



Strategic Transportation Corridor K

Phase 1

Master Plan

Executive Summary

Executive Summary

The Strategic Transportation Corridor (STC) K corridor is a vital regional connector in North Carolina, linking the Piedmont Triad region (Greensboro) through Sanford to I-95 near Fayetteville, and ultimately to the Port of Wilmington. This corridor supports economic development, freight movement, military access (notably Fort Bragg), and regional mobility. This STC K Phase 1 Master Plan aims to establish a consistent transportation vision, assess existing and future needs, and evaluate alternatives for improving the northern section of this strategic corridor between Greensboro and I-95 near Fayetteville (see figure).

This plan was developed through a multi-step process:

1. **Data Assembly:** Compiling transportation, land use, environmental, and socioeconomic data to establish baseline and future (2045) conditions.
2. **Stakeholder Engagement:** Coordinating with the North Carolina Department of Transportation (NCDOT), planning organizations, local governments, and the public to align with regional priorities and gather input.
3. **Vision and Goals Development:** Establishing objectives such as improving safety and regional connectivity, reducing congestion, facilitating development opportunities, and enhancing multimodal access.
4. **Alternatives Analysis:** Evaluating new and existing corridor alignments using travel demand modeling, environmental and community screening, and performance metrics.
5. **Master Plan Development:** Synthesizing findings and providing recommendations for future planning and project development.

Stakeholder and Public Engagement

Public surveys were distributed to rank corridor objectives, with top priorities including regional connectivity, direct interstate access, congestion reduction, and safety. Extensive coordination with NCDOT, Metropolitan Planning Organizations (MPOs), Rural Planning Organizations, Fort Bragg, Federal Highway Administration, state and federal environmental agencies, local economic development organizations, and local government agencies shaped the alternative alignments and alternative evaluation criteria.

Vision Statement

The STC K Master Plan Phase 1 envisions a safe, efficient, and resilient transportation corridor that connects communities, supports economic growth, enhances military mobility, and preserves environmental and cultural resources. The corridor aims to provide reliable access for freight, commuters, and multimodal users while fostering regional prosperity and sustainability.

Goals

- Promote regional connectivity between Greensboro, Fayetteville, and Wilmington
- Promote a direct interstate connection between Greensboro and I-95
- Improve corridor efficiency and reduce congestion for all users

- Improve safety for all users
- Reduce congestion near Fort Bragg
- Enhance development opportunities and quality of life for residents, workers, and visitors by improving roadway access to areas along the corridor
- Provide a direct connection to megasites and major activity centers and destinations
- Enhance direct access for the military and base staff at Fort Bragg
- Improve air quality by minimizing vehicle miles traveled (VMT) and vehicle emissions
- Enhance pedestrian and bicycle safety and connectivity across the corridor and to regional trails

Key Findings

Baseline and Future Conditions

The corridor currently experiences varying levels of congestion, with the highest volumes near urban centers and Fort Bragg, impeding mobility throughout the local roadway network. By 2045, significant growth in population and employment is projected, especially near Greensboro, Sanford, and Fayetteville. Existing congestion is partially attributable to the corridor being critical for freight movement, connecting major manufacturing megasites to the Port of Wilmington. Highway segments of STC K are designated as part of the North Carolina Priority Highway Freight Network, and some segments are part of Critical Rural Freight Corridors.

Some segments of the corridor are identified as high-risk for crashes, particularly in Chatham and Lee Counties. There are ongoing and planned safety projects along the corridor's entire length.

The corridor traverses sensitive environmental areas, including wetlands, floodplains, and habitats for threatened species (e.g., red-cockaded woodpecker), as well as historic sites and essential community resources.

Performance Metrics

Performance measures were established to evaluate alternatives, including travel time reductions for key origin-destination pairs (e.g., Greensboro to Wilmington, Fort Bragg access), volume-to-capacity (V/C) ratios to assess congestion, VMT and emissions, safety improvements (crash rates), economic prosperity and development opportunities (population/jobs within 2 miles of the corridor), and multimodal connectivity (bicycle and pedestrian connections across the corridor).

Alternatives Analysis

Three primary alternatives, shown on the last page of the Executive Summary, were evaluated for the southern section (Sanford to I-95) of the study area:

- **STC K Alignment Improvements:** Upgrades to the existing corridor that included Statewide Transportation Improvement Program (STIP) project H-0020, which will add two lanes between Nursery Road and Manchester Road in Spring Lake, along with operational enhancements.
- **421 Connector:** A new alignment using US 421, including bypasses to Lillington and Dunn, connecting Sanford to I-95, based on projects from local Harnett County plans.

- **Eastern Connector:** A new alignment east of Fort Bragg, connecting Spout Springs to I-295/I-95, using both new and existing roadway to minimize environmental impacts.

