

Greater Triangle Commuter Rail Project

Update of Alternatives Analysis & Further Study

Scope of Work

January 2019

Introduction

This Update of Alternatives Analysis & Further Study is intended to review previous studies related to the proposed commuter rail service in the greater Triangle area and to recommend cost-beneficial service scenarios to enter into the Project Development phase of the FTA New Starts process. The tasks to be completed as part of this study include:

1. Develop a NEPA-compliant statement of purpose and need to the proposed Triangle area commuter rail project.
2. Review and summarize the results of previous commuter rail studies completed by the North Carolina Railroad Company, Norfolk Southern, GoTriangle, CAMPO, NCDOT and the DCHCMPO. Identify how the results of those studies inform and impact the recommendations being made by this study.
3. Develop a stakeholder/public outreach plan.
4. Review the service scenarios evaluated in previous studies.
5. Identify the proposed locations of commuter rail stations which will meet the needs of the proposed commuter rail operation and the requirements of the owning railroad companies.
6. Using ridership information developed in the MIS, and as updated and supplemented herein, proposed commuter rail station locations and previously developed infrastructure data, identify at least one, but not more than three, scenarios recommended for further evaluation.
7. Prepare ridership and revenue estimates for each service scenario. Estimates shall include both aggregate and station level ridership and revenue. [added]
8. Prepare conceptual level cost estimates for both capital and operating costs for each of the scenarios recommended for further evaluation.
9. Evaluate alternative methods for delivering the project.
10. Prepare a project risk register.
11. Prepare an estimate for the cost to complete design of the project and a schedule to complete the work.

1. Statement of Purpose and Need

Under the direction of the Project Team, the consultant will prepare an appropriate NEPA-compliant statement of purpose and need for proposed Commuter Rail service (CRT) for the greater Triangle area. The statement of purpose and need will address Triangle area population, traffic congestion and demographic trends through 2045. The statement will identify alternatives to CRT in the study corridors and provide a narrative as to whether CRT is the most appropriate technology and if so, whether it can be optimized in any study corridor with respect to service frequencies, station area planning, travel time

and distance, shared track operations with freight and existing (overlapping) Amtrak passenger service, etc. For the purpose of this work the study corridors (“corridors” or “study areas”) are defined as Study Area I Garner to Durham, and Study Area II Selma to Mebane (both within the NCRR Corridor).

Deliverables: Statement of Purpose and Need for the CRT project

2. Review of existing conditions and identification of key environment and other features within the proposed service areas

This task will take into account the high level review of existing conditions included in the Major Investment Study (MIS) and other relevant information. Information from prior studies may also be used. This task will also include creating a map to identify baseline conditions for the corridors. The environmental scan will also include an assessment of the potential environmental justice impacts of CRT along the corridor.

Deliverables: 1) Database and GIS based map of existing conditions along the CRT corridors.

3. Review of prior CRT studies and planning efforts

This task will include a detailed review and analysis of the 2011 Triangle Commuter Rail Alternatives Analysis (AA), the 2015 Norfolk Southern/GoTriangle/North Carolina Railroad Company (NCRR) RTC modeling report, and prior commuter rail infrastructure and ridership studies by NCRR, GoTriangle, or other parties.

Deliverables: Summary of key findings from prior studies and planning efforts.

4. Stakeholder/public outreach plan

In close coordination with the Project Team, the consultant will develop a stakeholder and public outreach plan that meets/exceeds requirements of the NEPA process that will take place in Project Development. The stakeholder outreach plan must include a timeline for engagement, means of engagement, target groups and overall expectations.

Deliverables: Stakeholder/public outreach plan (must include engagement strategy and timeline for engagement by each stakeholder group).

