

Transportation Staff Meeting

June 12, 2013
2:00 PM
601

AGENDA

1. Atlanta to Charlotte Passenger Rail Corridor Investment Plan (Gibbs & Cook)

Description:

The Federal Railroad Administration (FRA) is preparing a Tier 1 EIS for the proposed Atlanta to Charlotte Passenger Rail Corridor Investment Plan (PRCIP), and has invited MUMPO to become involved as a Participating Agency. Project scoping is now underway. The purpose of this discussion will be to determine what, if any, comments MUMPO would like to enter into the record.

Attachment:

Scoping document

2. June TCC Follow-up (Cook)

a. Proposed TIP amendment: U-2507AA

The TCC recommended that the MPO approve the requested amendment pending resolution of a question concerning the need for a conformity determination.

b. Noise Walls

The TCC discussed the need for a letter from MUMPO regarding the need to analyze the above project for a noise wall.

Phone Access Number: 704-432-5485

Go To Meeting Access: <https://global.gotomeeting.com/join/479632893>

ATLANTA **to** CHARLOTTE
PASSENGER RAIL CORRIDOR INVESTMENT PLAN



DRAFT | SCOPING PACKAGE
May 2013



*Prepared on
behalf of the*



U.S. Department
of Transportation
**Federal Railroad
Administration**

[this page intentionally left blank]

LETTER from the COMMISSIONER



ATLANTA to CHARLOTTE
PASSENGER RAIL CORRIDOR INVESTMENT PLAN

The Georgia Department of Transportation (GDOT) is pleased to announce the start of the public scoping process for the Atlanta to Charlotte Passenger Rail Corridor Investment Plan (PRCIP) study, which was recently funded by the Federal Railroad Administration (FRA). The purpose of the plan is to help determine future transportation investments of vital importance to all people who live, work, and travel in the Atlanta to Charlotte corridor. The Atlanta to Charlotte corridor is an integral extension of the Southeast High-Speed Rail Corridor, as designated by the U.S. Department of Transportation (USDOT). The corridor will provide important connections among Atlanta, Charlotte and the Northeast Corridor, which extends from Washington, D.C., to Boston.

The FRA, in conjunction with GDOT, has initiated the Atlanta to Charlotte PRCIP to develop integrated passenger rail solutions for this important corridor. South Carolina and North Carolina Departments of Transportation are involved in this investment plan, which will address the transportation and economic needs of the region. At the core of the project's public engagement activities is the public scoping process, which includes public and stakeholder meetings in each of the three study area states: Georgia, North Carolina and South Carolina. The meetings will allow FRA and GDOT to explain the project and its associated studies, and the agencies will have the opportunity to hear the thoughts, concerns and interests of the public and stakeholders. Interested parties can also go online to the project's website at www.dot.ga.gov/AtlantaCharlotteHSR to obtain information and submit comments on the proposed scope and other aspects of the Atlanta to Charlotte PRCIP.

Your participation in this public scoping process and the Atlanta to Charlotte PRCIP is essential to the success of the project. This Scoping Document includes project details, proposed studies and schedule, and ways that you can participate and remain involved. I want to thank you for supporting this important effort, and we look forward to seeing you at the scoping meetings.

Sincerely,

KEITH GOLDEN, PE
GDOT Commissioner

[this page intentionally left blank]

CONTENTS

SECTION 1: INTRODUCTION	1-1
1.1. Project Process Overview	1-1
1.2. About Scoping.....	1-3
1.3. NEPA Process Overview	1-3
SECTION 2: PURPOSE AND NEED.....	2-1
2.1. Need for Project	2-1
2.2. Purpose of the Project	2-2
2.3. Goals and Objectives.....	2-2
SECTION 3: AGENCY COORDINATION AND PUBLIC INVOLVEMENT	3-1
3.1. Agency Coordination.....	3-1
3.2. Public Involvement	3-1
3.2.1. Public Scoping Meetings	3-2
3.2.2. Meeting Dates, Locations and Times	3-2
3.3. Communication Tools.....	3-2
3.3.1. Fact Sheets and Newsletters	3-2
3.3.2. Public Website	3-2
3.3.3. Social Media	3-3
3.3.4. Public Review Meetings	3-3
3.4. Public Input Documentation.....	3-3
SECTION 4: PASSENGER RAIL CORRIDOR INVESTMENT PLAN ...	4-1
4.1. Initial Project Alternatives	4-1
4.1.1. The No-Action Alternative	4-2
4.1.2. The Build Alternatives.....	4-2
4.2. Alternatives Analysis	4-4
4.3. The Tiered Process	4-4
4.3.1. Environmental Impact Criteria	4-4
4.4. Service Development Plan	4-5
SECTION 5: NEXT STEPS	5-1
SECTION 6: CONTACT INFORMATION	6-1

FIGURES

Figure 1-1: SEHSR Corridor..... 1-2
Figure 1-2: U.S. Megaregions 1-2
Figure 1-3: Atlanta to Charlotte PRCIP Study Area 1-3
Figure 1-4: Project Schedule 1-4
Figure 2-1: PRCIP Timeline 2-1
Figure 3-1: Public Comment Process 3-3
Figure 4-1: PRCIP Project Process Overview 4-1
Figure 4-2: Atlanta to Charlotte PRCIP Preliminary Build Alternatives 4-2
Figure 4-3: Tier I Environmental Review Process..... 4-5

TABLES

Table 3-1: Meeting Locations 3-2
Table 4-1: Alternatives Analysis Process 4-3

SECTION 1: INTRODUCTION

The U.S. Department of Transportation's (USDOT) Federal Railroad Administration (FRA) is working with states to develop high-speed passenger rail corridors that range from upgrades of existing services to entirely new rail lines and services. These activities are being done through the High-Speed Intercity Passenger Rail (HSIPR) Program, which helps address the nation's transportation challenges by making strategic investments in an efficient network of passenger rail corridors connecting communities across the country.

In 1992, the USDOT secretary designated the Southeast High-Speed Rail (SEHSR) Corridor (**Figure 1-1**) as a major initiative of USDOT to develop an integrated passenger rail transportation system for the southeastern and northeastern United States. Implementing the SEHSR Corridor will spur economic expansion, including new job creation, improving mobility, reducing emissions, reducing national dependence on foreign oil, and fostering livable urban and rural communities.¹

The Atlanta to Charlotte, N.C., was added to the SEHSR Corridor project in 1998, and it represents the heart of the Piedmont Atlantic Megaregion (**Figure 1-2**), providing a connection to cities including Atlanta; Greenville and Spartanburg, S.C.; and Charlotte.

1.1. PROJECT PROCESS OVERVIEW

FRA, in conjunction with the Georgia Department of Transportation (GDOT), is preparing a Passenger Rail

¹ www.fra.dot.gov/Page/P0060



"HSIPR makes strategic investments in an efficient network of passenger rail corridors that connect communities across the country." – FRA

FACTS about the PIEDMONT ATLANTIC MEGAREGION

- 17.6+ million people in 2010
= 6% of U.S. population
- 31.3 million people by 2050
(78% increase over 40 years)
- Employs 15 million people
= 10% of U.S. employees in 2010
- \$485.7 billion gross domestic product (GDP) in 2010 = 4%

SOUTHEAST HIGH-SPEED RAIL (SEHSR) CORRIDOR

The SEHSR Corridor is part of FRA’s strategic vision of expanding passenger rail service in Georgia, North Carolina and South Carolina, as well as Virginia and Florida. The project will include considerations for connections with other modes of transportation in metropolitan cities.

FIGURE 1-1: SEHSR CORRIDOR

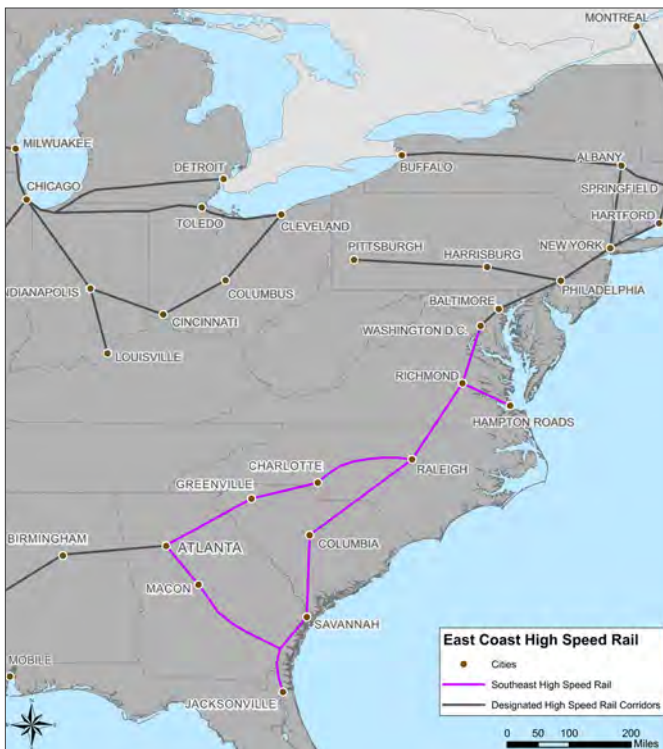


Figure 1-1 shows the entirety of the SEHSR corridor, from Jacksonville, Fla., to Washington, D.C.

