

The logo features the text 'FAST 2.0' in a bold, white, sans-serif font. Below it, the subtitle 'Freeway, Arterial, Street, and Tactical Transit' is written in a smaller, lighter font. The background is a dark teal color with a large, yellow-green triangle pointing downwards on the right side. The triangle has a fine, parallel line pattern. The overall design is modern and professional.

# **FAST**2.0

Freeway, Arterial, Street, and Tactical Transit

## **REGIONAL NETWORK AND PRIORITY CORRIDOR IDENTIFICATION MEMO**

February 2025

## Introduction

The FAST 2.0 study will focus on ways to advance the implementation of transit priority infrastructure throughout the study area and the purpose of this memo is to identify the regional network and priority corridors that may be best suited for that transit priority infrastructure. The regional network builds off the Existing Conditions work and input from Stakeholders, identifying where transit infrastructure should be considered in the future. The priority corridors are part of the regional network but will be looked at more in-depth as part of the project.

## Regional Network Development

### FAST 1.0

The FAST 1.0 study corridors were used as a starting point to begin dialogue with Stakeholders about the FAST 2.0 study. Figure 1 shows the FAST 1.0 network, including near-term and long-term corridors. Since the FAST 1.0 study finished, much of the advancement of transit infrastructure in the region has occurred with the planning and design of BRT corridors in Raleigh and Chapel Hill. In addition, ongoing planning work since the FAST 1.0 study has identified new BRT corridors that have since been incorporated into the *Connect 2050 MTP*, including extensions to Clayton and Morrisville and new proposed BRT corridors connecting to Midtown and Triangle Town Center in North Raleigh.

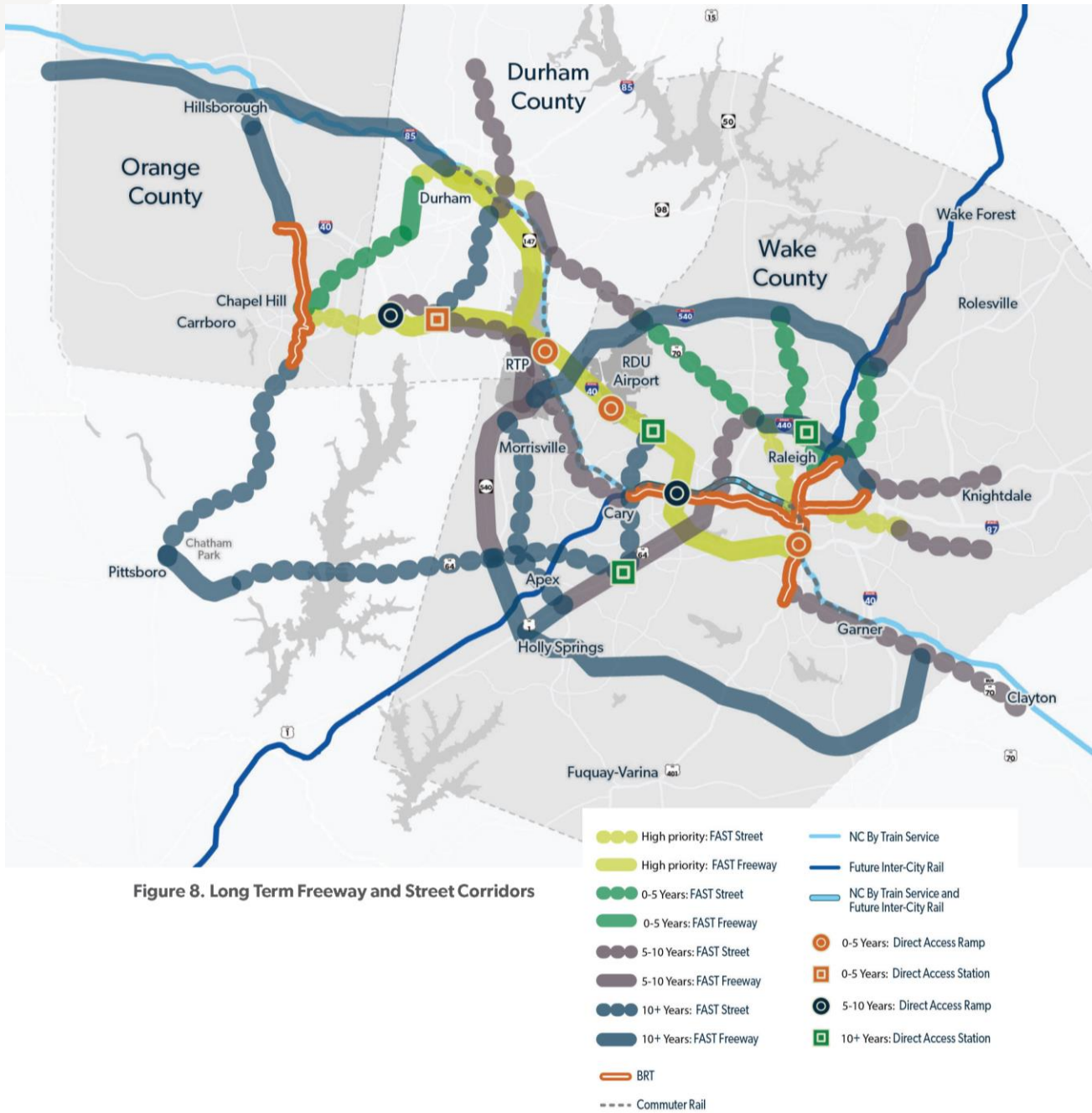


Figure 1: FAST 1.0 Corridors

## Stakeholder Meetings

At the start of the project, one-on-one interviews were held with all the identified project Stakeholders:

- **Transit Operators**
  - GoTriangle
  - GoDurham (City of Durham)
  - GoRaleigh (City of Raleigh)
  - GoCary (Town of Cary)
  - Chapel Hill Transit (Town of Chapel Hill)
- **Metropolitan Planning Organizations (MPO)**
  - Durham-Chapel Hill-Carrboro MPO (DCHC)
  - Capital Area MPO (CAMPO)
  - Central Pines Regional Council (provides technical assistance to MPOs)
- **Counties**
  - Durham County
  - Wake County
  - Orange County
  - Johnston County
  - Chatham County
- **Regional Partners**
  - Research Triangle Foundation
  - Regional Transportation Alliance

These meetings provided a better understanding of the challenges, opportunities, and gaps in the current transit system, and gave insight on additional regional corridors that Stakeholders would like to see included and/or prioritized as part of the project. As noted above, the FAST 1.0 network was used as a starting point to identify which corridors are important to focus on in the FAST 2.0 study. From those interviews, broader regional connections and specific corridors and routes were identified by Stakeholders, including:

- **Conceptual Regional Connections:**
  - **Connectivity throughout Wake County:**
    - **Eastern Wake County:** Focus on areas like New Hope Road, Knightdale, and Wendell.
    - **Northern Wake County:** Connections to northern areas like Rolesville and Wake Forest.
    - **Western Wake County:** BRT Extensions; potential new BRT corridors.
    - **Southern Wake County:** BRT Extensions; connections to Fuquay Varina via US 1
    - **Revamp of Wake Transit Plan:** Emphasis on connecting all communities and integrating local services with high-capacity transit spines.
  - **US 70 Corridor:** Connecting Durham/Wake Counties; also connecting Durham/Orange Counties
  - **US 15-501:** Connecting Durham/Orange Counties
  - **Connections from Durham/Durham County to Raleigh/RTP/Wake County**
  - **Connections to RDU airport:** from downtown Chapel Hill, Durham, Cary and Raleigh
  - **Connections from Orange County/Chapel Hill to RTP/RTC and beyond**
  - **Connections from Cary to RTP**
  - **Outside the Triangle:** Think about surrounding areas to the Triangle and prepare for the growth now that will be seen in 30 years, i.e. think now about US 1 and US 401 corridors.

