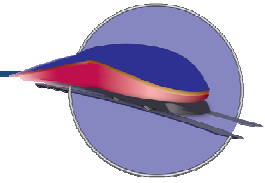


Project Name: NC12.1a SEHSR ■ Current Needs & 3rd Freq Date of Submission: Aug 24 Version Number: L

## High-Speed Intercity Passenger Rail (HSIPR) Program

# Application Form



## Track 1a–Final Design (FD)/Construction

## & Track 4–FY 2009 Appropriations Projects

Welcome to the Track 1a Final Design (FD)/Construction and Track 4 Application for the Federal Railroad Administration’s High-Speed Intercity Passenger Rail (HSIPR) Program. Applicants for Track 1a FD/Construction and/or Track 4 are required to submit this Application Form and Supporting Materials (forms and documents) as outlined in Section G of this application and in the HSIPR Guidance.

We appreciate your interest in the program and look forward to reviewing your application. If you have questions about the HSIPR program or this application, please contact us at [HSIPR@dot.gov](mailto:HSIPR@dot.gov).

### Instructions:

- Please complete the HSIPR Application electronically. See Section G for a complete list of the required application materials.
- In the space provided at the top of each section, please indicate the project name, date of submission (mm/dd/yy) and the application version number. The distinct Track 1a and/or Track 4 project name should be less than 40 characters and follow the following format: State abbreviation-route or corridor name-project title (e.g., HI-Fast Corridor-Track Work IV).
- For each question, enter the appropriate information in the designated gray box. If a question is not applicable to your FD/Construction Project, please indicate “N/A.”
- Narrative questions should be answered concisely within the limitations indicated.
- Applicants must upload this completed application and all other application materials to [www.GrantSolutions.gov](http://www.GrantSolutions.gov) by August 24, 2009 at 11:59pm EDT.
- Fiscal Year (FY) refers to the Federal Government’s fiscal year (Oct. 1- Sept. 30).
- Please direct questions to: [HSIPR@dot.gov](mailto:HSIPR@dot.gov)

## A. Point of Contact and Applicant Information

<b>(1) Application Point of Contact (POC) Name:</b> Patrick Simmons		<b>POC Title:</b> Director, Rail Division, NCDOT		
<b>Street Address:</b> 1 South Wilmington Street	<b>City:</b> Raleigh	<b>State:</b> North Carolina	<b>Zip Code:</b> 27601	<b>Telephone Number:</b> (919) 733-7245 ext. 263
<b>Fax:</b> (919) 715-6580		<b>Email:</b> pbsimmons@ncdot.gov		

(2) Name of lead State or organization applying (only States may apply for Track 4 ): NCDOT

(3) Name(s) of additional States and/or organizations applying in this group (if applicable): N/A

(4) Is this project for which you are applying for HSIPR funding related or linked to additional applications for HSIPR funding that may be submitted in this or subsequent rounds of funding?  Yes  No  Maybe  
 If “yes” or “maybe,” provide the following information:

Program/Project Name	Lead Applicant	Track	Total HSIPR Funding Proposed (if known)	Status of Application
NC 3.1b SEHSR █ Raleigh to Richmond & Enabling Facility	NCDOT	Track 1b - PE/NEPA	\$10.14 M	Applied
NC 5.1a SEHSR █ Stations	NCDOT	Track 1a - FD/Construction	\$7.58 M	Applied
NC 6.1a █ Congestion Mitigation	NCDOT	Track 1a - FD/Construction	\$26.56 M	Applied
NC 7.3 █ WNC/SENC Intercity Passenger Service Expansions	NCDOT	Track 3	\$3.04 M	Applied
NC 8.1a SEHSR █ Other Speed & Safety Improvements	NCDOT	Track 1a - FD/Construction	\$5.78 M	Applied
NC 13.2 SEHSR Corridor	NCDOT	Track 2	\$3.8 B (est)	Will Apply

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## B. Project Overview

<p><b>(1) FD/Construction Project Name:</b> NC12.1a SEHSR ■ Current Needs &amp; 3<sup>rd</sup> Freq</p>
<p><b>(2) Indicate the Track under which you are applying: Track 1a - FD/Construction</b>  <i>Please note if you are applying for Track 1a–FD/Construction and Track 4 <u>concurrently</u>, you must submit <b>two separate versions</b> of this application into <a href="http://www.GrantSolutions.gov">www.GrantSolutions.gov</a> (one for Track 1a –FD/Construction and one for Track 4–FY 2009 Appropriations Projects).</i></p>
<p><b>(3) Indicate the activity(ies) for which you are applying (check both if applicable):</b>  <input checked="" type="checkbox"/> Final Design      <input checked="" type="checkbox"/> Construction</p>
<p><b>(4) What are the anticipated start and end dates for the FD/Construction Project? (mm/yyyy)</b>  <b>Start Date:</b> Upon Notice to Proceed      <b>End Date:</b> 09/2011</p>
<p><b>(5) Total Cost of the FD/Construction Project</b> (year of expenditure (YOE) Dollars*): \$ 29,313,176.79</p> <p><b>Please provide proposed inflation assumptions and methodology, if applicable in the space below. Please limit response to 1,000 characters.</b></p> <p>The ARRA Application Templates/Forms require the calculation of YOE dollars. Estimated rates of inflation from current year dollars to future year dollars need to be calculated, derived or otherwise obtained. OMB circular A-94 (“Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs”) does provide guidance, while allowing that “Analysts should avoid having to make an assumption about the general rate of inflation whenever possible”. The guidance then recommends the use of the current Gross Domestic Product deflator. These values are contained in Table 10.1 on the OMB website and provide values through FY 2014 and historic values dating back to 1940.</p> <p>Therefore, the OMB tabulated values are used. Specifically, the “Direct Capital - Nondefense” column was applied. The projects included as part of this application totaled \$29,190,746.03 in base year dollars.</p> <p><b>Of the total cost of the FD/Construction Project, how much would come from the FRA HSIPR Program:</b> (YOE Dollars**) \$ 22,847,386.79</p> <p><b>Indicate percentage of total cost to be covered by <u>matching funds</u></b> 22 %  <i>Applications submitted under Track 4 require at least a 50 percent non-Federal match to be eligible for HSIPR funding.</i></p> <p><small>* Year-of-Expenditure (YOE) dollars are inflated from the base year.  ** This is the amount for which the applicant is applying.</small></p>
<p><b>(6) Project Overview Narrative. Please limit response to 5,000 characters.</b></p> <p>Provide an overview of the main features and characteristics of the FD/Construction Project, including:</p> <ul style="list-style-type: none"> <li>• The location of the project including name of rail line(s), State(s), and relevant jurisdiction(s) (include map if available in supporting documentation).</li> <li>• Identification of service(s) that would benefit from the project, the stations that would be served, and the State(s) where the service operates.</li> <li>• How the project was identified through a planning process and how the project is consistent with an overall plan for developing High-Speed Rail/Intercity Passenger Rail service.</li> <li>• How the project will fulfill a specific purpose and need in a cost-effective manner.</li> <li>• The project’s independent utility.</li> <li>• The specific improvements contemplated.</li> <li>• Any use of railroad assets or rights-of-way, and potential use of public lands and property.</li> <li>• Other rail services, such as commuter rail and freight rail that will make use of, or otherwise be affected by, the project.</li> </ul>

The project involves the purchase and rehabilitation of equipment to provide a 3rd frequency as well as infrastructure and equipment currently needed to provide improved and reliable service on the Raleigh to Charlotte Piedmont Corridor over the State owned North Carolina Railroad (NCRR). Stations served along this corridor are: Raleigh, Cary, Durham, Burlington, Greensboro, High Point, Salisbury, Kannapolis and Charlotte. Future stops in Lexington, Hillsborough and Winston-Salem are projected. Connecting bus service is currently provided to Winston-Salem. 60% of the State’s residents live within 20 miles of these stations which are served by the State supported Carolinian and Piedmont intercity services. The 3rd frequency is part of NCDOT’s Piedmont Corridor which is part of the federally designated SEHSR connecting New York/Boston south to Jacksonville, Orlando, Tampa, and Miami, FL, and southwest to Atlanta, GA, ultimately connecting to the Gulf Coast High Speed Rail Corridor extending to Louisiana.

Identification of current needs is based on operations data/standards and studies. The Haw River siding identified in the FRA Technical Monograph is needed to eliminate a bottleneck which can cause delays of up to 30 minutes. Capital Yard improvements were identified based on experience/analysis to improve efficiency for current operations and 3rd Frequency. The 3rd frequency represents NCDOT’s next step in a planned and programmed increase in service for the Raleigh to Charlotte Piedmont Corridor covered in the SEHSR Tier I EIS.