Comparative Results

Each alternative has distinct benefits and challenges:

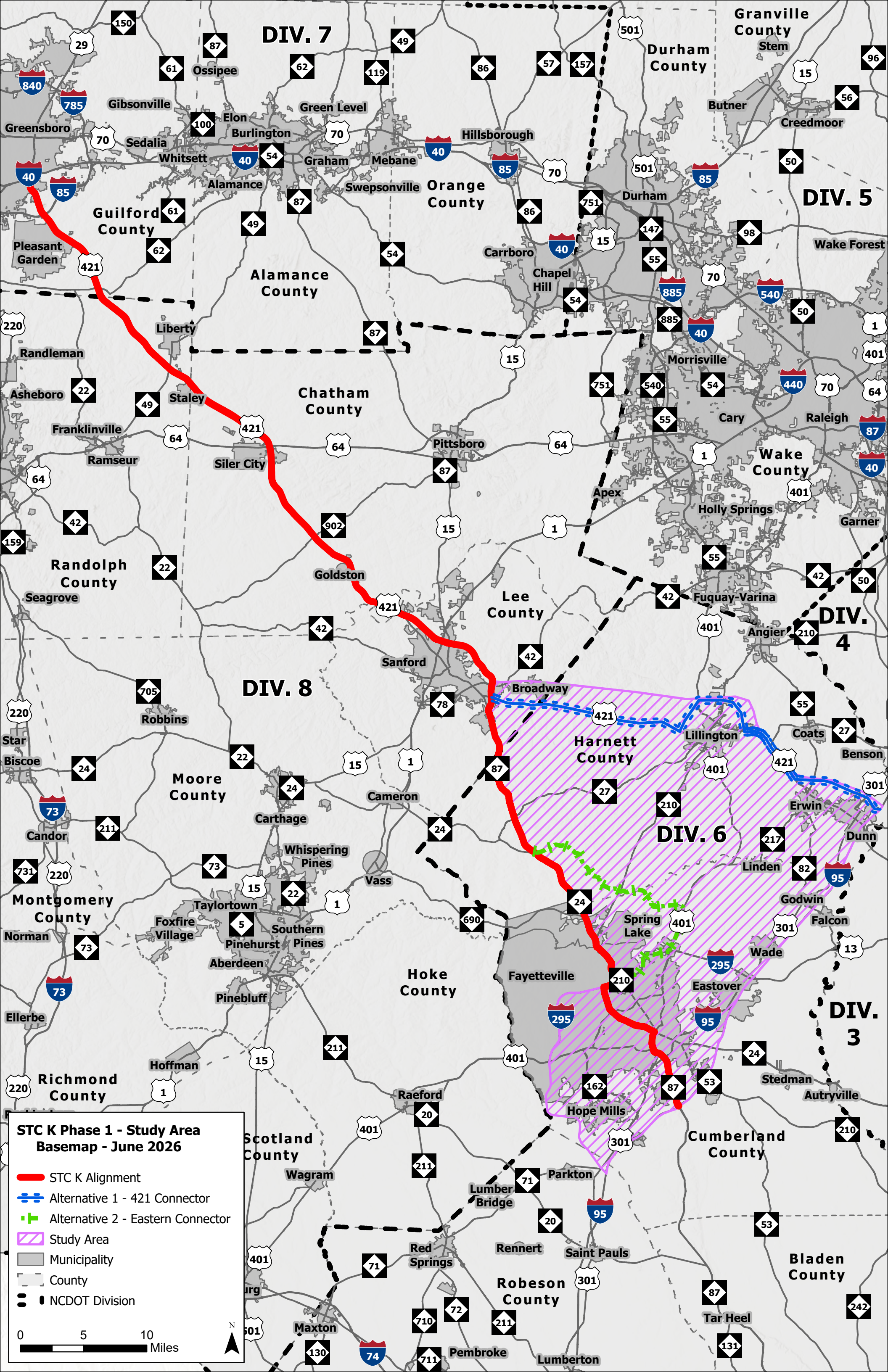
- The STC K Alignment Improvements would provide the highest prosperity and quality of life indicators with the highest population and job density, most multimodal connections, and the smallest increase in VMT and environmental and community impacts, comparable to the Eastern Connector.
- The 421 Connector would provide the greatest regional mobility and congestion reduction, with the largest travel time savings for freight and economic development, but also the highest increase in VMT and potential impacts to streams, wetlands, floodplains, and building structures.
- The Eastern Connector would provide the most significant improvements for Fort Bragg access and reduced congestion along NC 87, and lowest projected crash rate, with moderate environmental impacts.

Recommendations

- While a consistent transportation vision for STC K Phase 1 was developed, there is no resulting preferred alternative to the existing corridor where alternatives were analyzed. The complexity of local needs and regional needs of connectivity are beyond the scope of an STC Master Plan study.
- The information in this master plan should be referenced as local and regional transportation plans are developed.
- If an alternative to the existing STC K Phase 1 alignment is determined to meet local needs better, while also meeting regional transportation needs, STC K can be updated from the existing alignment.
- As updates are made to the MTPs for FAMPO and CAMPO, and the CTPs for Chatham County, Harnett County, Randolph County, and Lee County, local input, along with this Master Plan, can inform selection of a preferred alternative.

Next Steps

- Address public and agency comments on this Draft STC K Master Plan and its appendices and publish final versions.
- MPOs update applicable Metropolitan Transportation Plans: FAMPO (Cumberland County portion) and CAMPO (Harnett County portion).
- NCDOT and local governments update applicable Comprehensive Transportation Plans: Chatham County, Harnett County, Randolph County, and Lee County.



STC K Phase 1 - Study Area

Basemap - June 2026

STC K Alignment

Alternative 1 - 421 Connector

Alternative 2 - Eastern Connector

Study Area

Municipality

County

NCDOT Division

0

5

10

Miles

N