5. Development of service scenarios and alternatives

The consultant team will work with the Project Team to review six (6) alternative service scenarios:

Six (6) Service Scenarios to be reviewed:

- Garner to West Durham – 8 morning peak hour trains, 2 mid-day trains, 8 peak evening trains; 2 late evening trains [8-2-8-2]
- Garner to West Durham – 5-1-5-1
- Garner to West Durham – 3-1-3
- Selma to Mebane – 8-2-8-2
- Selma to Mebane – 5-1-5-1

- Selma to Mebane -- 3-1-3

These 6 scenarios will be used for a high level capacity analysis (see Task 6), which will form the basis for development of high level capital and operating and maintenance costs (see Task 7) for each scenario. Travel times and general station locations for each scenario will be developed and will include scenarios for service in the Study Corridors. This work may include recommendations regarding the appropriate phasing of such extensions (geography, timeline, etc) including associated cost/benefit advantages and disadvantages.

Based on the assessment from the capacity analysis (see Task 6) and preliminary cost estimates (see Task 7), service scenarios will be agreed upon by the Project Team for the eventual RTC capacity modeling and refined cost analysis (separate scope). **The work described in this scope, along with a ridership demand study, should provide the Project Team with the necessary data to select the final service scenario for Project Development.**

Deliverables: Detailed description of each service scenario, including stations and endpoints (exact location is not required) and preliminary schedules.

6. Assessment of required capacity improvements

The consultant will conduct capacity analysis and identify recommended capital improvements for each scenario that are identified as part of Task 5, and shall work in close cooperation with NCRR, Norfolk Southern, and CSX. A review of prior planning studies (Task 3) will provide a starting point for the capacity assessment. This task will not take the place of additional modeling that will be conducted to verify recommended capacity enhancements during Project Development. Necessary capacity improvements, station locations, and other infrastructure will not be fully determined until the Engineering phase. Deliverables: 1) Preliminary list of proposed capital improvements by category. Comparison of proposed capital improvements 2) Line segment maps providing an overlay of proposed improvements.

7. Development of Ridership and Revenue Estimates [added]

The consultant team will develop ridership and revenue estimates as the corridor and station level for each scenario. Ridership and revenue estimates will be developed for both the base year of 2027 and for 2045. Information from the MIS study may be used as inputs (but not results) for the ridership model as appropriate and if approved by the Project Team. Demand estimates are to be developed using both the FTA STOPS model and the Triangle Regional Model as adjusted to reflect services to Johnston and Alamance counties as defined in the above scenarios. FTA guidelines should be followed throughout the demand modeling process.

8. Development of conceptual capital and O&M cost estimates

Based on the assessment of conceptual capacity enhancements and other necessary infrastructure requirements such as stations and station facilities, maintenance facilities, property acquisitions and other capital improvements, the consultant team will develop conceptual capital O&M cost estimates for each scenario developed in Task 5.

The Project Team will evaluate a concurrent, detailed RTC capacity study in order to develop more detailed cost estimates for the identified scenarios. The detailed RTC study timeframe may span into Project Development.

Deliverables: 1) Preliminary list of conceptual capital improvements by cost category. 2) O&M conceptual cost estimate for each scenario by cost category. The O&M conceptual cost estimate should also include an assessment of unit costs. 3) Spreadsheet based O&M conceptual cost model based on unit costs.

9. Evaluation of service delivery models

The consultant team will provide an evaluation and case study analysis of project delivery methods to include Design-Bid-Build; Design--Build; and potentially Public-Private-Partnership (P3). Potential operations and maintenance (O&M) models will also be evaluated.

Deliverables: 1) Summary of case studies for each project delivery method. 2) Identification of pros and cons for each delivery method. 3) Applicability to the proposed CRT service in the NCRR corridor/Study Areas.

10. Project Risk Register

A project risk register will also be created. The risk register will include a risk score for various Project Development elements for each alternative including but not necessarily limited to: project scope definition, project staffing, project urgency (based on understanding of transportation needs and prioritization), project schedule, capital and operating costs, procurement complexities, environmental constraints, and external stakeholder coordination.

Deliverables: Spreadsheet based project risk register

11. Estimate of cost and schedule to complete Project Development

The consultant will develop a cost estimate and timeline to complete requirements of FTA New Starts Project Development.

Deliverables: Detailed estimate of anticipated cost and timeline to complete Project Development.

In addition to the deliverables listed for each task identified above, the consultant shall provide an Executive Summary and Final Report to the Project Team.