Corridor Investment Plan (PRCIP) for high-speed rail service between Atlanta and Charlotte (Figure 1-3).

The PRCIP is subject to environmental review under the National Environmental Policy Act (NEPA), which requires agencies to publish an Environmental Impact Statement (EIS) when planning a project that will significantly affect the environment.

FIGURE 1-2: U.S. MEGAREGIONS

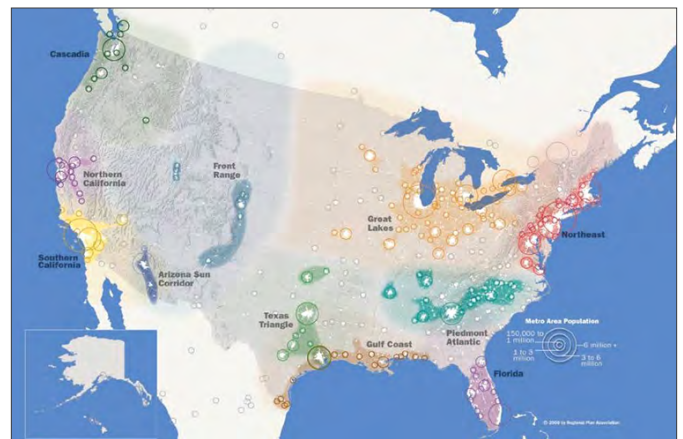
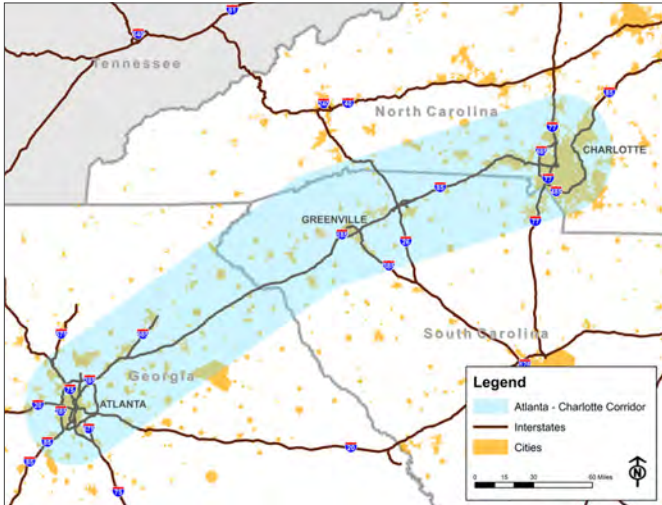


Figure 1-2 shows the U.S. Megaregions and their respective populations. In 2010, the Piedmont Atlantic Megaregion, which includes Birmingham, Atlanta, Charlotte and Raleigh-Durham, had approximately 17.6 million people.

GDOT will complete its EIS for the Atlanta to Charlotte PRCIP project in “tiers” of environmental review. The first round – or Tier I EIS – will analyze passenger rail service between Atlanta and Charlotte, N.C., on a broad scale, providing a complete picture of the high-speed passenger rail study between the two cities. The EIS will describe the need for and purpose of the Atlanta to Charlotte PRCIP project, and it will identify potential corridor alternatives, station locations and levels of service. Level of service includes characteristics of high-speed rail such as travel times, number of stops, train frequencies and amenities.

The NEPA process – specifically the process for the preparation of an EIS – requires that a lead agency be identified

FIGURE 1-3:
ATLANTA TO CHARLOTTE PRCIP STUDY AREA



for this project to supervise preparation of the document. FRA and GDOT together will serve as the joint lead agency for the Atlanta to Charlotte PRCIP project.

GDOT will carefully consider potential environmental, economic and social effects of a no-build and each build alternative. Then, the project team will do a conceptual engineering and financial analysis to develop estimates for ridership, cost and revenue for each corridor alternative. GDOT will use all of this information to select its preferred project alternative.

The Atlanta to Charlotte PRCIP Draft EIS will be made available for review by and comments from the public, as well as local, state and federal agencies. Preparation of the EIS allows environmental effects to play an important role – along with other factors such as feasibility and cost

– in decisions made about the potential project.

A Service Development Plan (SDP) for the preferred alternative will include the final Atlanta to Charlotte PRCIP operational characteristics and capital costs, and it will outline phases for and implementation of the project.

1.2. ABOUT SCOPING

The entire NEPA process has several steps. Scoping is an early step in the process that provides local, state and federal agencies, stakeholders and the public the opportunity to comment and provide input on the Atlanta to Charlotte PRCIP EIS as it develops.

This Scoping Document provides an overview of the proposed Atlanta to Charlotte high-speed passenger rail service, the PRCIP's major elements, a description of the planning process, and ways that interested parties can participate to help determine the future of this proposed corridor.

1.3. NEPA PROCESS OVERVIEW

Steps in the NEPA process are described below:

- **Notice of Intent (NOI).** The Environmental Impact Statement (EIS) process begins with publication of an NOI in the *Federal Register*. The NOI is the official kick-off to the NEPA process.
- **Scoping.** After the NOI is published, a Scoping Document is prepared and made public. A Notice of Availability (NOA) is published to alert the public that the Scoping Document is available, initiating the pub-

PASSENGER RAIL CORRIDOR INVESTMENT PLAN (PRCIP)

The Atlanta to Charlotte PRCIP project will include an alternatives analysis, environmental analysis, (Tier I EIS) and Service Development Plan to develop a comprehensive passenger rail transportation solution.

lic comment period on the scope of the project. This Scoping Document introduces the public to the project and includes a description of its purpose and need; goals and objectives; alternatives to be considered in the EIS, and the framework of analysis for the EIS.

The public is invited to comment on the alternatives being considered and the scope of analysis for the EIS at the public open-house scoping meetings. The public can provide comments in writing or verbally at the public scoping meetings. FRA is responsible for ensuring that the EIS addresses all relevant comments on this Scoping Document.

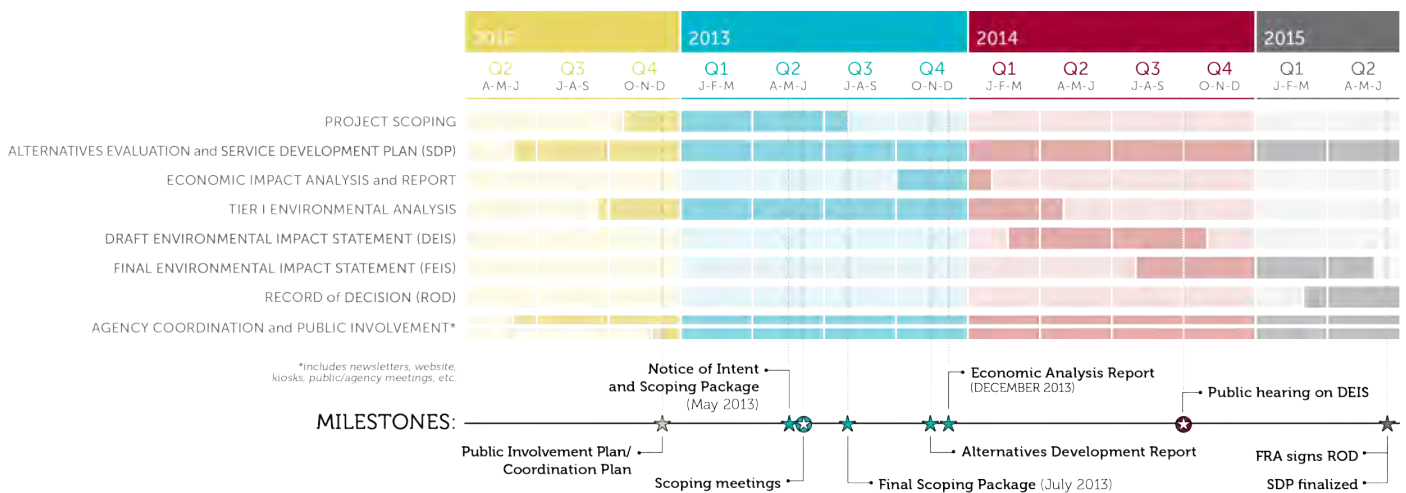
- **Draft EIS (DEIS).** After scoping, a DEIS will be prepared to assess the environmental effects of the project consistent with NEPA and other appropriate regulations and requirements. FRA will coordinate review of the DEIS by other federal resource agencies during preparation of the document. After FRA approves the DEIS, an NOA will be published in the *Federal Register*, establishing a public review period for the DEIS.
- **Public review.** Public review of the DEIS includes distribution of the document to government agencies, elected officials, civic and interest groups, and the public. FRA will establish a public comment period for

the DEIS that is a minimum of 45 days, during which a public hearing will be held. The hearing will allow the public to offer recorded oral testimony on the findings of the DEIS. Comments will also be accepted in writing.

- **Final EIS (FEIS).** After the public comment period on the DEIS closes, an FEIS will be prepared. The FEIS will include the comments and responses on the DEIS and any necessary revisions to the DEIS to address the comments. After it is reviewed by FRA, the FEIS will be published and an NOA will be printed in the *Federal Register*.
- **Record of Decision (ROD).** No sooner than 30 days after publishing the FEIS, FRA will prepare its decision document, known as the ROD. The ROD will describe the preferred alternative for the project, its environmental impacts, and any required mitigation commitments. The ROD will also respond to any public comments on the FEIS and will provide a process to evaluate any subsequent changes in the project consistent with NEPA. The ROD will conclude the NEPA process.

