

# FAST

*Freeway And Street-based Transit network*



## Proposed FAST Network for North Carolina's Research Triangle Region

Preliminary Findings and Information Report



Funding partners



Consultant team



Stantec

Catalyst Design

## About the funding partners

**The Regional Transportation Alliance (RTA) business coalition** is the voice of the regional business community on transportation in North Carolina's Research Triangle region.

*"The regional business community and our study partners are committed to the transformation of our highway network into true multimodal freeways and streets that provide significant and sustainable advantages for public transit, along with enhanced accessibility and mobility for all modes of travel." - Joe Milazzo II, PE, executive director, Regional Transportation Alliance*

**GoTriangle** is the Triangle's regional transit provider, improving our area's quality of life by connecting people and places through safe, reliable and easy-to-use travel choices.

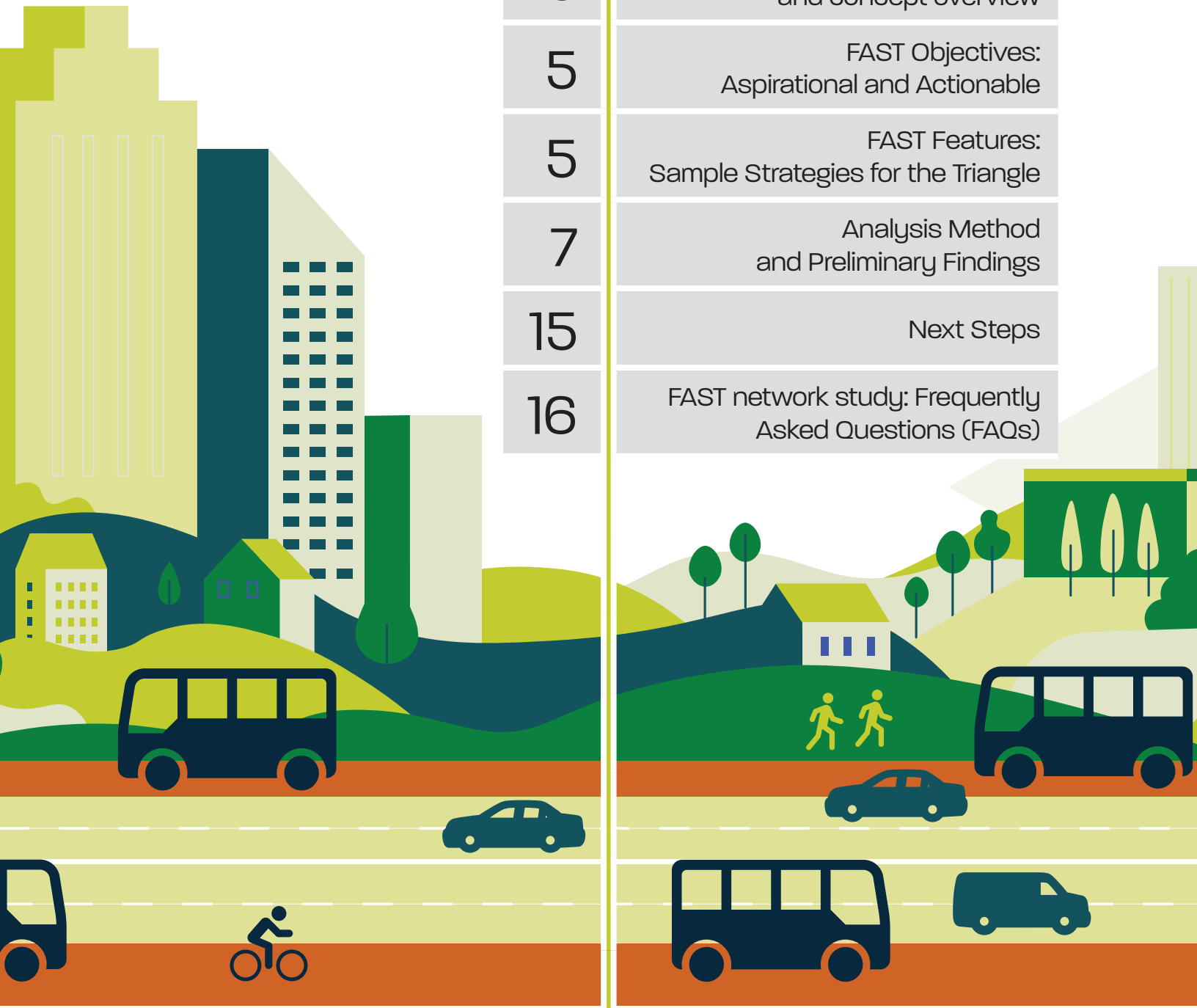
*"GoTriangle is constantly looking for more efficient and innovative ways to serve the growing Triangle region. The FAST approach offers an additional array of tools that can be used by our agency and other transit providers in the region to continue to improve transit and transportation for our community." - Michael Parker, chair, GoTriangle Board of Trustees*