NCDOT’s cost effective implementation of passenger service is evidenced by its purchase and rehabilitation of used equipment to provide 110 mph capable equipment, and its management of equipment rebuilds and maintenance. These practices achieve approximately 50% savings compared to purchasing new equipment and significant reductions in cost through its management of equipment maintenance at its State owned facility. Refurbished passenger equipment, along with all other project elements can be placed into service within two years.

Specific project elements and their TIP numbers include:

Current Needs

- construct Haw River Siding (TIP P-3414O)
- mid-life rebuild of 2 locomotives (TIP: P-2918)
- improve tracks at Capital Yard (TIP: P-2918)

3rd Frequency

- rehabilitate 3 passenger rail cars (TIP: P-2918)
- purchase/mid-life rebuilds 3 used locomotives (TIP: P-2918)

Current needs - Carolinian and Piedmont

- To increase service speed, reliability and corridor safety, track improvements will be made near Haw River in Alamance County. The improvements include flattening a curve and constructing a rail siding. NCDOT will acquire needed right-of-way. The project will increase passenger train speeds from 50 to 79 (and higher with PTC). The siding will allow for meets and passes of passenger and freight trains on a 20-mile section of single track railroad. The siding will increase reliability and the curve realignment will save about a minute of travel time per train.
- To bring existing locomotives to EPA Tier 0+ or I prime movers and Tier II standards and Tier II HEP engines and to extend the service life, mid-life rebuilds are required.
- To better accommodate maintenance and inspection of its current/growing passenger train fleet improvements will be made at its Capital Yard facility in Raleigh including extending tracks 1 and 2, major improvements to track 3 and constructing track pans and concrete pads.

3rd Frequency

To implement an additional service frequency of the Piedmont between Raleigh and Charlotte, NCDOT needs:

- To purchase and rehabilitate three used locomotives, and
- Rehabilitate three currently owned passenger cars,

Freight traffic is light on the Raleigh to Greensboro corridor, where the Haw River Siding will be constructed with higher volumes on the Greensboro to Charlotte section. Freight service operated by Norfolk Southern Railway over the State owned NCRR will not be affected by 3rd Frequency.

**(7) Status of Activities: Are any FD or Construction activities that are part of this planned investment underway or completed?**



**(11) Services.** Provide information for all existing rail services within project boundaries (freight, commuter, and intercity passenger). *If more than three services, please detail in Section F of this application.*

Type of Service	Name of Operator	Top Speed Within Project Boundaries		Number of Route-Miles Within Project Boundaries	Average Number of Daily One-Way Train Operations <sup>2</sup> within Project Boundaries	Notes
		Passenger	Freight			
Freight	NS		55	< 5	5	None
Intercity Passenger	AMTRAK	55			4	None
Freight						

**(12) Rolling Stock Type.** Describe the fleet of locomotives, cars, self-powered cars, and/or trainsets that would be intended to provide the service upon completion of the project. *Please limit response to 1,000 characters.*

Equipment requests includes:

- Mid-life rebuilds for 2 F59PHI locomotives currently in service
- Purchase of 2 3200hp F59PH locomotives for 3rd Frequency
- Mid-life rebuilds for one GP40H-2 and 2 F59PH locomotives for the 3rd Frequency
- Rehabilitation of 3 passenger cars (1 coach and 2 lounge cars) for the 3rd Frequency from Raleigh to Charlotte.

The used locomotives purchased are very similar to other NCDOT units; therefore, NCDOT will realize major materials savings due to parts compatibility. Additionally, there will be labor savings due to the fact that NCDOT's maintenance contractor, Herzog, is familiar with this locomotive type. Three of the locomotives recently arrived at American Motive Power's, Dansville, NY rebuild shop for their mid-life rebuilds and emissions upgrades. The Delaware Car Co., Wilmington, DE is refurbishing the passenger cars.

**(13) Intercity Passenger Rail Operator.** Provide the status of agreements with partners that will operate the benefiting high-speed rail/intercity passenger rail service(s) upon completion of the planned investment (e.g., Amtrak).  
 Name of Operating Partner: AMTRAK  
 Status of Agreement: Preliminary executed agreement/MOU

**(14) Benefits to Other Types of Rail Service(s).** Are benefits to non-intercity-passenger rail services (e.g., commuter, freight) foreseen?  
 Yes     No  
 If "Yes", provide further details in Section E, Question 2.

<sup>2</sup> One daily round-trip train operation should be counted as two daily one-way train operations.

Project Name: NC12.1a SEHSR – Current Needs & 3rd Freq Date of Submission: Aug 24 Version Number: L

### C. Eligibility Information

**(1) Select applicant type, as defined in Appendix 1.1 of the HSIPR Guidance (only States may apply for Track 4):**

- State
- Amtrak

**If one of the following, please append appropriate documentation as described in Section 4.3.1 of the HSIPR Guidance:**

- Group of States
- Interstate Compact
- Public Agency established by one or more States
- Amtrak in cooperation with a State or States

**(2) Establish Completion of Preliminary Engineering.** In the space(s) below, please list the documents that establish completion of Preliminary Engineering for the project covered by this application. See HSIPR Guidance Appendix 2.2. If more than four references need to be listed, please place the additional information in Question F.

Document Name	Completion Date (mm/yyyy)
<a href="#">Graham to Haw River Passing Siding and Curve Realignment</a>	07/2009
<a href="#">Standards &amp; Practices for NCDOT Passenger Cars &amp; Locomotives</a>	09/2008
<a href="#">Rebuild Specifications for Locomotive Mid-Life Rebuild, EMD F59PH Locomotives 1810 and 1859</a>	07/2007
See Section F.C2	

**(3) Establish Completion of NEPA Documentation (the date document was issued and how documentation can be verified by FRA).** The following are approved methods of NEPA verification (in order of FRA preference): 1) References to large EISs and EAs that FRA has previously issued, 2) Web link if NEPA document is posted to a website (including www.fra.gov), 3) Electronic copy of non-FRA documents attached with supporting documentation, or 4) a hard copy of non-FRA documents (large documents should not be scanned but should be submitted to FRA via an express delivery service). See HSIPR Guidance Section 1.6 and Appendix 3.2.9.

Documentation	Date (mm/yyyy)	Describe How Documentation Can be Verified
<input checked="" type="checkbox"/> Categorical Exclusion Documentation	08/2009	Capital Yard: (Most of the reference documents have been attached to this application. For those not attached, please go to <a href="http://bytrain.org/fra">http://bytrain.org/fra</a> )
<input checked="" type="checkbox"/> Final Environmental Assessment	07/2009	Haw River: (see above)
<input type="checkbox"/> Final Environmental Impact Statement		

**(4) Indicate if there is an environmental decision from FRA (date document was issued and web hyperlink if available).**

Documentation	Date (mm/yyyy)	Hyperlink (if available)
<input type="checkbox"/> Categorical Exclusion Determination		
<input checked="" type="checkbox"/> Finding of No Significant Impact	07/2009	Most of the reference documents have been attached to this application. For those not attached, please go to <a href="http://www.bytrain.org/fra">www.bytrain.org/fra</a>
<input checked="" type="checkbox"/> Record of Decision	10/2002	see above

Project Name: NC12.1a SEHSR – Current Needs & 3rd Freq Date of Submission: Aug 24 Version Number: L

## D. Public Return on Investment

**(1) 1A. Transportation Benefits.** See HSIPR Guidance Section 5.1.1.1. Please limit response to 8,000 characters:

How is the project anticipated to improve Intercity Passenger Rail (IPR) service? Describe the overall transportation benefits, including information on the following (please provide a level of detail appropriate to the type of investment):

- **IPR network development:** Describe improvements to intermodal connections and access to stations as well as actual and potential expansions to the IPR network that may result from the project (including opportunities for interoperability with other services).
- **IPR service performance improvements** (also provide specific metrics in table 1B below): Please describe service performance improvements directly related to the project, as well as a comparison with the existing service (without project). Describe relevant reliability improvements (e.g., increases in on-time performance, reduction in operating delays), reduced schedule trip times, increases in frequencies, aggregate travel time savings (resulting from reductions to both schedule time and delays, expressed in passenger-minutes), and other relevant performance improvements.
- **IPR service results** (also provide specific metrics in table 1B below): Describe relevant outcomes of the service improvement such as increases in ridership, passenger-miles, and other results in comparison with the existing service (without project).
- **Suggested supplementary information** (only when applicable):
  - **Transportation Safety:** Describe overall safety improvements that are anticipated to result from the FD/Construction Project, including railroad and highway-rail grade crossing safety benefits, and benefits resulting from the shifting of travel from other modes to safer IPR service.
  - **Cross-modal benefits from the FD/Construction Project, including benefits to:**
    - ✓ **Commuter Rail Services** – Service improvements and results (applying the same approach as for IPR above).
    - ✓ **Freight Rail Services** – Service performance improvements (e.g., increases in reliability and capacity), results (e.g. increases in ton-miles or car-miles of the benefiting freight services), and/or other congestion, capacity or safety benefits.
    - ✓ **Congestion Reduction/Alleviation in Other Modes; Delay or Avoidance of Planned Investments** – Aviation and highway congestion reduction/alleviation, and/or other capacity or safety benefits. Describe any planned investments in other modes of transportation that may be avoided or delayed due to the improvement to IPR service that will result from the project.

