

## C. Corridor Service Overview

Respond to the following questions to help put this application into the context of the long-term vision and related work for the HSIPR corridor service.

**(1) Provide a brief narrative explaining how this Service Development Program relates to the long-term vision of the HSIPR corridor.**

This Service Development Program of the States of Iowa and Illinois establishes an initial passenger rail service between Chicago, Illinois, the Quad Cities of Illinois and Iowa, and Iowa City, Iowa (a total of 219.5 miles). The initial service consists of two round-trip trains daily operating at a maximum speed of 79 mph and an average speed of 53.5 mph. The States' long-term vision is to:

- (1) Extend the corridor stepwise westward to Omaha, Nebraska;
- (2) Increase frequency to up to five round-trips per day; and
- (3) Increase maximum speed first to 90 mph and subsequently to 110 mph.

Moreover, the States intend to operate the service created in this Program, and in the future as it expands in reach and increases frequency and speed, as an integral component of the Midwest Regional Rail System (MWRRS). The MWRRS is a hub-and-spoke high-speed regional rail system converging at Chicago Union Station. Passenger services, marketing, organizational coordination, equipment, and technical know-how will be pooled among the corridors converging at Chicago to create synergistic effects that enhance the public value, ridership, and cost-effectiveness of each individual corridor. The value of these synergies is entirely additional to the values calculated for the Chicago to Iowa City Program in this Grant Application. The costs, ridership, and operation of service described in this Grant Application are not contingent upon the establishment of any other MWRRS corridor, but are independent.

The long-term vision of the States for this high-speed intercity passenger rail corridor is to provide a public rail transportation system to meet needs of its residents and visitors that cannot be met by highway and air transportation. Some of these needs that are particularly urgent include ease-of-access for Iowa's and Illinois' aging populations, improvement in sustainability from both an energy consumption viewpoint and an environmental effects viewpoint, improvement in the livability of its communities that would be degraded through increased long-distance vehicular traffic and lack of mass transportation, and introduction of reliable transportation during all-weather conditions.

The Program is particularly conscious of regional transportation opportunities and challenges. For example, Chicago has both a highly developed commuter rail and heavy-rail transportation system and one of the world's largest airports offering direct flights to virtually every domestic destination and major foreign destinations. Yet Chicago also has severe highway congestion that makes access difficult to these transportation systems for anyone approaching Chicago by highway from western Illinois or Iowa. Further, Chicago's airports are capacity constrained. Growth in flights from western Illinois or Iowa will come at the expense of long-distance flights that are a benefit to the nation as a whole. In effect, this aspect of the long-term vision is to simultaneously leverage the extraordinary transportation systems that Chicago already has for the benefit of the traveling public beyond Chicago, reduce unproductive demand upon Chicago's air and road transportation systems, and improve Chicago's livability by placing transportation growth onto Chicago's pre-existing rail system rather than onto its roadways.

The long-term vision of the States extends considerably beyond the station platforms of the passenger service that will be established in this Service Development Program. In addition to the synergistic effects and multimodal transportation connections in Chicago described above, the Program includes a comprehensive, integrated regional transportation approach throughout the service territory. Significant aspects include establishment of Amtrak Thruway bus service from major rail stations to off-line cities and integration of local bus, rideshare, and shuttle services specifically targeted to disadvantaged populations that may not have broad access to personal vehicles.

The States are engaged in productive discussion with cities and local agencies to create transit-oriented development (TOD) at stations, and the cities and the States both specifically are targeting TOD to improve community livability and sustainability synergies of the Program.

- (2) List other HSIPR projects or activities related to this Service Development Program application.** This includes any pending or selected planning, PE/NEPA, FD/Construction, and other Service Development Program activities or projects. The purpose of this list is to identify overlapping or complementary applications, programs, or projects. Click on the drop-down menu to select the FRA solicitation and to indicate if the project was previously selected.

	Project, Activity, or Service Development Program Name <sup>1</sup>	FRA Solicitation	Federal Funding Request (in thousands of dollars)	Status	Does This Project Include Activities That Overlap with Any Projects Included in This Service Development Plan Application?
1	IA - Chi to Omaha - Planning	Track 3	\$ 1,000.00	Selected	Yes
2	IA - Statewide Travel Demand Model - Rail Component	FY10 Planning	\$ 400.00	Announcement Pending	Yes
3	Chicago Hub (Chicago-Detroit/Pontiac) HSR Corridor Program	FY10 Planning	\$ 3,200.00	Announcement Pending	No
4	West Detroit Connection Track Project	FY09 Residual	\$ 7,913.00	Announcement Pending	No
5	MI:Chi Hub:Chi-Det:Stations-BCreek	Track 1a	\$ 3,620.00	Selected	No
6	MI:Chi Hub:Chi-Det:Stations-Dearborn	Track 1a	\$ 28,204.00	Selected	No
7	MI:Chi Hub:Chi-Det:Stations-Troy	Track 1a	\$ 8,485.00	Selected	No
8	IN - Indiana Gateway	Track 1a	\$ 68,720.00	Selected	No
9	IL-CREATE-P1	Track 1a	\$ 133,000.00	Selected	No
10	MI-Chicago Hub-Kalamazoo_Dearborn	FY10 SDP	\$ 280,000.00	Announcement Pending	No
11	MI-Chicago Hub-NS Enhancements	Track 1a	\$ 116,400.00	Announcement Pending	No
12	MI-Chicago Hub-CN Enhancements	Track 1a	\$ 10,960.00	Announcement Pending	No
13	MI-West Detroit Junction Connection Track	Track 1a	\$ 15,200.00	Announcement Pending	No
14	MI-Detroit-Milwaukee Junction-Beaubien Interlocking Project	Track 1a	\$ 13,840.00	Announcement Pending	No
15	MI-Chicago Hub-Ann Arbor Station	Track 1b	\$ 5,200.00	Announcement Pending	No
17	IL-Dwight to Joliet	FY10 SDP	\$ 91,900.00	Announcement Pending	No
18		Track 1a	\$	Announcement Pending	Yes
19		Track 1a	\$	Announcement Pending	Yes

<sup>1</sup> Please detail each activity for which HSI PR funding is being requested, or which is directly related to the Corridor Service. For example, if a related Track 1a Project application was already submitted, that application should be separately listed below. If the project covered by that same 1a application is also being submitted as an element of a Track 2 Program, indicate the program when listing the project.

## D. Executive Summary

Answer the following questions about the proposed program.

**(1) Provide a Service Development Program name.** The Service Development Program name must consist of the following elements, each separated by a hyphen: (1) the State abbreviation; (2) the route or corridor name; and (3) a Service Development Program descriptor that will concisely identify the program’s focus (e.g., HI-Fast Corridor-Main Stem).

IA-Chicago to Iowa City-New Service

**(2) Indicate the appropriate corridor name where the Service Development Program is located and identify the start and end points as well as major integral cities along the route.**

Chicago to Iowa City; Start - Chicago, IL , End - Iowa City, IA, Major Integral Cities - Moline, IL

**(3) Indicate the anticipated duration, in months, for this Service Development Program (e.g., 36).**

Number of Months: 54

**(4) Indicate the anticipated funding information for the Service Development Program below.** This information must match the SF-424 documents, and dollar figures must be rounded to the nearest whole dollar. When the non-Federal match percentage is calculated, it must meet or exceed 20 percent of the total project cost.

Federal Funding Request	Non-Federal Match Amount	Total Project Cost	Non-Federal Match Percentage of Total
\$ 248,402,000	\$ 62,101,000	\$ 310,503,000	20 %

**(5) Indicate the source, amount, and percentage of matching funds for the Service Development Program provided in Section C.4.** Identify supporting documentation that will allow FRA to verify the funding source. Click on the prepopulated fields to select the appropriate response from the list of choices. Also, list the percentage of the total project cost represented by each non-Federal funding source.

Non-Federal Funding Sources	New or Existing Funding Source?	Status of Funding <sup>2</sup>	Type of Funds	Dollar Amount	% of Total Project Cost	Describe Any Supporting Documentation to Help FRA Verify Funding Source
Iowa Department of Transportation	New	Budgeted	Cash	\$ 20,574,000	7 %	See attached "Funding Verification Document"
Illinois Department of Transportation	New	Committed	Cash	\$ 38,787,000	12 %	See attached "Funding Verification Document"

<sup>2</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., statutory authority) to be used to fund the proposed project 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 or appropriation guidance. 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, and additional debt capacity that requires no further approvals and has been dedicated by the sponsoring agency to the proposed project.

**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 capital investment program that has yet to be committed in the near future. Funds will be classified as budgeted when available funding cannot be committed until the grant is executed or due to the local practices outside of the project sponsors 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 capital investment program.



City of Iowa City, Iowa	New	Planned	Cash	\$ 1,164,000	0 %	See attached - Agreement in Principle between DOT and the City.
City of Moline, Illinois	New	Planned	In-Kind	\$ 940,000	0 %	See attached - Agreement in Principle between DOT and the City.
City of Geneseo, Illinois	New	Planned	Cash	\$ 636,000	0 %	See attached - Agreement in Principle between DOT and the City.

**(6) Provide a project abstract outlining the Service Development Program.** Briefly summarize the program in 4-6 sentences. Capture the milestones, outcomes, and anticipated benefits that will result from implementing the Service Development Program.

