



REGIONAL NETWORK RECOMMENDATIONS

July 2025

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Introduction

The FAST 2.0 study focuses on ways to advance the implementation of transit priority infrastructure throughout the study area. The purpose of this memo is to highlight recommendations for the FAST 2.0 regional network corridors, that were previously identified with the project stakeholders. *Figure 1* shows the regional network and Table 1 lists each corridor and their limits.

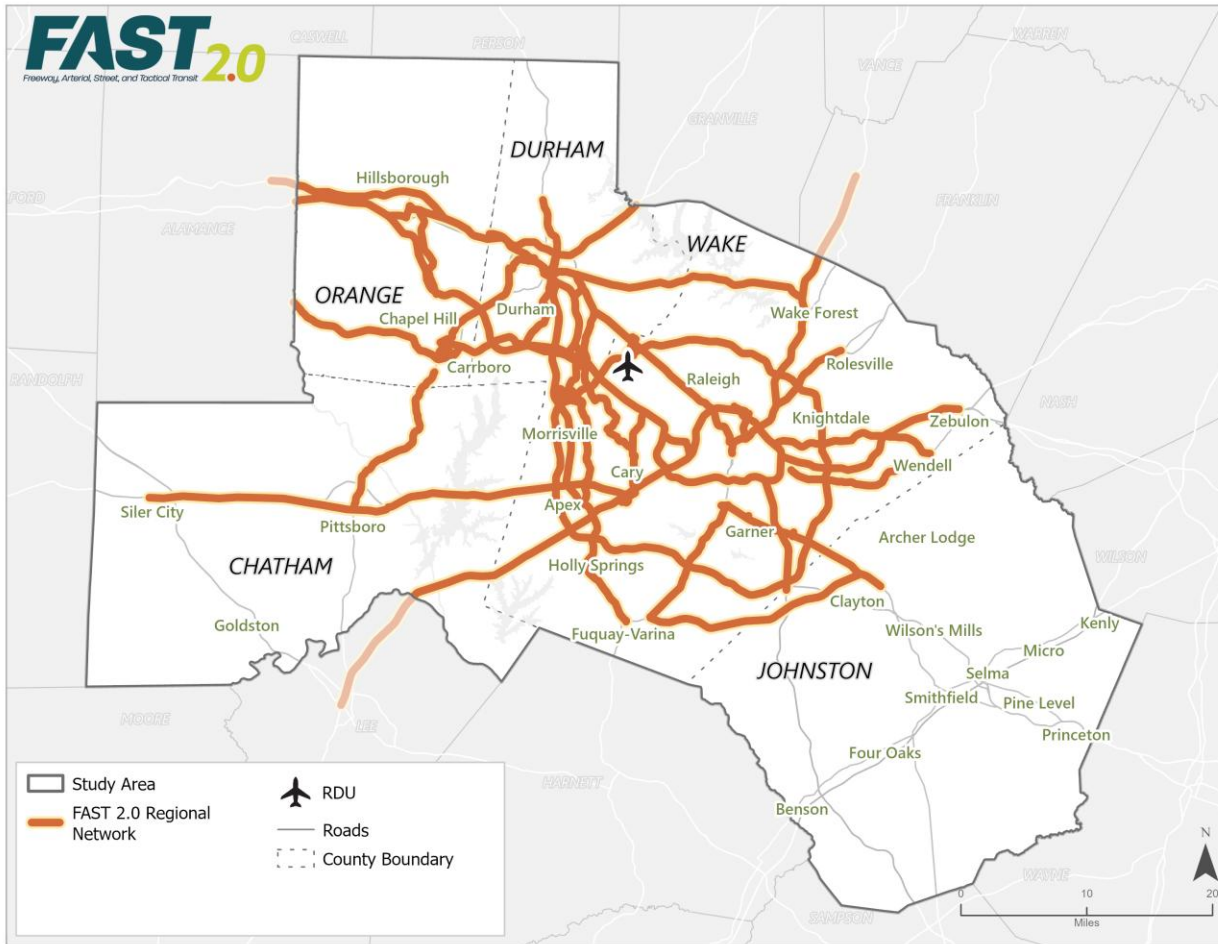


Figure 1: FAST 2.0 Regional Network

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	Roxboro St	I-885
Roxboro Rd	Infinity Rd	Holloway St
Harrison Avenue	I-40	US 64
Poole Rd	S New Hope Rd	Bethlehem Rd
Capital Boulevard	Franklin County Boundary	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	Cary Towne Blvd	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
US 401	Louisburg Rd	US 1
US 64 Business	NC 231	I-440
Poole Road	Wendell Falls Pkwy	Bethlehem Rd
I-87	N Ardentell Ave	I-440
US 401	NC 42	Garner Station Blvd
US 1	Lee County Boundary	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
Manning Dr	S Fordham Blvd	East Dr
Davis Dr	NC 54	W Moore St
US 1	I-540	Lee County Boundary

US 1**W Green St****Franklin County Boundary**

Suite of Options

A suite of recommended transit infrastructure improvements was developed with different treatment options for freeways and arterials that could be applied along the facility mainline or at spot locations to improve access or reliability. The treatment options include:

- Freeways (Facility)
 - Dedicated Freeway Transit Lanes
 - Dynamic Median Shoulder System (DMSS)
 - Bus-on-Shoulder System (BOSS)
 - Transit Use of Express Lanes
- Freeways (Access)
 - Freeway Ramp Signals
 - Direct Transit Access Ramps
- Arterials (Facility)
 - Fully Dedicated Transit Lanes
 - Semi-Dedicated Transit Lanes
- Arterials (Signals and/or Access)
 - Queue Jump Lanes
 - Transit Signal Priority

Figure 2 shows how the regional network is divided into freeways and arterials based on existing conditions, in order to apply the suite of options noted above.