**The NC Department of Transportation** mission is connecting people, products and places safely and efficiently with customer focus, accountability and environmental sensitivity to enhance the economy and vitality of North Carolina.

*"The Department believes the FAST approach could serve as a template for many areas across the state to advance regional transit—we greatly appreciate RTA for initiating the study effort." - Julie White, Deputy Secretary for Multimodal Transportation, NC Department of Transportation*

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## FAST network: Project and concept overview

The regional business community along with local and state transportation partners seek to **accelerate a region-wide network of high-quality transit routes** to better connect and serve the entire Triangle area.

**Funded by RTA, GoTriangle and NCDOT**, the Freeway And Street-based Transit (FAST) study is developing an illustrative, scalable approach to transform our roadways into multimodal corridors that can provide rapid, frequent, and reliable transit service across the region.

A **FAST** network will **Capitalize** on the great work that has already been done by the various agencies in the Triangle, **Complement** the existing investments being made on transit studies, plans and implementation, and become a **Champion** to leverage the existing freeway and street system with targeted transit advantage to improve accessibility and opportunity.



**The FAST study envisions a truly regional transit network, connecting our largest communities and activity centers and serving RDU Airport and Research Triangle Park.**

## FAST Objectives: Aspirational and Actionable

- ▶ Define an illustrative regional FAST network for the Triangle
- ▶ Identify rapid projects and pilots for the next 18 months
- ▶ Create scalable network buildouts for High Priority, 0-5 Year, 5-10 Year, and 10+ Year horizons
- ▶ Develop a FAST guide for prioritizing transit on roadways

