

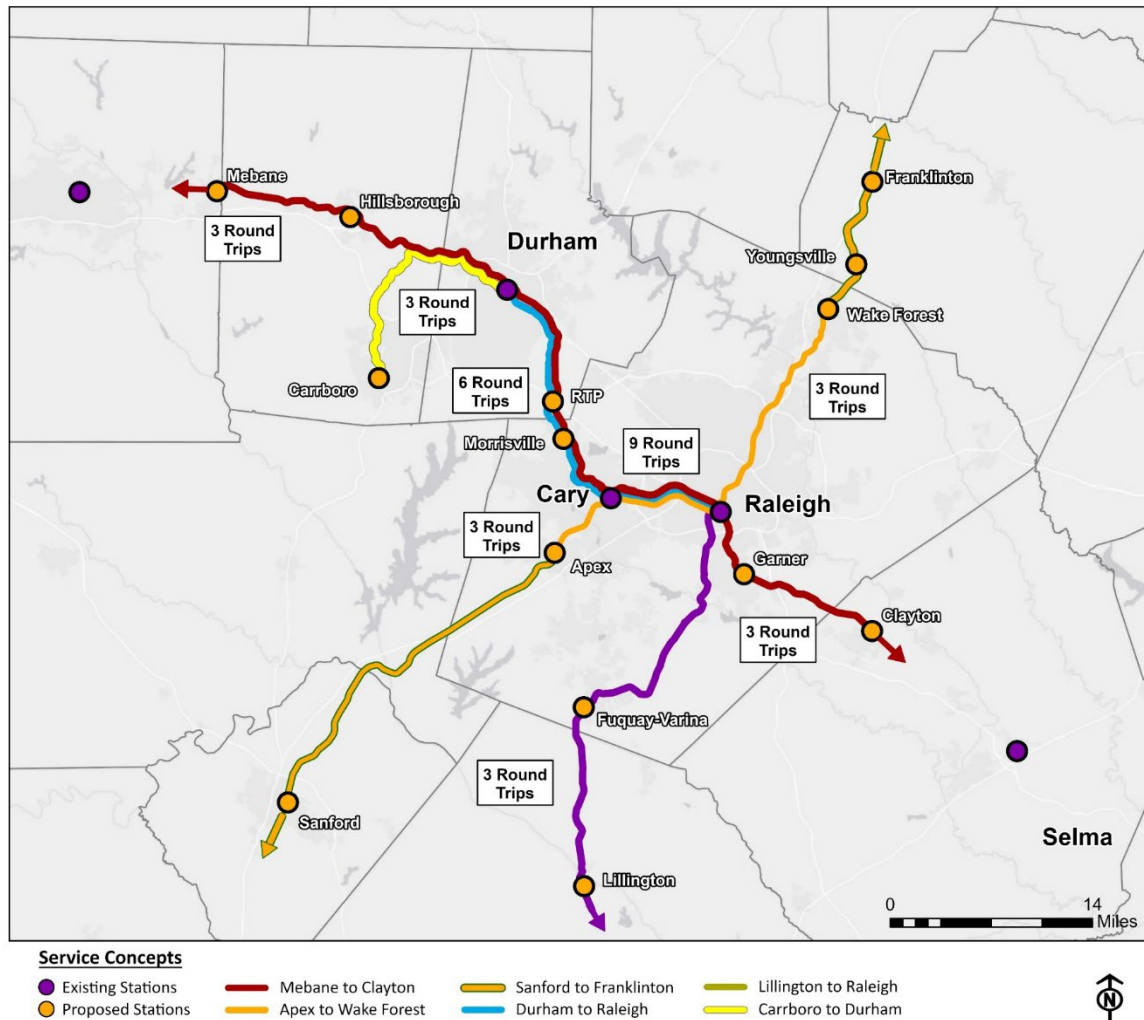
Executive Summary

BACKGROUND

In 2025, the Capital Area Metropolitan Planning Organization (CAMPO) and the Triangle West Transportation Planning Organization (TWTPO) commissioned HDR to complete the Triangle Rail study to develop a strategic approach for incremental expansion of Intercity Passenger Rail within the greater metropolitan area of the Research Triangle Region in North Carolina.