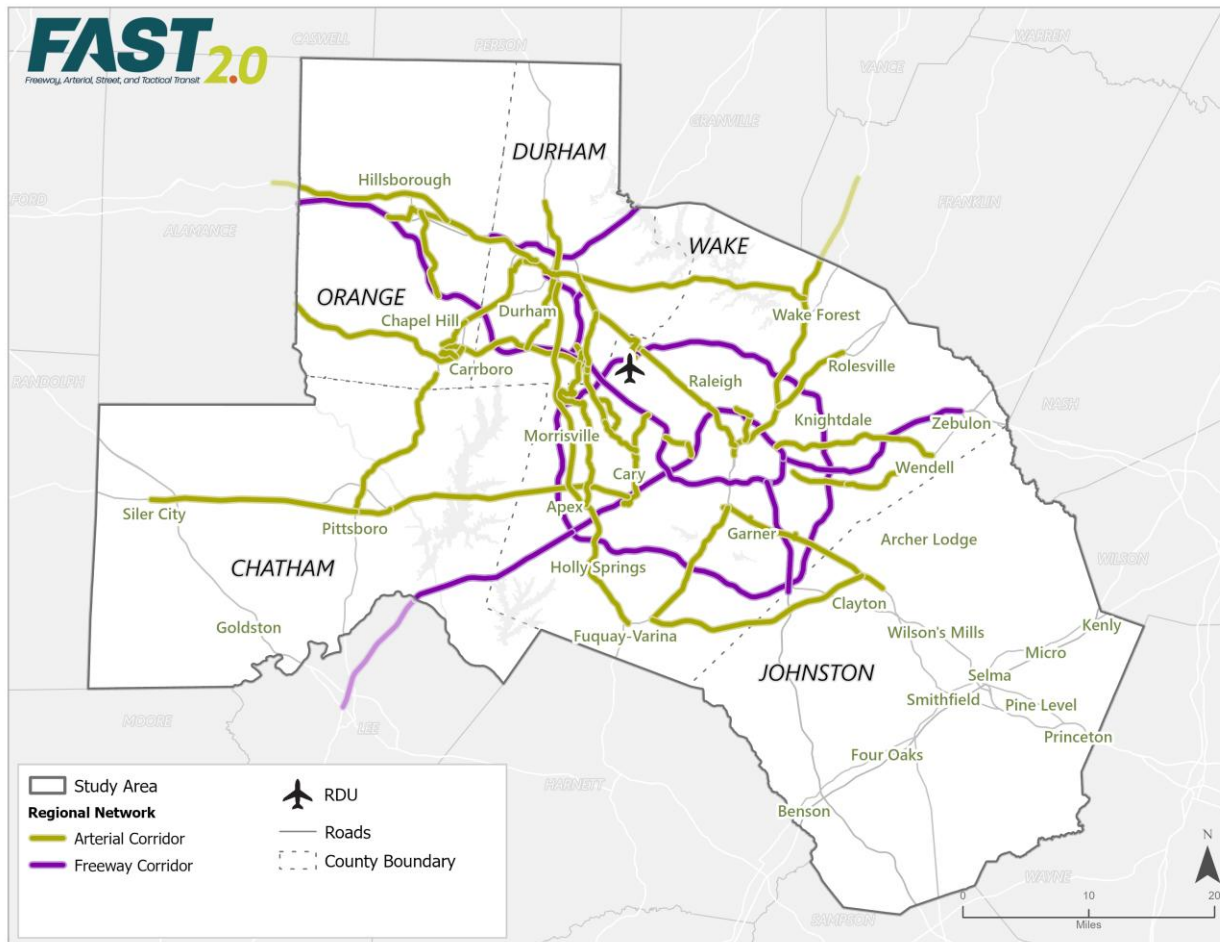


Figure 2: Regional Network (Freeways and Arterials)

Regional Recommendations

It is recommended that planning for transit infrastructure improvements along the regional network be coordinated with existing projects, i.e. NCDOT STIP projects, along or adjacent to the regional network corridors. Based on the presence of existing local transit service and NCDOT STIP projects, the regional network was split into near term, mid term, and long term improvement categories. Projects were classified based on the following:

- **Near Term:** Presence of local transit service and adjacent STIP projects
- **Mid Term:** Presence of local transit service, but no adjacent STIP projects
- **Long Term:** No local transit service (along the majority of the corridor)