The \$310,503,000 Chicago-Iowa City Passenger Rail Service Development Program of the States of Iowa and Illinois will establish by 2015 passenger rail service between Chicago, the Quad Cities of Illinois and Iowa, and Iowa City, Iowa, 219.5 miles. The service will be hosted by BNSF Railway (BNSF) and Iowa Interstate Railroad (IAIS), and operated by Amtrak. New stations will be established at Geneseo, Illinois, Moline, Illinois (serving the Quad Cities), and Iowa City, Iowa, in cooperation with enthusiastic local partners. The service will be part of the Midwest Regional Rail Initiative (MWRRI) designated by the Secretary of Transportation as a high-speed rail corridor in 1992.

The initial Chicago-Iowa City passenger-train service will consist of two roundtrip trains daily, operating at a maximum speed of 79 mph. Ridership is estimated by Amtrak at 246,800 passengers in the Program’s opening year of 2015, and 447,000 passengers per year by 2045. Amtrak’s estimate of ridership was completed in 2008 and was based on a lower level of investment with a longer trip time. Public benefits generated by the Program, even with the conservative ridership projections, substantially outweigh the Program’s capital, operating, and maintenance costs. For the 30-year period from first day of operation, the Program is predicted to generate \$656.7 million in benefits for a benefit to cost ratio of 1.70.

Public benefits include:

- 896,401,930 fewer vehicle miles
- \$99.6 million in vehicle operating costs savings
- 10,791,109 fewer gallons of gasoline and diesel fuel consumed

The new service has unusually unified, broad public and political support from the political, economic, and civic leadership of Illinois and Iowa at a state and local level. Iowa’s Passenger Rail Advisory Committee, which represents cities, counties, and development agencies throughout Iowa, and Iowa’s railroads, have joined in emphatic support of the Program. Under the leadership of Governor Quinn and Governor Culver, the state legislatures have chosen to direct state funds to the Program even in light of severe budget challenges. State and local financial commitment to the project’s capital is at least \$20.6 million from Iowa, \$38.8 million from Illinois, and \$2.7 million from the local communities.

From all possible viewpoints, the Program has unusually low costs of implementation and high public benefits. The alignment of the route is already suited to high-speed passenger-train operation, and previously hosted passenger trains that exceeded 100-mph speeds. Freight train congestion is unusually low. Running times, station access to major traffic sources such as the University of Iowa, and travel patterns are all favorable to a high initial ridership. The States envision future increases in maximum speed to 90 and 110 mph, increases in frequency to five roundtrips per day, and extension of the service to Omaha, Nebraska.

**(7) Provide a Service Development Program narrative.** Include the elements below when describing the main features and characteristics of the Service Development Program. Please limit the response to 12,000 characters.

- How this Service Development Program is organized into phases or groups of component projects.<sup>3</sup> Include a description of the activities and the measurable outcomes of each phase or group of activities;
- The location(s) of the Service Development Program's component projects including name of rail line(s), State(s), and relevant jurisdiction(s) (include a map in supporting documentation);
- Substantive activities of the Service Development Program (e.g., specific improvements intended);
- Service(s) that would benefit from the Service Development Program, the stations that would be served, and the State(s) where the service operates;
- Anticipated service design of the corridor or route with specific attention to any important changes that the Service Development Program would bring to the fleet plan, schedules, classes of service, fare policies, service quality standards, train and station amenities, etc.;
- How the Service Development Program was identified through a planning process and how the Service Development Program is consistent with an overall plan for developing high-speed or intercity passenger rail service, such as a State Rail Plan or plans of local/regional metropolitan planning organizations;
- How the Service Development Program will fulfill a specific purpose and need in a cost-effective manner;
- Any use of new or innovative technologies;
- Any use of railroad assets or rights-of-way, and potential use of public lands and property;
- Other rail services, such as commuter rail and freight rail that will make use of, or otherwise be affected by, the Service Development Program; and
- Any PE/NEPA activities to be undertaken as part of the Service Development Program, including but not limited to design studies and resulting program documents, the approach to agency and public involvement, permitting actions, and other key activities and objectives of this PE/NEPA work.

**\*\*Phases or groups of projects, description, measurable outcomes\*\*** - The Program has one phase. The outcome is initiation of passenger rail transportation service between Chicago and Iowa City on a twice-daily round-trip frequency on a 4-hour, 8-minute schedule westbound and a 4-hour, 3-minute schedule eastbound. The proposed schedule was developed through detailed operating analysis and modeling. Its implementation is contingent upon final agreements with the host railroads and Amtrak. (Amtrak developed schedules during 2008 with a running time of 4 hours, 58 minutes, based on a lower capital investment in infrastructure). Implementation components of this phase are preliminary engineering (PE) with Project Level Tier 2 NEPA analysis, final design, equipment acquisition, construction of projects, and implementation of the service.

**\*\*Rail lines, States, and relevant jurisdictions\*\*** - The Program is located in Illinois and Iowa (see Project Location Map). It operates on Amtrak at Chicago Union Station (CUS); on BNSF from CUS to a proposed new connection with IAIS at Wyanet, Illinois; and on IAIS from Wyanet to Iowa City, Iowa (and to a layover facility at Coralville, Iowa). It includes trackage rights on the Government Bridge (owned by the Department of the Army) over the Mississippi River at Rock Island, Illinois.

**\*\*Substantive activities\*\*** - Component projects of the Program are (1) PE with Project Level Tier 2 NEPA, (2) final design, (3) equipment acquisition and project construction, and (4) service implementation. Construction consists of discrete projects, listed in Section D11 of this Grant Application.

The component projects create the main track geometry, condition, capacity, and safety, and the operating systems and stations required to operate the service at its intended speed, schedule, and reliability, to provide the necessary passenger convenience and amenities, and to preserve existing freight-rail capacity and existing potential for expansion of freight services.

**\*\*Services that would benefit, stations that would be served\*\*** - The Program creates new rail passenger service between Chicago, the Quad Cities, and Iowa City. New rail passenger service will be created at Geneseo, Moline, and Iowa City. This service connects with existing Amtrak services at CUS; with Metra commuter rail services and bus services at CUS, Naperville and La Grange Road in Illinois; and with Chicago Transit Authority (CTA) heavy-rail rapid-transit services. It directly connects with bus service at Moline, and will connect with proposed Thruway bus, city bus, and University of Iowa campus shuttles at Iowa City.

Stations served by the service are (in Illinois) CUS, La Grange Road, Naperville, Plano, Mendota, Princeton, Geneseo, and Moline, and Iowa City, Iowa.

**\*\*Anticipated service design\*\*** - The service is new. The Program's service design will maximize passenger convenience, travel times, and connectivity at the least possible cost for implementation, while simultaneously preserving existing and future

<sup>3</sup> The work to complete Service Development Programs can be organized into individual phases. Phases should produce meaningful and measurable service outcomes (e.g., trip time, frequency, or operational reliability) upon completion. Each phase is made up of one or more component projects that are necessary to deliver the outcome(s).

freight capacity. The service design will enable future increases in speed, service frequency, and corridor extension.

The service design creates logical synergies with proposed MWRRS and with existing and future local and regional rail and bus transportation systems. Equipment will be designed for 125-mph and of a common design with the MWRRS (and according to Next Generation Equipment Committee [NGEC] standards) to enable pooling. The States will seek to incorporate into equipment design and operation to the greatest degree possible their goals for sustainability and reduction of environmental impacts per their "GreenLine" approach (see attachment).

The service design envisions that Amtrak will operate and market the service to enable coordination with existing and future regional services, provide access to Amtrak's national reservations system and use fare policies consistent with Amtrak's national and regional policies. Service quality standards will be jointly established both onboard and at stations in coordination with Amtrak to leverage their expertise and organizational knowledge. Station services will be enhanced at stations in order to further Moline and Iowa City's TOD, economic development, and sustainability goals (see "GreenLine" approach).

**\*\*Planning process\*\*** - The Program is the logical outcome of long-term planning processes at local, state, and regional levels. At a local level, the Program is a specific goal of the Metropolitan Planning Organizations (MPOs) of Moline and Iowa City. Both cities intend to create TOD that leverages the new passenger-rail service to improve community livability and connectivity. At a state level, Iowa and Illinois, both through their State Rail Plans and through their participation in the MWRRS, have conducted planning for this corridor (the Chicago hub was approved by the Secretary of Transportation in 1992; this corridor was included in this hub in 1996). The Program has been coordinated extensively with cities, counties, and MPOs through specific outreach programs such as Iowa's Passenger Rail Advisory Committee (PRAC). This committee, which meets quarterly and includes representatives of Iowa cities, counties, MPOs, economic development authorities, and Iowa's freight rail carriers, has been instrumental in developing the purpose and need for passenger rail in Iowa. PRAC has helped the State prioritize corridors and elements of this Program. The committee agrees that the Program should be Iowa's highest passenger-rail priority.

**\*\*Specific purpose and need, cost effective manner\*\*** - The Service Development Program at all steps of its development has kept foremost both the purpose and need of the project, and its cost-effectiveness. The purpose of the service, is to provide transportation that is consistent with the values of the citizens of Iowa and Illinois. These values and needs include sustainability and good environmental stewardship, livable communities, economic development, all-weather transportation service, connectivity with local, regional and national-reach transportation systems, and convenient transportation access for the elderly and disabled. The Program is designed for cost-effectiveness by leveraging to the greatest degree possible existing infrastructure of the host railroads, existing operational organization of the operator (Amtrak), and existing program management capacity of the States. The service design at each level and at each discipline has sought to match proven technology and knowledge with appropriate introductions of innovation and new practices.