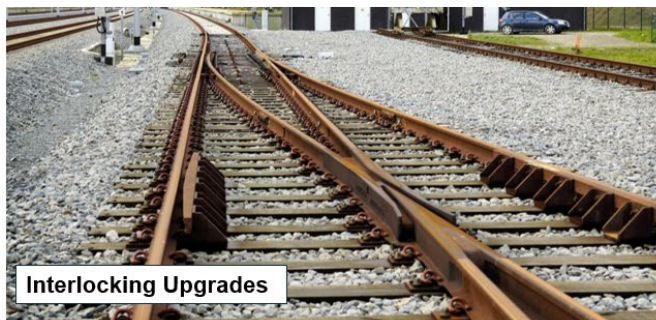
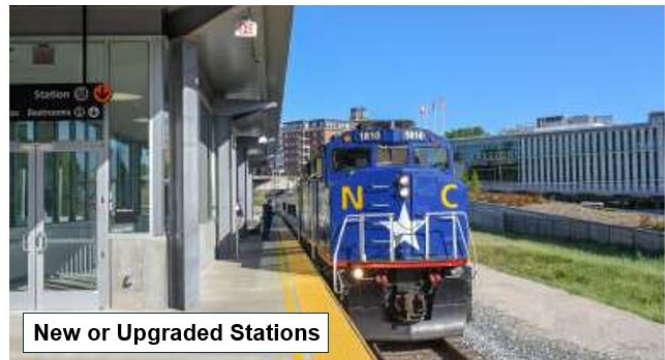
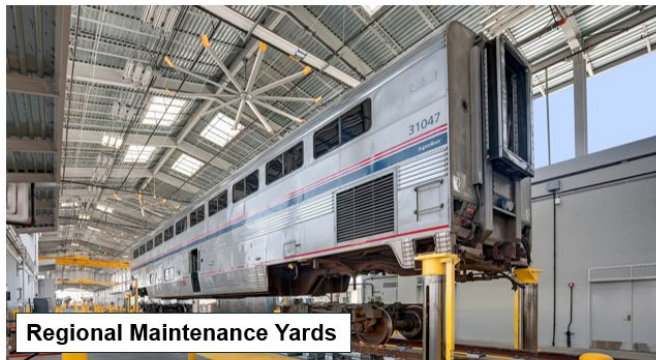
POTENTIAL SERVICE CONCEPTS

Several Service Concepts were proposed for the region. Each Service Concept identifies two endpoints for the rail service and assumptions about a service pattern. For each Service Concept in this study, we assumed 3 trains per day in each direction.



IDENTIFYING CAPITAL PROJECTS WITHIN SERVICE CONCEPTS

For each service concept, rail engineering experts proposed a series of track, signal, station and other Projects that would be needed to make the theoretical Service Concept possible. Some examples of typical Projects are shown below.



PROJECT MATRIX EVALUATING THE ABILITY TO ATTRACT FEDERAL AND STATE FUNDING

Each Service Concept was evaluated holistically for how attractive the Service Concept would be to Federal and State funding criteria for passenger rail investment and also for freight rail programs that fund investments that are beneficial to both freight and passenger rail.

The same evaluation approach was then applied to the individual Projects in each of the Service Concepts. This allows Triangle stakeholders to understand which individual Projects may be able to be recombined into other Service Concepts to attract funding, and which Projects may be best to pay for with local funds because their project characteristics are not well-tuned to Federal and State funding criteria.

A detailed Project Matrix spreadsheet contains key Project attributes and a rating of the relative attractiveness of each Project to Federal and State funding criteria as of June 2025.

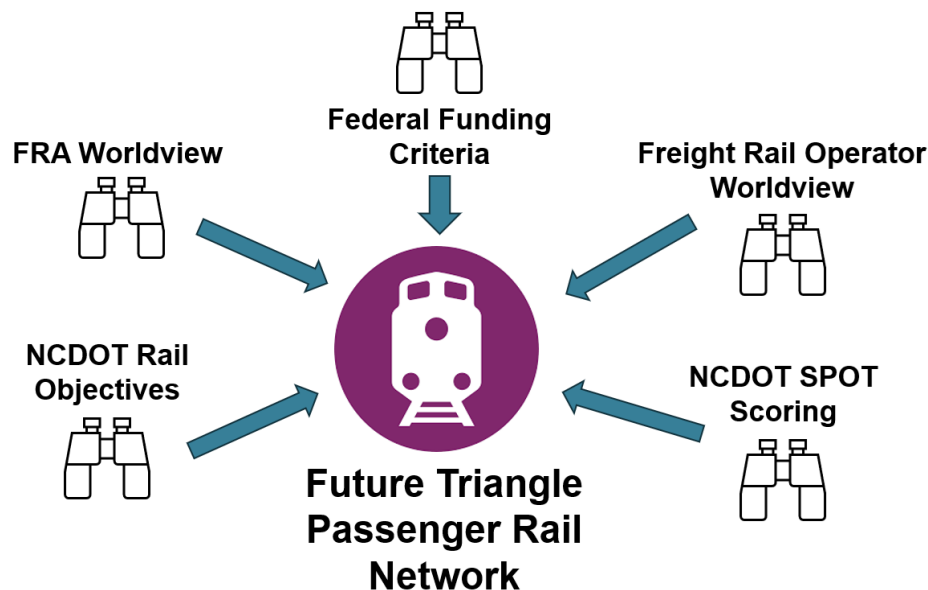
A DECISION TREE FOR STRATEGIC INVESTMENT