The anticipated schedule for completion of the Atlanta to Charlotte PRCIP is shown in **Figure 1-4**. A ROD signed by FRA is expected by June 2015.

FIGURE 1-4: PROJECT SCHEDULE



SECTION 2: PURPOSE and NEED

In 1998, the U.S. Department of Transportation (USDOT) designated the 280-mile Atlanta to Charlotte corridor as an extension of the Southeast High-Speed Rail (SEHSR) Corridor connecting Washington, D.C.; Richmond, Va.; and Charlotte, N.C.

The Atlanta to Charlotte corridor adds to the completed and ongoing high-speed rail studies along the SEHSR, it and supports the USDOT high-speed rail initiative. The Atlanta to Charlotte Passenger Rail Corridor Investment Plan (PRCIP) continues the planning process for the corridor, following a 2008 feasibility study by the Volpe National Transportation Systems Center.¹ GDOT included the corridor in its most recent *Georgia State Rail Plan* (2009) (Figure 2-1).

2.1. NEED for PROJECT

The Atlanta to Charlotte corridor and the region as a whole is facing serious mobility challenges that, if left unaddressed, will negatively influence the local, regional and national economies. The existing transportation infrastructure is outdated, congested, lacks connectivity and provides few choices for reliable passenger travel.

¹ www.sehsr.org/reports/hsr/eval_hsr_options.pdf

FIGURE 2-1: PRCIP TIMELINE

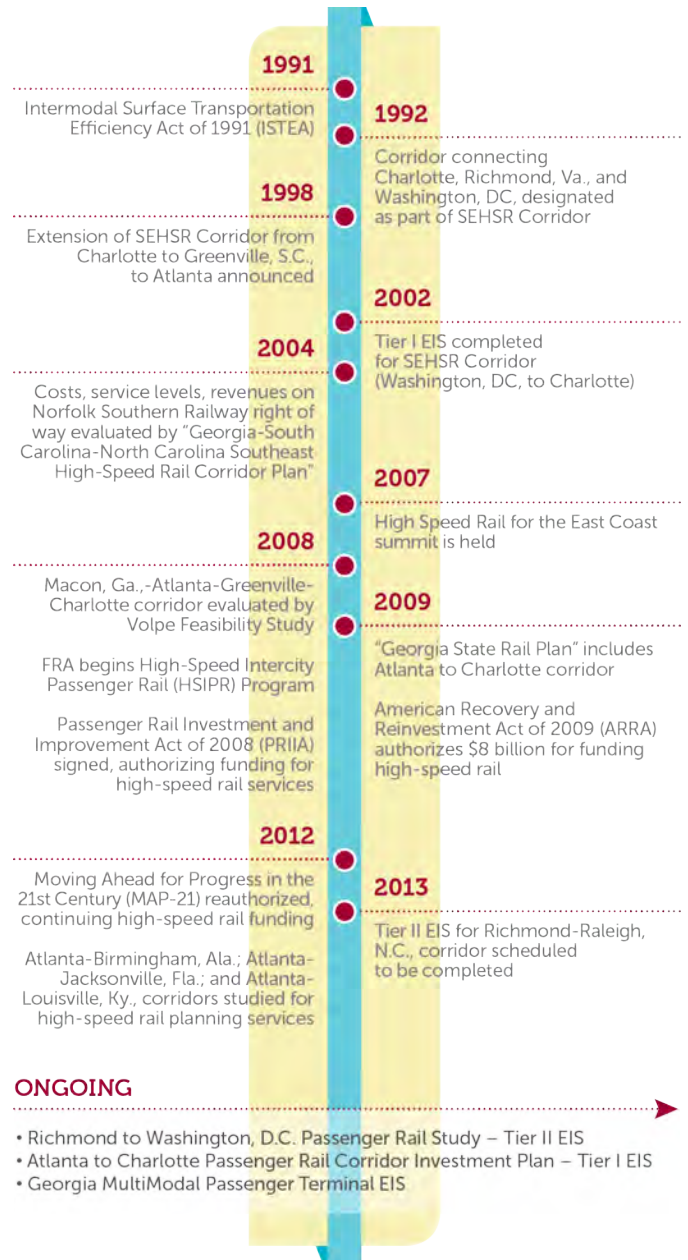


Figure 2-1 shows a timeline of the legislative and planning decisions, and previous studies that have impacted development of the Atlanta to Charlotte PRCIP project.



Currently, the state and Interstate highway systems are operating at or near capacity within and adjacent to major metropolitan areas within the project area, including Atlanta; Greenville and Spartanburg, S.C.; and Charlotte, N.C. Although capacity improvements to the state and Interstate system along the project area are planned or under way, they are considered interim measures, and they likely will not address long-term capacity and mobility needs in these metropolitan areas.

Increased traffic volumes, congestion and accident rates in the project area further emphasize this need. Social and economic demands will continue to require alternative transportation choices for those individuals who cannot or choose not to drive, as well as travelers looking for other options. Currently, there are 20 flights per day between the two terminal cities (Atlanta and Charlotte) and 23 flights per day between Greenville and Charlotte. These numbers are evidence of a demand for intercity travel.²

High-speed rail is an alternative mode for business and nonbusiness travelers that is competitive in terms of travel time, convenience and safety. The proposed Atlanta to Charlotte high-speed passenger rail service would satisfy the following needs:

- **Provide regional linkage** – Improve overall regional connectivity by providing high-speed rail linkage between Atlanta and Charlotte and other proposed SEHSR locations, and enhance multimodal transportation connections;
- **Improve capacity** – Supplement Interstate highways and commercial airports to provide increased corridor capacity to support freight movement;
- **Improve travel times** – Decrease travel times between major urban centers compared to auto and total air travel;
- **Provide alternative mode** – Provide a mobility alternative to automobile, bus, conventional passenger rail and air travel that is safe, reliable and efficient;

² Source: www.atlanta-airport.com, www.charlotteairport.com and www.gspairport.com

- **Enhance energy efficiency** – Improve energy efficiency by reducing dependence on foreign oil and decreasing greenhouse gas emissions; and
- **Promote economic development** – Promote economic development and job creation through improved connectivity resulting in a more productive and competitive economy with an expansion of the labor pool market along the corridor.

2.2. PURPOSE of the PROJECT

The purpose of the Atlanta to Charlotte PRCIP is to improve intercity travel and mobility between Atlanta and Charlotte by expanding the region's transportation capacity and reliable mode choices through improvements in passenger rail services.

This corridor will also be an important extension to the planned SEHSR Corridor system developing important linkages to other metropolitan areas along the East Coast (Washington, D.C., New York and Boston). Investment in passenger rail is an essential part of the region's multimodal transportation system and its ability to support population and economic growth throughout the SEHSR Corridor network.

The projected increases in population and economic growth for the Piedmont Atlantic Megaregion create a need for a carefully planned approach to improving rail infrastructure that will benefit Georgia, South Carolina, North Carolina, the southeastern United States and the nation.

2.3. GOALS and OBJECTIVES

FRA and GDOT plan to address intercity passenger rail transportation needs along the corridor by adhering to two goals and their supporting objectives.

1. Develop a high-speed rail link between Atlanta and Charlotte that addresses intercity passenger transportation needs by:



MULTIMODAL TRANSPORTATION HUB

A multimodal transportation hub is a terminal or station where passengers can transfer among various forms of transportation modes. Examples include train stations, bus stations, airports, and park and ride lots.

- Developing a high-speed intercity passenger rail system that can be integrated into and supports the SEHSR Corridor network and other high-speed rail networks by incorporating existing and future plans;
 - Improving intercity and regional connectivity, and providing capacity to meet existing and projected demand;
 - Providing high-speed rail service that is competitive with travel times of other modes; and
 - Supporting the development of planned multimodal transportation hubs that complements existing and planned transit services.
2. Provide a cost-effective and efficient rail corridor and hub investment by:
 - Creating a phased financial program for the Atlanta to Charlotte PRCIP that reflects funding and cost limitations; and
 - Improving the existing corridor under full operation through multiple, phased cost options that can be used to identify Tier II project-specific activities.

These goals and objectives form a broad basis for evaluating and screening investment alternatives and selecting a preferred alternative. They will be refined through the scoping process as the project team gathers input from the public, stakeholders and agencies.

[this page intentionally left blank]

SECTION 3: AGENCY COORDINATION and PUBLIC INVOLVEMENT

Community input is vital to the project's success, and the Federal Railroad Administration (FRA) and the Georgia Department of Transportation (GDOT) are committed to providing meaningful public involvement opportunities. Every effort will be made to use outreach strategies and techniques that will involve a broad spectrum of the study area stakeholder population. As a first step, the study team has developed a comprehensive list of interested agencies/stakeholders that will be expanded as project efforts continue.