**\*\*Innovative technologies\*\*** - The Program seeks to leverage innovative technologies to enhance the Program's ability to meet Illinois and Iowa's values (sustainability, livable communities, disadvantaged access, and transportation connectivity), while reducing the risk that new technologies could affect the schedule, cost, reliability or convenience of the Program. Accordingly, the States have focused on incorporating innovative technologies such as those strategies that have substantial potential to reduce energy consumption of stations and reduce the need for personal vehicles to commute to stations. As final design progresses further, the States intend to request PTC systems suppliers and locomotive manufacturers to incorporate train-management software to reduce locomotive fuel use, and to request that rolling-stock equipment manufacturers look for substantial heating and cooling energy savings.

As an example of the strong interest of innovation at stations, Moline has completed TOD studies that are being applied to the station design and local transportation. Iowa City, through the University of Iowa, has researched potential TOD opportunities and is pursuing completion of a formal study. Both will consider various financing options created through the TOD.

In addition, Iowa has a proven record of supporting energy independence, as a national leader in the production of ethanol and biofuels and second in the nation in wind energy production. Iowa's Office of Energy Independence promotes energy saving and alternative energy developments and oversees the Iowa Power Fund, a \$100 million research and development fund. Iowa DOT is coordinating with the Office of Energy Independence to seek opportunities to leverage the Office's knowledge and future plans, and to integrate the Program to the greatest degree possible.

**\*\*Railroad rights-of-way, public lands and property\*\*** - The Program will use existing BNSF and IAIS rights-of-way. The IAIS main line between Wyanet and Iowa City was previously double-track and is at present single track. The proposed new double-track, sidings, and siding extensions will reoccupy the footprint of the former second main track with minimal rework of subgrade. Minor land acquisitions that have been identified include privately-owned property required to construct the Wyanet Connection and the Iowa City layover facility; and property for the new stations in Geneseo, Moline, and Iowa City. The cities will acquire private property necessary for the stations and use city-owned property as required such as parking lots, streets, and sidewalks.

**\*\*Other rail services\*\*** - The Program is joint with other passenger and freight rail services. Robust mitigation strategies are incorporated into the Service Development Plan (see attachment). Locations where the Program will be joint with other services are (1) Chicago-Eola, joint with Metra commuter rail, Amtrak long-distance and corridor trains, and BNSF freight; (2) Eola-Wyanet, joint with Amtrak long-distance and corridor trains and BNSF freight; (3) Wyanet-Silvis, joint with IAIS freight; (4), Silvis-Rock Island, joint with IAIS, BNSF, and Canadian Pacific Railway (CPR) freight; and (5) Rock Island-Iowa City, joint with IAIS freight. In addition to these joint services, (1) CPR has trackage rights (rarely used) on the route between Rock Island and Missouri Division Junction, Iowa (about three miles in length), and (2) BNSF crosses the proposed route at grade at Colona, Illinois, at an automatic interlocking.

The Program has fully contemplated the affects of the proposed passenger service on these commuter, corridor, and long-distance passenger trains, and on freight trains. Rail Traffic Controller (RTC) modeling has been conducted by BNSF between Chicago and Wyanet, and by the States between Wyanet and Iowa City. RTC modeling identified the train-to-train conflicts and unmet capacity requirements created by the Program, and validated the proposed new infrastructure. Modeling outputs are presented in the Service Development Plan.

**\*\*PE/NEPA\*\*** - Illinois and Iowa DOTs published a Service Level Environmental Assessment (EA) evaluating the reestablishment of intercity passenger rail service between Chicago and Iowa City in September 2009. The supplemental information to the EA document provides analysis of the potential impacts of Eola Main Line Improvements and the Wyanet Connection. Illinois and Iowa DOTs have concluded that this Program will not have a significant environmental impact. Each project identified in the Program will have Tier 2 Project Level NEPA environmental documents prepared and will identify environmental permits at that time. The NEPA process will include an extensive public outreach effort, which will include stakeholder identification; meetings with BNSF, IAIS, and Amtrak; meetings with property owners; and public meetings across the states. The EA was made available to the public for comment and the supplemental information was published on the project website. Preliminary Engineering and permitting will occur concurrently with the Tier 2 Project Level NEPA.

**(8) Indicate the type of expected capital investments included in the Service Development Program. Check all that apply.**

- |   |   |
|---|---|
| <input type="checkbox"/> New rail lines                                   | <input checked="" type="checkbox"/> Rolling stock refurbishments                                |
| <input checked="" type="checkbox"/> Additional main-line tracks           | <input checked="" type="checkbox"/> Rolling stock acquisition                                   |
| <input checked="" type="checkbox"/> Structures (bridges, tunnels, etc.)   | <input checked="" type="checkbox"/> Support facilities (yards, shops, administrative buildings) |
| <input checked="" type="checkbox"/> Track rehabilitation                  | <input checked="" type="checkbox"/> Grade crossing improvements                                 |
| <input checked="" type="checkbox"/> Major interlockings                   | <input type="checkbox"/> Electric traction  |
| <input checked="" type="checkbox"/> Station(s)                            | <input type="checkbox"/> Other (please describe):   |
| <input checked="" type="checkbox"/> Communication, signaling, and control |   |

**(9) Indicate the anticipated service objectives for the Service Development Program for which you are applying.** Check all that apply.

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Additional service frequencies        | <input type="checkbox"/> Increases in operational reliability        |
| <input type="checkbox"/> Improved on-time performance of passenger trains | <input checked="" type="checkbox"/> New service on new route         |
| <input type="checkbox"/> Reroute existing service                         | <input checked="" type="checkbox"/> Service quality improvements     |
| <input checked="" type="checkbox"/> New service on existing IPR route     | <input type="checkbox"/> Increased average speeds/shorter trip times |
| <input type="checkbox"/> Increases in ridership                           | <input type="checkbox"/> Other (please describe):                    |

Briefly clarify your response(s) if needed:

**(10) If appropriate, subdivide the Service Development Program into phases (groups of projects) and identify each phase on separate rows of the table.<sup>4</sup>** Detail the service benefits to be realized after completion of each phase on the corresponding row. At the bottom of the table, provide the anticipated service benefits upon completion of the entire Service Development Program. Use as many rows as necessary; if the Service Development Program cannot be subdivided, summarize the information for the entire Service Development Program in the first row.

Phase	Title <sup>5</sup>	Frequencies <sup>6</sup>		Scheduled Trip Time (in minutes)		Average Speed (mph)		Top Speed (mph)		Reliability – Provide Either On-Time Performance Percentage or Delay Minutes	
		Current	Future	Current	Future	Current	Future	Current	Future	Current	Future
I.	Chicago to Iowa City	0	4	N/A	245	N/A	53.5	N/A	79	N/A	90
II.											
III.											
IV.											
V.											
VI.											
VII.											
VIII.											
<b>Provide the Cumulative Service Outcome (Aggregate Benefits of all Phases)</b>		0	4	N/A	245	N/A	53.5	N/A	79	N/A	90

<sup>4</sup> The work to complete Service Development Programs can be organized into individual phases. Each phase should produce meaningful and measurable service outcomes (e.g., trip time, frequency, and/or operational reliability) upon completion. Each phase is made up of one or more component projects that are necessary to deliver the outcome(s).

<sup>5</sup> Title should be a brief descriptive name for the phase.

<sup>6</sup> Frequency is measured in daily one-way train operations. One daily round-trip operation should be counted as two daily one-way train operations.

**(11) Provide information on the component projects within each phase of the Service Development Program identified in Section D.10 above.** For each phase, please list all the projects in the sequence they will be completed. This section is unlocked- the applicant can add rows as needed for additional projects and phases.

PHASE I.		<i>[Insert Title from Section D.10]</i>	
Project Name	Short Project Description	Project Cost (in thousands of dollars)	
1	<b>IL - Chi to IC – Illinois Track Upgrades</b>	<b>Main track Class 4 upgrades Wyanet to East Moline; Atkinson and Silvis sidings 30 mph upgrade; and 2nd main track East Moline to Rock Island</b>	\$ 49,504.6
2	<b>IA – Chi to IC – Iowa Track Upgrades</b>	<b>Main track Class 4 upgrades Davenport to Iowa City; Walcott siding extension and 30 mph upgrade; North Star siding 30 mph upgrade; new 30 mph siding at American; Iowa City south siding extension</b>	\$ 45,014.5
3	<b>IL – Chi to IC – Geneseo, Illinois Station</b>	<b>Station parking, platforms, ticketing, shelters, and lighting</b>	\$ 2,939.0
4	<b>IA – Chi to IC – Iowa City, Iowa Station</b>	<b>Station parking, platforms, ticketing, shelters, and lighting</b>	\$ 5,372.5
5	<b>IL – Chi to IC – Moline, Illinois Station</b>	<b>Station parking, platforms, ticketing, shelters, and lighting</b>	\$ 4,334.5
6	<b>IA – Chi to IC – Iowa City, Iowa Layover Facility</b>	<b>Terminal layover facility</b>	\$ 4,227.5
7	<b>IL – Chi to IC – Colona, Illinois Improvements</b>	<b>Main track speed improvement of Colona Interlocking</b>	\$ 2,366.7
8	<b>IL – Chi to IC – Rock Island, Illinois Improvements</b>	<b>Main track bypass from East to West Rock Island Yard</b>	\$ 4,508.0
9	<b>IL – Chi to IC – Wyanet, Illinois Connection</b>	<b>New main track connection between BNSF and IAIS main tracks at Wyanet</b>	\$ 12,253.9
10	<b>IL – Chi to IC – Aurora, Illinois Eola Main Line Improvements</b>	<b>Main track, crossover, and signaling capacity improvement project</b>	\$ 35,564.7
11	<b>IA – Chi to IC – Train Control and Communications</b>	<b>Wyanet to Iowa City wayside signaling, grade-crossing signaling, positive train control, and communications systems installation and improvements</b>	\$ 51,893.3
12	<b>IL – Chi to IC – Acquire New Rolling Stock</b>	<b>Acquire 2 125-mph capable trainsets and spares: 3 locomotives, 6 coaches, 3 coach/cab-cars, 3 food-service cars, and spare parts</b>	\$ 66,274.5
<b>Phase I. Total Cost</b>		<b>\$ 284,253.7</b>	