While the largest investments in a Triangle Rail network are likely to be made through co-investment with Federal and State partners, there may be times when the region invests in the Triangle Rail network separate from these programs. In these situations, the following priority order for investments will allow for incremental progress while bigger programmatic investments are pursued.

1. Grade Crossing Eliminations
2. Advancing Station Work, including NEPA and Engineering studies
3. Protective Land Purchases for a Regional Maintenance Facility and layover yards
4. Interlockings and Sidings
5. Ridership studies to prioritize which parts of long corridors to invest in first
6. Investments in the NC-Line from Burlington to Selma

A DECISION-MAKING FRAMEWORK FOR STAKEHOLDER COLLABORATION

Developing the Triangle Rail network will take coordination among numerous stakeholders, all of which have their own priorities and different ways of looking at a rail network. Understanding the viewpoints of FRA, Federal Funding grant programs, freight railroads, NCDOT's state funding programs, and NCDOT Rail's goals and objectives – is crucial to balancing interests and finding paths to project delivery.



FUTURE STUDIES AND NEXT STEPS

Next steps beyond this study will include future studies that address ridership, network rail operations, and the potential to merge regional projects with state level Corridor ID rail development efforts.

Establishing a State & Triangle Region Rail Network Implementation work group that meets two to four times each year will allow the MPOs to prepare for SPOT submissions and rail priorities in their MTPs.

Regional Rail Investment Decision-making Framework

BACKGROUND

As part of the Triangle Rail Study co-sponsored by the Capital Area Metropolitan Planning Organization (CAMPO) and the Triangle West Transportation Planning Organization (TWTPO), the MPOs are seeking a framework for how to prioritize and invest in rail-related projects that may be physically in one location or jurisdiction but provide benefits to intercity passenger rail expansion in multiple jurisdictions.

This memo proposes a series of principles as the decision-making framework that local policymakers should use to account for the opportunities and constraints that the Triangle region faces in building an intercity passenger rail network.

PRINCIPLE ONE: UNDERSTAND THE FRA WORLDVIEW

While the Triangle region has significant familiarity pursuing rail and Bus Rapid Transit projects with the Federal Transit Administration (FTA), any incremental intercity passenger rail improvement is likely to be delivered under Federal Railroad Administration (FRA) rules and regulations. FRA prioritizes and emphasizes:

- Connections BETWEEN different metropolitan areas, not connections WITHIN one metropolitan area (the latter is typically commuter rail under FTA oversight).
- Connections of new or expanded intercity passenger rail to other parts of the national intercity passenger rail network.
- Preparedness and coordination among stakeholders are key; ridership projections are of lower importance than with FTA.

PRINCIPLE TWO: UNDERSTAND FREIGHT RAIL OPERATOR WORLDVIEW

Norfolk Southern (NS) and Chessie System and Seaboard System (CSX) are major players and dispatchers of rail traffic in the Triangle region and statewide. Other smaller owner-operators are present, and the views of how much passenger rail development is beneficial may vary. This study's Technical Steering Committee (TSC) meetings have highlighted:

- Corridors where a freight railroad and the public sector already have a passenger rail operating agreement are inherently easier to work on service expansion than a corridor where no passenger rail operating agreement exists.
- There is acceptance on the part of NS that the NC-line between Raleigh and Greensboro needs capital improvements for both freight and passenger rail.
- The line from Fayetteville to Fuquay-Varina was purchased by RJ Corman Railroad Group in 2022, while leasing the 20 miles from Fuquay Varina to Raleigh from NS, and they are very interested in passenger rail from Raleigh to Fayetteville.