The Southeast High Speed Rail (SEHSR): Piedmont Corridor Service 3rd Frequency Project will provide an array of transportation benefits to the region. As a part of the federally designated SEHSR Corridor, the Piedmont Corridor benefits will extend beyond North Carolina to the north as a natural extension of the Northeast Corridor (NEC) and to the south, by expanding intercity passenger rail accessibility to an ever increasing number of travelers along the entire East Coast; and to the southwest to states including; Alabama, Mississippi and Louisiana.

Improving passenger rail service in the corridor and ensuring its place as an integral part of the region's vast transportation network is crucial to the economic vitality and quality of life of those who live and work, not only in North Carolina, but all along the East Coast and beyond. In the states along the SEHSR Corridor, where population is expected to grow by 21-52% over the next 20 years (with North Carolina ranked 7th in the nation at a projected growth of 52%), passenger rail will be counted upon to move more people more efficiently, more reliably and more frequently.

The Piedmont Corridor Service 3rd Frequency Project continues North Carolina's long history of developing and improving passenger rail service, which began in 1849 with the charter of the state's first corporation, the NCRR, whose purpose was to provide freight and passenger service. North Carolina is one of only 14 states to actively

invest in intercity passenger rail service routes. Primarily, those investments have been in support of the two services initiated by the state in the 1990's – the Piedmont (between Raleigh and Charlotte), and the Carolinian (Washington to Charlotte). NC funds Amtrak operated services by covering direct operating costs not covered by fare revenue. NC has also supported intercity passenger rail service by investing heavily in rail infrastructure. In fact, between 2002 and 2008, NC invested more than \$46+ million in the State owned NC Railroad Corridor ([www.bytrain.org/fra](http://www.bytrain.org/fra)). These investments directly benefited passenger rail service by reducing travel times between Raleigh and Charlotte by 34 minutes.

As an integral part of implementing the 3rd Frequency service, it has been necessary to purchase and rehabilitate equipment which will provide efficient, safe, sound and modern service which will accommodate and promote increased ridership, more frequencies, and increased passenger demand which is projected to equate to an increase in passenger miles for the new service from 7.8 million to 10 million and annual passenger trips from 65,941 to 74,423 after just the first full year of project completion.

In order to successfully operate the 3rd Frequency, NCDOT determined the need for two more locomotives. Since the lead time (18 months) for delivery of new locomotives as well as a higher cost (about 3 times higher) was prohibitive, it was decided to purchase 2 used F59 PH 3200 hp locomotives and complete mid-life rebuilds to achieve "like new" condition, with emissions upgrades that would meet compliance requirements. Because they are very similar to other locomotives in service on the corridor (existing NCDOT F59 PHI units) the Department will realize materials savings due to parts compatibility. There will also be labor cost benefits derived from Herzog's (NCDOT's maintenance contractor) familiarity with this type of locomotive.

NCDOT also determined the need for three additional passenger cars to be refurbished for 3rd Frequency service in order to provide better, more efficient and reliable equipment to progress NCDOT towards achieving its goals of efficient service with increased daily round trip train operations (which will increase from 1 to 2 daily), meet customer needs, and continue to attract new customers to passenger service. The refurbished cars include one 66 seat coach and two lounge cars. The coach car was completely rehabilitated and is back in daily Piedmont service; the two lounge cars will be converted from lounge cars with galleys to baggage/lounge cars with vending machine service. The refurbished cars provide customer amenities and comfort, as well as, a budget friendly and timely alternative to purchasing new models. The cars will, or have been modified to meet or exceed FRA and APTA regulations.

Intercity Passenger Rail Service performance improvements anticipated as a result of the 3rd Frequency project will include; continued increases in annual passenger trips from approximately 42,800 to over 50,000 by the fifth full year after project completion. Daily average round trips will increase from 2 to 3. Over that same period of time, top operating speeds are expected to increase from 79 to 90 mph with Positive Train Control (PTC). In five years, these improvements will result in passenger miles increases of approximately 27 million over FY 2008 levels annually. These results will lead to more efficient, desirable, and accessible service and will provide much needed relief for other modes of transportation in the region, thus reducing congestion and providing real transportation choices for the traveling public.

The individual elements of this 3rd Frequency application provide critical improvements along the corridor, which will result in crucial benefits to be accrued by both the public and private sector. Major improvements will be made at Capital Yard to provide critical maintenance support for passenger trains serving the corridor. The Haw River Passing Siding will provide public benefits by improving safety, improving OTP by allowing trains to pass by without delay, which can be as much as 30 minutes per day. The Curve Realignment will flatten a curve, increase speeds initially from 55 to 79 mph, and reduce travel time by a minute per train. Such benefits can shorten trip times, increase frequencies and prevent delays. The improvements at Haw River will also improve air quality, efficiency and capacity for both passengers as well as freight.

Safety is a major priority for the 3rd Frequency project and for the entire SEHSR corridor. NC's historic Sealed Corridor Program, along the existing high-speed rail corridor from Charlotte to Raleigh was the first such program in the nation. Since the Washington, DC- Raleigh-Charlotte Southeast Rail Corridor was designated, in 1992, by the USDOT as one of five federally designated future high-speed rail corridors; North Carolina has received special federal funds to improve railroad crossing safety along this corridor.

In an ongoing effort to improve protection at, or eliminate rail-highway crossings, NCDOT has worked with communities across the state to increase the safety of those crossings. Those efforts evaluated crossings for closures, and protected remaining at-grade crossings with median separators, longer gate arms, four quadrant arms, four

quadrant gates, and other innovative signage and traffic control devices. These devices are “off the shelf” technologies that have been, and will continue to be, applied in a new way along the corridor to enhance and promote safety with continued advances in technology being developed and implemented continuously.

A particularly innovative aspect of the NC Sealed Corridor Program is “The Private Crossing Safety Initiative” which inventoried and evaluated all private crossings on the corridor and recommended signalization, signage, closure and gate/lock treatments. This is very much atypical of traditional agreements which are usually between railroad companies and private property owners, under the jurisdiction of the railroads, with no public agency involvement.

See F.D1A

**1B. Operational and Ridership Benefits Metrics:** In the table(s) below, provide information on the anticipated transportation benefits and ridership changes projected to result from the project. Please do not include benefits and changes that would occur even if the project is not implemented (for example, as a result of population or economic growth factors).

Project/Program Metric	Actual— FY 2008 levels	Projected Totals by Year (Actual Levels Plus Project-Caused Changes Only)		“X” If N/A or Unsure
		First Full Year After Project Completion	Fifth Full Year After Project Completion	
Annual passenger-trips	0	42,800	50,758	<input type="checkbox"/>
Annual passenger-miles (millions)	0	5.3	6.3	<input type="checkbox"/>
Annual IPR seat-miles offered (millions)	0	146	146	<input type="checkbox"/>
Average number of daily round train trip operations (typical weekday)	2	3	3	<input type="checkbox"/>
On-time performance (OTP) <sup>3</sup> – percent of trains on time at endpoint terminals	63.2%	64.2%	64.2%	<input type="checkbox"/>
Average train operating delays: minutes of en-route delays per 10,000 train-miles <sup>4</sup>	1,429			<input checked="" type="checkbox"/>
Top operating speed (mph)	79	79	79	<input type="checkbox"/>
Average scheduled operating speed (mph) (between endpoint terminals)	51	51	51	<input type="checkbox"/>

**(2) 2A. Economic Recovery Benefits.** *This section is required for Track 1a, and optional for Track 4. Please limit response to 4,000 characters. For more information, see Section 5.1.1.2 of the HSIPR Guidance.*

Describe the contribution the FD/Construction Project is intended to make towards economic recovery and reinvestment, including information on the following:

- How the project will result in the creation and preservation of jobs, including number of onsite and other direct jobs

<sup>3</sup> As calculated and reported by Amtrak according to its existing procedures and definitions. An example can be found at page E-7 of the May 2009 Monthly Performance Report at <http://www.amtrak.com/pdf/0905monthly.pdf>. ‘On-time’ is defined as within the distance-based thresholds originally issued by the Interstate Commerce Commission, which are: 0 to 250 miles and all Acela trains—10 minutes; 251 to 350 miles—15 minutes; 351 to 450 miles—20 minutes; 451 to 550 miles—25 minutes; and 551 or more miles—30 minutes.