PHASE II.		<i>[Insert Title from Section D.10]</i>
1		\$ 000
2		\$ 000
3		\$ 000
4		\$ 000

5			\$ 000
<b>Phase II. Total Cost</b>			\$ 000

PHASE III.			<i>[Insert Title from Section D.10]</i>
1			\$ 000
2			\$ 000
3			\$ 000
4			\$ 000
5			\$ 000
<b>Phase III. Total Cost</b>			\$ 000

PHASE IV.			<i>[Insert Title from Section D.10]</i>
1			\$ 000
2			\$ 000
3			\$ 000
4			\$ 000
5			\$ 000
<b>Phase IV. Total Cost</b>			\$ 000

## E. Response to Evaluation Criteria

Provide a separate response to the following evaluation criteria to demonstrate how the proposed Service Development Program will achieve each criterion.

### (1a) Potential Transportation Benefits

Demonstrate the potential of the proposed Service Development Program investment to achieve transportation benefits in a cost-effective manner:

- Supporting the development of intercity high-speed rail service;
- Generating improvements to existing high-speed and intercity passenger rail service, as reflected by estimated increases in ridership (as measured in passenger miles), increases in operational reliability (as measured in reductions in delays), reductions in trip times, additional service frequencies to meet anticipated or existing demand, and other related factors;
- Generating cross-modal benefits, including anticipated favorable impacts on air or highway traffic congestion, capacity, or safety, and cost avoidance or deferral of planned investments in aviation and highway systems;
- Creating an integrated intercity passenger rail network, including integration with existing intercity passenger rail services, allowance for and support of future network expansion, and promotion of technical interoperability and standardization (including standardizing operations, equipment, and signaling);
- Encouragement of intermodal connectivity and integration through provision of direct, efficient transfers among intercity transportation and local transit networks at train stations, including connections at airports, bus terminals, subway stations, ferry ports, and other modes of transportation;
- Enhancing intercity travel options;
- Ensuring a state of good repair of key intercity passenger rail assets;
- Promoting standardized equipment (or rolling stock), signaling, communications, and power;
- Improved freight or commuter rail operations in relation to proportional cost-sharing (including donated property) by other benefiting rail users;
- Equitable financial participation in the project's financing, including, but not limited to, consideration of donated property interests or services; financial contributions by freight and commuter rail carriers commensurate with the benefit expected to their operations; and financial commitments from host railroads, non-Federal governmental entities, nongovernmental entities, and others;
- Encouragement of the implementation of positive train control (PTC) technologies (with the understanding that 49 U.S.C. 20147 requires all Class I railroads and entities that provide regularly scheduled intercity or commuter rail passenger services to fully institute interoperable PTC systems by December 31, 2015); and
- Incorporating private investment in the financing of capital projects or service operations.

**\*\*Supporting the development of intercity high-speed rail service\*\***

The Program supports the development of intercity high-speed rail service by:

- (1) Initiating service that will advance the date at which 90-mph and 110-mph service between Chicago and Omaha, Nebraska would be established;
- (2) Providing ridership, marketing, and public awareness synergies that enhance the overall MWRRS high-speed rail system (with two 110-mph corridors already in progress); and
- (3) Providing cost-sharing and management synergies through pooled equipment and joint management with the MWRRS.

Cost-effectiveness is delivered both by the incremental approach and the use of existing transportation assets. The incremental approach enables the states of Iowa and Illinois to begin providing matching funds at an earlier date than if the corridor was postponed until a start-up 110-mph corridor could be funded; enables early establishment of rail transportation ridership patterns and TOD that would otherwise be postponed; and enables the MWRRS as a complete system to establish a much broader reach at an earlier date than it could otherwise. Careful use and sharing of existing transportation assets enables provision of a complete rail transportation service between Chicago and Iowa City at a relatively low cost (compared to a corridor not previously used for rail transportation), yet capacity for future increases in frequency and speed are also available at a low cost. The selected rail route previously offered 90- and

110-mph speeds. The route's high ratio of tangent track, broad curves, existing multiple mainline on BNSF, existing unused second-mainline subgrade on IAIS, relatively low freight-train usage on the entire route, and existing high-capacity, direct penetration through Chicago's urban area to Chicago Union Station is in fact unusual among proposed high-speed rail corridors.

Cost-effectiveness has been carefully assessed through use of the RTC model, close coordination with the engineering and operating departments of the host railroads, and close coordination with population centers. Local coordination has determined best locations for stations that leverage existing multimodal connections and provides room for expansion, and improving community livability. Public outreach through the Tier 1 Service Level NEPA process and the State's pre-existing outreach programs has ensured a low risk that the service design will encounter public concerns or environmental issues that cause changes to the service design.

Note that Chicago will become the hub for nine corridors in the MWRRS, a 3,000-mile rail network that serves one-fifth of the total U.S. population. Transportation connectivity at Chicago and between the corridors is an additive benefit to the cost-effectiveness of the service design.

**\*\*Generating improvements to existing high-speed and intercity passenger rail service, as reflected by estimated increases in ridership (as measured in passenger miles), increases in operational reliability (as measured in reduction in delays), reductions in trip times, additional service frequencies to meet anticipated or existing demand, and other related factors\*\***

The service design estimates initial-year passenger-miles of 36,060,000 (ridership of 246,800) and estimates it will grow to 65,318,000 (ridership of 447,000) in 2045 without alterations to existing service. Substantial additional ridership growth is envisioned as speed, frequency, and corridor length increase under future improvements that are not part of this Grant Application, and as connections to other MWRRS corridors in Chicago are established. The service design's ridership and revenue estimates were prepared by Amtrak based on its initial proposed Chicago-Iowa City schedule of 4-hours and 58-minutes. This schedule is proposed to be improved to 4-hours 5-minutes based on RTC modeling and discussions with the host railroads and Amtrak. The 4-hour, 5-minute schedule is likely to create significantly greater ridership and revenue than the Amtrak estimate. This accelerated train schedule compares well with the 1955 schedule of 3-hours, 55-minutes. Operational reliability is incorporated through RTC modeling that addressed the provision of adequate running times for freight trains to meet-pass locations with passenger trains, creation of capacity on both BNSF and IAIS that enables variability of freight operations to occur with low potential for affects on passenger-train schedules, and provision of controlled sidings with 30 mph speeds on the IAIS portion of the route to enable late-running passenger trains to change meet-pass locations without major additional impact to the late train's schedule.

The service design envisions future increases in train frequency to five round-trips per day, and future increases in speed to 90 and 110 mph. Additional infrastructure would be required at each incremental speed and frequency step, to enable freight-train overtakes and additional passenger/freight and passenger/passenger meet-pass events, as well as meet safety requirements of the FRA and the host railroads.

**\*\*Generating cross-modal benefits, including anticipated favorable impacts on air or highway traffic congestion, capacity, or safety and cost avoidance or deferral of planned investments in aviation and highway system\*\***

Projected cross-modal impacts of the Program include, for the 30-year time horizon calculated:

- (1) 25.6 million annual passenger-miles removed from the Iowa and Illinois highway systems;
- (2) 10.8 million gallons less petroleum fuel consumed; and,
- (3) 89,943 tons reduction in greenhouse gas emissions (CO<sub>2</sub>).

Net public benefits are estimated at \$263.2 million over the 30-year time horizon at a 7 percent discount rate, or a benefit-cost ratio of 1.70 percent.

The Program would divert travelers that would otherwise use personal automobile, scheduled airline service, or scheduled intercity bus service, as well as provide transportation growth capacity and capability for passengers that otherwise would have no viable transportation choice. The projected diversion rates are 67 percent from personal vehicle, 24 percent from air, and 9 percent from bus.

Current schedule airline options primarily consist of 50- or 70-passenger regional jets or turboprops. Each planeload diverted to rail enables reallocation of a newly required or existing landing/takeoff slot at Chicago O'Hare

International Airport or Chicago Midway Airport to a long-haul air route or a regional airport not served by high-speed rail. Expansion of airport capacity and improvement of air services reliability is a goal of the City of Chicago and the Chicago metropolitan counties. In 2009, in terms of delays in the U.S., O'Hare was the 12th worst airport.

Personal vehicle and bus diversion enables avoidance of highway congestion in Chicago, and enables reduction in future highway transportation demand that would increase congestion. The Program is estimated to generate a highway congestion benefit of \$16.3 million dollars, based solely on reduction in travel time for passengers who choose rail instead of highway. The capital costs of any congestion-capacity relief projects that the Program helps forestall are in addition to this benefit. The Program will provide increased safety benefits by diverting passengers from highways to rail. The Program is estimated to generate a safety benefit of \$7.4 million dollars based on a 7 percent discount over 30 years.