PRINCIPLE THREE: UNDERSTAND NCDOT RAIL OBJECTIVES

The NCDOT Rail Division has been among the most successful state DOT rail programs in the USA for the past two decades, securing \$545 million in 2008-2009 to build out the Piedmont Improvement Program between Raleigh and Charlotte, and \$1 billion of federal investment in 2024 to extend the Piedmont service to Wake Forest as part of the buildout of the Southeast High Speed Rail corridor. In this study, NCDOT Rail has shared:

- That potential Service Development Plans of rail projects on lines without Corridor ID grants from FRA are functionally 2 years behind lines WITH Corridor ID grants. For example, service to Sanford would take 2 years longer than service to Clayton because Clayton is in the Raleigh to Wilmington Corridor ID grant.
 - Mebane to Franklinton would be a top priority for NCDOT since they have an operating agreement with NS for Mebane to Raleigh and they will own the S-Line to Franklinton.
 - A second priority would be Raleigh to Fayetteville due to cooperative rail line owner as mentioned above.
 - Investment towards Clayton/Selma would likely be third.
- They see a benefit in investing in doubletracking projects for sections of rail from Mebane to Raleigh as it will create momentum to build out projects for service concepts that overlap with this corridor
- NCDOT has identified that their Corridor ID service from Winston-Salem to Raleigh could go on to Wilmington
- That projects within NC that connect urban and rural areas resonate with the NC General Assembly

PRINCIPLE FOUR: UNDERSTAND HOW THE NCDOT SPOT PROCESS SCORES RAIL PROJECTS

The primary method for receiving state funds for rail projects is the NCDOT Strategic Transportation Prioritization (SPOT) process. While there are several Specific Improvement Types (SIT codes) for rail projects, intercity passenger rail-focused projects may only be funded at the Regional Impact and Division Needs Tiers of funding, while freight rail investments may also be prioritized at the Statewide Mobility Tier. In this study, the project team has learned:

- The current SPOT Rail Mode scoring methodology process tends to reward investing in EXISTING passenger rail corridors over developing new track and services outside of current routes.
- Safety projects, particularly grade separations, score well for state funds. Those grade separations that also close two or more at-grade crossings are more likely to win concurrent support from freight railroads.
- Putting local money into building rail stations ahead of track improvements may make it easier to get funds for track improvements later. Intercity passenger stations within 16 miles of other stations are more likely to cannibalize existing station ridership in models than primarily add new ridership.

PRINCIPLE FIVE: UNDERSTAND RELATIVE FEDERAL FUNDING VIABILITY

This study was conducted between October of 2024 and June 2025, a timeframe which spanned the transition from the Biden administration to the second Trump administration and reflected a period of policy dynamism and significant change in public policy across many federal agencies.

The Trump Administration has eliminated secondary grant award criteria previously adopted by the Biden Administration. It is possible that Congress could make statutory changes to grant programs, particularly as part of a transportation reauthorization bill to replace the IIJA when it expires on Sept. 30, 2026. Any statutory changes enacted by Congress could have a substantial impact on programs, including program definitions and eligibility and merit criteria applied to award grants.

The new administration under Transportation Secretary Sean Duffy did not release any Notice Of Funding Opportunity (NOFO) grant announcements during the first six months of 2025.

Therefore, for the federal funding screening, the project team evaluated projects against existing federal award criteria based on the statutory requirements for each grant program.

Using this approach and based on the Service Concepts identified in **Figure 1**, the project team believes that corridors which have existing (Amtrak Carolinian, Piedmont, & Floridian services) or planned (S-Line to Wake Forest) service are most likely to attract Federal funding in the near term.