- **Specific Corridors and Routes Identified by Stakeholders:**
  - **US 70**
    - Between Durham and Raleigh
    - Between Durham and Orange Counties
  - **Chapel Hill to RTP:** Emphasizing the importance of this connection for the region.
  - **US 15-501 Corridor**
    - Chapel Hill to Durham
    - Chapel Hill to Chatham County
  - **Fayetteville Road Corridor** in Durham
  - **NC 98 Corridor:** Between Durham and Wake County
  - **Connections to VinFast Site in Chatham County**
  - **NC 54**
    - Chapel Hill to Durham
    - Within Durham, through RTP
  - **I-40** throughout the region
  - **I-540:** Northern and Southern
  - **Capital Boulevard**
  - **US 64:** Raleigh west to Pittsboro
  - **US 1**
    - Raleigh/Cary to Holly Springs/Fuquay Varina
    - Long term US 1 to towards Sanford and Pinehurst
  - **S-Line Rail Corridor:** for multimodal connections

## Vision and Goals

Stakeholder input also framed the vision and goals for the FAST 2.0 study, which included themes that helped further inform the selection of corridors for the FAST 2.0 study. Some of the vision themes that speak to the desires for regional connectivity include:

- **Boost Bus Mobility and Access:** Enhance bus-based mobility and ensure equitable access to regional transit.
- **Address Local and Regional Connectivity:** Cater to both local needs and regional connectivity.
- **Prioritize Buses and BRT:** Evaluate opportunities to prioritize buses and Bus Rapid Transit (BRT) regionally.

In addition, there were several goals that highlighted the importance of regional connections:

- **Coordinate Regional Transit Projects:** Improve connectivity across the region by coordinating transit projects.
- **Assess Transportation Network:** Assess the regional transportation network for efficiency and effectiveness.
- **Develop Direct BRT Linkages:** Create direct Bus Rapid Transit (BRT) connections to RDU from Triangle downtowns.
- **Identify Freeway and Arterial Corridors for Transit Priority:** Choose one freeway and five arterial corridors for transit priority infrastructure enhancements.

## Existing Transit Service

The location of existing transit service in the study area (Figure 2) highlights the extent of current transit service in the study area, showing where regional connections exist, but also where gaps in the coverage exist. The map highlights how most local transit service providers serve a core area within their jurisdictions, with few routes connecting to

other municipalities or regional destinations. While GoTriangle provides regional connections with limited frequency throughout the study area, the map shows limited connections in the core area between the local agencies.

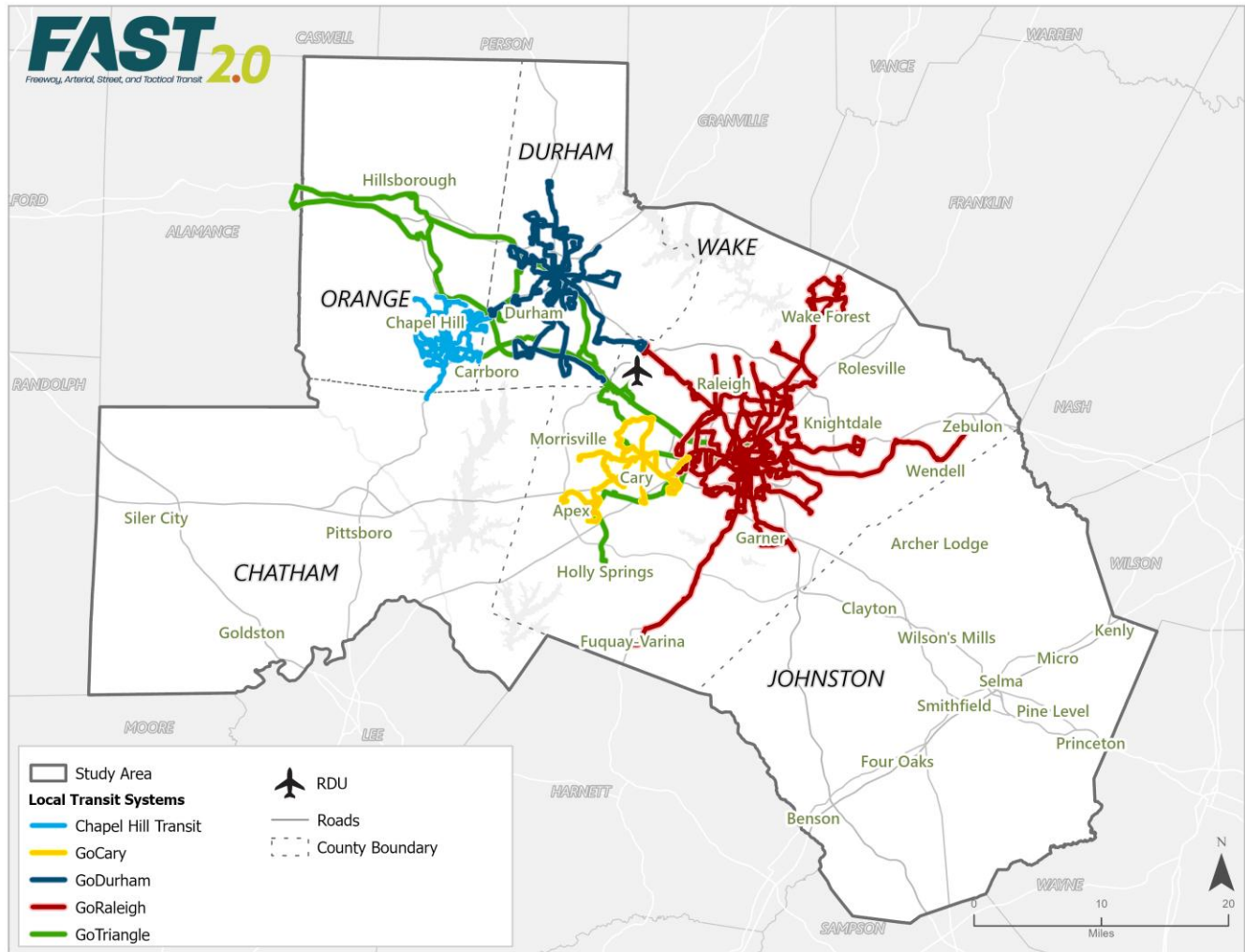


Figure 2: Local Transit Systems in Study Area

### Regional Network

Using input from Stakeholders about key regional corridors and the vision and goals for study, the regional network was identified, as shown in Figure 3 and listed in Table 1. The FAST 2.0 regional network frames out a larger, long-term network for transit in the study area, by including many of the major thoroughfares within the study area.