3.1. AGENCY COORDINATION

FRA and GDOT will conduct a formal agency coordination meeting as part of the scoping process that will include representatives from GDOT, the North Carolina and South Carolina DOTs, Federal Highway Administration (FHWA), Federal Transit Administration (FTA), and other federal, state, regional and local agencies. Because of the large geographic area of the study corridor, the meeting will be Web-based and may utilize video conferencing in order to capture as many agency representatives as possible.

3.2. PUBLIC INVOLVEMENT

Public participation is a fundamental component of this project, and all interested parties will have the opportunity to participate. This participation provides crucial information to FRA and GDOT to fully understand and assess potential impacts and benefits of the Atlanta to Charlotte Passenger Rail Corridor Investment Plan (PRCIP). Early and continuing participation will allow FRA and GDOT to be aware of issues, concerns, and impacts that may not otherwise be identified; and provide opportunities for the agencies to discuss and address these concerns with those that may be directly affected by the Atlanta to Charlotte PRCIP.

'STAKEHOLDER'

A stakeholder is any person, group, or organization that is interested in the project and invited to participate in the formation of the Atlanta to Charlotte corridor's high-speed rail future.

ABOUT the PUBLIC SCOPING MEETINGS

The scoping meetings will be open-house style gatherings during which the public can hear presentations, review exhibits and handouts, discuss issues with and ask questions of the study team, and provide feedback about the Atlanta to Charlotte PRCIP.

3.2.1. PUBLIC SCOPING MEETINGS

The study team will conduct public scoping meetings to gain input from groups and individuals who can help evaluate the overall impact of the Atlanta to Charlotte PRCIP.

The purpose of the public scoping meetings is to allow representatives of the FRA, GDOT and the study team to interact with the public and to inform them about this project and the scope of the study to be completed. Furthermore, the team will listen to the thoughts, concerns and interests of the public regarding important transportation issues. This input will then be integrated into a *Scoping Comment Summary Report* and will be used during the planning process to identify the best alternative for the corridor.

3.2.2. MEETING DATES, LOCATIONS and TIMES

Agency and public scoping meetings are planned for June 2013. As previously mentioned, there will be one web-based agency meeting. Additionally, one public scoping meeting will be held in each of the three study corridor states (Georgia, North Carolina, and South Carolina) for a total of three public scoping meetings. **Table 3-1** provides the tentative locations for these meetings.

The times and location of these meetings will be publicized through newspaper advertisements, on the project's website, news releases and media alerts, email notices, print communications and direct mailings. Confirmation of the meeting times and locations – along with directions to those locations and information about transit access and parking availability – will be provided prior to the scheduled meeting dates.

Table 3-1: Meeting Locations

STATE	CITY
Georgia	Suwanee, Ga.
North Carolina	Charlotte, N.C.
South Carolina	Greer, S.C.

3.3. COMMUNICATION TOOLS

The following items will be developed to increase stakeholder participation after the scoping meetings.

3.3.1. FACT SHEETS and NEWSLETTERS

The study team will produce a one-page, color, fact sheet to distribute during the course of the study in both electronic and hard-copy formats, approximately every four months. The publication will be distributed to public officials, elected officials, and interested stakeholders.

3.3.2. PUBLIC WEBSITE

The project team will use GDOT's website as the portal to solicit public comments about the Atlanta to Charlotte PRCIP and post project information such as upcoming events; dates, times and locations of meetings; resource materials; and contact information. The project Web page can be accessed directly at www.dot.ga.gov/AtlantaCharlotteHSR.

3.3.3. SOCIAL MEDIA



Social media will be leveraged, such as Facebook and Twitter, to post information publicly about the project, such as meeting information, newsletters, links to other media, and updates to the project website.

3.3.4. PUBLIC REVIEW MEETINGS

The public hearing meetings to review the results of the Draft Environmental Impact Statement (DEIS) will be an open-house format to allow attendees to review exhibits, discuss issues with project personnel, and provide written and verbal comments. Dates for these meetings will be distributed later in the study process.

3.4. PUBLIC INPUT DOCUMENTATION

The public will be given a form to provide comments during the scoping and public meetings. Stenographers will also be available at the meetings to record individuals' comments separately. Comments on the Atlanta to Char-

lotte PRCIP project Scoping Document will be accepted until July 4, 2013. The process for incorporating public comments is illustrated in **Figure 3-1**. Those unable to attend the scoping meetings will be able to view materials and submit comments by:

- **Mailing to:**
Glenn Bowman, PE
State Environmental Administrator
GDOT
600 W. Peachtree St. NW
Atlanta, GA 30308
- **Emailing:** AtlantaCharlotteHSR@dot.ga.gov
- **Posting** on the program's website at www.dot.ga.gov/AtlantaCharlotteHSR.

At the conclusion of the scoping process, a *Scoping Comment Summary Report* will be prepared and posted on the project website. The report will summarize the overall results of the scoping process, including comments received along with any adjustments to the scope to reflect comments received from agencies, interested parties, and the general public.

FIGURE 3-1: PUBLIC COMMENT PROCESS



[this page intentionally left blank]

SECTION 4: PASSENGER RAIL CORRIDOR INVESTMENT PLAN

The Atlanta to Charlotte Passenger Rail Corridor Investment Plan (PRCIP) is focused on identifying and evaluating corridor alternatives and their impacts on the environment. The Atlanta to Charlotte PRCIP includes a Tier I Environmental Impact Statement (EIS), and a Service Development Plan (SDP).

Stakeholders will be involved in developing the initial alternatives as well as reviewing the EIS before a Final EIS (FEIS), Record of Decision (ROD) and SDP are developed (Figure 4-1).

4.1. INITIAL PROJECT ALTERNATIVES

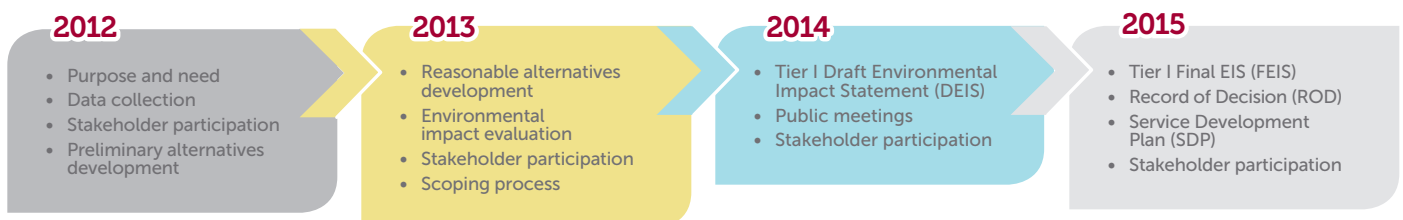
The exact termini for the corridor have not yet been established, and they will be finalized through the alternatives development analysis. Logical connections along the corridor may include Greenville and Spartanburg, S.C.

When determining the exact corridor termini, the project team will consider connections to the following: the proposed Georgia MultiModal Passenger Terminal (MMPT) project in Atlanta; the Hartsfield-Jackson Atlanta International Airport (H-JAIA); Charlotte's proposed Gateway Station (CGS); and Charlotte-Douglas International Airport; and the planned Charlotte to Raleigh high-speed passenger rail service.

'TERMINI'

Termini is defined as the starting or ending points of the study corridor.

FIGURE 4-1: PRCIP PROJECT PROCESS OVERVIEW



A no-action alternative and several build alternatives will be considered during the alternatives analysis. Stakeholders will help identify any additional corridors for initial consideration. If the corridors are determined to be reasonable, they will be analyzed in Step 2 of the alternatives analysis (Table 4-1).

4.1.1. THE NO-ACTION ALTERNATIVE

A no-action alternative is the baseline condition against which potential benefits and impacts of build alternatives are evaluated. The Atlanta to Charlotte PRCIP No-Action Al-