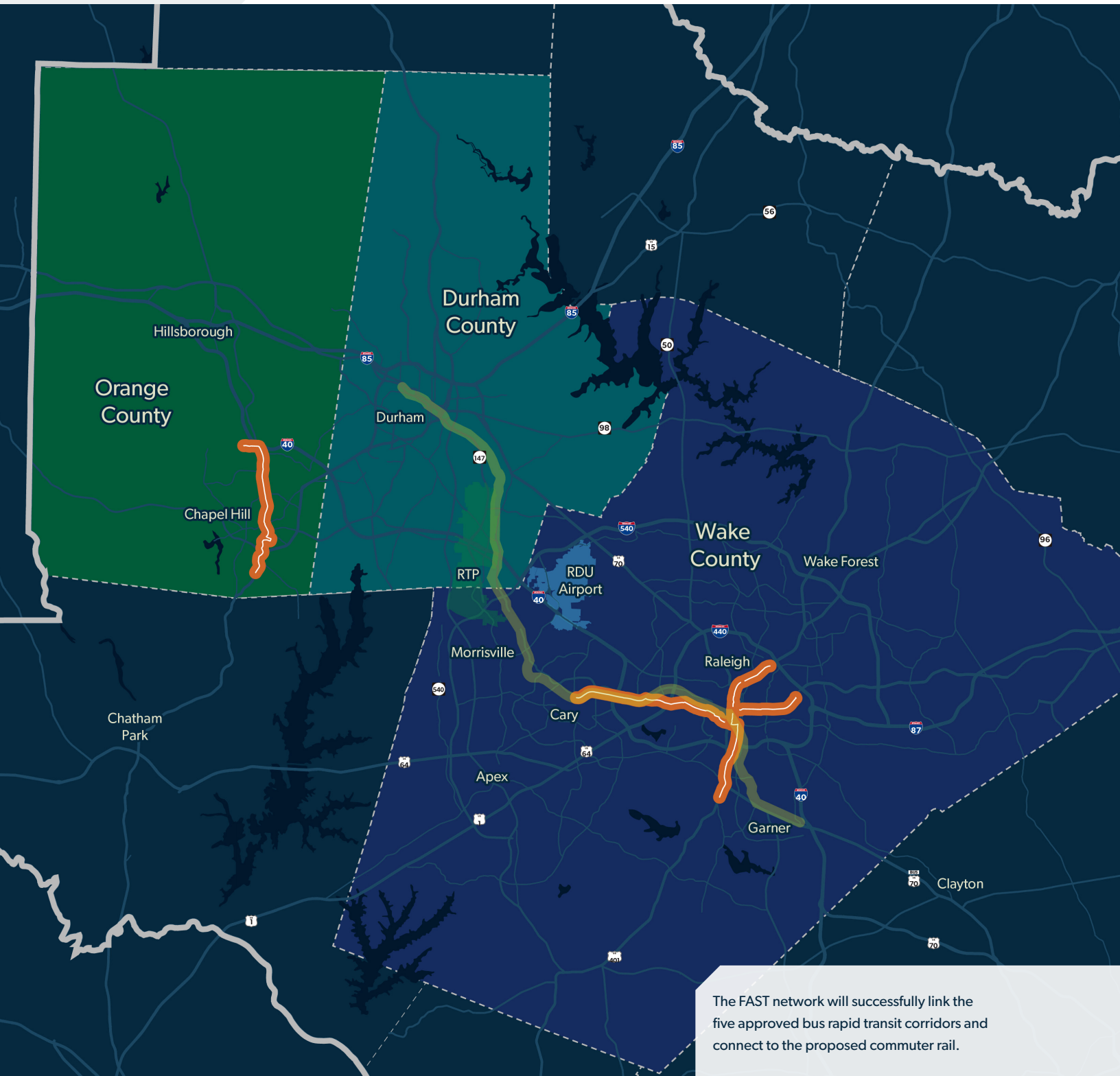
*The FAST study is the pre-planning work designed to inspire, inform, and advance ideas for improving regional connectivity, supported by technical analysis.*

## FAST Features: Sample Strategies for the Triangle

- ▶ Freeway priority lanes for transit
- ▶ Bus On Shoulder System (BOSS) expansion
- ▶ Dedicated 'RED' transit lanes on streets
- ▶ Direct linkages, ramps, and bypass lanes for transit
- ▶ High quality stations that provide regional accessibility

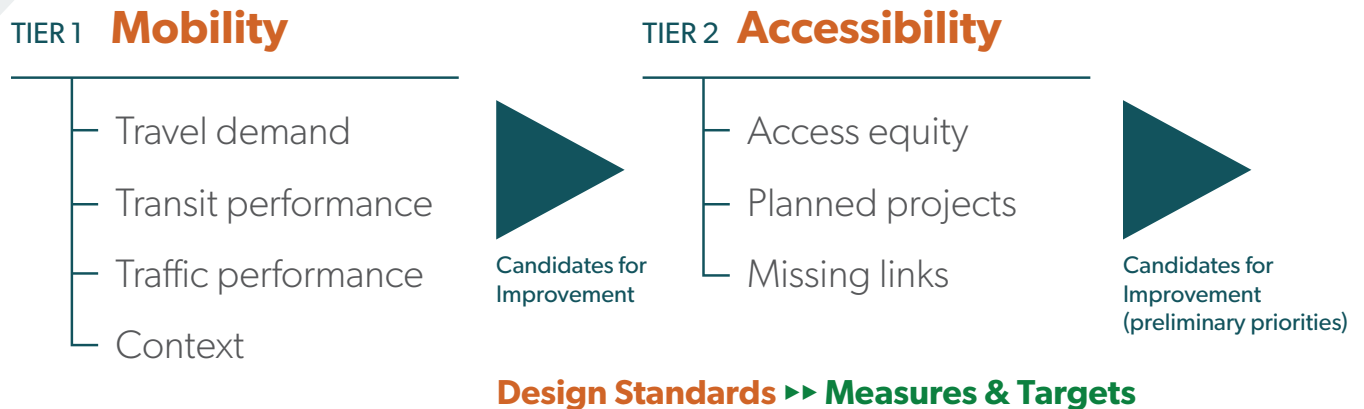
*The FAST study aims to institutionalize transit accommodations as part of roadway projects to improve mobility for all travelers.*