<sup>4</sup> As calculated by Amtrak according to its existing procedures and definitions. Useful background can be found at pages E-1 through E-6 of Amtrak’s May, 2009 Monthly Performance Report at <http://www.amtrak.com/pdf/0905monthly.pdf>

- (on a 2,080 work-hour per year, full-time equivalent basis), and timeline for achieving the anticipated job creation.
- How the different phases of the project will affect job creation (consider the construction period vs. operating period)
- How the project will create or preserve jobs or new or expanded business opportunities for populations in Economically Distressed Areas (consider the construction period vs. operating period)
- How the project will result in increases in efficiency by promoting technological advances.
- How the project represents an investment that will generate long-term economic benefits (including the timeline for achieving economic benefits and describe how the project was identified as a solution to a wider economic challenge)
- If applicable, how the project will help to avoid reductions in State-provided essential services.

North Carolina has long recognized the importance of investing in the development of intercity passenger rail service; while also being cognizant of the benefits those investments will have on the economic vitality of the corridor and the state. On October 19, 2007, the NC House Select committee on Expanding Rail Service made a recommendation to the General Assembly that recommended that it "should consider increasing investments in passenger rail and rail transit to increase choice, reduce high congestion, and promote economic development...the communities in these corridors have demonstrated long-term support for renewal of passenger rail service and have stressed the capacity of passenger rail to provide greater choice and opportunity to their citizens and to promote urban and regional economic development."

The individual investments that collectively comprise the elements of this application will rapidly create jobs in the corridor communities and throughout the state. With the current downturn in the homebuilding and non-residential building industry, construction workers will enjoy a much-needed economic boost. It is estimated that a total of 329 jobs will be created or preserved in corridor communities, with an additional 88 jobs created elsewhere in the state. These estimates include construction workers on the projects as well as jobs created and supported in other industries as those workers and materials providers spend their earnings and the dollars circulate through the economy. The elements of this application include funding for purchase and rehabilitation of equipment (as described in previous sections) to effectively implement the 3rd frequency. As a result, 25 jobs will be created or preserved in the States of New York and Delaware. (Rehabilitation work to be done at Motive Power Industries in NY and Delaware Car Co. in DE).

The 3rd frequency will require additional hiring in order to maintain the equipment. Direct hiring associated with the 3rd frequency includes; 4 engineers, 3 conductors, 3 maintenance workers & 1 Capital Yard operations manager for a total of 11 jobs based on NCDOT staffing estimates. In addition, 3 new jobs will be created at the Cary train station. These are to be recurring jobs over the long-term operating period, and are anticipated to be created in NC.

The engineers, conductors and other staff hired to support service expansion will spend their wages and create proportional increases in demand for a range of goods and services which project to support the creation or preservation of a total of 45 jobs in the corridor communities where the 3rd frequency operates.

Since several counties in NC meet the Economically Distressed Area (EDA) criteria, (i.e. Rowan, Alamance and Davidson) the 45 additional workers needed for the operations phase can reasonably be assumed to live in the Corridor communities; it can also be assumed there will be EDA workers supported by the elements of this project.

The elements of the 3rd frequency projects will also provide strong support for workers located in several EDAs during the construction period as the Haw River siding project is located in Alamance County. With an average of 7.04% over the most recent 24 months, NC's avg. unemployment rate exceeds the US avg. of 6.26% over the same period by over 1 percentage point. This means that the NC itself meets the definition of EDA. These jobs will be created quickly and will provide much-needed support to struggling communities, many of which currently have jobless rates in double digits. NC's unemployment rate is 11% (June 2009), more than a full percentage point above the US average.

See F.D2A

**2B. Job Creation:** Provide the following information about job creation through the life of the FD/Construction Project. Please consider construction, maintenance, and operations jobs.

Anticipated number of <u>annual</u> onsite and	FD/ Construction Period	First full Year of Operations	Fifth full Year of Operations
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other direct jobs created (on a 2080 work-hour per year, full-time equivalent basis)	417 (construction) 25 rail rehabilitation and manufacturing jobs in Delaware and New York (2009 - 2011)	14 direct; 45 total in North Carolina	14 direct; 45 total in North Carolina
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**(3) Environmental Benefits.** *Please limit response to 4,000 characters.*

How will the FD/Construction project improve environmental quality, energy efficiency, and reduction in the Nation’s dependence on oil? Address project-caused changes in the following:

- Any projected reductions in key emissions (CO<sub>2</sub>, O<sub>3</sub>, CO, PM<sub>x</sub>, and NO<sub>x</sub>) and their anticipated effects. Provide any available forecasts of emission reductions from a baseline of existing service for the first and fifth years of full operation (*provide supporting documentation if available*).
- Any expected energy and oil savings from traffic diversion from other modes and changes in the sources of energy for transportation. Provide any available information on changes from the baseline of the existing service for the first and fifth years of full operation (*provide supporting documentation if available*).
- Use of green methods and technologies. Address green building design, “Leadership in Environmental and Energy Design” building design standards, green manufacturing methods, energy efficient rail equipment, and/or other environmentally-friendly approaches.

By the year 2011 ridership is projected to increase by 26,657 trips with the addition of the 3rd frequency Piedmont Corridor rail passenger service. Assuming that most of the increases in ridership will come from trips that would have otherwise been made by auto, there will be a 1,399,759 pound reduction in CO<sub>2</sub> emissions, a 3,288,674 pound reduction of NO<sub>x</sub> emissions and a 2,062,718 pound reduction of volatile organic compounds by the year 2011. This is in addition to the energy savings created by increased ridership. Using FHWA statistics (vehicle occupancy ratio to diverted ridership), 18,134 vehicles will be removed by the year 2011. This will increase to 36,381 vehicles removed from the nation’s highways by 2015.

The environmental benefits to be accrued from the equipment purchased and refurbished will be both short term and long term. By re-using equipment rather than purchasing or ordering new equipment (such as new locomotives) there is a reduction in greenhouse gases that would have resulted in building new. The refurbished equipment will be modified to meet new energy efficiency standards and thereby improve air quality along the corridor. The new standards applied will also result in less emissions and noise, further improving quality of life along the corridor, in the region, and in the surrounding communities. The increased ridership generated by increased frequency and flexible schedules will reduce congestion on the region’s highways and provide commuters with real options when choosing a preferred mode of travel for work or leisure.

The locomotive rebuilds will include mid-life overhauls of all major components to “like new” condition and emissions upgrades to the main engines and the HEP engine/alternator packages. The #1792 GP40H-2 locomotive will have its engine upgraded to EPA Tier 0 compliance and its HEP package reconditioned. Two of the four F59PH locomotives will be upgraded to EPA Tier 0+ standards and their HEP packages replaced with new Tier II compliant packages. The other two F59PH locomotives have been in daily service for 12 years and will have emissions upgrades performed on them that will make their prime movers EPA Tier I compliant and their HEP packages replaced with new Tier II compliant packages. These upgrades will also result in improved fuel economy. The specifications and bid package for the mid-life rebuilds and emissions upgrades for the locomotives have been completed and may be accessed at <http://bytrain.org/fra>.

In conjunction with the Piedmont Corridor Projects related to the SEHSR Corridor, NCDOT, in partnership with NC State University, USEPA and USDOT- FRA, has been engaged in an ongoing locomotive emissions research and alternative fuel analysis project. This project involves extensive testing to determine optimum emissions on ultra low sulfur diesel fuel. Upcoming tests will analyze B-20 biodiesel fuel usage and ways to improve emissions.

The Graham to Haw River passing siding and curve realignment will decrease delays and increase speed - initially from 55 to 79 miles per hour - by flattening the curve. Such improvements as in this example, will prevent delays, relieve congestion and help to improve quality of life.