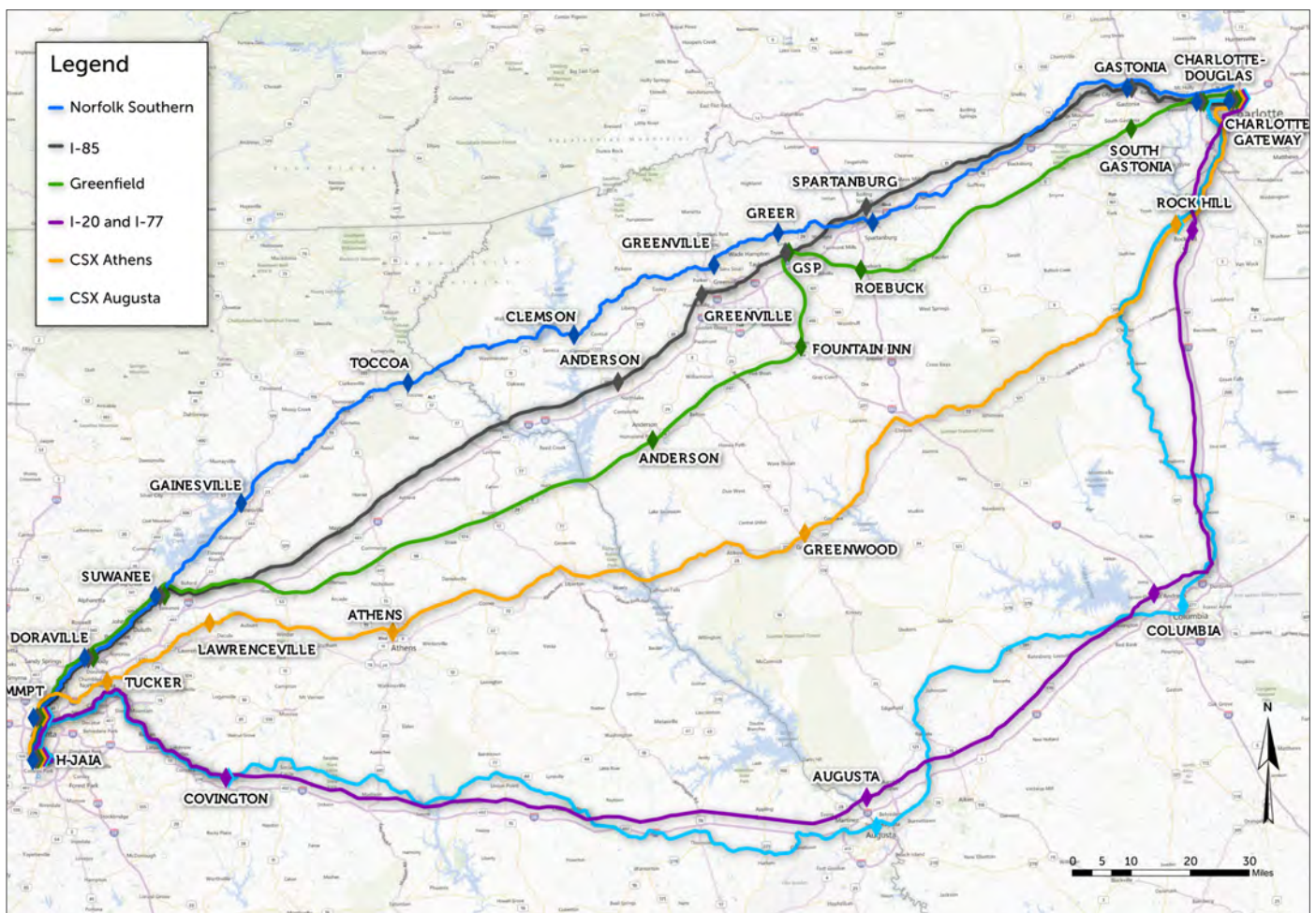
ternative does not develop any rail infrastructure or extend the Southeast High-Speed Rail (SEHSR) Corridor network from Charlotte to Atlanta, and it maintains Amtrak's current and future plans for its Crescent passenger rail service.

4.1.2. THE BUILD ALTERNATIVES

Building on the Volpe Feasibility Study¹, the Georgia Department of Transportation (GDOT) and Federal Rail-

¹ www.sehsr.org/reports/hsr/eval_usr_options.pdf

FIGURE 4-2: ATLANTA TO CHARLOTTE PRCIP PRELIMINARY BUILD ALTERNATIVES



road Administration (FRA) defined six potentially feasible build alternatives (Figure 4-2) to be evaluated as Step 1 of the Atlanta to Charlotte PRCIP alternatives analysis process (Table 4-1). The six proposed alternatives comprise a broadly defined set, and other alternatives may be added during the scoping process. This initial set includes the following:

- **Three shared-use alternatives (Figure 4-2)** include use of the following rail rights of way: Norfolk Southern Railway (NS) right of way between Atlanta and Charlotte; the CSX Transportation (CSX) right of way between Atlanta and Chester, S.C., via Athens, Ga.; CSX right of way between Atlanta and Augusta, Ga.; NS right of way between Chester and Charlotte via Rock Hill, S.C.; and NS right of way between Augusta and Charlotte via Columbia, S.C., along which Amtrak currently operates its Crescent long-distance passenger rail service twice daily, connecting New Orleans and Washington, D.C., with additional routes in the northeastern United States. The goal of these shared-use alternatives is to work with the railroads so that no current or future freight operations are negatively impacted.
- **Two Interstate highway alternatives**, which include the I-85 route between Atlanta and Charlotte, and either the I-20 route between Atlanta and Columbia, or

the I-70 route from Columbia to Charlotte. Both alternatives require action by the Federal Highway Administration (FHWA) and the Georgia, South Carolina and North Carolina Departments of Transportation (DOTs). The Atlanta to Charlotte PRCIP project team will evaluate possibilities of using medians and existing rights of way of both alternatives, as well as potentially the use of short sections outside of the highway right of way, where necessary.

- **One greenfield corridor alternative**, which will be developed during and following the scoping process to develop a new corridor on new alignment. The greenfield corridor is still under development and will be finalized after the scoping process.

ABOUT GREENFIELD CORRIDORS

A greenfield corridor is a new rail line on a new corridor that is constructed to meet specific design criteria to allow for higher speeds and eliminate interference with other modes of travel.

Table 4-1: Alternatives Analysis Process

STEP	SCREENING LEVEL	ACTIONS
1	Identify and evaluate potentially feasible alternatives	<ul style="list-style-type: none"> • Identify initial group of corridor alternatives based on general connectivity (stakeholder outreach process will guide the development of initial alternatives) • Compare alternatives to purpose and need • Screen initial group of corridor route alternatives using quantitative and qualitative factors developed in coordination with FRA to identify reasonable and feasible corridor alternatives
2	Refine reasonable alternatives	Refine and identify reasonable corridor routes and alternatives based on purpose and need; service goals; travel time; potential ridership; station locations and accessibility; operating feasibility; environmental fatal flaws; and engineering feasibility.
3	Evaluate reasonable alternatives	Evaluate each reasonable alternative with regard to environmental impacts; capital costs; forecasted ridership; revenues; operating costs; benefit-cost ratio; and other comparative factors.

GDOT will evaluate four potential speed options for the build alternatives according to definitions from the FRA:

- **Conventional passenger rail technology:** Top speeds limited to less than 80 mph on shared track (in line with freight rail policy);
- **Emerging high-speed rail:** Top speeds of up to 90 mph to 110 mph on primarily shared freight right of way with advanced grade-crossing protection or separation;
- **Regional high-speed rail:** Top speeds of between 110 mph and 150 mph on either shared right of way or along a new corridor using diesel-electric technology with grade crossing protection or separation.
- **Express high-speed rail:** Top speeds of greater than 150 mph up to 220 mph on completely grade-separated, dedicated right of way.

4.2. ALTERNATIVES ANALYSIS

The Atlanta to Charlotte PRCIP project team members have evaluated and compared the six potentially feasible build alternatives at a high level to determine the initial performance of each alternative (Step 1 in **Table 4-1**). After the scoping process, and with the input of the stakeholders and public, GDOT and FRA will screen the initial corridor route alternatives to identify the reasonable and feasible alternatives that will move on to Step 2 (**Table 4-1**).

Appendix A provides the quantitative and qualitative results of the high-level screening along with the comparative analysis for each of the alternatives. Specific descriptions of the evaluation criteria and rates are described in more detail within the appendix.

4.3. THE TIERED PROCESS

The “tiered” environmental analysis process has two or more rounds – or tiers – of environmental review, rather than preparing a single EIS document as the basis for approving the entire project. Whether a study has a tiered

environmental analysis process is determined based on the size and scope of the study area.

A Tier I EIS document, like the one that will be written for the Atlanta to Charlotte PRCIP, analyzes a project on a broad scale. The focus of the Atlanta to Charlotte PRCIP Tier I work will be to select a route and level of service, which will then be evaluated in more detail in future National Environmental Policy Act (NEPA) process steps. The environmental review process for the Tier I EIS is illustrated in **Figure 4-3**.

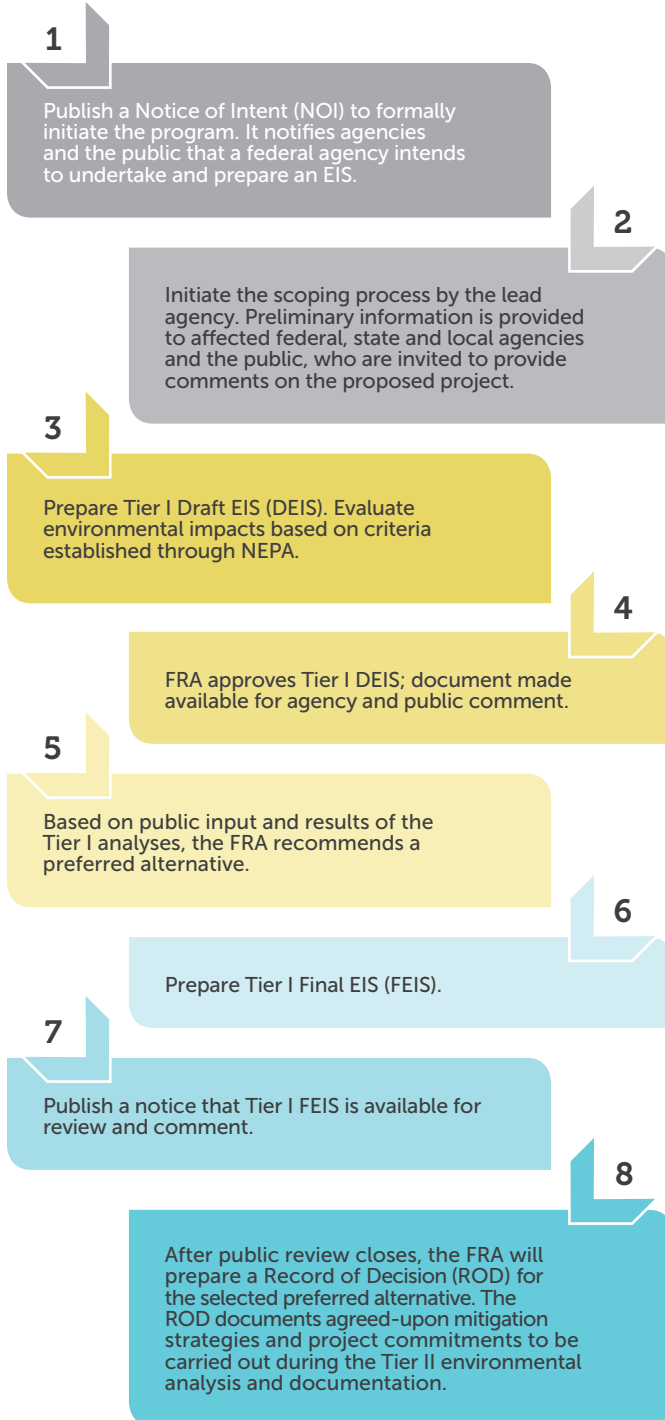
Tier II includes one or more additional NEPA documents, which examine individual projects or sections in detail.