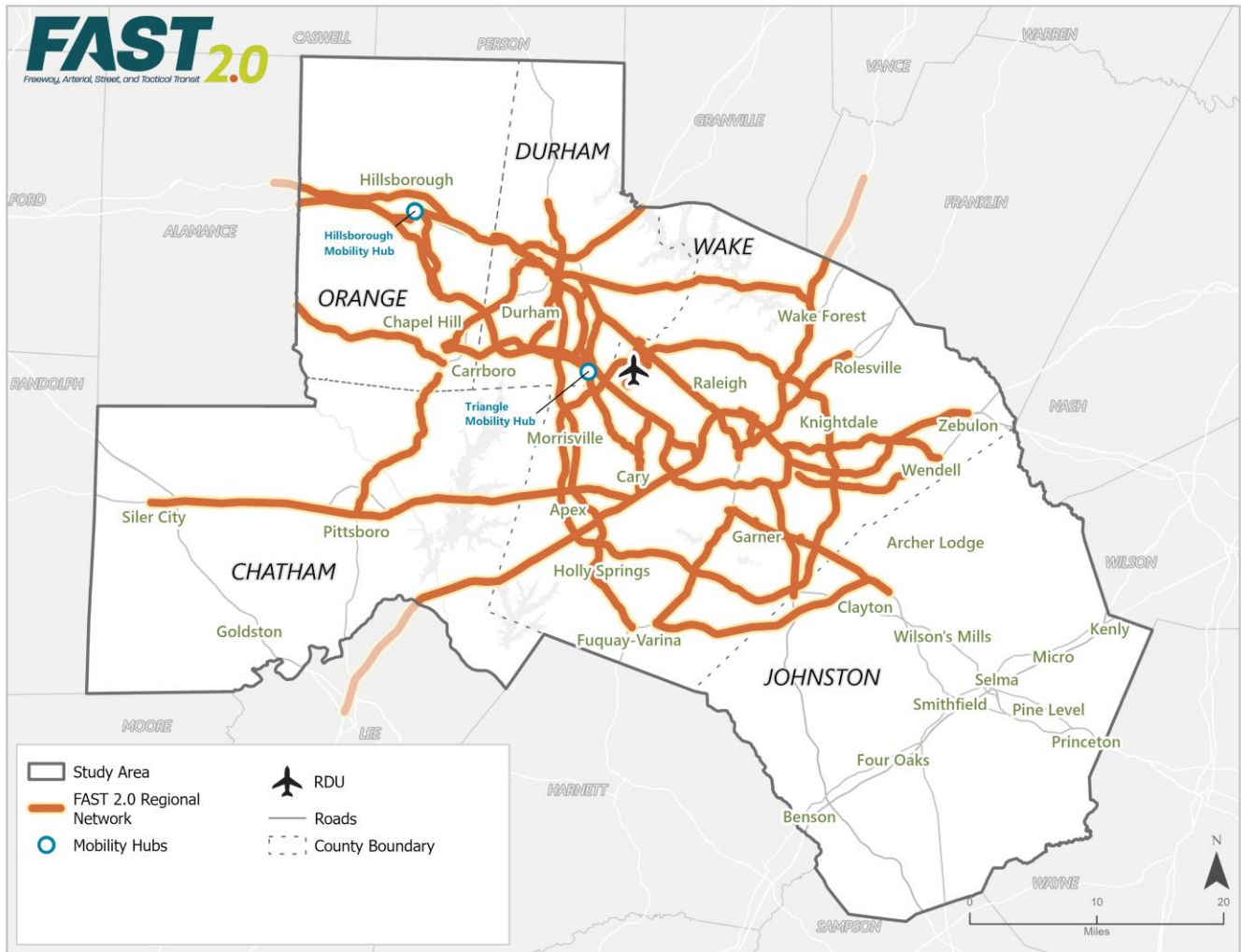


Figure 3: FAST 2.0 Regional Network

Table 1: FAST 2.0 Regional Network

Corridor Name	From	To
Trinity Road	Blue Ridge Rd	I-40
US 501 N	Latta Rd	US 70 Bus
NC 147	I-885	Mangum St
I-885	NC 98	I-40
Holloway Street / Liberty Street	Roxboro St	I-885
Roxboro Rd	Infinity Rd	Holloway St
Harrison Ave/Kildare Farm	I-40	US 64
Poole Rd	S New Hope Rd	Bethlehem Rd
Capital Boulevard	W Green St	Lane St
Morrisville to Downtown Cary BRT	Slater Rd	N Harrison Ave
NC 54	NC 55	S Miami Blvd
NC 54	US 15-501	MLK
US 70	I-885	I-540

US 70	I-540	Capital Blvd
Fayetteville Street	NC 147	I-40
I-540	I-87	I-87
I-40	Trinity Rd	NC 54
US 1	Western Blvd	I-540
US 64	US 1	US 64
US 15-501	Fulton St	Franklin St
US 15-501	Market St	US 64
Holloway Street	US 1	I-885
Garner Station - Clayton BRT	Hardee Ln	Garner Station Blvd
RTP - Morrisville BRT	Triangle Mobility Hub	Aviation Pkwy
Morrisville to Downtown Cary BRT	Wilkinson Ave	Aviation Pkwy
US 401	Louisburg Rd	US 1
US 64 Business	NC 231	I-440
Poole Road	Wendell Falls Pkwy	Bethlehem Rd
I-87	N Arendell Ave	I-440
US 401	NC 42	Garner Station Blvd
US 1	I-540	N Horner Blvd
I-440	I-87	I-40
Miami Blvd	I-40	NC 54
Cornwallis Road	Davis Dr	I-885
Davis Drive	Cornwallis Rd	NC 54
Blue Ridge Road	Trinity Rd	Western Blvd
Duke/Holloway/RDU - Inbound	RDU Airport	Duke University
Duke/Holloway/RDU - Outbound	Duke University	RDU Airport
I-40	NC 54	NC 86
I-40	I-87	Trinity Rd
US 70 / US 70 Business	9th St	I-40
Franklin Street	Fordham Blvd	N Columbia St
I-40	I-85	Alamance County
Wake Forest Road	St. Albans Dr	US-401
St. Albans Drive	Wake Forest Rd	Dartmouth Rd
I-85	Orange County	Granville County
I-440	Western Blvd	I-87
I-40	I-87	US-70/Johnston County
US 64	Hillsboro St	N 2nd St
US 70	US 70 Bus	NC 119
NC 86	US 70	Eubanks Rd
NC 54	NC 86	Alamance County
NC 54	US 70	NC 55
NC 55	NC 147	N Main St
S Miami Blvd	US 70	NC 54

## Priority Corridor Development

### Needs Assessment Memo

The *Needs Assessment Memo* identified new transportation challenges, opportunities, and gaps in the current transportation system by reviewing existing transportation data, planning documents, and relevant policies to help frame out the priority corridors.