**Figure 1. Study Area with Planned Rapid Transit**



# FAST network: Analysis Method and Preliminary Findings

A robust technical analysis was conducted that considered a host of evaluation measures for determining relative transit demand potential:



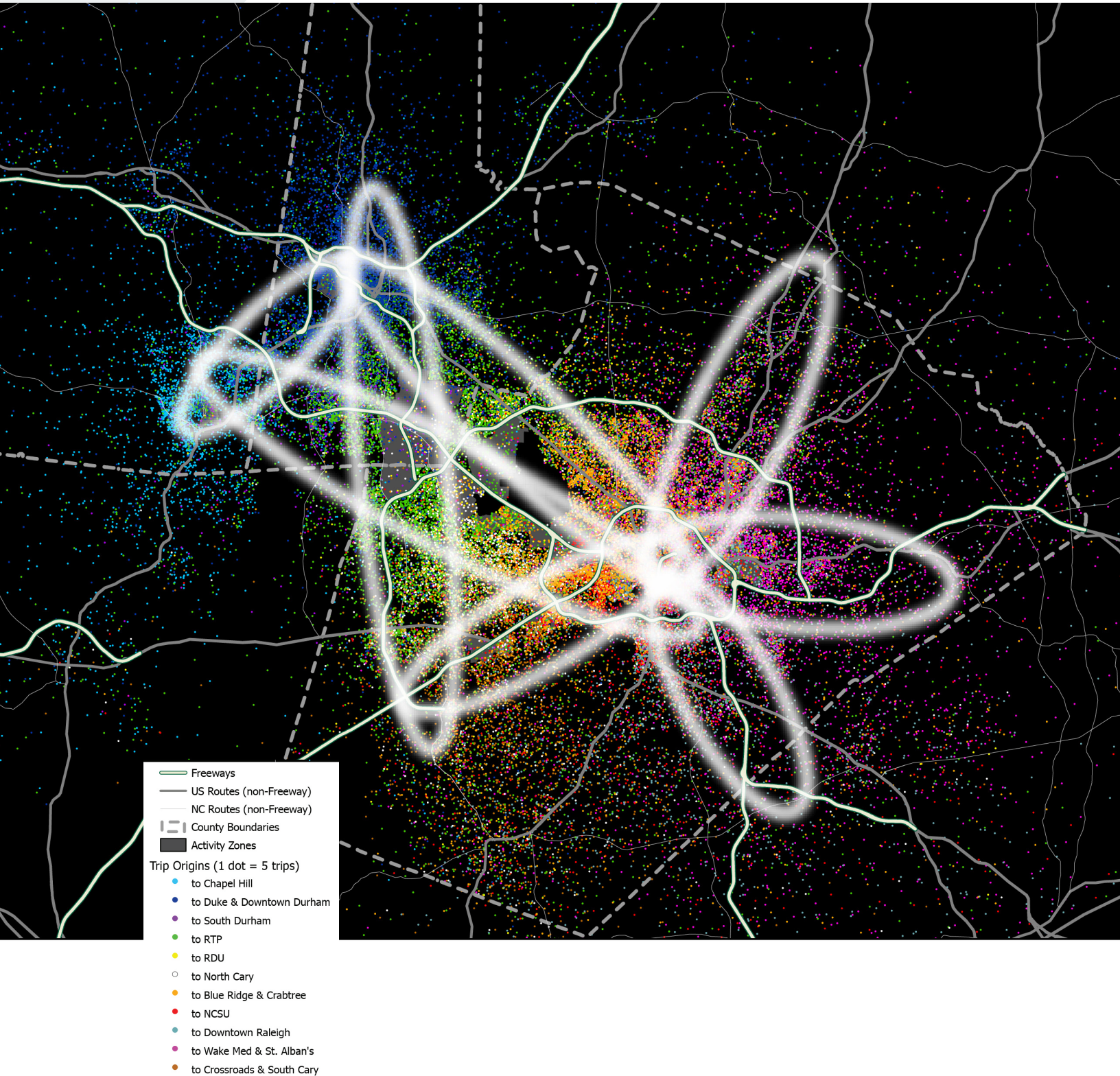
These factors incorporate existing and proposed or projected roadway, transit, land use, population, employment, and travel pattern elements.