At a local level, the Program generates cross-modal benefits at Moline and Iowa City. The Moline station is adjacent to the existing Moline Centre Station. This facility is the hub of the Quad Cities bus system and long-distance buses serving the Quad Cities, and will provide connectivity to proposed future commuter rail and ferry operations. At Iowa City, the station is located in the heart of downtown within easy walking distance to the University of Iowa and the local bus system. Amtrak Thruway bus service may be instituted from Iowa City station to Des Moines, to downtown Cedar Rapids, and to the Eastern Iowa Airport.

**\*\*Creating an integrated intercity passenger rail network, including integration with existing intercity passenger rail services, allowance for and support of future network expansion, and promotion of technical interoperability and standardization (including standardizing operations equipment and signaling)\*\***

The Program is integrated with the MWRRS and will include coordinated schedules, marketing, equipment acquisition, train-control systems and track standards, fare policy, and operational organization.

Integration of train-control systems includes adaptation of a single PTC architecture, communications protocol, and wayside signal PTC interface standard. BNSF CTC and PTC practice will be emulated on the IAIS portion of the route. Similarly, the IAIS CTC dispatching console and back-office servers will emulate BNSF practice. This will enable smooth handoffs of passenger trains at the Wyanet Connection, and reduction in the potential for interface complications between the two railroads for PTC 220 MHz communications, VHF radio communications, and PTC track database uploads and updates. BNSF PTC standards will be adopted by Metra and Amtrak services on the BNSF corridor used by the Chicago-Iowa City service as well.

Integration of equipment has been established by agreements in principle between the members of the MWRRS. Illinois and Iowa DOT are members of the NGENC as established by Section 305 of the Passenger Rail Investment and Improvement Act of 2008 (PRIIA). Rolling stock purchased for this Program will be compatible with NGENC committee recommendations and the MWRRS, and like all MWRRS equipment, will be capable of 125-mph operation. Illinois and Iowa DOT serve on the Executive Committee for the NGENC with a focus on the Technical Subcommittee. The NGENC provides a forum for exploring potential new technologies that are compatible with the "GreenLine" approach of the Program. Iowa is participating on the Locomotive group of the Technical Subcommittee in order to pursue the development of fuel efficient, environmentally responsible locomotives that will be helpful in achieving the "GreenLine" vision. Another benefit that Illinois and Iowa have by serving on the NGENC Executive Committee is their participation in the development of equipment procurement strategies that will ultimately provide benefits in the purchase and operation of a pool of equipment for the MWRRS.

Expandability has been considered in the Program through RTC modeling, track infrastructure improvements, and conceptual wayside signal design. Expansion considerations include extension of the corridor to Omaha, increase in frequency, and increase in speed. The Program will ensure that public travel patterns created by the Program are continued and infrastructure is utilized even if expansions occur in the future.

**\*\*Encouragement of intermodal connectivity and integrations through provision of direct, efficient transfers among intercity transportation and local transit networks at train stations, including connections at airports, bus terminals, subway stations, ferry ports, and other modes of transportation\*\***

The Program connects the important regional population and business centers of Iowa City, the Quad Cities and Chicago. Union Station, the Chicago terminus, has outstanding intermodal connectivity to all of the transportation modes serving the city, including direct transfers to Metra commuter trains and the CTA heavy-rail rapid transit and buses. Connections to Chicago's two major commercial airports – O'Hare and Midway – are provided by CTA rapid transit. In addition, Union Station will be the hub for all of the MWRRS high-speed passenger rail corridors,

enhancing the transportation connectivity of the Program.

The Quad Cities station will be in Moline, adjacent to the existing Moline Centre Station. This facility provides connectivity to the Quad Cities bus system and provides connectivity to future commuter rail and ferry operations. In addition the intercity long-distance and regional bus service operates from the Centre Station.

In Iowa City, the station is located in the heart of downtown within easy walking distance to the University of Iowa and the local bus system. It is proposed that Amtrak Thruway bus service could be instituted from Iowa City station to Des Moines and to downtown Cedar Rapids and to the Eastern Iowa Airport. Such a service, which could be used by as much as 10 percent of passenger rail riders in Iowa, would allow for seamless, guaranteed connections with trains; through ticketing; and sufficient storage space for baggage.

**\*\*Enhancing intercity travel options\*\***

The intent of the Chicago to Iowa City Program, in conjunction with the MWRRS, is to provide intercity connectivity via passenger rail to all of the major population centers in the Midwest. The MWRRS uses an incremental approach by building corridors that can be expanded and extended, and will eventually encompass a rail network of over 3,000 route miles serving a combined population of over 60 million people. The MWRRS also includes a feeder bus system so that public transportation services are available to over 80 percent of the residents in the Midwest. In addition to connecting the population centers of Iowa City and the Quad Cities to the Chicago hub, the service will also enhance the transportation options for travel between Iowa City to the Quad Cities.

Iowa City is the home of the University of Iowa and a major objective of the new service is to provide the university population with affordable and reliable intercity transportation option. Over 20 percent of the University of Iowa student population of approximately 30,000 students is from adjoining states, mostly Illinois. The new service would provide a convenient, safe, and all-weather travel system for the students and enhance recruitment. Associated with the University in Iowa City is the University of Iowa Hospitals and Clinics, one Iowa's largest employers with a total annual economic impact of \$3.4 billion. This health care facility is a comprehensive academic medical center and regional referral center, drawing patients from throughout the country. As a state-owned teaching hospital, this facility serves a number of un-insured and under-insured patients needing specialized treatment. This population of patients, who may have fewer travel options than most, may in particular benefit from an alternative travel option. Intercity passenger rail will open up additional travel options, particularly for those unable or incapable of driving to this important regional facility.

The Quad Cities area has a metropolitan statistical area (MSA) population of nearly 377,291 (2008), and is a major manufacturing and commercial location supplying agricultural implements and earthmoving machinery worldwide. Augustana College at Rock Island, Illinois (student population approximately 2,500) draws students nationwide and internationally. Other universities in the Quad Cities include St. Ambrose University and Western Illinois University, Quad Cities Campus. The Quad Cities are also a major visitor draw from both Illinois and Iowa, with attractions including its scenic Mississippi River frontage, river boating and riverboat casinos, the Rock Island Arsenal, and several museums and convention centers. Approximately 60 percent of the visitors to the Quad Cities are from the Chicago area.

**\*\*Ensuring a state of good repair of key intercity passenger rail assets\*\***

The Program is contemplated as a permanent installation, with infrastructure design and construction intended for the longest practical lifespan. Wayside signaling and grade-crossing signal systems are intended for a 35-50 year design life. New track infrastructure is intended for a minimum 35-year life. Equipment is anticipated for a 30-50 year life, through capital life extension programs and programmed maintenance. New infrastructure such as sidings, double-track, and interlockings are designed for long-term use and utility by using American Railway Engineering and Maintenance-of-Way Association (AREMA) or BNSF mainline standards for turnouts, ballast sections, track structure, and track geometry. Existing historic passenger stations at Geneseo and Iowa City will be upgraded and restored, maintaining their character while incorporating energy-saving and long-life features.

**\*\*Promoting standardized equipment (or rolling stock), signaling, communications and power\*\***

Pooled rolling stock and common PTC standards are addressed in Section F7 of this Grant Application. Both Illinois and Iowa DOTs are participating in the NGECC. The new equipment specifications will be completed by the end of 2010 and equipment purchases will be consistent with the new specifications. While the final specification is not known, this Program will adopt the standard MWRRRI power unit.

Note that BNSF is at present installing PTC on its rail lines that will be used by the Program in order to meet the

December 31, 2015 deadline of the Railroad Safety Act of 2008. IAIS at present does not have PTC nor does it anticipate a requirement to install PTC but for the Program. The Program will thus implement PTC onto approximately 110 main-track miles where it otherwise would not occur.

**\*\*Improved freight and commuter rail operations\*\***

The Program and the Service Design has incorporated a philosophy that it would “make whole” the host freight railroads and commuter and other passenger railroads that share the route. No specific betterments for the freight railroads are planned. RTC modeling was used to validate for the Program’s passenger trains the minimum practical necessary capacity, adequate schedule recovery capacity and schedule reliability, and this capacity is included in this application only. Detailed discussions with IAIS and BNSF have sought to find a middle ground where the Program’s passenger rail service meets its intended goals at the least possible cost to the Program, and least possible affect on the host railroads.

Specific to Metra, there are no improvements contemplated in the program that directly affect Metra operational reliability, speed, or capacity. The addition of a main track at Eola in theory could provide additional flexibility and schedule-keeping ability for Metra, but as at most times this track will be occupied by a freight train, train scheduling will not be able to leverage its existence.

Specific to BNSF, RTC modeling identified a train-meet conflict that would regularly occur between Chicago-Iowa City passenger trains and Chicago-Iowa City and Chicago-Quincy passenger trains on the Mendota Subdivision west of Eola. This conflict occurs because BNSF regularly stages coal trains on the Mendota Subdivision awaiting their acceptance by Chicago connecting railroads. The programmed infrastructure addresses relocation of this coal train staging location to Eola, freeing up the Mendota Subdivision for passenger train meets.

Specific to IAIS, RTC modeling identified numerous train-meet conflicts at the Quad Cities and Iowa City. Double-track at the Quad Cities, extension of a running track at Iowa City, and extension or construction of freight-train “hold-out” sidings east of Iowa City and west of the Quad Cities created slots through these two terminals for the Program’s passenger trains.