A key piece of the *Needs Assessment Memo* highlighted the number of ongoing projects throughout the region, noting opportunities to include transit within the planning and design of roadway improvement projects, which may lead to more transit infrastructure being built at a faster rate. Figure 4 shows the active local and State Transportation Improvement Program (STIP) projects adjacent to the FAST 2.0 regional network. The adjacent projects and studies being undertaken by Stakeholders include:

- Hillsborough Mobility Hub
- Triangle Mobility Hub
- Chapel Hill Transit High-Capacity Transit Corridor Feasibility Study
- US 15-501 Corridor Study
- Durham Bus Rapid Transit Vision Plan
- GoTriangle Regional Bus Blueprint
- US 70 Phase II Analysis
- Capital Boulevard Tolling Study

Some studies, like the US 15-501 Corridor Study, will be creating detailed multimodal recommendations as part of the study, so creating concept designs for those corridors as part of FAST 2.0 would be duplicative in nature. Other projects, like STIP projects for pavement rehabilitation or the introduction of ramp metering along I-40, are several years out and may provide the opportunity to advance complementary transit infrastructure at the same time.

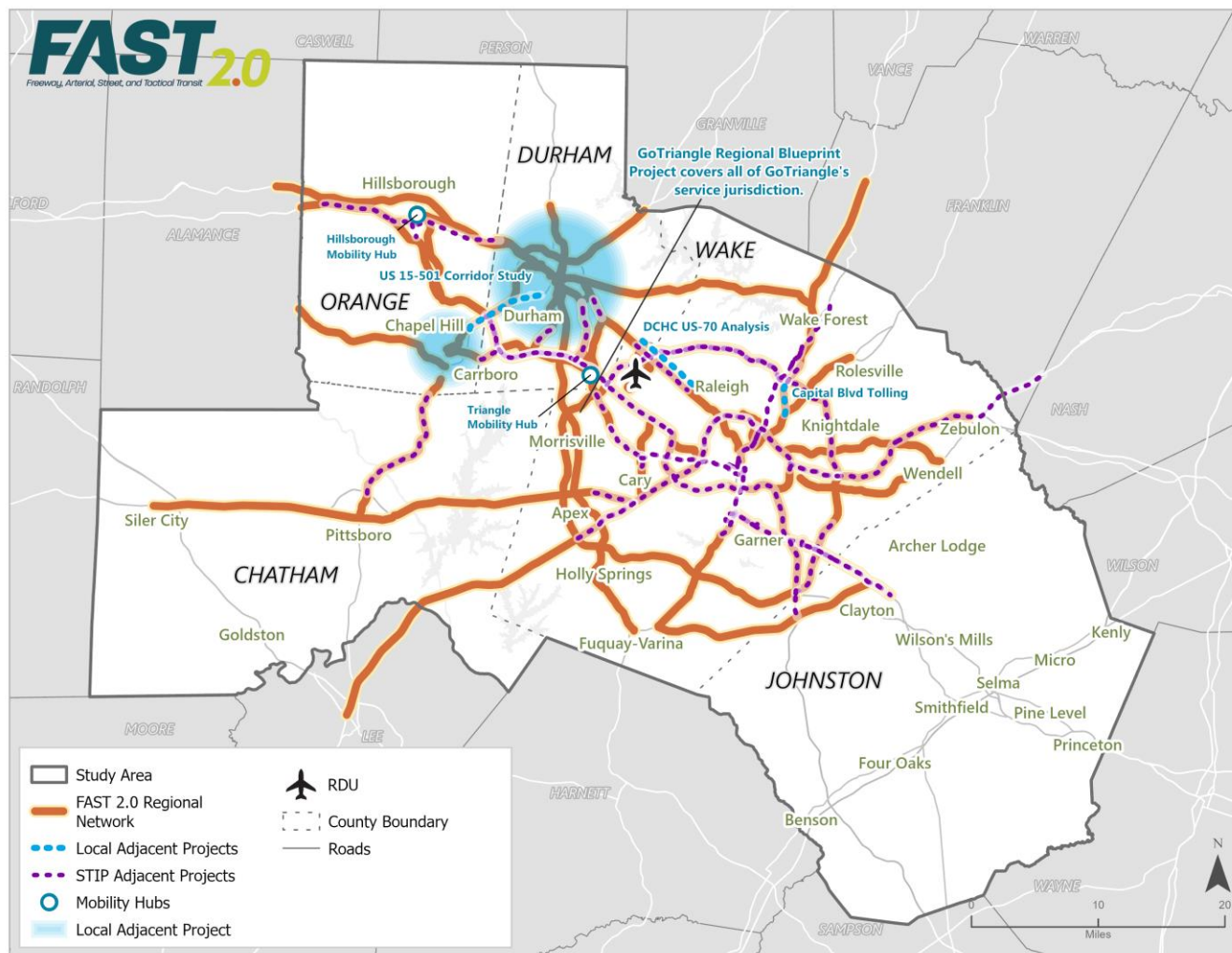


Figure 4: Adjacent Projects to FAST 2.0 Regional Network

### Connect 2050 MTP

The *Needs Assessment Memo* also notes that at the time that the FAST 2.0 study was starting, the *Connect 2050 MTP* included the Greater Triangle Commuter Rail project as a transit fixed guideway project, assuming service from West Durham to Clayton by 2030 and then extended service to Hillsborough and Selma by 2050, as shown in Figure 5. Since the publication of the *Connect 2050 MTP*, GoTriangle completed the Greater Triangle Commuter Rail study, which identified significant feasibility challenges to implementing regional rail within the budget and timeline established in the current Wake and Durham Transit Plans. An update is underway for the *Wake Transit Plan* that does not include Commuter Rail, noting it is no longer affordable as part of the 2026 to 2035 Wake Transit Plan Update. While the Wake Transit Plan Update is proposing to leverage existing intercity rail service and planned rail projects, it will not provide the same levels of service proposed with the Greater Triangle Commuter Rail project. This development provides the opportunity for the FAST 2.0 study to consider how regional transit infrastructure improvements could provide similar regional connections to Commuter Rail and it provides a good opportunity to look at I-40 as a regional transit backbone.