Future potential transit demand to activity zones shown in Figure 2 was examined using spatial analysis to determine promising areas of and opportunities for enhanced regional connectivity. The graphic on the following page (page 8) highlight the broad corridors that emerged from this portion of the analysis.

After identifying these corridors of promise, and examining the existing GoTriangle regional core transit network as well as the region's proposed five bus rapid transit (BRT) corridors, the consultant team then identified a series of example higher frequency enhanced transit corridors along the region's freeway and street network (i.e., proposed **FAST** corridors).

***“The regional business community recognizes the need for effective transportation as our market grows. The preliminary findings from the FAST study provide a game plan to strengthen the mobility connections essential for our region’s ongoing success.” – Maeve Gardner, GlaxoSmithKline; chair, Regional Transportation Alliance***

**Figure 2. Potential FAST corridor based on demand**



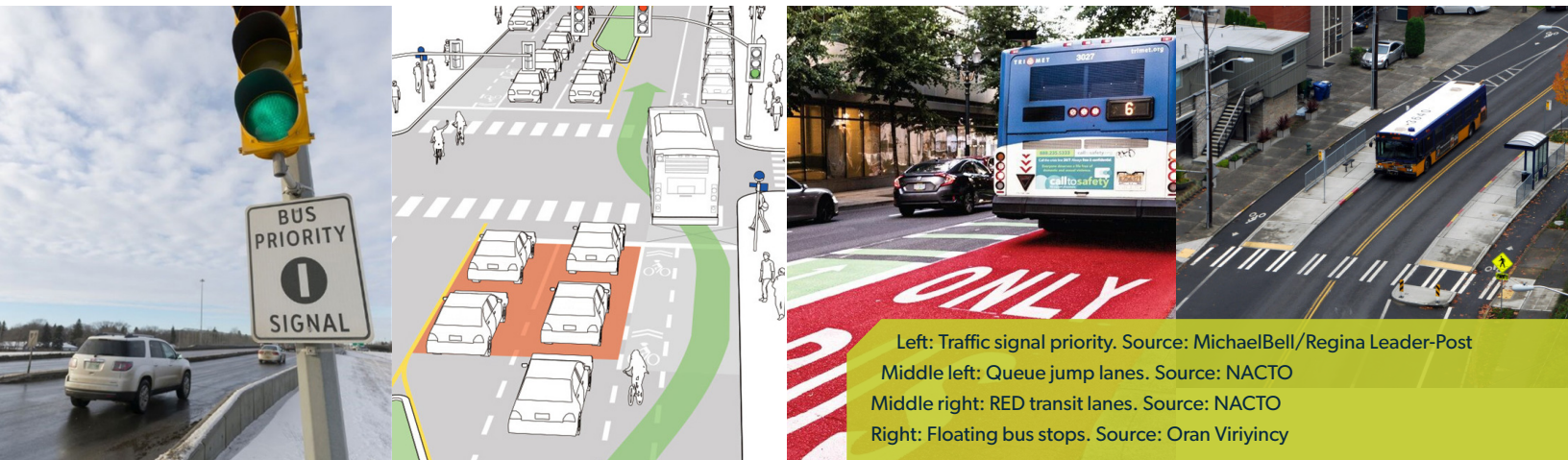


These specific FAST corridors were then examined at a pre-planning level for possible transit advantage opportunities for the High Priority, 0-5 Year, 5-10 Year, and 10+ Year horizons, including (partial list):

**Figure 3. Freeway transit advantage opportunities**



**Figure 4. Street transit advantage opportunities**



*“We believe that the accelerated deployment of enhanced transit service using the FAST network approach will advance economic opportunity, equitable prosperity, fiscal responsibility, and environmental sustainability.”- Jay Irby, First Citizens Bank; regional transit chair, Regional Transportation Alliance*










**Figure 5. Immediate Freeway & Street Corridors**



The 10 proposed, interconnected corridors, outlined in the table below, directly serve Raleigh, Durham, Cary, Chapel Hill, RDU Airport, and Research Triangle Park.