**(4) Livable Communities Project Benefits Narrative.** *(For more information, see Section 5.1.1.3 of the HSIPR Guidance, Livable Communities). Please limit response to 3,000 characters.*

How will the FD/Construction Project foster Livable Communities? Address the following:

- Integration with existing high density, livable development: Provide specific examples, such as (a) central business districts with walking/biking and (b) public transportation distribution networks with transit-oriented development.
- Development of intermodal stations: Describe such features as direct transfers to other modes (both intercity passenger transport and local transit).

NCDOT's Mission, "Connecting people and places in North Carolina – safely and efficiently, with accountability and environmental sensitivity" directly relates to multimodal connectivity which, in itself, plays a large part in support of sustainable and "livable communities". Connectivity provides a seamless transportation experience and is a critical component in NCDOT's mission. As passenger rail service grows and as energy costs rise, viable transportation choices and multi-modal connectivity will grow in importance.

Purchasing and rehabilitating equipment for use on the 3rd Frequency is only a step in the process for bringing to fruition the next frequency of service required to fulfill NCDOT's mission and to fully progress the intercity passenger rail system envisioned over 20 years ago. As the overall plan has unfolded, communities have been a central part of that plan – restoring the historic stations along the corridor and creating community epicenters that are integral to the economic development of the state and the seamless mobility and flexibility of choice.

The NC Station Restoration Program has been a tremendous success – from Burlington to Wilson stations are in the process of being restored or have been restored and upgraded and have become thriving centers of their communities. Adding the 3rd Frequencies will increase the service offering and will make traveling by train an even more viable and attractive option, thus making living close to the train station even more desirable.

Mixed use development has occurred as these stations have been renovated and returned to the communities. In Greensboro, for example, downtown is enjoying a rejuvenation. There are a number of new public and private initiatives to bring people back downtown. Part of the effort includes a downtown ball field for the minor league Greensboro Bats and a cultural district anchored on one end by the revitalized train station and several museums and the library at the other end. Efforts are also at work to foster retail and entertainment business and downtown housing options to encourage people to come back to downtown.

See F.D4

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## E. Project Success Factors

**(1) Project Management Approach and Applicant Qualifications Narrative:** *Please provide separate responses to each of the following. Additional information on project management is provided in Section 5.1.2.1 of the HSIPR Guidance, Project Management.*

**1A. Applicant qualifications.** *Please limit response to 2,000 characters.*

Management experience: Does the applicant have experience in managing rail investment projects and managing projects of a similar size and scope to the one proposed in this application?

Yes - Briefly describe experience (brief project(s) overview, dates)

No- Briefly describe expected plan to build technical and managerial capacity; provide reference to Project Management Plan.

NCDOT has an extensive record of successfully planning, designing, constructing and operating major rail projects. The state has made capital and operating investments in rail service since it began supporting Amtrak service in 1994.

Examples include:

- North Carolina Railroad Improvement Project (NCRRIIP) - The NCDOT is investing state and federal funds to upgrade tracks and signals in the NCRRIIP corridor. The program includes major track and signal work totaling over \$150 million. Work on NCRRIIP began in 2001 and 9 projects totaling over \$30 million have been completed.
- Global TransPark GTP is a large industrial site in Eastern NC. NCDOT is constructing 5.8 miles of new track, including a railway bridge and 10 roadway crossings, to provide rail access for a major manufacturing facility. NCDOT has adopted an ultra-expedited approach to plan, design and construct the line in 3 years. Environmental documentation and FD are being developed concurrently and construction is expected to begin in early 2010, 16 months after project initiation.
- Equipment Procurement & Rehabilitation - NCDOT procures and refurbishes rail locomotives and passenger cars. NCDOT writes the specifications, solicits proposals, awards contracts, manages the work and inspects and tests the vehicles for final acceptance.
- Equipment Maintenance - NCDOT owns the trains used for the Piedmont service. This equipment is maintained at NCDOT maintenance facilities. NCDOT contracts with Herzog to maintain their rail equipment. The NCDOT Rail Operations Manager oversees the equipment maintenance functions performed by the contractor.
- Stations - NCDOT is upgrading all of the stations in the state. Sixteen stations have been renovated and 2 new stations have been built. NCDOT works with the localities to develop attractive station facilities that provide a welcoming gateway to the rail system and serve as key focal points in the communities.

See Section 2.3 of the Project Management Plan for details.

**1B. Describe the organizational approach for the different project stages included in this application (final design, construction), including the roles of staff, contractors and project stakeholders in implementing the project. For construction activities, provide relevant information on work forces, including railroad contractors and grantee contractors.** *Please limit response to 2,000 characters.*

NCDOT is responsible for planning and implementing all modes of transportation in the state. NCDOT was reorganized in 2008 to align its business units along functional lines to make the agency more strategically oriented, accountable, efficient and effective in implementing transportation projects. This new alignment eliminates redundancies and de-layers the organization and focuses the agency on outcomes-based performance.

The Rail Division is responsible for rail programs, including the planning, implementation and operation of passenger service, station improvements, grade crossing safety, industrial access and corridor preservation. The Division has extensive experience in delivering projects both by using its own staff and by hiring and managing contractors. The Rail Division has several rail consulting firms under on-call contracts to insure availability of specialized rail resources. Contractors are available to perform specialized planning and performance analysis studies, final design engineering and construction management.

NCDOT will utilize professional engineering contractor services for FD work. In some cases NCDOT may contract directly with the railroad owners and they will use their own forces to perform the FD work. In either case, NCDOT staff will manage these consultant contracts to ensure that the work is done to meet quality standards on budget and on schedule.

Different project delivery approaches are used to construct projects, depending on the project type. For work on active railroads, NCDOT will contract directly with the owning railroads which will do the work either with their own forces or through force accounts. For projects that are adjacent to, or completely off of an active railroad, NCDOT will procure and manage contractors. Coordination with key stakeholders, including railroads, localities and adjacent property owners is a critical role conducted by NCDOT staff on all projects.

**1C. Does the FD/Construction Project require approval by FRA of a waiver petition from a Federal railroad safety regulation? (Reference to, or discussion of, potential waiver petitions will not affect FRA’s handling or disposition of such waiver petitions.)**

- YES- If yes, explain and provide a timeline for obtaining the waivers  
 NO

*Please limit response to 1,500 characters.*

**1D. Provide a preliminary self-assessment of project uncertainties and mitigation strategies (consider funding risk, schedule and budget risk and stakeholder risk). Describe any areas in which the applicant could use technical assistance, best practices, advice or support from others, including FRA. Please limit response to 2,000 characters.**

NCDOT has stakeholder agreements in place and has extensive experience in building rail improvements on the corridor owned by NCRR and operated by NS. NCDOT has considerable experience in developing equipment specifications and managing rehabilitation of locomotives and rail equipment. Through the North Carolina Railroad Improvement Program (NCRRIP), NCDOT has partnered with NSR, NCRR and CSXT to design and construct a series of rail infrastructure improvements. Through this experience NCDOT has developed confidence in its ability to deliver projects in the railroad environment.

NCDOT utilizes resources available across all of its divisions to manage the HSIPR projects. This is led by the Rail Division, whose staff has extensive rail project experience. NCDOT has adequate resources to manage a large influx of ARRA HSIPR funds. There will be a learning curve involved as individuals migrate their skills from one mode (highways) to another (rail). This is an area in which technical assistance may be needed to help train highway engineers to become rail engineers.

There is uncertainty over the ability of CSXT and NS to provide adequate staff resources to accomplish design and construction work on their property. Both railroads will likely have many ARRA projects across their systems, and they will be hard-pressed to deliver all of the work requested of them on very tight ARRA schedules. NCDOT is in a strong position with both railroads possessing a history of successfully implementing rail improvements. NS in particular has developed a high level of confidence in the NCDOT rail division and it permits the state to do final design work that would normally be done by its own engineers.

See F.EID

**(2) Stakeholder Agreements Narratives.** *Additional information on Stakeholder Agreements is provided in Section 5.1.2.2 of the HSIPR Guidance.*

Under each of the following categories, describe the applicant’s progress in developing requisite agreements with key stakeholders. In addition to describing the current status of any such agreements, address the applicant’s experience in framing and implementing similar agreements, as well as the specific topics pertaining to each category.