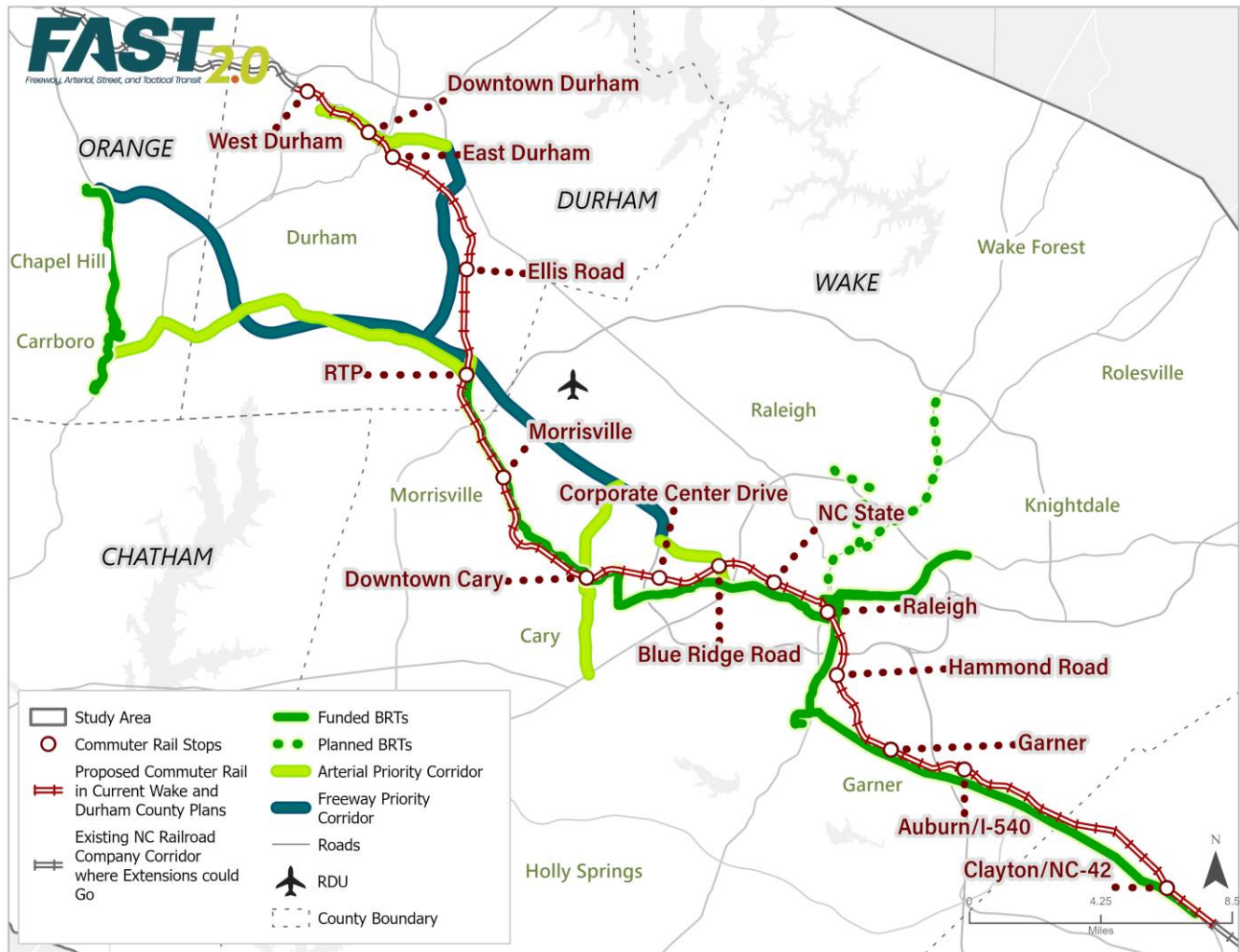


Figure 5: Proposed Greater Triangle Commuter Rail Alignment

Part of the *Connect 2050 MTP* also features an analysis of land use plans and population and employment growth forecasts, providing insight into future development patterns. Figure 6 shows key job hubs, which already have concentrated areas of employment and are planned for more dense types of land uses. These key job hubs include:

- Chapel Hill, Carrboro, and the University of North Carolina at Chapel Hill (including UNC Hospitals)
- Duke University and Hospitals, and the Veterans Administration medical campus
- Central Durham and North Carolina Central University (NCCU)
- Research Triangle Park
- Downtown Cary
- North Carolina State University (NCSU)
- Downtown Raleigh
- North Raleigh

Figure 6 shows how I-40 is the key connection between most of the job hubs, which again provides a good opportunity to look at I-40 as a regional transit backbone. Similarly, I-885 provides a north/south connection between the RTP area and Central Durham / NCCU. Additionally thinking about spurs or connections to some of these job hubs that are not directly connected to I-40, like Chapel Hill, Durham, and Cary, could build upon a core transit network that allows for enhanced service between these top destinations.