Installation of CTC on IAIS has the potential to create operational benefits to IAIS. However, the operational patterns of IAIS, as a regional railroad with low speeds, long car trip-times, and high switching intensity, are not conducive to the benefits that CTC would create for a line-haul, higher-speed freight railroad. Similarly, track infrastructure improvements (from Class 3 to Class 4) are not conducive to cost-savings or improvements for IAIS, but in fact may be a negative due to greater track-and-time demands for maintenance machinery, low rail wear on curves with increased superelevation, and track maintenance interruptions of scheduled passenger service. IAIS is at present a 40-mph maximum speed railroad. While IAIS could increase its speed once CTC is installed and track class upgraded, the operating patterns of IAIS are not conducive to realization of reduced car-hire or train expense, due to the additional fuel cost, locomotive maintenance expense, and track maintenance cost this would entail.

**\*\*Equitable financial participation in the project’s financing, including but not limited to, consideration of donated property interests or services; financial contributions by freight and commuter rail carriers commensurate with the benefit expected to their operations; and financial commitments from host railroads, non-Federal government entities, nongovernmental entities, and others\*\***

All parties have equitable financial participation in relation to the benefit each will receive from the project. The cities of Geneseo, Moline, and Iowa City, which will receive new passenger service, will provide a 20 percent match for capital costs required to create station facilities, and will provide station operation and maintenance costs going forward. The States will provide a 20 percent match for capital costs for all new or improved infrastructure and equipment, excepting stations including platforms, utilities, parking, and structures. At this time there are no benefits anticipated to flow to BNSF or IAIS and no financial participation anticipated from BNSF or IAIS. Should final design and agreements incorporate projects that are requested by BNSF or IAIS and provide benefit to BNSF or IAIS, equitable financial participation allocations will be created.

BNSF and IAIS have made recent investments or are in the process of making investments that reduce costs for the Program. BNSF is installing PTC between Chicago Union Station and Wyanet. IAIS has been continuously upgrading rail, ties, surface and line. These projects will obviate expense that would otherwise be required by the Program.

**\*\*Encouragement of the implementation of positive train control (PTC) technologies with the understanding that 49 USC 20147 requires all Class I railroads and entities that provide regularly scheduled intercity or commuter rail passenger services to fully institute PTC systems by December 31, 2015\*\***

The Program creates a requirement for PTC on the IAIS portion of the route that otherwise would be exempt. Accordingly, PTC will be installed on the IAIS portion. BNSF is already progressing with PTC installation on its portion of the route in order to meet the requirement under 49 USC 20147 that stem from its transportation of Toxic Inhalation Hazard (TIH) gases on this route, and the route’s hosting of commuter and intercity passenger trains. The program implementation schedule contemplates that PTC will be installed on the IAIS portion prior to implementation of service, and December 31, 2015 on the BNSF portion.

**\*\*Incorporating private investment in the financing of capital projects or service operations\*\***

Opportunities for private investment in the Program will be considered as they become available. At present, a potential opportunity TOD exists at Moline and Iowa City. Both cities will consider various financing options created through the TOD.

**(1b) Other Public Benefits**

Describe the potential and actual contributions the proposed Service Development Program would make toward achieving transportation benefits in a cost-effective manner:

- Environmental quality and energy efficiency and reduction in dependence on foreign oil, including use of renewable energy sources, energy savings from traffic diversions from other modes, employment of green building and manufacturing methods, reductions in key emissions types, and the purchase and use of environmentally sensitive, fuel-efficient, and cost-effective passenger rail equipment;
- Promoting interconnected livable communities, including complementing local or state efforts to concentrate higher-density, mixed-use, development in areas proximate to multi-modal transportation options (including intercity passenger rail stations);
- Improving historic transportation facilities; and
- Creating jobs and stimulating the economy. Although this solicitation is not funded by the Recovery Act, these goals remain a top priority of this Administration. Therefore, Service Development Program applications will be evaluated on the extent to which the project is expected to quickly create and preserve jobs and stimulate rapid increases in economic activity, particularly jobs and activity that benefit economically distressed areas, as defined by section 301 of the Public Works and Economic Development Act of 1965, as amended (42 U.S.C. 3161) (“Economically Distressed Areas”).

**\*\*Environmental quality and energy efficiency and reduction in dependence on foreign oil, including use of renewable energy sources, energy savings from traffic diversions from other modes, employment of green building and manufacturing methods, reductions in key emissions types, and the purchase and use of environmentally sensitive, fuel-efficient, and cost-effective passenger rail equipment\*\***

The Program’s corridor and the connectivity that it provides will afford an attractive travel choice that can result in reduced automobile trips for business and leisure purposes.

The effects of the Program primarily consist of:

- (1) Reduced costs for transportation particularly compared to operation of private vehicles and airline transportation;
- (2) Benefits of reductions in fuel consumption, air emissions, highway congestion, and highway maintenance;
- (3) Safety benefits of reductions in private vehicle and airline trips;
- (4) Creation of a transportation opportunity particularly to the disadvantaged (low-income, elderly, youth and disabled), and during inclement weather, that would otherwise not have occurred due to the lack of rail transportation;
- (5) Economic impacts on commercial and real estate activity induced in the vicinity of passenger stations; and,
- (6) Improvements in livable communities and transportation connectivity that permeate through cities served by the Program; and,
- (7) Implementation of advanced train-control systems, LEED certified stations, and other potential advanced energy-savings technologies.

The effects of the Program primarily consist of reduced costs for transportation, reduced vehicle and airline trips, transportation that would otherwise not have occurred due to the lack of rail transportation service, and economic impacts on commercial and other activity induced in the vicinity of passenger stations. From these effects, the following benefits (calculated over the 30-year time horizon of the benefit-cost analysis, and are discounted at 7

percent) can be monetized or quantified:

- (1) 10.8 million gallons of fuel reduction;
- (2) A net reduction in air-emissions, including 89,943 tons reduction in carbon dioxide (CO<sub>2</sub>), and 292 tons reduction in volatile organic compounds (VOCs);
- (3) \$800,000 reduction in highway maintenance over 31 years;
- (4) \$16.3 million reduction in annual highway congestion costs; and,
- (5) \$7.4 million in annual highway safety benefits.

Energy consumption of the Program's construction, train operations, and track and equipment maintenance will be substantially less than the avoided energy consumption that will be generated by the Program's diversion of passenger transportation from other modes, thereby resulting in a net savings in energy usage. The Program will contribute in a positive manner to the Midwest's environmental quality, effective land use, energy efficiency, and reduction in the dependency on foreign oil.

A reduction in the growth of vehicle miles traveled and the related reduced fuel consumption and vehicle emissions will help move the Midwest toward more energy independence and security. The positive impact of greenhouse gas emissions on human health and global climate are significant benefits to be derived from the enhancement and expansion of passenger rail services in Illinois and Iowa.

The "GreenLine" that was envisioned in 2009 has become an approach for this Grant Application (see "GreenLine" Approach). The communities (potentially Geneseo, Moline, and Iowa City) will consider obtaining LEED certification for their stations. Specifically, Moline and Iowa City have committed to connection to multi-modal transportation, sustainable construction practices, waste recycling, stormwater management, water conservation, and an integrated team design practice that incorporates public input. In addition, as final design proceeds, these communities will consider sustainable practices like permeable paving, solar panels, wind turbines, and green roofs. This Grant Application's cost estimates include station building acquisition, platform construction, and temporary shelter construction (see attached Conceptual Engineering Stations Report). The costs for incorporation of the sustainable concepts would be developed during preliminary engineering and final design during Tier 2 Project Level analysis. Moline and Iowa City are experienced with construction to LEED standards and have committed to fund sustainable concepts determined during future design.

Long-term benefits are centered upon the creation of a permanent transportation facility in a high-demand transportation corridor where demographic or geographic change is unlikely to strand this asset or render its services less desirable. This corridor is already supported by intermodal connections at Chicago that offer rail users rapid, efficient, and comprehensive transportation connections nationally and internationally. The Program does not assume that new transportation patterns will be created, nor anticipate unusual changes in passenger behavior.

Technological advances will be strongly promoted to increase the efficiency of these passenger rail operations, such as train-management software to reduce locomotive fuel consumption, and low-energy consumption passenger-car heating and cooling systems. Both states are committed to utilizing new initiatives and programs to support this effort. In addition, both states will seek out opportunities to pilot new technologies in this effort.

Iowa State Senator Joe Bolkcom offers this comment, "As Outreach and Community Education Director for the University of Iowa's Center for Global and Regional Environmental Research, I also know that multimodal transportation infrastructure between Iowa City and Chicago will both reduce our dependence on foreign oil and be a real boon to students, faculty, and staff." (See Letters of Support).

**\*\*Promoting interconnected livable communities, including complementing local or state efforts to concentrate higher-density, mixed use, development in areas proximate to multi-modal transportation options (including intercity passenger rail stations)\*\***

Illinois and Iowa are committed to implementing passenger rail service between Chicago and Iowa City that expands the green and sustainable principles to foster livable communities. Both states envision "GreenLine" principles relating to stations, such as: built in city centers; implementation of TOD actions surrounding stations; connections to public transit, bicycle and pedestrian networks; connections to intercity bus "feeder" service; parking for bicycles; and solar charging stations/plug-ins for hybrid/electric vehicles (see "GreenLine" Approach). The stations at Moline

and Iowa City are excellent examples of how local leaders are focused on making their communities more people-friendly. Specifically, Moline and Iowa City have committed to construction of the stations to LEED standards, connection to multi-modal transportation, sustainable construction practices, waste recycling, stormwater management, water conservation, and an integrated team design practice that incorporates public input. In addition, as final design proceeds, these communities will consider sustainable practices such as permeable paving, solar panels, wind turbines, and green roofs.