**2A. Ownership Agreements** – Describe how agreements will be finalized with railroad infrastructure owners listed in the “Right-of-Way Ownership” and “Service Description” tables in Section B. If appropriate, “owner(s)” may also include operator(s) under trackage rights or lease agreements. Describe how the parties will agree on project design and scope,

project benefits, project implementation, use of project property, project maintenance, scheduling, dispatching and operating slots, project ownership and disposition, statutory conditions and other essential topics. Summarize the status and substance of any ongoing or completed agreements. *Please limit response to 2,000 characters.*

NCDOT staff has negotiated very successfully with the operating railroads over the past 20 years or more. This success has been based on a thorough understanding of the issues on both sides of the table and the reality of the negotiation process. Our understanding of operating, financing and maintenance issues, among others, is augmented where necessary by experienced consultants that have additional experience dealing with typical and extraordinary railroad issues that are encountered with every project.

The North Carolina Railroad (NCRR) has an existing agreement with Norfolk Southern Railway (NSR) dated July 27, 1999. Norfolk Southern Railway has continued to operate on the property of NCRR under the provisions of federal and/or state law.

NCRR has granted to NSR exclusive freight trackage rights over the lines and properties of NCRR owned by NCRR as of the date hereof, thereby extending to NSR the exclusive right to conduct freight operations over the NCRR lines and properties, including performance of local freight service on those lines and properties.

NCRR has also granted to NSR such operating rights over the lines of NCRR as will permit continuation of Amtrak's existing operations over NCRR's lines, together with such additional operating rights over lines of NCRR operated by NSR as may from time to time during the term of the Agreement be required for the continuation or modification.

NC has a contract agreement with Herzog Company to maintain their equipment to FRA standards.

For the Haw River Passing Siding, NCRR owns the railroad right-of-way and a master agreement is in place with supplemental MOUs. NCDOT will acquire tangential right-of-way to flatten the curve and will tie in at both ends with NCRR.

In the case of improvements to Capital Yard, the yard is owned by the State of North Carolina.

**2B. Operating Agreements** – Describe the status and contents of agreements with the intended operator(s) listed in “Services” table in the Project Overview section above. Address project benefits, operation and financial conditions, statutory conditions, and other relevant topics. *Please limit response to 2,000 characters.*

**Amtrak:** The North Carolina Department of Transportation has a contractual agreement with the National Railroad Passenger Corporation (Amtrak) to subsidize the operations of the Carolinian and Piedmont trains. Under this agreement, which is renewed annually, NCDOT is responsible for covering all of the losses incurred in the operation of these trains. NCDOT makes payments to Amtrak one month in advance, and quarterly adjustments are made to reflect actual revenues and fuel costs. As part of the agreement with Amtrak, NCDOT owns and maintains the rail equipment used to operate the Piedmont service between Charlotte and Raleigh. NCDOT has a fleet of refurbished passenger coaches and locomotives which it stores and maintains in Capital Yard in Raleigh.

**Norfolk Southern Railway:** On July 27, 1999 the North Carolina Railroad (NCRR) and Norfolk Southern Railway (NSR) entered into a Master Agreement to provide for NS's continued operations on the NCRR. This agreement gives NS the exclusive right to conduct freight operations over the over the lines and properties of NCRR including performance of local freight service. NCRR also granted to NSR such operating rights over the lines of NCRR as will permit continuation of the existing operations of Amtrak service over the lines of NCRR. The Master Agreement has a period of 15 years, with two additional 15 year option periods.

The Master Agreement provides for prioritization of passenger service in the NCRR corridor. The Agreement requires NS to give priority to scheduled passenger trains over freight trains and provides for a procedure to resolve any disputes about how trains are dispatched. The Master Agreement expressly permits the operation of trains at speeds up to 90 mph. Trains can only operate at speeds faster than 90 mph if they are on dedicated separate infrastructure on the right of way and dispatched and maintained by a party other than NS.

If any passenger service or any third-party passenger operations are added to the NCRR line, the passenger service operator or other third-party passenger operator is required to make and pay for capital improvements on the line adequate to assure that none of NS's capacity, either the capacity NS is currently using or unused capacity that is available to NS, is diminished or disadvantaged.

The Master Agreement also provides for the implementation of NCDOT's Rail Impact program, a package of improvements designed to increase passenger speeds, while not adversely affecting freight operations.

**2C. Selection of Operator** – This question applies to Track 1a only. If the proposed operator railroad was not selected competitively, please provide a justification for its selection, including why the selected operator is most qualified, taking into account cost and other quantitative and qualitative factors, and why the selection of the proposed operator will not needlessly increase the cost of the project or of the operations that it enables or improves. *Please limit response to 1,000 characters.*

NCDOT intends to retain Amtrak as its operator and the commitment with Amtrak for the 3<sup>rd</sup> Frequency is in place.

**2D. Other Stakeholder Agreements** – Provide relevant information on other stakeholder agreements including State and local governments. *Please limit response to 2,000 characters.*

Haw River agreement: Most of the reference documents have been attached to this application. For those not attached, please go to [www.bytrain.org/fra](http://www.bytrain.org/fra)

**2E. Agreements with operators of other types of rail service** – Describe any cost sharing agreements with operators of non-intercity passenger rail service (e.g., commuter, freight). *Please limit response to 2,000 characters.*

Per NCGS 136-20, the NCDOT Secretary of Transportation is empowered to assess the net benefits of constructing grade separations and assessing railroad companies up to 10 percent of the project’s cost. NCDOT cost-shares with freight railroads on a case by case basis. Where there is a project benefit to both the freight railroad and to NCDOT’s rail passenger program, NCDOT endeavors to negotiate cost-sharing. This is accomplished by NCDOT and the benefitting railroad(s) entering into a project agreement which commits the railroad(s) to cost sharing contributions and in-kind services. NCDOT intends to continue using project agreements, more specifically, master agreements and addendums/supplementals, in this regard.

**(3) Financial Information.**

**3A. Capital Funding Sources.** Please provide the following information about your funding sources (if applicable).

Non FRA Funding Sources	New or Existing Funding Source?	Status of Funding <sup>5</sup>	Type of Funds	Dollar Amount (YOE Dollars)	% of Project Cost	Describe Uploaded Supporting Documentation to Help FRA Verify Funding Source
NCDOT	New	Committed	Capital (locomotives)	684,000.00	2.3	
NCDOT	New	Committed	Capital (Haw River)	5,781,790.00	19.7	
	New	Committed				

<sup>5</sup> Reference Notes: The following categories and definitions are applied to funding sources:

**Committed:** Committed sources are programmed capital funds that have all the necessary approvals (e.g. legislative referendum) to be used to fund the proposed project/program without any additional action. These capital funds have been formally programmed in the State Rail Plan and/or any related local, regional, or State Capital Investment Program CIP or appropriation. Examples include dedicated or approved tax revenues, State capital grants that have been approved by all required legislative bodies, cash reserves that have been dedicated to the proposed project/program, and additional debt capacity that requires no further approvals and has been dedicated by the sponsoring agency to the proposed project/program.

**Budgeted:** This category is for funds that have been budgeted and/or programmed for use on the proposed project but remain uncommitted, i.e., the funds have not yet received statutory approval. Examples include debt financing in an agency-adopted CIP that has yet to be committed in their near future. Funds will be classified as budgeted where available funding cannot be committed until the grant is executed, or due to the local practices outside of the project sponsor's control (e.g., the project development schedule extends beyond the State Rail Program period).

**Planned:** This category is for funds that are identified and have a reasonable chance of being committed, but are neither committed nor budgeted. Examples include proposed sources that require a scheduled referendum, requests for State/local capital grants, and proposed debt financing that has not yet been adopted in the agency's CIP.

**3B. Capital Investment Financial Agreements:** Describe any cost sharing contribution the applicant intends to make towards the FD/Construction Project, including its source, level of commitment, and agreement to cover cost increases or financial shortfalls. Describe the status and nature of any agreements between funding stakeholders that would provide for the applicant’s proposed match, including the responsibilities and guarantees undertaken by the parties. Provide a brief description of any in-kind matches that are expected. *Please limit response to 2,000 characters.*

NCDOT has had great success in undertaking projects with the railroads by entering into project agreements, which commit the railroads to cost sharing contributions and in-kind services. NCDOT intends to continue using project agreements, more specifically, master agreements and addendums/supplementals, in this regard. In-kind services such as flagging, engineering design and oversight, etc. may be among the contributions from the railroad. North Carolina will provide in-kind services, including project management and oversight, administrative support, and access to the NCRR.

Concerning project overruns, NCDOT intends to commit to conservative budgeting and lump sum agreements with contractors, thus minimizing potential financial shortfalls.