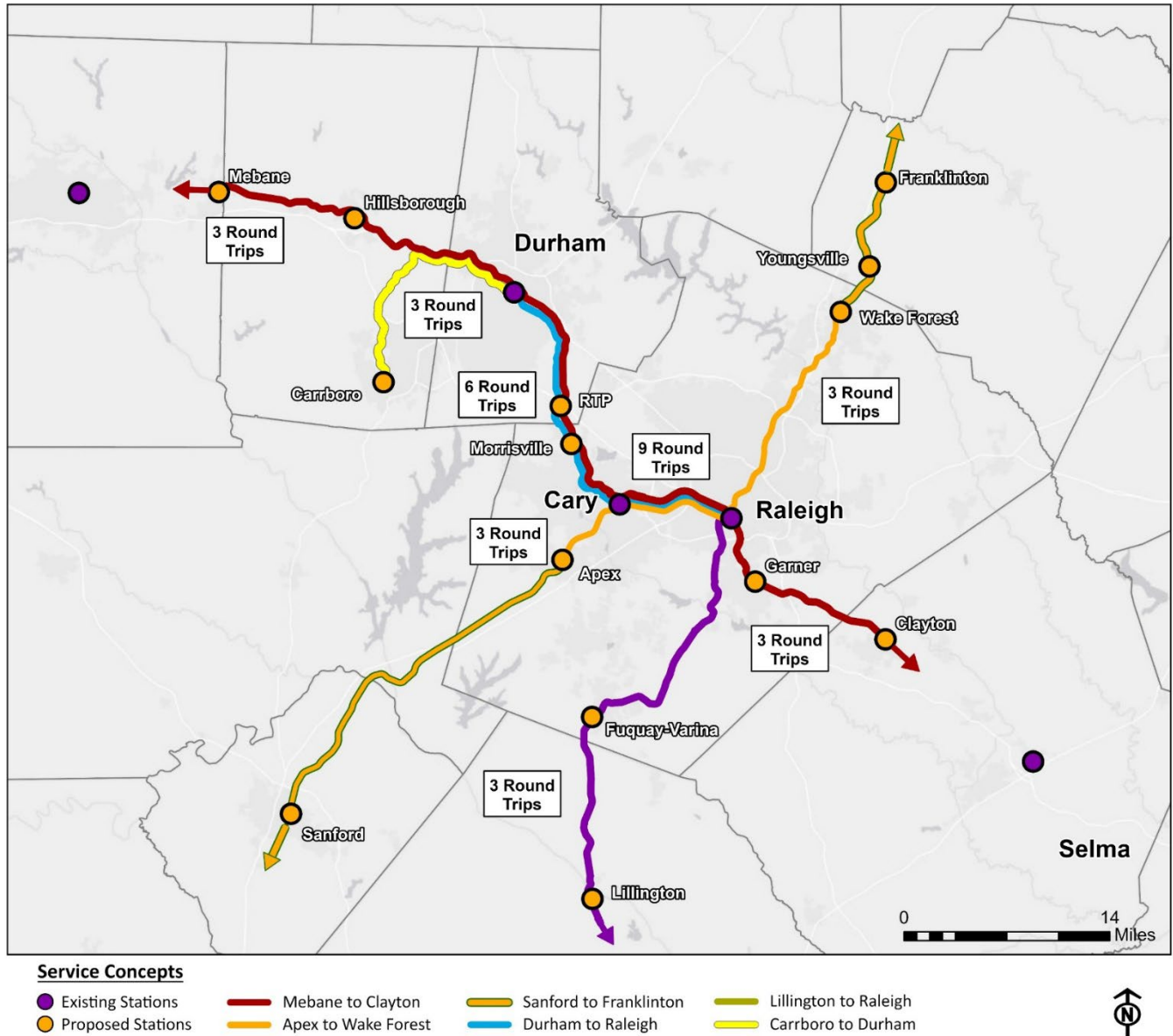
This means that among the Service Concepts studied, **Mebane to Clayton is the most likely to be attractive to Federal criteria**, followed in order by:

- The Raleigh to Wake Forest and Franklinton (S-line) section of Sanford to Franklinton
- The Cary to Apex and Sanford, section of Sanford to Franklinton, given lighter existing and future passenger rail traffic in this corridor
- Durham to Raleigh (lower priority because these investments are discretionary enhancements to the improvements in Mebane to Clayton, and because of the shorter distance covered by the service)
- Lillington to Raleigh
- Carrboro to Durham

The Mebane to Clayton Service Concept has several features that are attractive to federal processes. The entire length already has a passenger rail operating agreement with a freight railroad and the track owner, NCCR. The corridor is part of two Corridor ID grant projects: Winston-Salem to Raleigh and Wilmington to Raleigh. There are multiple component projects of the Mebane to Clayton Service Concept that were rated “Medium to High” for State Funding Attractiveness, which could become the local match for a large Federal grant as part of the Federal-State Partnership (FSP) program.

In response to this assessment, NCDOT Rail shared that they believed that a combination of part of the Mebane to Clayton corridor and the S-Line would also be attractive to Federal criteria; the project team agrees with NCDOT Rail’s assessment. Mebane to Franklinton may be similarly attractive for the same reasons listed above.