4.3.1. ENVIRONMENTAL IMPACT CRITERIA

As part of the Tier I EIS, FRA and GDOT will evaluate the broad issues, including environmental constraints. This broad review must be completed before any substantial investments in the proposed corridor can be made. The following environmental impact criteria will be studied for the Tier I EIS:

- Air quality;
- Vibration and noise;
- Water quality;
- Wetland areas;
- Endangered species and wildlife;
- Flood hazards and floodplain management;
- Coastal zone management;
- Energy resources;
- Other natural resources (e.g., water, minerals, or timber);
- Aesthetic and design quality;
- Transportation;
- Elderly and handicapped;
- Land use;
- Socioeconomic environment;
- Environmental justice (low income, minority);
- Public health and safety (including hazardous materials);
- Recreational opportunities;
- 4(f) protected properties (parks/recreation, historic resources);

FIGURE 4-3: TIER I ENVIRONMENTAL REVIEW PROCESS



- Environmental sustainability;
- Historic, archeological, architectural or cultural significance; and
- Construction period.

The Tier I EIS, in conjunction with the alternatives analysis, will allow GDOT to identify the preferred alternative. Once these activities are completed, the preferred alternative and technology will advance to Tier II environmental review.

4.4. SERVICE DEVELOPMENT PLAN

A Service Development Plan (SDP) will be developed for the preferred alternative in which all of the operational characteristics will be refined and finalized, and will include an implementation plan.

An SDP provides an implementation and phasing strategy for developing high-speed rail and intercity passenger rail service, either by initiating new service or improving existing service.

The SDP typically includes three general topics:

- **Rationale:** Including purpose and need, a description of the transportation challenges and opportunities based on current and forecasted travel demand, and capacity conditions;
- **Service operating plan and prioritized capital plan:** Including the description of the train service proposed for each phase of new or improved intercity passenger service; and

'PREFERRED ALTERNATIVE'

The alternative that best meets project goals and objectives, based on economic, environmental, technical and other factors.

- **Implementation plan:** Including project management approach, stakeholder agreements and financial plan.

The SDP will describe the major aspects of the proposed service required to support a funding decision and represents a continuation and refinement of service development planning work associated with the alternatives analysis. The SDP will refine the operating plan; service schedules; ridership and revenue forecasts; and capital cost estimates for the preferred alternative. It will include conceptual plans for stations and station access and for maintenance and layover facilities.

Each portion of the SDP will be directly tied to the project's purpose, need, goals and objectives in order to support technical analysis throughout the planning process.

SECTION 5: NEXT STEPS

After the Atlanta to Charlotte Passenger Rail Corridor Investment Plan (PRCIP) scoping process is complete, the Georgia Department of Transportation (GDOT) will take the information and incorporate it into the next steps of the PRCIP process.

As mentioned in previous section, two activities – service planning and environmental evaluation – are occurring simultaneously. The following explains each track and its upcoming activities following the scoping process.

- 1. Service planning:** After scoping, the project team will finalize the corridor alternatives to be evaluated. Each corridor will be assigned a preliminary operating plan and service level to estimate ridership and revenue. The project team will also conduct conceptual engineering to understand the improvements needed for operation and the associated capital cost estimates.
- 2. Environmental evaluation:** After the corridor alternatives have been finalized, the project team will finish the data collection process and evaluate the environmental and social impacts along each alternative. Further, each alternative will be analyzed for reasonableness as it relates to the communities and surrounding environment.

The results from the service planning and environmental evaluation activities will come together to assist the project team in recommending a preferred alternative (including the corridor and technology). The preferred alternative will be included within the National Environmental Policy Act (NEPA) Tier I Draft Environmental Impact Statement (DEIS), which will be made available for public review and comment. During this time, the project team will refine the service planning analysis results for the preferred alternative – studying costs, ridership and revenue, and implementation strategies – to develop the Service Development Plan (SDP).

[this page intentionally left blank]

SECTION 6: CONTACT INFORMATION

More information and frequently asked questions are on the project website: www.dot.ga.gov/AtlantaCharlotteHSR. Email questions and comments to: AtlantaCharlotteHSR@dot.ga.gov.

Additionally, please contact one of the following for more information:

- **Glenn Bowman, PE**
State Environmental Administrator
Georgia Department of Transportation
600 W. Peachtree Street NW
Atlanta, GA 30308
email: gbowman@dot.ga.gov
- **John Winkle**
Transportation Industry Specialist
U.S. Department of Transportation
Federal Railroad Administration
1200 New Jersey Ave., SE
Room W38-311
Washington, DC 20590
email: john.winkle@dot.gov

[this page intentionally left blank]



APPENDIX A: INITIAL EVALUATION RESULTS

CONTENTS

APPENDIX A	A-1
A.1. Scoring Criteria.....	A-2
A.2. Consistency with the Purpose and Need	A-2
A.3. Route Length	A-5
A.4. Travel Time	A-5
A.5. Geometry.....	A-6
A.6. Population Served.....	A-6
A.7. Employment Served.....	A-7
A.8. Regional and Intermodal Linkages.....	A-7
A.9. Cumulative Evaluations	A-9

TABLES

Table A-1: Scoring Criteria	A-2
Table A-2: Consistency with Purpose and Need Criteria by Alternative...A-3	A-3
Table A-3: Purpose-and-Need-Based Comparison of Alternatives.....A-4	A-4
Table A-4: Mileage by Alternative.....	A-5
Table A-5: Travel Times by Alternative.....	A-5
Table A-6: Geometry by Alternative.....	A-6
Table A-7: Population Served by Alternative	A-6
Table A-8: Employment Served by Alternative	A-7
Table A-9: Regional and Intermodal Linkage Evaluations by Alternative .A-8	A-8
Table A-10: Regional and Intermodal Linkages Ratings by Alternative.....A-9	A-9
Table A-11: Total Cumulative Scores and Evaluations by Alternative	A-9

[this page intentionally left blank]

APPENDIX A: INITIAL EVALUATION RESULTS

Each route alternative for the Atlanta to Charlotte Passenger Rail Corridor Investment Plan (PRCIP) has been evaluated at a high level (consistent with the alternatives development and analysis methodology developed for this project). This will provide an understanding of the initial performance results as it relates to the PRCIP purpose and need, operations, and regional and intermodal linkages.

The evaluation includes both quantitative and qualitative metrics for which a score and rating are assigned based on the corridor's performance when compared with the performances of other corridors.

The evaluation criteria included the following key metrics:

- Compliance with PRCIP purpose and need;
- Route alternative length in miles;
- Route alternative travel time in minutes;
- Route alternative geometry (number of curves);
- Populations served within 30 miles;
- Employment served within 15 miles; and
- Regional and intermodal links.

The methodologies and considerations for each of the metrics is described in more detail in the following sections. Some definitions are as follows:

- **Purpose and need:** a measure of how well each alternative meets the goals and objectives of the PRCIP.
- **Route length in miles:** a measure of the potential unit improvement costs and possible indirection.
- **Route travel time in minutes:** high-level estimate of travel times from the Hartsfield-Jackson Atlanta International Airport (H-JAIA) to the Charlotte Gateway Station as a measure of relative mobility benefits.
- **Route geometry (curves greater than 1 degree 30 minutes):** a measure of potential speed restrictions and costs associated with reducing speeds.
- **Population served:** a measure of potential market access and ridership.
- **Employment served:** a measure of potential market access and ridership.



- **Regional and intermodal links:** a measure of how well each alternative provides connectivity to regional rail systems, airports and multimodal terminals.

A.1. SCORING CRITERIA

The first step in the evaluation process of the alternatives analysis includes scoring and rating each of the potentially feasible alternatives. **Table A-1** outlines the performance, associated scores and rating categories for which all of the metrics are calculated for each route alternative. The best performing corridor receives 100 percent and the highest score of 5.0; each subsequent route alternative’s score is in proportion to the best performing route alternative. Each evaluation category includes a specific metric on which to base the percentages and scores.