North Carolina will provide in-kind services, including project management and project oversight, administrative support, and access to the NCRR.

**3C. Operating Financial Plan:** Does the applicant expect that the State operating subsidy requirements for the benefiting intercity passenger rail service will significantly increase, **as a result of the project**, during the first five years after project completion?

Yes  No

If “Yes,” please complete the table below (in YOE dollars) and answer the following questions. *Please limit response to 2,000 characters.*

- (a) How did you project future State operating subsidies for the benefiting service(s); and
- (b) What are the source, nature, and likelihood of the funding that will enable the State to finance the projected increases in annual operating subsidies due to the project?

NCDOT is increasing in-State Piedmont frequencies to augment Carolinian services and prepare for SEHSR. As Piedmont frequencies are added, it is anticipated fares will eventually cover about 67% of operating expenses, comparatively small shortfalls in overall terms. Standing alone, however, these first Piedmont trains will not cover a significant portion of expenses. NCDOT looks upon this as an investment in the future.

Passenger trains use NCRR; maintenance of the line is by NS, with betterments made by the requesting party (ex. NCRR for passengers on behalf of the State). Passenger trains are allocated a portion of maintenance expenses and NCDOT is defraying corridor improvements, having spent over \$200 Million since 2001.

NCDOT also supports Piedmont services by acquiring its own equipment (operated by Amtrak) and its fueling and maintenance within the State. NCDOT has 14 years experience with these operations. (See F.E3c)

Subsidy	Actual— FY 2009 levels (YOE Dollars)	Projected Totals by Year (Actual Levels Plus Project Caused Changes Only) (YOE Dollars)	
		First Full Year After Project Completion	Fifth Full Year After Project Completion
State operating subsidy (total for all benefiting services)	\$6,785,203	\$8,493,086	\$9,296,114

**(4) Financial Management Capacity and Capability** – Provide audit results and describe applicant capability to absorb potential cost overruns, financial shortfalls, or financial responsibility for potential disposition requirements (include as supporting documentation as needed). Provide statutory references/ legal authority to build and oversee a rail capital investment. *Please limit response to 2,000 characters.*

From 2001 to now, NC has invested \$100 million in grade crossing improvements, \$47 million in track improvements, and \$64 million in station improvements with additional ongoing programs budgeted for \$174 million in state funding.

North Carolina Railroad (NCRR) owns 317 miles of track from Morehead City, NC to Charlotte, leased for Norfolk Southern freight services. NSR maintains it, including for passenger services up to 90MPH. NCRR’s financial situation is strong, with no debt, and revenue exceeding \$20 million annually.

NC-supported trains do not yet cover their O&M expenses. As a 3rd and 4th Piedmont frequency are added, fares will ultimately cover about 67% of O&M expenses. Meanwhile, NCDOT views the interim expenditures as an investment in the future to obtain in a timely way the necessary equipment for full operations.

Ultimately, SEHSR will be an extension of existing NC services linking them to Amtrak’s NEC HSR services. Convenience, reliability and travel time are three main ingredients for its success. Eventually, SEHSR plus conventional train revenues are expected to handily exceed O&M costs for all state-supported services, per forecasts made by Amtrak.

NC knows the universal truth that no heavy rail passenger service covers infrastructure costs, not France’s TGV, nor Japan’s Shinkansen, nor can all the funds come from the federal purse.

See Section F.E4.

**(5) Timeliness of Project Completion** – Provide the following information on the dates and duration of key activities, if applicable. *For more information, see Section 5.1.3.1 of the HSIPR Guidance, Timeliness of Project Completion.*

Final Design Duration:	1 month
Construction Duration:	12 - 24 months
Rolling Stock Acquisition Duration:	0 months
Rolling Stock Testing Duration:	3 months
Service Operations Start date:	09/2011 (mm/yyyy)

**(6) If applicable, describe how the project will promote domestic manufacturing, supply and other industries, including United States-based equipment manufacturing and supply industries.** *Please limit response to 1,500 characters.*

Two of the F59 mid-life locomotive rebuilds are proposed and would go out to bid in early 2010. Past history has shown that an American company has been awarded similar bids on contracts awarded on the Piedmont Corridor. (NCDOT is currently under contract to American Motive Power, Dansville, NY to rebuild three Piedmont Corridor service locomotives.) There are a number of other U.S.-based companies that would be eligible to bid on the F59’s as well and certainly could be awarded the bid. Such companies would include; NS Altoona; and National Railway Equipment, Paducah, KY.

The equipment described below was previously acquired as described – all competitive bid process requirements were followed.

The two F59 PH locomotives and the GP40H-2 locomotive are being rehabbed by American Motive Power (AMP) under a

contract awarded to AMP by NCDOT.

Delaware Car Company was awarded a contract by NCDOT to refurbish the 3 cars referred to in this application: one 66 car coach #400004, and two lounge cars: #s 400201 and 400202.

**(7) If applicable, describe how the project will help develop US professional railroad engineering, operating, planning and management capacity needed for sustainable HSR/IPR development in the United States, including promotion of a diverse workforce. Please limit response to 1,500 characters.**

The Institute for Transportation Research and Education (ITRE) at North Carolina State University (NCSU) administers NCDOT's Research Program and trains future engineers. ITRE played a critical role in testing cooking oil as biofuel for locomotives. In conjunction with Piedmont Corridor Projects as part of SEHSR, NCDOT, partners with NCSU, USEPA, and USDOT-FRA, engaged in extensive testing to determine optimum emissions on ultra low sulfur diesel fuel. Upcoming tests will analyze B-20 biodiesel fuel usage and improving emissions.

NCDOT has aggressive DBE, MBE, WBE programs developed over years as it expanded its highways due to a large Federal highway letting effort. A recent Disparity Study by EQUANT commends NC for steps taken to implement these State and Federal programs, narrowly tailoring its programs while conforming to legal and regulatory requirements. The significant number of race and gender neutral programs and continuous modification of these are reflective of the focused attention that the NCDOT continues to give to promote a diverse workforce.

NCDOT provides aggressive outreach to access railroad project DBE/MBE/WBE firms and communities statewide to build its cadre of service firms. State pre-qualified, certified DBE/MWBEs working on the Piedmont and Sealed Corridors include Stay Alert (53 full-time and 10 part-time employees), Simpson Engineers & Associates (6 full-time and 5 part-time employees), and Gibson Engineering (11 FTE and 3 PT workers).

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## F. Additional Information

**(1) Please provide any additional information, comments, or clarifications and indicate the section and question number that you are addressing (e.g., Section E, Question 1B). This section is optional.**

Other information required by FRA for this application including the NCDOT Project Management Plan, Financial Plan, etc. are attached to this application document. For those not attached, please go to <http://bytrain.org/fra>.

B7: Activity: Purchase 3 passenger cars, Description: Specifications complete, Actual completion date: 06/2009

Activity: Haw River, Description: Final Design, Actual initiation date: 01/2009, Anticipated completion date: 08/2009

Activity: Capital Yard, Description: Final Design Completed

C2: [Rebuild Specifications for Locomotive Mid-Life Rebuild](#)

[EMD F59PHI Locomotives 1755 and 1797 08-2007](#)

[Rebuild Specifications for Locomotive Mid-Life Rebuild,](#)

[GP40H-2 Locomotive 1792 11/2008](#)

[Refurbishment Specifications for Tier I Passenger Equipment](#)

[66 Seat Coaches 400006 & 400007 07/2009](#)

07/2009 [Refurbishment Specifications for Tier I Passenger Equipment](#)

[Lounge/Baggage Railcars 400203 & 400204](#)

[Capital Yard Maintenance Facility Plans](#)

07/2006

D1A: Even more importantly, the NC Sealed Corridor Program has proven to be effective – it saves lives – according to the USDOT Volpe Center – their Fatal Crash Analysis estimated 19.7 potential “lives saved” with the projects implemented on the Sealed Corridor through December 2007. In fact, as recently as July 24, 2009, in its Safety Strategy Discussion Draft for Public Outreach, FRA stated that “there have been demonstrated successes in deploying ‘sealed corridor’ technology in designated High-Speed Rail Corridors. The most mature of these corridors is on the North Carolina Railroad, the route of Intercity Corridor Passenger Service sponsored by the NCDOT”. These historical improvements and technological advances will continue to progress all along the 3rd Frequency and the entire corridor.