Figure 1. Candidate Service Concepts for Evaluation



FUNDING IMPLICATIONS FOR DECISIONMAKING

Given the policy environment for rail investment described above, any framework for regional decision-making will need to contemplate a variety of capital cost contributions across various stakeholders.

These could include:

- Projects in one MPO or Triangle County that benefit:
 - More than one Triangle County or MPO
 - Counties or MPOs outside of the core Triangle Counties and other adjacent MPO-member counties (Other MSAs such as Triad, Wilmington, Fayetteville, or even Charlotte)
- Projects that cross jurisdictional boundaries with the same potential combination of stakeholders as above

POTENTIAL COST-SHARING MODELS

In the Triangle, several ways of cost-sharing transit investments within the region have developed since Durham, Orange and Wake counties passed their ½-cent referenda in 2011, 2012, and 2016, respectively. Those include:

- 50:50 cost splits for express bus services with origins and destinations in 2 counties
- Splitting the cost of proposed commuter rail improvements by track miles in each county
- Allocating costs to regional transit hubs by ratios of population among the 3 counties

The nature of the FRA Worldview in Principle 1 suggests that Triangle stakeholders should develop expectations that they can communicate to potential funding partners in other cities, counties and metro regions across North Carolina.

POTENTIAL PRIORITIZATION MODELS

Within the decision-making framework, the Triangle region should focus less on the total number of potential users of any future passenger rail investment, and more on the number of factors that align with the likelihood of a project progressing to completion. A simple project screening checklist might include questions like:

- Is this project part of a Corridor ID grant received by NCDOT?
- Is this project on a rail line with an active operating passenger rail agreement with the host railroad? If not, is the host railroad interested in developing one?
- Does this project connect two Metropolitan Statistical Areas, or at least one Micropolitan Statistical Area to the Triangle?
- Does this project connect to any other existing intercity passenger rail service?
- Are there “low-hanging fruit” projects that would be strong candidates for state funding?
- Is this a passenger station or other project for new service that is unlikely to receive state funding, but could be a strategic investment with local dollars to accelerate the activation of new service?

Recommended Future Studies

BACKGROUND

In 2025, Capital Area Metropolitan Planning Organization (CAMPO) and the Triangle West Transportation Planning Organization (TWTPO) commissioned HDR to complete the Triangle Rail study to develop a strategic approach to an incremental expansion of Intercity Passenger Rail within the greater metropolitan area of the Research Triangle Region in North Carolina.

This project serves as a high-level strategic framework; however, the following studies can serve as foundational next steps to advancing the Triangle Rail network. .

TRIANGLE RAIL PROJECT MATRIX AND DECISION TREE: WHEN TO UPDATE

At the completion of this study in the middle of 2025, we have seen several significant changes in focus in transportation policy under the new administration, but it is not yet clear how federal grant criteria may be affected. The Triangle Rail Project Matrix and Decision Tree strategic approach are both based on the existing policy programs as of late 2024 and early 2025 under the Federal Railroad Administration (FRA).

Since it cannot be predicted if or when federal policy may change, in the first decade of using this strategic framework, it seems appropriate to assume that there will be benefits to **updating the Project Matrix and Decision Tree every two years** AFTER the most recent NCDOT SPOT scores have been released in the latest round of prioritization.

The MPOs can monitor how much the Project Matrix and Decision Tree change, and if policy changes are less frequent, the MPOs may elect to updating the Project Matrix and Decision Tree once every four years, with the time for the study being driven by the most recent NCDOT SPOT prioritization and when inputs would be useful for the Metropolitan Transportation Plans (MTPs) of both MPOs.

Recommended Study Lead Agency or Agencies: CAMPO & TWTPO

SERVICE DEVELOPMENT PLANS & CORRIDOR ID MERGER STUDIES

To the extent that the Triangle region seeks to expand Intercity Passenger Rail with the Federal Government as a partner for any of the competitive grant programs offered by the FRA, there will need to be a Service Development Plan that supports a defined Service Concept like the ones used in this study.

Among the potential Service Concepts considered in this study, the project team believes that the Mebane to Clayton Service Concept is most likely to be competitive for Federal Funds.