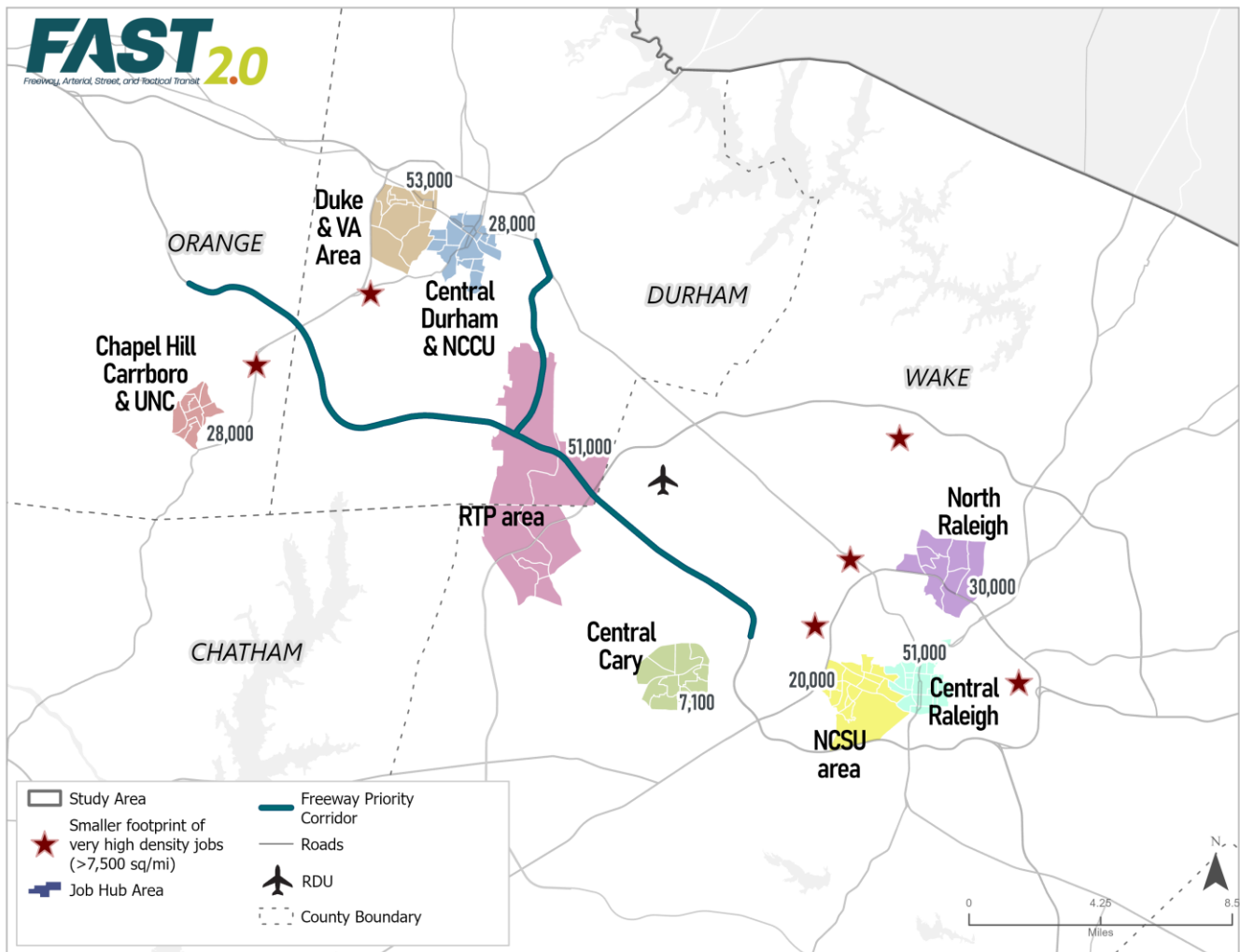


Figure 6: Key Job Hubs

### Priority Corridors

The intention of selecting priority corridors for FAST 2.0 is to select corridors that could foster enhanced transit infrastructure in the near term and begin developing recommended infrastructure projects by creating concept designs along each of the priority corridors. As noted above in the study goals, the FAST 2.0 study was tasked with selecting one freeway and five arterial corridors for transit priority infrastructure enhancements.

I-40 as was selected as the freeway priority corridor, as it provides a regional backbone for enhanced transit infrastructure in the area. It was a corridor specifically noted by stakeholders and is one of the regions' most

important thoroughfares in its ability to connect to key destinations and based on the existing volume of traffic. Once I-40 was selected, arterial roadways were considered in how they would build upon a regional transit ‘spine’ along I-40, connecting to existing and planned transit networks and increasing access throughout the region. It was also important to factor in how the chosen arterial corridors would align with the vision and goals of the project, including vision themes noted earlier:

- **Boost Bus Mobility and Access:** Enhance bus-based mobility and ensure equitable access to regional transit.
- **Address Local and Regional Connectivity:** Cater to both local needs and regional connectivity.
- **Prioritize Buses and BRT:** Evaluate opportunities to prioritize buses and Bus Rapid Transit (BRT) regionally.

Figure 7 shows the priority corridors and

Table 2 lists each corridor and their limits, which were discussed and agreed upon by Stakeholders. Bus operation plans for direct access service to Raleigh–Durham International Airport (RDU) is being explored as part of the FAST 2.0 work and will be detailed in a future memo. In addition, BRT connections from Chapel Hill, Cary, Durham and Raleigh to RDU will also be explored in that memo.

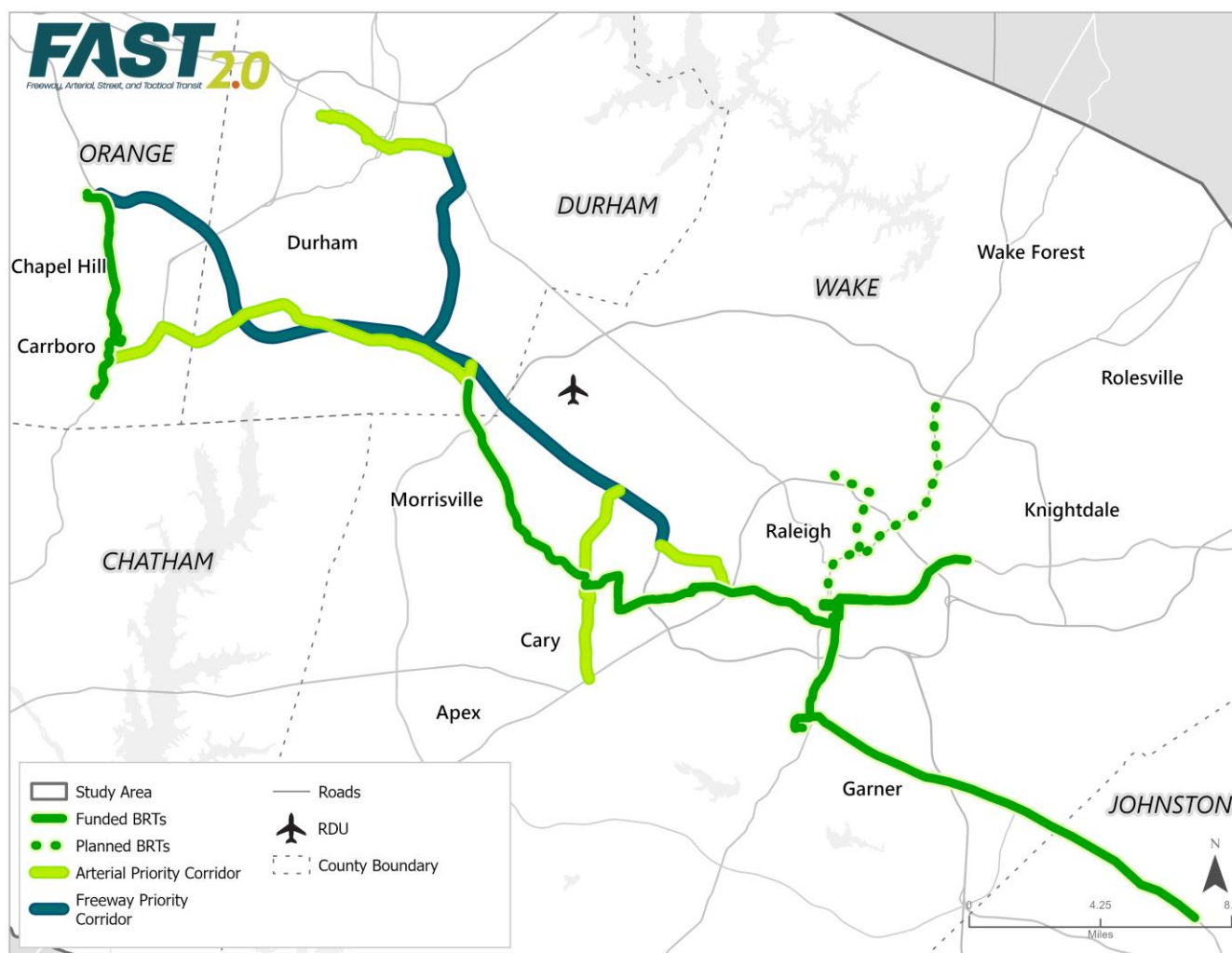


Figure 7: FAST 2.0 Priority Corridors

Table 2: Priority Corridors

Corridor Name	From	To	Corridor Type
<b>I-40</b>	Trinity Rd	NC 86	Freeway Priority Corridor
<b>I-885</b>	NC 98	I-40	Freeway Priority Corridor*
<b>Harrison Avenue/Kildare Farm Road</b>	I-40	US 64	Arterial Priority Corridor
<b>Duke University / Holloway Street</b>	Duke University	I-885	Arterial Priority Corridor
<b>Trinity Road / Blue Ridge Road</b>	Blue Ridge Rd	I-40	Arterial Priority Corridor
	Western Blvd	Trinity Rd	
<b>NC 54 / Miami Boulevard</b>	Miami Blvd	US 15-501	Arterial Priority Corridor
	NC 54	I-40	

\*Based on additional stakeholder feedback, an additional freeway priority corridor was warranted to provide a connected network to Durham and was swapped with an arterial corridor.