A.2. CONSISTENCY WITH THE PURPOSE AND NEED

Each of the six route alternatives is compared to the purpose and need as a measure of how well each alternative meets the high-level goals of the Atlanta to Charlotte PRCIP.

Eight primary categories are within the purpose and need, including:

1. Provides regional linkage of Atlanta and Charlotte;
2. Integrates with Southeast High Speed Rail (SEHSR) Corridor between Charlotte and Washington, D.C.;
3. Is a U.S. Department of Transportation (USDOT) federally designated high-speed rail (HSR) corridor;
4. Promotes economic development;
5. Improves travel time (as compared with current passenger rail service);
6. Supports multimodal hubs;
7. Improves/supplements highway and airport capacity as a safe and reliable mode;
8. Improves energy efficiency (air quality and emissions).

Table A-2 outlines each alternative and the eight criteria of the purpose and need.

Table A-1: Scoring Criteria

PERFORMANCE RELATIVE TO THE BEST PREFORMING CORRIDOR FOR EACH MEASURE OF EFFECTIVENESS (MOE)	SCORE	RATING
Between 100% and 91% of the best performing corridor (including the best performing corridor)	4.1 - 5.0	Best
Between 90% and 81% of the best performing corridor	3.1 - 4.0	Very Good
Between 80% and 71% of the best performing corridor	2.1 - 3.0	Good
Between 70% and 61% of the best performing corridor	1.1 - 2.0	Fair
60% or less of the best performing corridor	0.0 - 1.0	Poor

Table A-2: Consistency with Purpose and Need Criteria by Alternative

ROUTE	CONSISTENCY (MEETS, PARTIALLY MEETS, DOES NOT MEET)	CRITERIA
Alternative 1: Norfolk Southern	Meets	1. Regional linkage of Atlanta and Charlotte
	Meets	2. Integration with SEHSR Corridor
	Meets	3. USDOT-designated HSR Corridor
	Meets	4. Promote economic development
	Meets	5. Improve travel time
	Meets	6. Support multimodal hubs
	Meets	7. Improve/supplement highway and airport capacity as a safe and reliable mode
	Meets	8. Improve energy efficiency
Alternative 2: Greenfield	Meets	1. Regional linkage of Atlanta and Charlotte
	Partially Meets	2. Integration with SEHSR Corridor
	Meets	3. USDOT-designated HSR Corridor
	Meets	4. Promote economic development
	Meets	5. Improve travel time
	Meets	6. Support multimodal hubs
	Meets	7. Improve/supplement highway and airport capacity as a safe and reliable mode
	Meets	8. Improve energy efficiency
Alternative 3: I-85	Meets	1. Regional linkage of Atlanta and Charlotte
	Partially Meets	2. Integration with SEHSR Corridor
	Meets	3. USDOT-designated HSR Corridor
	Meets	4. Promote economic development
	Meets	5. Improve travel time
	Meets	6. Support multimodal hubs
	Meets	7. Improve/supplement highway and airport capacity as a safe and reliable mode
	Meets	8. Improve energy efficiency
Alternative 4: I-20 to Augusta and Columbia; I-77 to Charlotte	Meets	1. Regional linkage of Atlanta and Charlotte
	Partially Meets	2. Integration with SEHSR Corridor
	Does Not Meet	3. USDOT-designated HSR Corridor
	Meets	4. Promote economic development
	Meets	5. Improve travel time
	Meets	6. Support multimodal hubs
	Partially Meets	7. Improve/supplement highway and airport capacity as a safe and reliable mode
	Meets	8. Improve energy efficiency

Table A-2 continues on Page A-4 ⇨

Table A-2 continued from Page A-3

ROUTE	CONSISTENCY (MEETS, PARTIALLY MEETS, DOES NOT MEET)	CRITERIA
Alternative 5: CSX to Augusta; NS to Columbia, Rock Hill, and Charlotte	Meets	1. Regional linkage of Atlanta and Charlotte
	Partially Meets	2. Integration with SEHSR Corridor
	Does Not Meet	3. USDOT-designated HSR Corridor
	Meets	4. Promote economic development
	Does Not Meet	5. Improve travel time
	Meets	6. Support multimodal hubs
	Partially Meets	7. Improve/supplement highway and airport capacity as a safe and reliable mode
	Meets	8. Improve energy efficiency
Alternative 6: CSX to Athens and to Chester; NS to Rock Hill and Charlotte	Meets	1. Regional linkage of Atlanta and Charlotte
	Partially Meets	2. Integration with SEHSR Corridor
	Does Not Meet	3. USDOT-designated HSR Corridor
	Meets	4. Promote economic development
	Does Not Meet	5. Improve travel time
	Meets	6. Support multimodal hubs
	Partially Meets	7. Improve/supplement highway and airport capacity as a safe and reliable mode
	Meets	8. Improve energy efficiency

Each alternative was evaluated for each of the eight criteria and assessed whether it meets, partially meets, or does not meet the criteria. One point is assigned to every criteria that is met, a half-point for every partially met,

and zero points for does not meet. **Table A-3** outlines the results of the purpose and need evaluation and assigns the performance, score and rating for each of the route alternatives.

Table A-3: Purpose-and-Need-Based Comparison of Alternatives

ROUTE	CONSISTENCY WITH PURPOSE AND NEED	PERFORMANCE RELATIVE TO BEST PERFORMING ALTERNATIVE	SCORE	RATING
Alternative 1: Norfolk Southern	8.0	100%	5.0	Best
Alternative 2: Greenfield	7.5	94%	4.4	Best
Alternative 3: I-85	7.5	94%	4.4	Best
Alternative 4: I-20 to Augusta and Columbia; I-77 to Charlotte	6.0	75%	2.5	Good
Alternative 5: CSX to Augusta; NS to Columbia, Rock Hill and Charlotte	5.0	63%	1.3	Fair
Alternative 6: CSX to Athens and Chester; NS to Rock Hill and Charlotte	5.0	63%	1.3	Fair

A.3. ROUTE LENGTH

Route length is a relative measure of potential route improvement costs and possible indirection associated with a given route. **Table A-4** illustrates the corridor distances between Atlanta and Charlotte for each of the potentially feasible alternatives and rates them with shorter distances scoring higher.

A.4. TRAVEL TIME

Travel time is a relative measure mobility benefits associated with a route alternative. For the three shared-use

alternatives (Alternatives 1, 5 and 6), it was assumed that diesel-electric technology with speeds capable of 90-110 mph would be used. For the Interstate highway alternatives (Alternatives 3 and 4) diesel-electric technology a top speed of up to 150 mph is used. For the greenfield alternative (Alternative 2), a fully electrified technology was applied with a top speed of 220 mph.

It should be noted that these speeds are associated with top speeds and the average speeds for each alternative are less due to geometry and topography of the route.

Table A-5 provides the estimated travel times for each route alternative and the associated ratings.

Table A-4: Mileage by Alternative

ROUTE	MILEAGE	PERFORMANCE RELATIVE TO BEST PERFORMING ALTERNATIVE	SCORE	RATING
Alternative 1: Norfolk Southern	273	88%	3.8	Very Good
Alternative 2: Greenfield	267	91%	4.1	Best
Alternative 3: I-85	244	100%	5.0	Best
Alternative 4: I-20 to Augusta and Columbia; I-77 to Charlotte	321	68%	1.8	Fair
Alternative 5: CSX to Augusta; NS to Columbia, Rock Hill and Charlotte	373	47%	0.7	Poor
Alternative 6: CSX to Athens and Chester; NS to Rock Hill and Charlotte	281	85%	3.5	Very Good

Table A-5: Travel Times by Alternative

ROUTE	TRAVEL TIME (MINUTES)	PERFORMANCE RELATIVE TO BEST PERFORMING ALTERNATIVE	SCORE	RATING
Alternative 1: Norfolk Southern	275	-4%	0.0	Poor
Alternative 2: Greenfield	135	100%	5.0	Best
Alternative 3: I-85	184	64%	1.4	Fair
Alternative 4: I-20 to Augusta and Columbia; I-77 to Charlotte	264	4%	0.1	Poor
Alternative 5: CSX to Augusta; NS to Columbia, Rock Hill and Charlotte	481	-156%	0.0	Poor
Alternative 6: CSX to Athens and Chester; NS to Rock Hill and Charlotte	300	-22%	0.0	Poor

A.5. GEOMETRY

Alternative geometry refers to the number of curves along a route alternative as a measure of potential speed restrictions and potential costs associated with mitigating them. Passenger trains can handle a certain degree of curvature before having to slow the overall speed (thus increasing travel times). A curvature of 1 degree 30 minutes (1.5 degrees) is a generally agreed-upon threshold for significant speed restrictions. Alternatives that are straighter can maintain higher speeds and are more desirable. **Table A-6** illustrates the number of curves that meet or exceed the 1 degree 30 minute threshold for each alternative.

A.6. POPULATION SERVED

One of the main determinants of passenger ridership and associated revenues are the population within a given distance of stations along a route. To calculate population served by the route alternatives, a 30-mile buffer was drawn around each of the stations along the corridor. Overlapping populations between stations were removed as to avoid any double counting. The station access analysis was then summed for a total population served by each route alternative. **Table A-7** illustrates the populations served for each alternative, rating those with the highest population access as the more attractive alternatives.