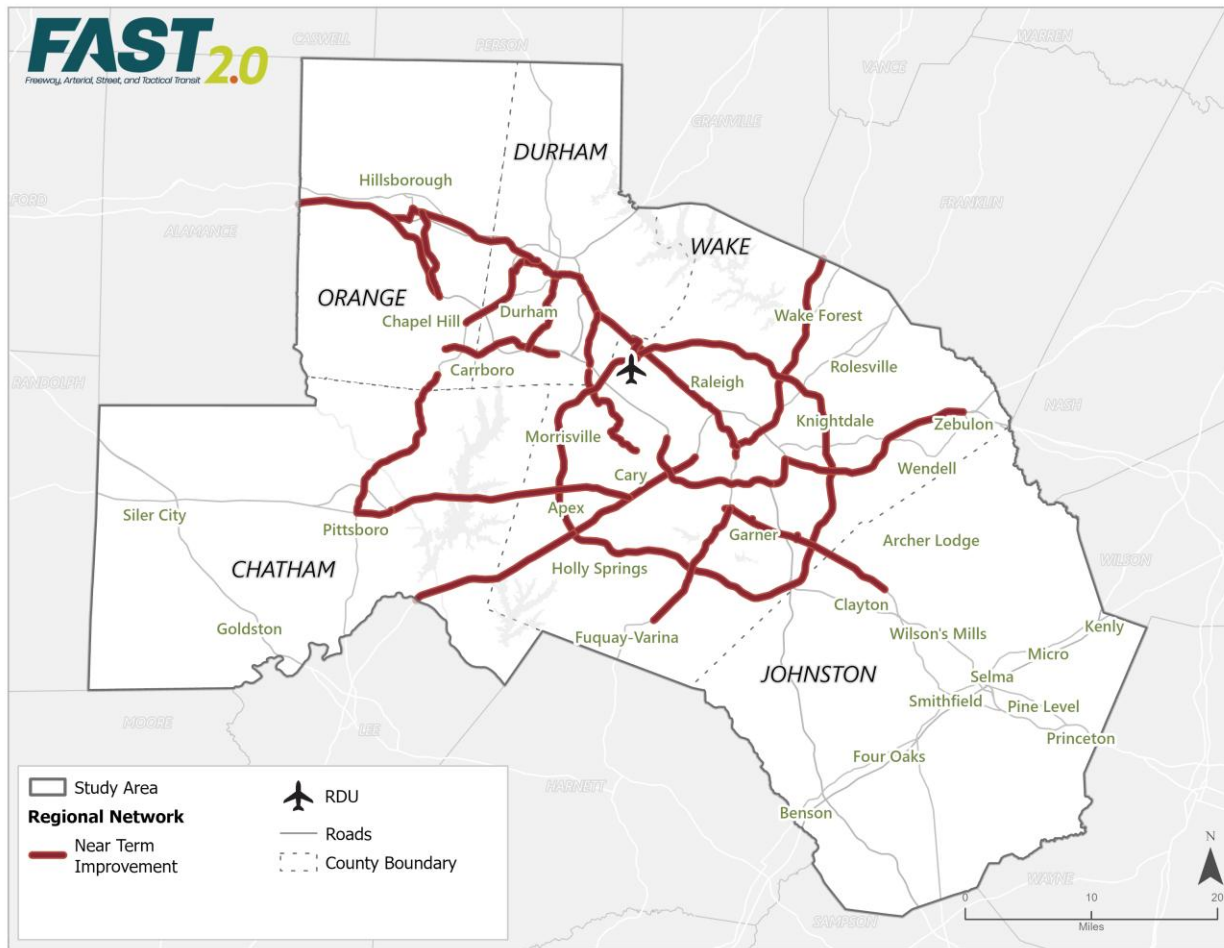


Figure 3: Near Term Improvements

Table 2: Near Term Improvements

Corridor	From	To	Arterial vs Freeway	Adjacent 2024-2033 STIP	Adjacent 2026-2035 STIP
Capital Boulevard	Franklin County Boundary	Lane St	Arterial	P-5753AA; U-5307A; U-5307B; U-5307D; U-6119; B-5684; I-5970	P-5753AA; U-5307A; U-5307B; U-5307C; U-5307D; B-5684; U-6119
Morrisville to Downtown Cary BRT	Slater Rd	N Harrison Ave	Arterial	TO-6166; TO-6166A	TO-6166; TO-6166A
NC 54	US 15-501	MLK	Arterial	U-5774B; U-5774C; U-5774F	U-5774B; U-5774C; U-5774F
US 70	I-885	I-540	Arterial	U-5518; U-5720A; U-5720B	U-5518
US 70	I-540	Capital Blvd	Arterial	U-2823	-

Fayetteville Street	NC 147	I-40	Arterial	U-6021	-
I-540	I-87	I-87	Freeway	I-5945; I-5968; I-5998; I-6000	I-5945; I-5968; I-5998; I-6000
US 1	Western Blvd	I-540	Freeway	U-6066; U-6101; I-5703	I-5703
US 64	US 1	US 64	Arterial	U-5301; R-5887	U-5301; R-5887; U-5301A