Some specific reasons why each corridor is well suited as a priority corridor and has the potential to quickly advance transit infrastructure is noted below.

- **I-40**
  - There are several 2024-2033 STIP projects along I-40 in the study area that provide an opportunity to advance planning of transit infrastructure along I-40 based on their current schedules.
    - Projects in the 2024-2033 STIP include:
      - I-5993, which will rehabilitate pavement, from US 15 / US 501 to east of NC 147. Construction is currently slated to begin in 2026 but will be let with I-5994.
      - I-6006, which will convert I-40 and SR 1728 (Wade Avenue) to a managed freeway with ramp metering and other ATM / ITS components from NC 54 (Exit 273) to SR 1728 (Wade Avenue) on I-40 and from I-40 to SR 1664 (Blue Ridge Road) on SR 1728 (Wade Avenue). This project is currently only funded for preliminary engineering.
      - U-6101, which will convert I-40 to a managed freeway, including ramp metering, from SR 1728 (Wade Avenue) to NC 42. The project is currently not funded.
      - I-5995, which will rehabilitate pavement on I-40 from east of NC 147 to SR 1728 (Wade Avenue). This project is combined with I-5996.
      - I-5966, which will construct auxiliary lanes in both directions, along I-40 from SR 1002 (Aviation Parkway) to SR 1652 (Harrison Avenue). ROW is slated to begin in 2028 and construction beginning in 2031.
      - I-5707, which will construct a westbound auxiliary lane on I-40 from NC 55 (Alston Avenue) to I-885 (Durham Freeway). ROW is scheduled to begin in 2025 and construction in 2027.
      - I-5701, which will add lanes on I-40 from I-440 / US 1 / US 64 to SR 1370 (Lake Wheeler Road). Construction is scheduled to being in 2027.
    - Projects in the draft 2026-2035 STIP, which is expected to be adopted in Summer 2025, include:

- I-5995, which will rehabilitate pavement on I-40 from east of NC 147 to SR 1728 (Wade Avenue). Construction is currently slated to begin in 2026 but will be combined with I-5996.
- I-5966, which will construct auxiliary lanes in both directions, along I-40 from SR 1002 (Aviation Parkway) to SR 1652 (Harrison Avenue). ROW is slated to begin in 2029 and construction beginning in 2032.
- I-5701, which will add lanes on I-40 from I-440 / US 1 / US 64 to SR 1370 (Lake Wheeler Road). Construction is scheduled to begin in 2027.
- I-5993, which will rehabilitate pavement, from US 15 / US 501 to east of NC 147. Construction is currently slated to begin in 2026 but will be let with I-5994.
- I-5707, which will construct a westbound auxiliary lane on I-40 from NC 55 (Alston Avenue) to I-885 (Durham Freeway). ROW is scheduled to begin in 2025 and construction in 2027.
- The *2035 Wake Transit Plan Update* is underway to identify the priorities of Wake Transit Plan funding over the next ten years. As part of public engagement being completed between December 2024 and January 2025, a concept of BRT along I-40 between Raleigh and Durham was introduced to the public.
- **I-885**
  - There is a 2024-2033 STIP project (U-5934) on I-885 between I-40 and NC 147, that will add lanes, rehabilitate pavement, and prioritize the addition of transit accommodations. The current timing of the project, which is currently slated to begin ROW in 2028 and begin construction in 2029, provides a great opportunity to advance the planning of transit accommodations along I-885.
    - The draft 2026-2035 STIP, which is expected to be adopted in Summer 2025, includes U-5934, but the construction year is shown as 2030.
  - *Connect 2050 MTP* has a BRT project along this corridor, named “Durham NS BRT” and listed as Project ID 187.
- **Harrison Avenue / Kildare Farm Road**
  - *Connect 2050 MTP* has a BRT project along this corridor listed as T152b.
  - This corridor provides a connection from the funded Wake BRT: Western Corridor project, which is currently in the final design phase, to the freeway I-40 corridor.
- **NC 54 / Miami Boulevard**
  - This corridor provides connection to GoTriangle’s Triangle Mobility Hub on NC 54, which received a 25 million federal RAISE grant to support the design and construction of the facility and is slated to open in 2028.
  - This corridor provides connection with the RTP - Morrisville BRT, listed in *Connect 2050 MTP* (T156), and will help increase connectivity between the eastern and western parts of the FAST 2.0 study area.
- **Trinity Road / Blue Ridge Road**
  - *Connect 2050 MTP* lists a roadway widening along Trinity Road from Edwards Mill Road Extension to Wake Park Boulevard in the 2030 Horizon Year (A231a). The timing of this roadway project presents the opportunity to consider how enhanced transit infrastructure may be incorporated into the roadway project.
  - This corridor would connect to the Lenovo Center property, formerly PNC arena, which is currently requesting a rezoning with the City of Raleigh and has plans for future development on the existing surface parking lots surrounding the Lenovo Center arena. The proposed rezoning covers roughly 80 acres and would provide the ability to build more than 4,000 dwelling units and approximately 3 million square feet of non-residential space.

- **Duke University / Holloway Street**

- This corridor aligns with a portion of Durham NS BRT, which is noted in *Connect 2050 MTP* (Project ID 187), between Duke University and Downtown Durham.
- The other half of this corridor aligns with the City of Durham’s Holloway Street Transit Emphasis Corridor, which received federal funding for pedestrian and bus stop improvements along Holloway Street.

Furthermore, Figure 8 and Figure 9 reiterate the ability of the priority corridors to connect key destinations across the Triangle and increase access throughout the region. Figure 8 overlays the priority corridors with the earlier map of key job hubs showing that priority corridors can serve and provide enhanced transit connections between all of the regional key job hubs. The priority corridors, in conjunction with the funded BRTs, are also able to provide transit priority infrastructure along the previous Commuter Rail route, serving almost all the same Commuter Rail stations and following a similar alignment, as shown in Figure 9.