**Proposed high priority and 0-5 years FAST freeway and street corridors, with future BRT linkages underlined.**

<b>Corridor</b>	<b>From</b>	<b>To</b>
<b>1. I-40</b>	future South Wilmington Street <u>BRT</u>	NC 54 / Raleigh Road in South Durham
<b>2. I-885 / NC 147</b>	I-40 in RTP	Duke University
<b>3. US 15-501 freeway</b>	Erwin Road area	US 15-501 arterial
<b>4. US 15-501</b>	future MLK / NC 86 <u>BRT</u>	15-501 freeway
<b>5. Raleigh Rd / NC 54</b>	future MLK / NC 86 <u>BRT</u>	I-40
<b>6. Main / Erwin / Holloway</b>	US 15-501 freeway near Erwin Rd	Holloway Street / future I-885
<b>7. US 70</b>	future Downtown Raleigh <u>BRT</u>	Brier Creek/I-540
<b>8. Six Forks Road</b>	future Capital Boulevard <u>BRT</u>	I-540
<b>9. Capital Boulevard</b>	future Capital Boulevard <u>BRT</u>	I-540
<b>10. Poole Road</b>	future New Bern Avenue <u>BRT</u>	New Hope Road

Transit Improvement		Corridor (reference table on page 10 for numbering)									
		1	2	3	4	5	6	7	8	9	10
	<b>Bus On Shoulder Expansion</b>	●	●	●	●						
	<b>Traffic Signal Priority</b>				●	●	●	●	●	●	●
	<b>Future Through Lanes</b>									●	
	<b>Queue Jump Lanes</b>				●	●	●		●	●	●
	<b>RED Bus Lanes (portion)</b>					●		●	●		
	<b>Enhanced Access/ Stops/Boarding</b>				●	●	●	●	●	●	●
	<b>Increased Frequency</b>	●	●	●	●	●	●	●	●	●	●
	<b>Off-Board Fare Collection</b>	●	●	●	●	●	●	●	●	●	●
	<b>Floating Bus Stops</b>						●		●		●

**Note that seven of the 10 proposed FAST corridors commence at an approved future BRT corridor**, which will leverage and strengthen the upcoming investment in the region's enhanced transit network over the next few years. In addition, potential "interlining" operation can eliminate the need for transferring between BRT and FAST networks for some or all of those corridor linkages.

The graphics on the previous pages (pages 10 and 12) highlight the example immediate corridors and transit advantages.