The Mebane to Clayton Service Concept overlaps with two Corridor ID grants that NCDOT has secured which consider potential Service Concepts from:

- Winston-Salem to Raleigh
- Raleigh to Wilmington

Any Service Concept prioritized by the region should look for opportunities to harmonize or even merge with Corridor ID studies that cover the same corridors and rail alignments. Continuous dialogue with NCDOT Rail will help identify the best opportunities for these kinds of partnerships.

One potential study upstream from the region's first Service Development Plan could be a jointly sponsored study between the MPOs and NCDOT Rail to discern the benefits and challenges of merging any of the proposed Service Concepts in the Triangle Rail study with one or more of the Corridor ID grant projects that NCDOT is planning.

Recommended Study Lead Agency or Agencies: NCDOT Rail, CAMPO & TWTPO

PASSENGER STATION RIDERSHIP ANALYSES

The Project Matrix contains several proposed new stations that will need station buildings, support facilities, station tracks and trackwork to become fully operational.

It is possible that FRA's focus on Intercity travel will lead the region to Service Development Plans that have stations spaced more widely than regional stakeholders may desire. Prior FRA initiatives have considered station spacing of 16 miles or more as a best practice.

This may mean that a Service Development Plan would have to choose to include some but not all of the proposed stations along a given Service Concept to match FRA criteria, with a need to add all the stations the region desires over time.

Both to maximize benefits to the region, and to help the region plan for capital funding of any stations that are unable to be included in a larger Service Development Plan, a study of the ridership potential of all proposed new stations could help the region take a data-driven approach to which stations would be included in a Federally-funded project, perhaps for a BUILD grant.

The study would also develop capital costs so that local or state funding could be used to fund station improvements at the additional stations to be added in the future.

Recommended Study Lead Agency or Agencies: NCDOT Rail, CAMPO & TWTPO

REGIONAL MAINTENANCE FACILITY SITE SEARCH

One of the most mission critical facilities for a future Triangle Rail network will be a maintenance facility for trains that serve the region. The requirements for such a site are complex and sites suitable for a maintenance facility are limited. In an expensive real estate market like the Triangle, there is significant competition with other land uses for suitable sites. Completing a search that builds on the Greater Triangle Commuter Rail Study but takes a broader look at sites in the region is crucial to support a potential protective land purchase for a future rail maintenance facility.

Recommended Study Lead Agency or Agencies: NCDOT Rail, GoTriangle, CAMPO & TWTPO

NETWORK RAIL OPERATIONS STUDY

Planning for a Triangle Rail network will continue at the same time that NCDOT Rail plans for rail expansion across North Carolina and into other states such as Virginia with the Southeast High Speed Rail project. As the region and state create Service Development Plans, an effort to model both freight and passenger train operations both within and beyond the area of the Service Development Plan can help identify future bottlenecks and strategies for addressing those bottlenecks. For example, the Network Rail Operations study could undertake an analysis of how to increase train throughput between Cary and Raleigh. As part of the study, strategies to consider may include adding one or more sidings, a third mainline track, or a shorter passenger train crossover, like the Franconia Bypass project by VPRA. These types of comparisons of potential approaches could inform the updating of the Project Matrix by the MPOs.

The public sector may wish to engage freight partners directly in this kind of study.

Recommended Study Lead Agency or Agencies: NCDOT Rail

STATION SITE PRE-NEPA PLANNING STUDIES

Station site development helps maximize the benefits of the region in its rail network. Conducting these studies, as have been completed in Hillsborough in recent years, helps confirm the sites for future stations and aligns capital plans in municipalities and partner agencies to make investments that support a future station site.

Recommended Study Lead Agency or Agencies: NCDOT Rail, Municipality, and Municipality's MPO

“SLOW SERVICE” BENEFIT: COST ANALYSIS STUDY

One unusual idea that emerged during the study was a proposal to try to open a very low-cost, low-performance service in the region that was not competitive with driving travel times. The reason for doing this would be that some of the ability to leverage funding, particularly NCDOT SPOT funding, can be much easier when upgrading an existing service as compared to starting a new service for the first time.

The project team discussed this in a Technical Steering Committee (TSC) and there was recognition that a service between two cities that was much slower than driving would not be as well-received by the public than a higher-cost and higher-performance service, and that the timetable from when a “Slow Service” could be upgraded to one that runs like the Amtrak Piedmont service was not clear.

A study to compare the benefits and costs of this approach could be useful to determine if this unconventional approach has any merit as an implementation strategy in the region.

Recommended Study Lead Agency or Agencies: NCDOT Rail, CAMPO & TWTPO