US 15-501	Fulton St	Franklin St	Arterial	U-5304F; B-5674; U-6067	U-5304F; B-5674
US 15-501	Market St	US 64	Arterial	U-6192	U-6192
Garner Station - Clayton BRT	Hardee Ln	Garner Station Blvd	Arterial	TO-6166; TO-6166D; U-6113; U-5744	TO-6166; TO-6166D; HP-0007
I-87	N Ardendell Ave	I-440	Freeway	I-5944; I-6001; I-6005; U-6101; I-6007	I-5944
US 401	NC 42	Garner Station Blvd	Arterial	U-6116; U-5751; U-6112	U-5751; U-6112
I-440	I-87	I-40	Freeway	U-6101	-
Duke/Holloway/RDU - Inbound	RDU Airport	Duke University	Arterial	U-5720A; U-5720B	-
Duke/Holloway/RDU - Outbound	Duke University	RDU Airport	Arterial	U-5720A; U-5720B	-
I-40	I-87	Trinity Rd	Freeway	I-5701; U-6101; I-5703	I-5701; I-5703
US 70 / US 70 Business	9th St	I-40	Arterial	I-0305; I-5958; U-5845; I-0305B	I-0305A; I-5958; U-5845; I-0305B
I-40	I-85	Alamance County	Freeway	I-5958	I-5958
NC 86	US 70	Eubanks Rd	Arterial	I-0305C	I-0305C
S Miami Blvd	US 70	NC 54	Arterial	U-5720B	-
US 1	I-540	Lee County Boundary	Freeway	HE-0010	HE-0010