Iowa City is planning a smart growth approach for the Riverfront Crossings District that encompasses the proposed station location. The City envisions transforming Riverfront Crossings into a walkable, transit-friendly neighborhood that features a mix of housing, storefront retail and office space, entertainment and recreational facilities, public open spaces and trails. The Riverfront Crossings area is currently the focus of significant community interest, not only because of its close proximity to downtown Iowa City and the University of Iowa campus, and the introduction of passenger rail service linking Iowa City and Chicago, but also because of contemplated future light rail service from the area through the heart of the University of Iowa campus and downtown Iowa City to Coralville, and eventually North Liberty and Cedar Rapids; discussions about relocating the Hancher / Voxman / Clapp performing arts facilities to this area; as well as a desire to reclaim the riverfront in response to recent flooding. The Amtrak station in the Riverfront Crossings District is proposed to be located at the former Chicago, Rock Island & Pacific Railroad Depot which is located on the south side of the Iowa City's Downtown District and the University of Iowa campus. This station site is four blocks from the Court Street Transportation Center, which provides local and regional bus service. As previously discussed, Amtrak Thruway buses could be instituted from the Iowa City station to Des Moines, to downtown Cedar Rapids and to the Eastern Iowa Airport.

Sally Mason, President of the University of Iowa, supports the Program, "We anticipate that a fast and efficient rail link between Iowa City and Chicago would attract significant university-related ridership with concomitant benefits including reduced reliance on automobile transportation by our students and employees, as well as increased competition and lower fares for transportation between Iowa City and Chicago" (see Letters of Support).

In Moline, the Amtrak station would be located within the Green Enterprise Zone (GEZ), an innovative concept focused on achieving energy efficiency and deploying advanced renewable energy systems in an area targeted for sustainable economic development. Through partnerships between local government, non-profits, academic institutions, and the private sector, the GEZ is a model for how to link energy innovation to economic development and provide companies with opportunities to differentiate themselves by locating in a setting powered by on-site green energy systems. The Rock Island County Metropolitan Mass Transit District (MetroLINK), along with the City of Moline, is planning to construct the Program's passenger station as an expansion of the existing Centre Station bus terminal in downtown Moline. Centre Station is the hub for eight local bus routes; paratransit routes; routes to Davenport and Bettendorf, Iowa; the Channel Cat Water Taxi; and intercity bus. Bicycle trails are also identified on 7th Street, 11th Street, 14th Street. Two regional express bus services are planned for the metropolitan area, which would also stop at Centre Station. Centre Station is located in the central business district (CBD) of Moline and near entertainment venues, office complexes, and tourist attractions. In anticipation of the arrival of the Program's passenger service, MetroLINK and the City of Moline developed The Quad Cities TOD + Intermodal Plan, completed in 2009. The Plan features transit-oriented development that facilitates development of additional rail transit and linkages to other transportation modes. It also anchors the development of the immediate station area, the TOD area, and the downtown area. The goals of the TOD Plan include creating the GEZ that favors pedestrians and bicyclists; respecting the neighborhood fabric (that is, personal mobility, reuse of historic buildings); creating a walkable, lively mix of uses and activities near transit; and increasing density closer to the station. The TOD Plan includes an implementation strategy with specific action items in order to realize this vision.

**\*\*Improving historic transportation facilities\*\***

The Program will improve historic transportation facilities. The Program will use Chicago Union Station and help it remain a viable historic transportation hub. The proposed passenger rail service would use existing stations at La Grange Road, Naperville, Plano, Mendota, Geneseo, and Princeton, Illinois. Each has been in service for over 100 years and all are likely eligible for listing on the National Register of Historic Places (NRHP). The station at Plano and proposed Iowa City station are listed on the NRHP. Acquisition of existing, historic passenger stations would preserve them and their historic use, by bringing them into public ownership. By rehabilitating and repurposing these historic structures, they would become an integral part of a more vibrant and vital community, ensuring their continued use and preservation. The communities will undertake ongoing maintenance for the station buildings that will preserve their structural and historic integrity.

**\*\*Creating jobs and stimulating the economy\*\***

The Program creates economic benefits that include:

- (1) Jobs created for construction of track, station and roadway improvements, construction of locomotives and passenger cars, and train-control and communications systems;
- (2) Jobs created to operate and maintain trains, stations, and train-control systems communications; and,
- (3) Productivity improvements from reductions in cost of transportation, improved access to transportation, and improved reliability of transportation.

The Program creates economic impacts through the construction of the infrastructure projects necessary to implement the service and acquisition of the equipment necessary to operate the service, and continuing through the operation and maintenance of the trains, stations, and maintenance facilities, along with additional infrastructure maintenance for tracks, signals and communications systems. These benefits were calculated and monetized through a formal economic-impact analysis process that is described in Appendix C in the Service Develop Plan, “Economic-Impact Analysis of the Iowa Portion of the Chicago-Iowa City High-Speed Intercity Passenger Rail Program”, and Appendix D in the Service Development Plan, “Economic-Impact Analysis of the Illinois Portion of the Chicago-Iowa City High-Speed Intercity Passenger Rail Program.” These analyses adhere to guidance issued by USDOT and FRA, and calculate jobs creation, and direct, indirect, and induced economic impacts using the IMPLAN economic impact software model.

Economic impacts of the Iowa portion are estimated as follows:

- (a) 860.0 job-years (one job lasting one-year during the construction period
- (b) 31.3 job-years during each year of operation of the passenger service
- (c) \$125.8 million in additional business output during construction, and \$6.8 million annually during operation
- (e) \$57.9 million in value added to the economy during construction, and \$3.2 million annually during operation
- (f) \$42.2 million in employment income during construction, and \$1.8 million annually during operation (all values in 2010 dollars)

Economic impacts of the Illinois portion are estimated as follows:

- (a) 1,517.4 job-years (one job lasting one-year during the construction period
- (b) 84.7 job-years during each year of operation of the passenger service
- (c) \$215.3 million in additional business output during construction, and \$18.3 million annually during operation
- (d) \$97.9 million in value added to the economy during construction, and \$8.7 million annually during operation
- (e) \$72.2 million in employment income during construction, and \$4.9 million annually during operation (all values in 2010 dollars)

These outputs of the Program compare to the estimated Iowa operating and maintenance subsidy of \$3.4 million in 2010 dollars, and the Illinois subsidy of \$9.3 million in 2010 dollars.

Construction jobs for a rail project are typically drawn from the surrounding area, which includes four economically distressed areas, Bureau, DeKalb, Grundy, and LaSalle counties in Illinois. Illinois and Iowa DOTs will source materials domestically, to meet the FRA’s “Buy America” requirements as well as the aggressive construction schedule desired for High-Speed Intercity Passenger Rail (HSIPR) job-stimulus criteria, and to supply materials that create the lasting value and low life-cycle costs that are sought by the HSIPR program.

The anticipated construction job creation occurs within four years following award. Design and permitting jobs occur in the first three years following award. Design and construction of the locomotives and passenger cars occurs in the first four years. Construction and supported manufacturing jobs occur in years 2013-2015. It is not possible at this time to anticipate the precise domestic locations where manufacturing will take place, but as much of it involves heavy capital goods or primary materials such as steel, non-ferrous metals, cement, chemicals, and resins, it can be anticipated that many manufacturing jobs will occur in areas with relatively high unemployment.

The long-term value of the Program is estimated as \$263.2 million in public benefits over the 30-year study period

using a 7 percent discount rate. Compared to the cost of the Program, the benefit-cost ratio is 1.70.

The Quad Cities Chamber of Commerce in both Iowa and Illinois support the Program due to its job creation and other economic factors, “In the Quad Cities alone, Amtrak is estimated to create 550-825 jobs, increase household income by \$11-16 million, and increase property values by \$75 million.” (See Letters of Support).

**(2) Sustainability of Benefits**

Identify the likelihood of realizing the proposed Service Development Program’s benefits, including:

- The quality of a Financial Plan that analyzes the financial viability of the proposed rail service;
- The quality and reasonableness of revenue and operating and maintenance cost forecasts for the benefiting intercity passenger rail service(s);
- The availability of any required operating financial support, preferably from dedicated funding sources for the benefiting intercity passenger rail service(s);
- The quality and adequacy of project identification and planning;
- The reasonableness of estimates for user and non-user benefits for the project;
- The reasonableness of the operating service plan, including its provisions for protecting the future quality of other services sharing the facilities to be improved;
- The comprehensiveness and sufficiency, at the time of application, of agreements with key partners (including the railroad operating the intercity passenger rail service and infrastructure-owning railroads) that will be involved in the operation of the benefiting intercity passenger rail service, including the commitment of any affected host-rail carrier to ensure the realization of the anticipated benefits, preferably through a commitment by the affected host-rail carrier(s) to an enforceable on-time performance of passenger trains of 80 percent or greater;
- The favorability of the comparison between the level of anticipated benefits and the amount of Federal funding requested; and
- The applicant’s contribution of a cost share greater than the required minimum of 20 percent.

**\*\*The quality of a Financial Plan that analyzes the financial viability of the proposed rail service\*\***

Iowa DOT and Illinois DOT have prepared a Program Financial Plan (PFP) (see attachment). Significant elements of the plan include:

- (1) Cost estimate (current cost of the Program),
- (2) Implementation plan (schedule for completing the Program),
- (3) Financing and revenue (funding sources and amounts),
- (4) Cash flow (annual schedule of cash needs versus available cash), and,
- (5) risk identification and mitigation strategies.