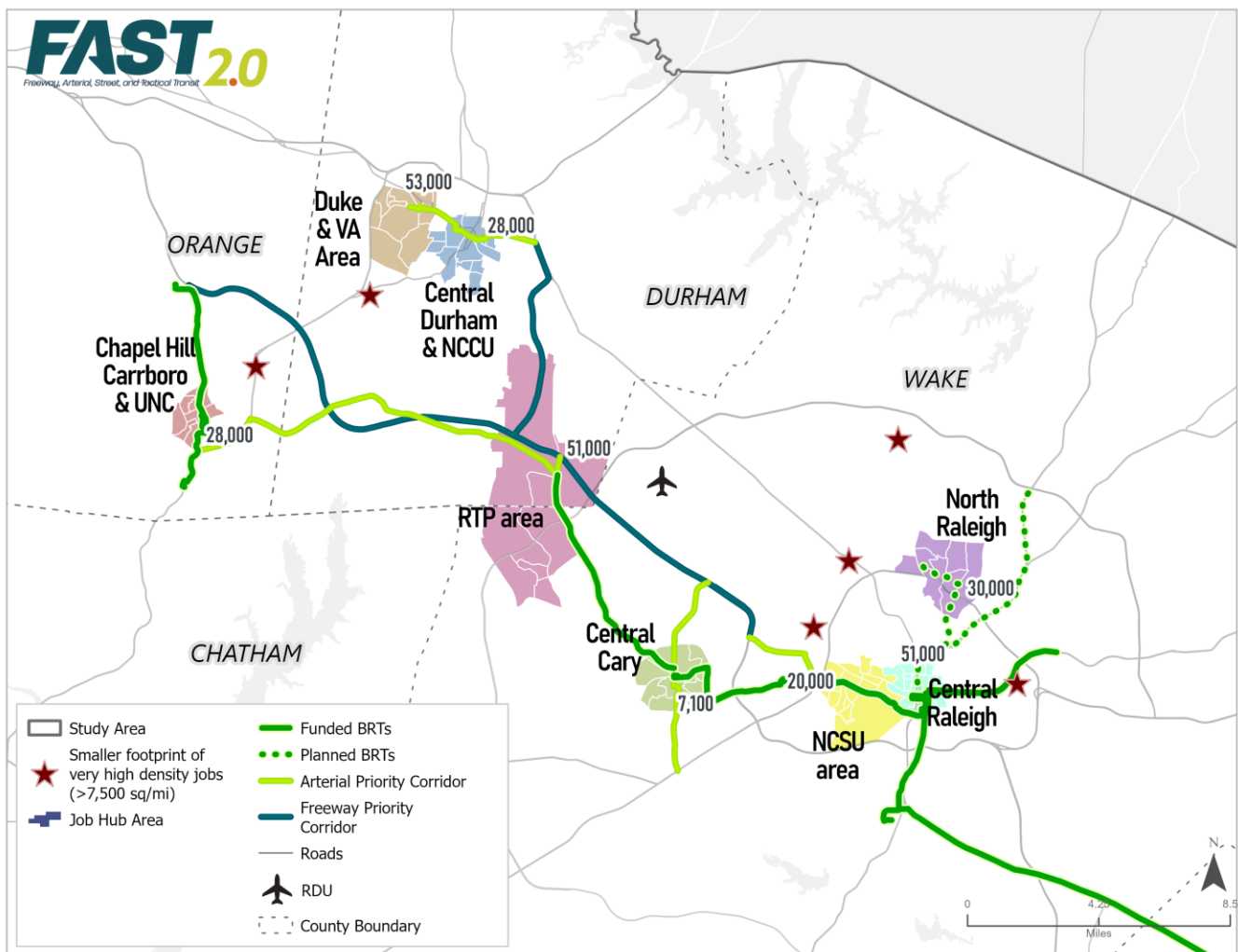


Figure 8: Priority Corridors and Key Job Hubs

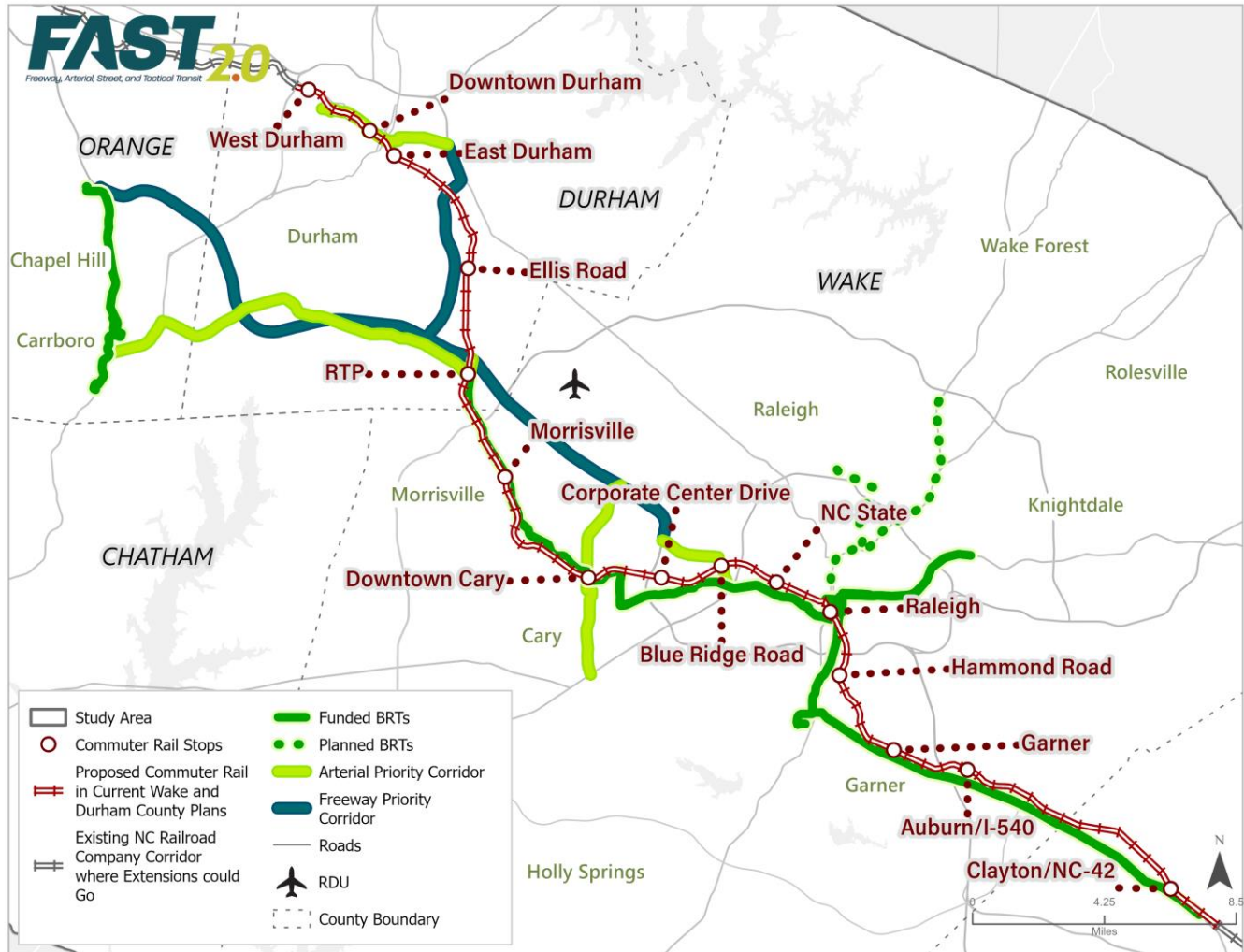


Figure 9: Priority Corridors and Commuter Rail Alignment

## Conclusion

The FAST 2.0 study aims to advance the implementation of transit priority infrastructure throughout the Triangle Region’s freeways and arterial roads. Identifying the regional network and priority corridors provides a first step in advancing the implementation of transit infrastructure by identifying corridors that are well suited for this infrastructure. In particular, the priority corridors provide the opportunity for near term advancement of enhanced transit infrastructure due to potential for collaboration with existing and planned projects along these corridors and the destinations served by these corridors.