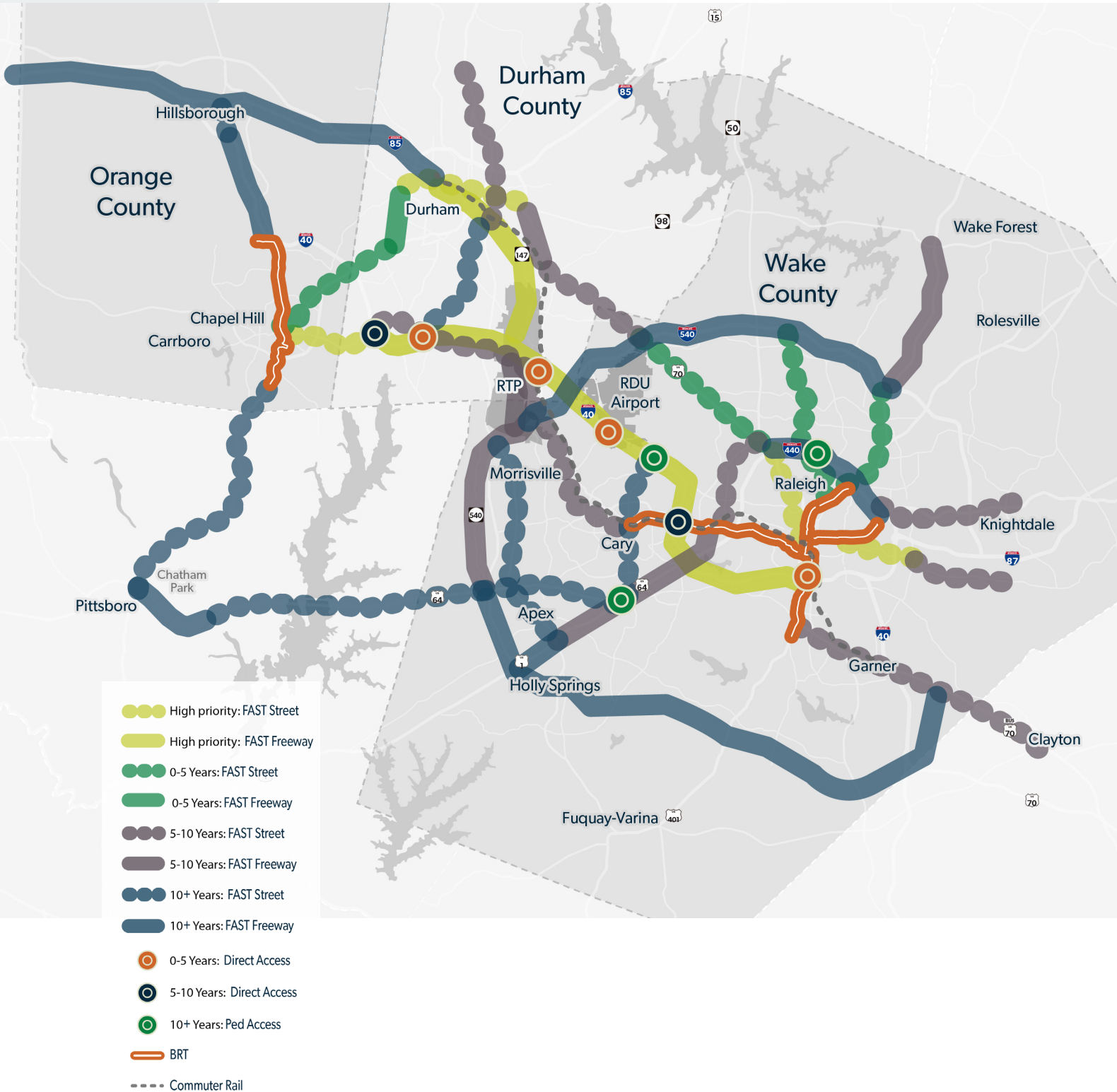
**The resulting proposed Freeway And Street-based Transit (FAST) network concept is a scalable approach to transform our roadways into "multimodal corridors" that could quickly provide significant and sustainable advantages for public transit, along with enhanced access and mobility for all modes of travel.**

The consultant team also provided an initial review of potential freeway and streets with longer-term "FAST" opportunities for the 5 - 10 and 10+ horizon years, including potential connections to future commuter rail. The graphic on the following page (page 14) highlight the example future corridors and transit advantages.

*7 of the 10 proposed FAST corridors commence at an approved future BRT corridor.*

***"We look forward to using this study as a cooperative approach for building transit solutions that will better serve the community, strengthen our transportation network and maintain the region's reputation as a great place to live and work." - Charles Lattuca, president and CEO, GoTriangle***

**Figure 6. Long Term Freeway and Street Corridors**



## Next Steps

The study team is refining project proposals, including illustrative examples of the types of improvements being considered, promoting the generation and collection of meaningful feedback from stakeholders and the general public. Planning-level estimates of probable costs will be developed, along with a strategic implementation plan. An important outcome of this plan will be the identification of agency responsibilities and project triggers, constraints, and contingencies.

Another critical task is coordinating with stakeholders to take advantage of opportunities to integrate FAST proposals with planned or pending roadway and transit projects. Recent and ongoing transit studies (such as CAMPO's BOSS and Red Lane studies; Go Triangle's Regional Transit Center planning and Commuter Rail Study; Orange and Durham Counties' transit plan updates; and the five BRT corridor plans) will also be carefully reviewed to ensure that FAST enhancements are optimized to best complement these local and regional transit initiatives.