In addition to the Sealed Corridor Program, implementation of the Health Monitoring System – an Intelligent Signal Monitoring System is installed at each Norfolk Southern maintained public crossing along the Sealed Corridor to notify railroad personnel about malfunctions of crossing equipment. These “health monitoring” devices can also be linked electronically to local authorities to use for re-routing of police, fire and rescue vehicles if a crossing signal is malfunctioning as part of Intelligent Transportation System (ITS) applications.

To further protect motorists along the corridor and ensure safety, NCDOT has installed new grade crossing signs which display an emergency phone number for the railroad which motorists can call to report any malfunctions of crossing signals. These signs are “highway grade” signs in size and dimension, therefore making them extremely visible to the traveling public and very effective in preventing accidents and alerting motorists. Proactive/preventive approaches to safety are key components to the State’s highly regarded and highly innovative rail safety program and are an integral part of the overall corridor project strategic plan.

D2A: Within the elements of this application and throughout NCDOT’s Rail program, looking for and promoting technological advances is a priority. That being the case, the Institute for Transportation Research and Education (ITRE) at the NC State University administers NCDOT’s research Program. ITRE will continue to be a resource to NCDOT throughout the process. In previous efforts, ITRE played a critical role in testing the use of cooking oils as a biofuel for locomotives.

Upcoming tests will analyze B-20 biodiesel fuel usage and ways to improve emissions.

Additionally, long term benefits will accrue. These include; improvements being made to Capital Yard in Raleigh which will allow equipment to be serviced more efficiently to the benefit of the entire service; and the individual improvements improve travel time reliability and collectively improve the travel times. Together these improvements support ridership growth and represent long-term benefit to the state and the region's economy.

D4: As centers of their communities, these stations also serve as intermodal hubs providing seamless connectivity to the local area. The stations, which are under local management and require communities to take responsibility for these facilities, serve as activity centers and focal points for economic development. In High Point, the local transit system, HiTran, has 12 fixed routes, each of which uses the Broad Avenue Terminal which is located 200 feet away from the train station and is accessible via a covered pedestrian bridge over the tracks. Cary is served by both a City Transit Authority (C-Tran) and the Regional Transit Authority (Triangle Transit), which has been serving the area since the 1990s. Burlington is currently served by a county transit system via appointments with the train station as one destination point. The J. Douglas Galyon station in Greensboro, opened in October 2005, has been a success story, 17 bus bays for local service, and 2 regional bus bays serviced by Greyhound and the Piedmont Authority for Regional Transportation. Public transportation ridership has increased by 500% since 2005.

NCDOT has also adopted a "Complete Streets" policy ([www.bytrain.org/fra](http://www.bytrain.org/fra)) where all grade separations will have sidewalks to facilitate bicycle/pedestrian movement.

Involving community volunteers in the passenger rail program has also contributed greatly to North Carolina's integration of the community and the daily lives of the people it serves into its the program. One such example is that of the "Train Host Program" whereby more than 120 volunteers from across the state serve as goodwill ambassadors for North Carolina's Piedmont and Carolinian services. These Train Hosts volunteer their time to ride the trains to assist passengers, promote passenger services and answer questions about the route, ground transportation and area attractions. These volunteers bring the community to the train.

See ([www.bytrain.org/quicklinks/pdf/nmultimodalstations.pdf](http://www.bytrain.org/quicklinks/pdf/nmultimodalstations.pdf)) for a listing of the state's station improvements. NCDOT is currently working on assembling property to develop the Charlotte Gateway station which will serve as an intermodal center in downtown Charlotte. In addition, two papers exist on the positive impacts of station improvements across the Piedmont Corridor (<http://bytrain.org/fra>).

E1D: There is always budgetary risk with grant funding. Recent experience has shown increases in the cost of delivering rail projects, particularly in the area of materials and supplies. NCDOT mitigates this risk by using conservative budget estimates, reasonable contingency limits, and lump sum or not to exceed contracts with established completion dates. The state has demonstrated through its long history of funding rail capital and operating projects its willingness to provide adequate funding to insure project completion.

E3C: Thus, the Project is a function of a continuum of support. As shown by the Operating Financial Plan (<http://bytrain.org/fra>), forecasted operating shortfalls for additional Piedmont frequencies are based on the following assumptions:

- Ridership, and Passenger Miles forecasts by Amtrak based on the interplay between the existing Piedmont and Carolinian services.
- Yield per Passenger Mile and therefore Revenues are based on FY 2009 yields adjusted annually by the GDP deflator.
- O & M Expenses (excluding fuel) are based on Amtrak System averages as found in its 2009 Comprehensive Business Plan, national averages for items such as "crew starts", and on extrapolation of NCDOT existing cost experience, adjusted by the GDP deflator.
- The analyst avoided artificial adjustments for fuel price gyrations, captured by "surcharges". In effect, the analysis ignores price variances and focuses on volume variances driven by increased patronage, basing consumption on Amtrak's system averages with assumed 10% efficiency for new locomotives.
- Results will reflect the absence of a critical mass of services until a greater number of trains are run, due to significant fixed cost components for support personnel and facilities.
- Results also reflect the acquisition and maintenance of equipment in anticipation of the start up of the 3rd and 4th Piedmont trains, because equipment must be acquired new or refurbished well in advance.

E4: Additional NC resources that are to be deployed include:

- \* NCDOT has been and will continue to fund operational shortfalls.
- \* NC recently sold its second series of Garvee bonds rated AA by Fitch and S&P and As3 by Moodys, allowing NC to capitalize on future transportation revenue to fund current investments.
- \* NCRRT produces \$15 Million annual operating cash flow, which is being reinvested in capital improvement to its 317 miles, besides that already budgeted from State resources.
- \* NCDOT has statutory authority to use State funds to support rail development and a mandate to increase the proportion of the State transportation budget devoted to rail.
- \* Further, NCDOT has authority via a Joint Legislative Resolution to aggressively pursue PRIA and ARRA rail projects and to enter into Public-Private Partnerships.

NCDOT envisions air rights and alternative land use development of 32 acres it acquired in downtown Charlotte for a future multi-modal station.

Project Name: NC12.1a SEHSR – Current Needs & 3rd Freq Date of Submission: Aug 24 Version Number: L

### G. Summary of Supporting Materials

Application Form	Required	Optional	Reference	Description	Format
<input type="checkbox"/> This Application Form	✓		HSIPR Guidance Section 4.3.3.3	This document to be submitted through <i>GrantSolutions</i> .	Form
Supporting Forms	Required	Optional	Reference	Description	Format
<input type="checkbox"/> General Info.	✓		HSIPR Guidance Section 4.3.5	This document to be submitted through <i>GrantSolutions</i> .	Form
<input type="checkbox"/> Detailed Capital Cost Budget	✓		HSIPR Guidance Section 4.3.5	This document to be submitted through <i>GrantSolutions</i> .	Form
<input type="checkbox"/> Annual Capital Cost Budget	✓		HSIPR Guidance Section 4.3.5	This document to be submitted through <i>GrantSolutions</i> .	Form
<input type="checkbox"/> Project Schedule	✓		HSIPR Guidance Section 4.3.5	This document to be submitted through <i>GrantSolutions</i> .	Form
Supporting Documents	Required	Optional	Reference	Description	Format
<input type="checkbox"/> Map of the Planned Investment		✓	Application Question B.6	Map of the Planned Investment location. Please upload into <i>GrantSolutions</i> .	None
Standard Forms	Required	Optional	Reference	Description	Format
<input type="checkbox"/> SF 424: Application for Federal Assistance	✓		HSIPR Guidance Section 4.3.3.3	Please submit through <i>GrantSolutions</i>	Form

<input type="checkbox"/> SF 424C: Budget Information-Construction	✓		HSIPR Guidance Section 4.3.3.3	Please submit through <i>GrantSolutions</i>	Form
<input type="checkbox"/> SF 424D: Assurance Construction	✓		HSIPR Guidance Section 4.3.3.3	Please submit through <i>GrantSolutions</i>	Form
<input type="checkbox"/> FRA Assurances Document	✓		HSIPR Guidance Section 4.3.3.3	May be obtained from FRA's website at <a href="http://www.fra.dot.gov/downloads/admin/assurancesandcertifications.pdf">http://www.fra.dot.gov/downloads/admin/assurancesandcertifications.pdf</a> . The document should be signed by an authorized certifying official for the applicant. Submit through <i>GrantSolutions</i> .	Form

**PRA Public Protection Statement:** Public reporting burden for this information collection is estimated to average 32 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. According to the Paperwork Reduction Act of 1995, a federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with, a collection of information unless it displays a currently valid OMB control number. The valid OMB control number for this information collection is **2130-0583**.