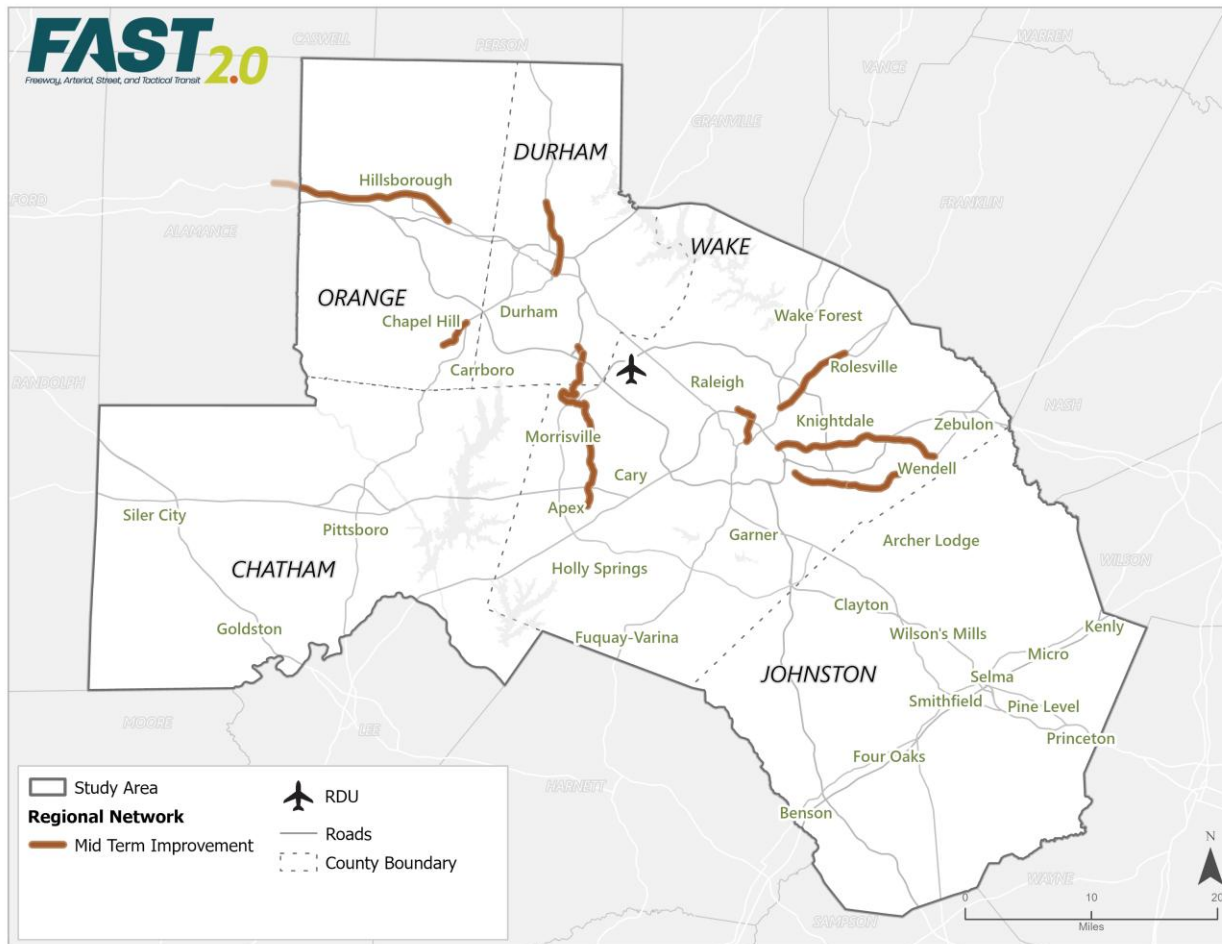


Figure 4: Mid Term Improvements

Table 3: Mid Term Improvements

Corridor	From	To	Arterial vs Freeway	Adjacent 2024-2033 STIP	Adjacent 2026-2035 STIP
US 501 N	Latta Rd	US 70 Bus	Arterial	-	-
Roxboro Rd	Infinity Rd	Holloway St	Arterial	-	-
Poole Rd	S New Hope Rd	Bethlehem Rd	Arterial	-	-
US 401	Louisburg Rd	US 1	Arterial	-	-
US 64 Business	NC 231	I-440	Arterial	-	-
Poole Road	Wendell Falls Pkwy	Bethlehem Rd	Arterial	-	-
Cornwallis Road	Davis Dr	I-885	Arterial	-	-
Davis Drive	Cornwallis Rd	NC 54	Arterial	-	-
Franklin Street	Fordham Blvd	N Columbia St	Arterial	-	-
Wake Forest Road	St. Albans Dr	US-401	Arterial	-	-
St. Albans Drive	Wake Forest Rd	Dartmouth Rd	Arterial	-	-