Table A-6: Geometry by Alternative

ROUTE	CURVES > 1 DEGREE 30 MINUTES	PERFORMANCE RELATIVE TO BEST PERFORMING ALTERNATIVE	SCORE	RATING
Alternative 1: Norfolk Southern	309	-168%	0.0	Poor
Alternative 2: Greenfield	85	99%	4.9	Best
Alternative 3: I-85	107	73%	2.3	Good
Alternative 4: I-20 to Augusta and Columbia; I-77 to Charlotte	84	100%	5.0	Best
Alternative 5: CSX to Augusta; NS to Columbia, Rock Hill and Charlotte	393	-268%	0.0	Poor
Alternative 6: CSX to Athens and Chester; NS to Rock Hill and Charlotte	334	-198%	0.0	Poor

Table A-7: Population Served by Alternative

ROUTE	TOTAL POPULATION WITHIN 30 MILES OF STATIONS	PERFORMANCE RELATIVE TO BEST PERFORMING ALTERNATIVE	SCORE	RATING
Alternative 1: Norfolk Southern	8,407,259	100%	5.0	Best
Alternative 2: Greenfield	8,198,597	98%	4.8	Best
Alternative 3: I-85	8,202,807	98%	4.8	Best
Alternative 4: I-20 to Augusta and Columbia; I-77 to Charlotte	7,655,253	91%	4.1	Best
Alternative 5: CSX to Augusta; NS to Columbia, Rock Hill and Charlotte	7,654,945	91%	4.1	Best
Alternative 6: CSX to Athens and Chester; NS to Rock Hill and Charlotte	7,234,398	86%	3.6	Very Good

A.7. EMPLOYMENT SERVED

A secondary variable of demand and revenue forecasting is the employment within a certain distance of stations of which to draw ridership and support economic development. Because employees are less willing to travel distances to access a high-speed rail station, a 10-mile buffer was drawn around each of the stations along the corridor to assess employment access. Overlapping employees between stations were removed as to avoid any double counting. The station access analysis was then summed for a total employment served by each route alternative. **Table A-8** illustrates the populations served for each alternative, rating those with the highest employee access as the more attractive alternatives.

A.8. REGIONAL AND INTERMODAL LINKAGES

Regional and intermodal linkage refers to the connectivity between the route alternative and modal hubs within the study area including airports, multimodal facilities, and interaction/transition with other passenger rail services. Similar to the purpose and need evaluation, each alternative is compared on a list of criteria, including:

1. Provides direct connectivity to the SEHSR Corridor via Gateway Station;
2. Technology is consistent with SEHSR Corridor (emerging high-speed rail diesel [90-110 mph]);
3. Provides connectivity to Charlotte Douglas International Airport;
4. Provides connectivity to Greenville-Spartanburg Airport (GSP); and
5. Provides connectivity to Georgia MultiModal Passenger Terminal (MMPT) and the H-JAIA.

Each alternative was evaluated for each of the five criteria and assessed whether it meets, partially meets or does not meet the criteria. One point is assigned for every criterion that is met, a half-point is assigned for every partially met criterion, and zero points is assigned for alternatives that do not meet a criterion.

Table A-9 on Page A-8 shows the five criteria and the associated evaluation for each route alternative. **Table A-10** on Page A-9 shows the total scores for each route alternative and the associated ratings.

Table A-8: Employment Served by Alternative

ROUTE	TOTAL EMPLOYMENT WITHIN 15 MILES OF STATIONS	PERFORMANCE RELATIVE TO BEST PERFORMING ALTERNATIVE	SCORE	RATING
Alternative 1: Norfolk Southern	3,011,643	100%	5.0	Best
Alternative 2: Greenfield	2,676,204	89%	3.9	Very Good
Alternative 3: I-85	2,917,905	97%	4.7	Best
Alternative 4: I-20 to Augusta and Columbia; I-77 to Charlotte	2,028,344	67%	2.7	Good
Alternative 5: CSX to Augusta; NS to Columbia, Rock Hill and Charlotte	2,035,819	68%	2.8	Good
Alternative 6: CSX to Athens and Chester; NS to Rock Hill and Charlotte	2,327,325	77%	3.7	Very Good

Table A-9: Regional and Intermodal Linkage Evaluations by Alternative

ROUTE	CONSISTENCY (MEETS, PARTIALLY MEETS, DOES NOT MEET)		CRITERIA
Alternative 1: Norfolk Southern	Meets		1. Provides direct connectivity to SEHSR Corridor via Gateway Station in Charlotte.
	Meets		2. Technology is consistent with SEHSR Corridor (emerging HSR diesel – 90-110 mph).
	Meets		3. Provides connectivity to Charlotte Douglas International Airport.
	Partially Meets		4. Provides connectivity to GSP Airport.
	Meets		5. Provides connectivity to Georgia MMPT and H-JAIA.
Alternative 2: Greenfield	Meets		1. Provides direct connectivity to SEHSR Corridor via Gateway Station in Charlotte.
	Does Not Meet		2. Technology is consistent with SEHSR Corridor (emerging HSR diesel – 90-110 mph).
	Meets		3. Provides connectivity to Charlotte Douglas International Airport.
	Partially Meets		4. Provides connectivity to GSP Airport.
	Meets		5. Provides connectivity to Georgia MMPT and H-JAIA.
Alternative 3: I-85	Meets		1. Provides direct connectivity to SEHSR Corridor via Gateway Station in Charlotte.
	Does Not Meet		2. Technology is consistent with SEHSR Corridor (emerging HSR diesel – 90-110 mph).
	Meets		3. Provides connectivity to Charlotte Douglas International Airport.
	Meets		4. Provides connectivity to GSP Airport.
	Meets		5. Provides connectivity to Georgia MMPT and H-JAIA.
Alternative 4: I-20 to Augusta and Columbia; I-77 to Charlotte	Partially Meets		1. Provides direct connectivity to SEHSR Corridor via Gateway Station in Charlotte.
	Does Not Meet		2. Technology is consistent with SEHSR Corridor (emerging HSR diesel – 90-110 mph).
	Does Not Meet		3. Provides connectivity to Charlotte Douglas International Airport.
	Does Not Meet		4. Provides connectivity to GSP Airport.
	Meets		5. Provides connectivity to Georgia MMPT and H-JAIA.
Alternative 5: CSX to Augusta; NS to Columbia, Rock Hill and Charlotte	Partially Meets		1. Provides direct connectivity to SEHSR Corridor via Gateway Station in Charlotte.
	Meets		2. Technology is consistent with SEHSR Corridor (emerging HSR diesel – 90-110 mph).
	Does Not Meet		3. Provides connectivity to Charlotte Douglas International Airport.
	Does Not Meet		4. Provides connectivity to GSP Airport.
	Meets		5. Provides connectivity to Georgia MMPT and H-JAIA.
Alternative 6: CSX to Athens and Chester; NS to Rock Hill and Charlotte	Partially Meets		1. Provides direct connectivity to SEHSR Corridor via Gateway Station in Charlotte.
	Meets		2. Technology is consistent with SEHSR Corridor (emerging HSR diesel – 90-110 mph).
	Does Not Meet		3. Provides connectivity to Charlotte Douglas International Airport.
	Does Not Meet		4. Provides connectivity to GSP Airport.
	Meets		5. Provides connectivity to Georgia MMPT and H-JAIA.

Table A-10: Regional and Intermodal Linkages Ratings by Alternative

ROUTE	REGIONAL AND INTERMODAL LINKAGES	PERFORMANCE RELATIVE TO BEST PERFORMING ALTERNATIVE	SCORE	RATING
Alternative 1: Norfolk Southern	4.5	100%	5.0	Best
Alternative 2: Greenfield	3.5	78%	2.8	Good
Alternative 3: I-85	4.0	89%	3.9	Very Good
Alternative 4: I-20 to Augusta and Columbia; I-77 to Charlotte	1.5	33%	0.5	Poor
Alternative 5: CSX to Augusta; NS to Columbia, Rock Hill and Charlotte	2.5	56%	0.9	Poor
Alternative 6: CSX to Athens and Chester; NS to Rock Hill and Charlotte	2.5	56%	0.9	Poor

A.9. CUMULATIVE EVALUATIONS

The scores from each of the metrics were summed for a total alternative score, assuming all metrics are weighted equally.

Table A-11 shows the final cumulative scores for each potentially feasible alternative, as well as the comparative performance for each alternative.

Table A-11: Total Cumulative Scores and Evaluations by Alternative

ROUTE	PERFORMANCE RELATIVE TO BEST PERFORMING ALTERNATIVE	SCORE	RATING
Alternative 1: Norfolk Southern	23.8	80%	Good
Alternative 2: Greenfield	29.9	100%	Best
Alternative 3: I-85	26.5	89%	Very Good
Alternative 4: I-20 to Augusta and Columbia; I-77 to Charlotte	16.6	56%	Poor
Alternative 5: CSX to Augusta; NS to Columbia, Rock Hill and Charlotte	9.8	33%	Poor
Alternative 6: CSX to Athens and Chester; NS to Rock Hill and Charlotte	13.0	43%	Poor