# Frequently Asked Questions (FAQs)



# FAST network study: Frequently Asked Questions (FAQs)

## **What is the purpose of the FAST network study, and why do we need it?**

The regional business community along with local and state transportation partners seek to accelerate a region-wide network of high-quality transit routes to better connect and serve the entire Triangle area.

## **Who is leading the study?**

The study is being funded by a 50:50 private:public partnership, via the Regional Transportation Alliance business leadership group, our state NCDOT, and regional transit provider GoTriangle. In addition, a number of local, regional, and state partners are engaged in the study.

## **What is a FAST network?**

The FAST network concept seeks to transform many of our roadways into multimodal freeways and streets, through purposeful, scalable investments in “transit advantage” infrastructure, complementary operational priority measures, and enhanced, higher-frequency transit service. The FAST study seeks to accrue network benefits for current and future transit users by quickly advancing improved mobility across the region.

## **What are some of the unique elements of the FAST network concept?**

The proposed network incorporates multiple connections between our cities and towns, Research Triangle Park, and RDU Airport. It includes transit advantages that we have not yet used in our market, including transit bypasses of on-ramp signals, direct priority connections between freeways and streets, and interlining of high-frequency routes along busway segments to optimize transit operations and the user experience.

## **What are FAST corridors?**

Proposed FAST freeways are corridors like I-40, 540, and US 1 that could incorporate higher frequency express service and future high-frequency all day service to connect the region. Transit vehicles will use Bus On Shoulder System (BOSS) operation and/or our growing turnpike system, and potential future express lanes, to avoid traffic and stay on schedule.

Proposed FAST streets are roadways like NC 54, US 70, and 15-501 that could add to or expand existing local and regional transit service by activating high-frequency, all-day service to connect communities and our region. All corridors will add transit advantage techniques including transit signal priority, queue jumps, and other provisions to keep transit moving.

**What are High Priority projects?**

High Priority projects proposed for the most immediate implementation within the 0-5 Year time horizon increase frequency for existing bus routes, coupled with one or more low-cost transit advantage methods to keep transit vehicles moving.

**How were the various proposed FAST corridors and elements selected?**

The proposed corridor elements were identified through a robust technical process that reviewed existing roadway footprints and proposed enhancements, transit, land use, population, employment, travel, and other considerations that highlight potential demand for enhanced transit. The corridors were also reviewed for the potential for accelerating new connections and expanding overall network benefits across the entire regional roadway system.

**How does the proposed FAST network concept tie into other transit plans: the approved Wake County Transit Plan, and developing plans in Orange and Durham counties?**

There are six active transit corridor projects in the region: five bus rapid transit and one regional commuter rail project – all of which will be funded by county transit taxes, state funding, and federal funding. This study builds on those efforts by identifying ways to extend and connect enhanced transit routes, and highlighting a scalable vision for a robust regional network.

**How does the FAST network tie into GoTriangle's strategic goals for regional connectivity?**

GoTriangle is charged with providing reliable, effective regional transit service, via buses, vanpools, paratransit, and future commuter rail. This study speaks to the future of GoTriangle's freeway and street-based services and provides an opportunity to explore and accelerate new ways of connectivity.

**How might this study influence future investments and priorities of GoTriangle and NCDOT?**

As a regional transit provider, GoTriangle is constantly looking for more efficient and innovative ways to serve the growing Triangle market. The North Carolina Department of Transportation has a statewide responsibility that includes multimodal partnerships with local and regional areas. This study will inform the thinking and planning for both entities and other transit partners.

### Why is multi-modal transit important?

Improved access to a variety of mobility options will connect people to greater employment and educational opportunities, supporting individuals in their career goals and contributions to their family and community. In our spread-out region, personal automobile travel is both efficient and empowering, but not everyone wants to or can drive. This accelerated "FAST" study gives us the opportunity to transform important roadways into multimodal freeways and streets that can effectively serve cars, buses, vanpools, and other shared vehicles.

### How, and why should we, push beyond local jurisdictional lines in transit planning?

This region already collaborates very well together from a transit planning perspective. The FAST study is one more example of partnerships with regional and state governmental partners and the private sector.



**FAST**  
*Freeway And Street-based Transit network*