US 70	US 70 Bus	NC 119	Arterial	-	-
Davis Dr	NC 54	W Moore St	Arterial	-	-

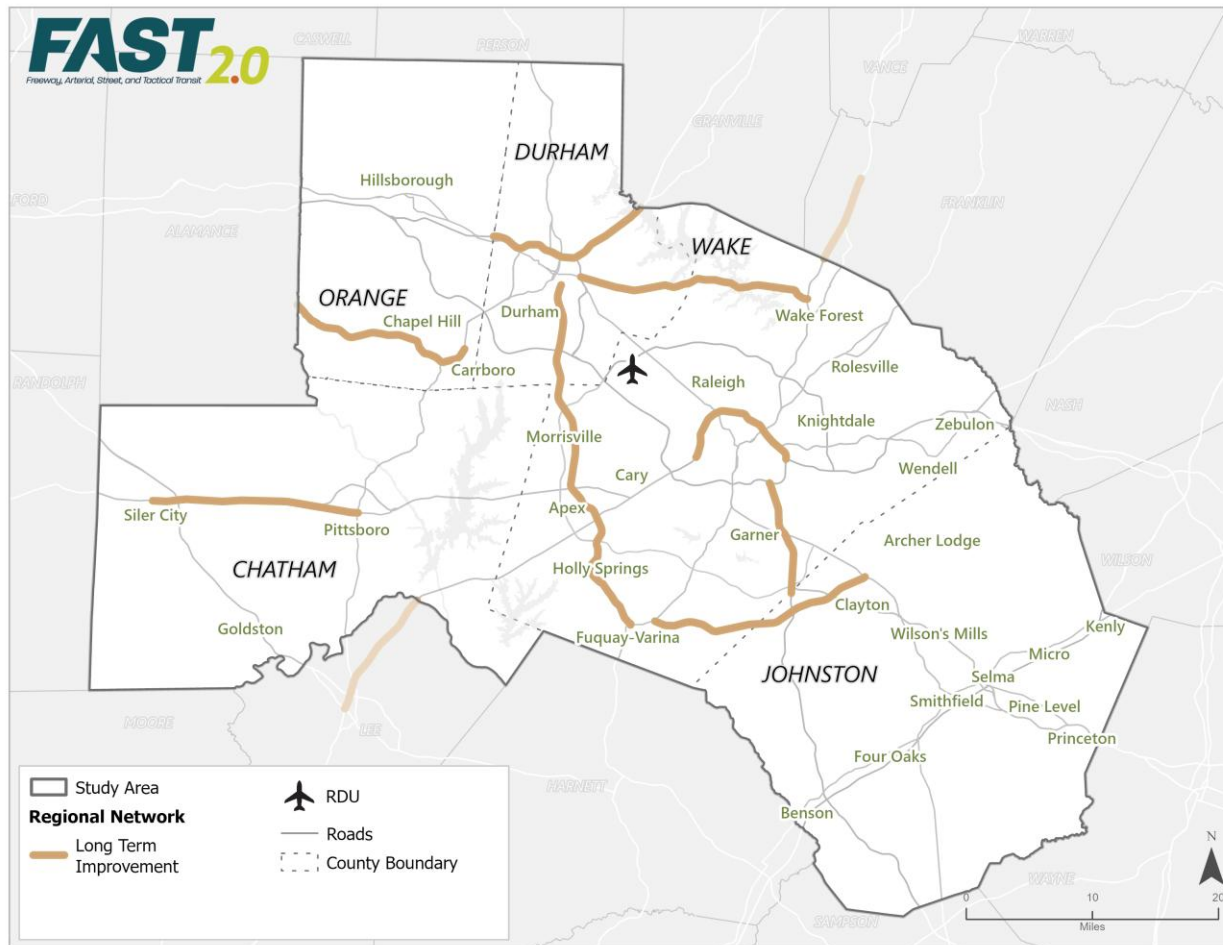


Figure 5: Long Term Improvements

Table 4: Long Term Improvements

Corridor	From	To	Arterial vs Freeway	Adjacent 2024-2033 STIP	Adjacent 2026-2035 STIP
Holloway Street	US 1	I-885	Arterial	U-6120	U-6120
US 1	Lee County Boundary	N Horner Blvd	Freeway	-	-
I-85	Orange County	Granville County	Freeway	I-6010	-
I-440	Western Blvd	I-87	Freeway	U-6101; I-5870; I-5970	-
I-40	I-87	US-70/Johnston County	Freeway	U-6101	-
US 64	Hillsboro St	N 2nd St	Arterial	-	-

NC 54	NC 86	Alamance County	Arterial	R-5821A; U-5304B; U-5304A; U-5304E	U-5304B; U-5304A; U-5304E
NC 54	US 70	NC 55	Arterial	R-3410; U-5751	R-3410; U-5751
NC 55	NC 147	N Main St	Arterial	U-2901B; U-2901BA; U-6118	HP-0014; HP-0018; U-2901B; U-2901BA; U-6118
US 1	W Green St	Franklin County Boundary	Arterial	-	-

While the regional network was broken out into near term, mid term, and long term improvement categories based on existing transit service and STIP projects, it is recommended that the project stakeholders revisit the list on a regular basis to prioritize corridors that could be studied further, such as with an Alternative Analysis (AA) or Major Investment Study (MIS). As of Summer 2025, there are currently transit studies that are ongoing or about to commence that could identify regional network corridors to begin studying more in-depth. Some of those studies include:

- Chapel Hill Transit High-Capacity Transit Study
- Durham BRT Vision Plan
- US 15-501 Corridor Study
- GoTriangle Regional Blueprint
- 2035 Wake Transit Plan Update
- 2055 Metropolitan Transportation Plan (MTP) – Destination 2055

Recommended Design Elements for STIP Projects

Even if some of the regional corridors have a longer time frame before they are likely to see high-capacity transit, it is recommended that project stakeholders begin anticipating the opportunity for high-capacity transit on all of the corridors identified in the regional network. This is especially important for roadways that have upcoming STIP projects, where including transit supportive elements in the planning and design could prevent the need for costly retrofits to accommodate transit infrastructure. As such, there are transit supportive design elements that are recommended to be included in STIP projects along the regional network, including:

- Full depth pavement for inside (DMSS) and outside (BOSS) shoulders along regional freeways and some major arterials
- Wider inside (DMSS) and outside (BOSS) shoulders along freeways and some major arterials (DMSS – 14' recommended; BOSS - 12' recommended)
- Future Right-of-Way (ROW) preservation along transit corridors for bus stop placement and potential widening
- Traffic signal systems along transit corridors that are compatible with local and regional Transit Signal Priority (TSP) systems
- Space for queue jumps along transit corridors at congested intersections
- Safe pedestrian crossing along transit corridors, especially near stops
- Bicycle accommodation along transit corridors
- Formalized transfer locations between routes and service providers

Recommended Design Betterments

In addition to the transit supportive design elements noted above, it is recommended that multimodal design betterments be advanced along the regional network to help facilitate safe access to transit. Design betterments are a range of additive solutions to the recommended transit infrastructure options to enhance the transit identity and safety of a corridor. Reaching a destination safely is fundamental to improving and increasing the ridership along these corridors and fostering a transit culture in the region.

The design betterments include different infrastructure and technology options that can improve the travel conditions for at least one active mode of travel along regional corridors and include:

- **Pedestrian Design Improvements**

- **Daylighting** which combines multiple traffic calming and sight distance improvements at a roadway intersection to improve the visibility of pedestrians in the crosswalk and street corners. Typical treatments include crosswalk enhancements, lighting and curb bulb-outs/smaller curb radii to slow turning speeds.
- **Pedestrian refuge islands** are curbed space in the center median of a roadway where pedestrians can wait and negotiate one direction of vehicular travel at a time, shortening the crossing distance for pedestrians.
- **High-Visibility Crosswalks** can increase crossing comfort and allows for a greater visual of crossings. Americans with Disabilities Act (ADA) compliant curb ramps should be provided at each leg of a crosswalk.

- **Bicycle Design Improvements**

- **Bicycle Lanes** and tracks separate cyclists from vehicular traffic through the use of lane markings, infrastructure, landscape, or striping.
- **Multi-Use Paths** provide shared separated space for cyclists and pedestrians from vehicular travel lanes and can be the most comfortable in terms of traffic impacts on cycling and pedestrian experience.

- **Transit Stop Infrastructure**

- **Shelters** can provide protection for all waiting passengers from weather elements. Shelter design elements should be in accordance with Crime Prevention Through Environmental Design (CPTED) design practices.
- **Designated Seating and Waiting Areas** denote that the location is served by transit. Passengers seated or at a waiting area should be able to see approaching vehicles and transit drivers should be able to see passengers waiting at stops.
- **ADA Accessible Landing Pads** should be provided at all bus stops to optimize speed, safety, and accessibility for boarding and alighting.
- **Passenger Information Display Systems** provides information on the transit service provided. Typical information on these displays include name and contact information of the transit agency, name or identification of a stop, routes that serve the stop, and destinations the route serves.

- **Lighting**

- **Pedestrian Lighting** at signalized intersections, mid-block crossings, and pedestrian paths should be constructed to provide proper illumination for pedestrians.
- **Bus Stop Lighting** at the bus stops and surrounding areas to improve visibility and safety for passengers and other individuals using public transportation during hours of darkness or low-light

conditions. Typical applications usually involves the installation of lighting fixtures at shelters, or with light poles.

- **Technology**

- The following technologies are being studied as part of GoTriangle's *Regional Technology Plan for the Research Triangle Region* but should continue to be prioritized to enhance transit's ease of use regionally:
 - **Passenger Real-Time and Trip Planning Tools** provide riders with real-time information and help them plan trips. The region should continue to work towards advancing tools that work across providers, creating a seamless experience for riders.
 - **Regionally Integrated Payments** would allow for payments for different mobility services across different services providers, creating an easy experience for riders.