels** with approximately 500 passenger trips each weekday in 2022, an average of approximately 7.5 trips per revenue-hour.
- **ACTA's ridership has also returned to pre-pandemic levels**, averaging approximately 300 trips each weekday in 2022 (approximately 1.5 passenger trips per revenue-hour).
- **PART's Route 4 ridership has not rebounded to pre-pandemic levels**, averaging 115 passenger trips per weekday in 2022, of which 46 trips were boarding at the four stops within the study area.
- **OCPT's Orange-Alamance Connector and GoTriangle's Route ODX have also seen significant ridership declines** from pre-pandemic levels with low ridership activity at stops within the study area.



Transit Service Challenges

There are several challenges that a rider faces when trying to use transit within the BGMPO service area:

Frequency and Span. Current route service frequencies and span can limit a resident's ability to use existing available transit services. Local routes operate infrequently (every 90 minutes). Regional routes have limited hours of service that make use of transit difficult for people with non-traditional work hours.

Coverage. Existing local fixed route service is limited to Burlington, Elon and portions of Gibsonville and Graham. Regional transit services are focused on travel to the east, and not to Greensboro.

Route Design. Current fixed route design can result in lengthy trip times for travel that is relatively short in distance.

Advanced Service Reservation Requirements. Paratransit service is available for most residents within the BGMPO service area and on-demand service is available for most residents outside of the Link Transit service area. However, prior day reservations are required, and trip times can be lengthy.

Transit Service Challenges

Duplicative Service Areas. Paratransit service can be confusing for a rider within the Link Transit service area. Link Transit provides paratransit service for trips that begin and end within ¾ mile of fixed route service. ACTA provides general purpose demand response service for trips that have only one end of the trip within the Link Transit service area and the other end outside of the Link Transit service area. A rider must know which agency to contact.

Multiple Service Providers. Riders must also be knowledgeable about multiple systems to address their local and regional travel needs. There is no single website to access information about all available services and to understand route alignments and schedules on a comprehensive basis.

Changing Commute Patterns. The transit service analysis indicates that ridership on routes operated by PART, GoTriangle and OCPT have not yet rebounded to pre-pandemic patterns, which correlates with changing post-pandemic work commute trends. Consideration needs to be given to regional service performance improvement approaches.

Transit-Supportive Densities. The market analysis identified the central portion of the study area as the only geographic area supportive of fixed route service. Within that area, there only a few pockets where there is sufficient density to support 30-minute or better transit service.

EXISTING CONDITIONS ASSESSMENT

Appendix: Transit Market Analysis Methodology and Source Data

Data Sources

A market analysis of the BGMPO are and adjacent counties was conducted to guide the short- and long-term recommendations made by the project team for the Regional Transit Feasibility Study. Factors that influence the patterns of transit use, such as density, land development, and commute patterns were examined in the region using the data sources listed below. Resulting maps can be found in the full Market Analysis document.

Component	Year	Data Source	Scale
Population Density	2021	American Community Survey 5-Year Estimates	Census Block Group
Transit Index Factor	2021	American Community Survey 5-Year Estimates	Census Tract
Adjusted Population Density	2021	American Community Survey 5-Year Estimates	Census Block Group
Employment Density	2020	Longitudinal Employer-Household Dynamics	Census Block Group
Composite Demand	-	Adjusted Population + (2 x Employment Density)	Census Block Group
Jobs	2020	Longitudinal Employer-Household Dynamics	Census Block
Travel Patterns	2022	Replica Places	Census Block Group

Population Density Calculations

Residents per acre was calculated by block group using the ACS 5-year estimates for Alamance County, as well as Orange, Guilford, and Durham Counties.

Based on industry best practices and research by Nelson\Nygaard, the following breaks were used to interpret the population density data and the corresponding levels of transit service.

Population Density (people/acre)	Appropriate Frequency (minutes)
2 or fewer	60 or more
2 to 10	60
10 to 15	30 to 60
15 to 30	15 to 30
Greater than 30	15 or fewer

Transit Index Factor and Adjusted Population Density

Different socioeconomic and demographic factors influence a person's likelihood of using transit. To account for this, an adjusted population density was calculated using a Transit Index Factor (TIF). A TIF demonstrates how much certain demographic groups are more or less likely than average to use transit. The TIFs used in this analysis were calculated specifically for the BGMPO area, as shown below.

$$\frac{131 \text{ — 1 vehicle households that use transit in BGMPO}}{9{,}610 \text{ — 1 vehicle households in BGMPO}} = 1.36\% \text{ — Transit mode share for 1 vehicle households in BGMPO}$$

$$\frac{1.36\% \text{ — Transit mode share of 1 vehicle households in BGMPO}}{1.05\% \text{ — Total transit mode share in BGMPO}} = 1.30 \text{ — Transit index factor for 1 vehicle households in BGMPO}$$

The TIFs were used to calculate an individual transit propensity score for each census tract based on its demographic makeup. This score is multiplied by the raw population count to calculate the adjusted population by tract. Adjusted population was applied to the block group by consolidating tracts within their block group.

The same modified land area used in the population density calculation was also used for adjusted population density. The same data breaks were used to interpret the adjusted population density data and the corresponding levels of transit service as used for the raw population density calculation.

Employment Density

The employment density metric measures the number of jobs located within a block group, rather than the number of employed residents who live in that block group. Jobs per acre was calculated using the Longitudinal Employer-Household Dynamics (LEHD) for Alamance, Guilford, Orange, and Durham Counties.

As in the case of the population density measure, the land area used for the calculation was modified to exclude water bodies. Based on industry best practices and research by Nelson\Nygaard, the following breaks were used to interpret the employment density data and the corresponding levels of transit service.

Employment Density (jobs/acre)	Appropriate Frequency (minutes)
2 or fewer	60 or more
2 to 5	60
5 to 10	30 to 60
10 to 15	15 to 30
Greater than 15	15 or fewer

Composite Transit Demand

The number of people per acre and jobs per acre were combined to show an overall composite transit demand by block group. Employment density was weighted twice in this calculation to account for the fact that jobs represent more transit use because most trips on transit are work trips, and because many job types attract customer trips as well as employee trips.

Based on industry best practices and research by Nelson\Nygaard, the following breaks were used to interpret the employment density data and the corresponding levels of transit service.

Population Density (jobs/acre)	Appropriate Frequency (minutes)
2 or fewer	60 or more
2 to 5	60
5 to 10	30 to 60
10 to 15	15 to 30
Greater than 15	15 or fewer

Job Types and Low Wage Jobs

Job data was categorized by North American Industry Classification System (NAICS) code and mapped by company size and industry at the block level. The resulting concentrations of job types showed possible high activity transit generators.

Travel Patterns

Replica Places is an activity-based travel model that simulates where residents, visitors, and commercial vehicle travel happens in an area on a typical day. Replica data is grounded in multiple private and public source datasets, including data from personal mobile devices, demographic data from public and private sources, credit transaction data for consumer spending, and more. More information about their source methodology can be found on their website (https://my.replicahq.com/).

For the market analysis, Replica Places data was used at the census block group level for the BGMPO area. Total trips within a block group and total trips between two distinct block groups were combined to assess overall travel patterns in the region on a given weekday in 2019 and 2021.

For work travel patterns, LEHD's OnTheMap data was used, which analyzes 2020 work travel patterns at the block level and identifies origin-destination data for residents and jobs within a selected study area. This data also includes distance, direction, and wage thresholds.

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This project is supported in part by a Section 5303 grant of the North Carolina Department of Transportation Integrated Mobility Division.