Illinois and Iowa DOTs have extensive experience developing financial plans and have high confidence in their ability to finance this Program.

**\*\*The quality and reasonableness of revenue and operating and maintenance cost forecasts for the benefiting intercity passenger rail service\*\***

Both Illinois and Iowa DOTs have been working closely with Amtrak, BNSF, and IAIS to develop reasonable projections of operating and maintenance costs. This Program is very similar to projects previously undertaken by Amtrak; the revenues and operating and maintenance costs are based on previous, successful projects. Illinois DOT has broad experience in partnering with Amtrak to introduce new intercity passenger rail service and understands the revenue projections based on those experiences.

**\*\*The availability of any required operating financial support, preferably from dedicated funding sources for the benefiting intercity passenger rail service\*\***

Iowa DOT and Illinois DOT commitment to new and enhanced passenger rail service between Chicago and Iowa City, via Moline in the Quad Cities is unparalleled. Iowa has long been pursuing the goal of expanded passenger rail services, but has taken a very deliberate and thoughtful route to reach this point where we are today with the groundwork laid for development of Iowa’s first state-sponsored intercity passenger rail route.

The Iowa Legislature in 1992 established the Passenger Rail Service Revolving Fund (Iowa Code Section 327J) as a separate fund under the control of the Iowa DOT. The fund may be used for “costs associated with the initiation, operation, and maintenance of passenger rail service” and other associated purposes. For many years, the fund

contained a nominal amount donated by a passenger rail advocacy group that was instrumental in helping with creation of the account. In 1996, Iowa became a founding member of the MWRRI. The Iowa DOT financially supports the activities of the MWRRI through operations funding without the benefit of annual appropriations. Iowa has been an active participant in the activities of the MWRRI which laid the foundation through studies, reports, and planning for the introduction of state-sponsored intercity passenger rail in Iowa. In 2009, the Iowa legislature appropriated \$1.5 million for FY 2010 to the Passenger Rail Revolving Fund to advance further planning for passenger rail service. In the most recent legislative session, the legislature appropriated \$3 million for FY 2011, and \$6 million for FY 2012, with a statement of legislative intent "to fund up to \$20 million over a four year period to fully fund the state commitment for matching federal funding available through the federal Passenger Rail Investment and Improvement Act of 2008." Additionally, in 2007, the Iowa General Assembly authorized joining the Midwest Passenger Rail Compact, demonstrating a further commitment to expanding passenger rail.

The Illinois Legislature's 2009 capital bill includes \$150 million for financing passenger rail in the state. These funds are to be used for infrastructure projects related to future Amtrak service expansions within the state and projects that were required as a result of the State's service expansions in the fall of 2006. Some of these funds will be directed to the Chicago to Iowa City Intercity Passenger Rail Program. Illinois has a strong history of legislatively supporting passenger rail routes; Illinois currently provides financial support for five intercity passenger rail routes. In particular, Illinois has provided hundreds of millions for state-supported Amtrak and Class 1 intercity service since 1971.

Iowa DOT and Illinois DOT have a signed Memorandum of Understanding (July 2009) which outlines each state's responsibilities for sharing the cost of operating passenger rail service and the cost of equipment for providing passenger rail service between Chicago and Iowa City (see Agreements attachment).

Iowa DOT and Illinois DOT also have a signed Agreement in Principle (AIP) in place. This AIP covers each state's responsibilities concerning any cost overruns which may occur (see Agreements attachment).

Local communities have indicated their willingness to provide some improvements to passenger rail stations located within their communities.

**\*\*The quality and adequacy of project identification and planning\*\***

The Chicago to Iowa City high-speed intercity passenger rail service has been the subject of long and intensive planning by the States, and as a part of the larger Midwest effort to create a regional high-speed passenger rail system. In 1996, Illinois and Iowa became founding members of the MWRRI which now includes nine Midwestern states. The MWRRI, using pooled state funds, has studied route options, identified feasible routes, and provided other background for a "big picture" concept for the Midwest. Iowa and Illinois each have invested \$294,250 as their contribution to the pooled fund.

To further develop their transportation, sustainability, and economic development vision, both the Iowa and Illinois DOTs embarked on long-range planning in the 1990s, using the same planning process used for the implementation of any large scale transportation project. The Project is included in both states' long range transportation and rail plans and Iowa has developed the Iowa DOT 10 Year Strategic Passenger Rail Plan to further guide its more immediate activities. Both states worked closely with Amtrak to request Feasibility Studies for Chicago-Quad Cities and Chicago-Iowa City service, which led to more in-depth planning activities and public involvement processes. In terms of formal planning activities, the Tier I Service Level EA and preliminary engineering have been completed, as well as a supplement to the original Tier I document. Early in the planning process, Iowa and Illinois began discussions on responsibilities, cost-sharing and other aspects that needed to be resolved between the two states that would support the line. Discussions with the host railroads also began early in the planning process to identify potential roadblocks to the implementation. The Iowa DOT formed a Passenger Rail Advisory Committee (PRAC) in 2008. The PRAC consists of representatives of the Iowa communities along proposed routes, railroads, Amtrak, passenger rail advocacy groups, regional and metropolitan planning organizations and other interested parties. The PRAC has been instrumental in gathering input from the varied interests, generating support for expanded passenger rail, and enabling the Iowa DOT to easily communicate pertinent and timely information. The Iowa DOT, as lead state on this joint Grant Application, throughout the planning process has taken a team approach. Multi-disciplinary teams within the Iowa DOT have been formed to assist with this Project and provide access to specific knowledge and skill sets. When additional expertise has been needed beyond what is available in-house, consultants have been hired to accomplish specific tasks. The Iowa DOT and Illinois DOT have spent to date \$1,257,396 on consultant services for preparation of the Service Development Plan, environmental, and preliminary engineering. In June 2010, a team including representatives from Amtrak, IAIS, BNSF, Iowa, Illinois, and the consultant met to traverse the entire route by hi-rail to identify any previously unforeseen hurdles. From the initial concept to this Grant Application, a deliberate and team-based approach has been applied to the identification, scope and planning of the Chicago to Iowa

City high-speed intercity passenger rail corridor.

**\*\*The reasonableness of estimates for user and non-user benefits for the project\*\***

The estimates are based on both a technical description of the Program to define quantities, and unit values for materials, services, and standard values, e.g. the value of a ton of carbon dioxide emissions. Input values used in the cost-benefit and economic-impact analyses were taken from the United States Department of Transportation (USDOT) guidance on the preparation of Cost Benefit Analyses, including the recently published guidelines for the HSIPR program and TIGER I and TIGER II Grant applications. Where USDOT has not provided valuation guidance or a reference to guidance, standard industry practice has been applied. Ridership and revenue projections, and operating and maintenance costs were provided by Amtrak using its lengthy experience in ridership and revenue estimates throughout the U.S. Unit cost estimates were prepared by the States' engineering consultant, HDR Engineering, Inc., using its broad experience in high-speed rail and freight rail projects throughout the U.S., and further based on recent bids for similar projects as well as projections of economic recovery on contractor and material prices. The Program's technical description was prepared in close cooperation with Amtrak, BNSF, and IAIS, to determine to a high degree of precision the exact requirement for track, signal, structures, and equipment. Some values have inherent imprecision due to lack of experience by anyone with technologies that at this time are not fully developed, particularly estimates for PTC implementation and Next Generation locomotives and passenger cars. Accordingly, conservative factors were applied to cost estimates for these unknowns.

**\*\*The reasonableness of the operating service plan, including its provisions for protecting the future quality of other services sharing the facilities to be improved\*\***

The operating service plan has been developed to a high degree using RTC modeling and detailed discussions with the operating and engineering departments of BNSF and IAIS. Early identification of an experienced operator, Amtrak, has enabled extensive input on the reasonableness of the proposed service plan and draws on Amtrak's broad Midwest experience and new-start experience. The modeling and coordination with host railroads and operators has enabled a high degree of certainty that the operating service plan has made sufficient allowance for preservation of existing and potential future freight and passenger rail services on the shared corridor. The proposed infrastructure does not preclude or prevent additional infrastructure being created to enable increased freight service, increased commuter rail service in the Chicago-Aurora Metra corridor, or increased Amtrak long-distance services.

**\*\*The comprehensiveness and sufficiency, at the time of application, of agreements with key partners (including the railroad operating the intercity passenger rail service and infrastructure-owning railroads) that will be involved in the operation of the benefiting intercity passenger rail service, including the commitment of any affected host-rail carrier to ensure the realization of the anticipated benefits, preferably through a commitment by the affected host-rail carrier(s) to an enforceable on-time performance of passenger trains of 80 percent or greater\*\***

The Program benefits from a unique partnership among Iowa DOT, Illinois DOT, BNSF, IAIS, Amtrak, and the communities with new station stops – Geneseo, Moline, and Iowa City. Agreements in Principle (AIP) made with these partners demonstrate the cooperative spirit and strong commitment of all the partners to meeting the vision of the States, and public responsibility. Illinois and Iowa DOTs are progressing agreements or have reached agreements with host railroads that will provide stewardship of the federal and state investment in the service, and comprehensively address enforceable operation and maintenance requirements necessary to create high-reliability, on-time service (see the Service Development Plan for a discussion of the agreements).

**\*\*The favorability of the comparison between the level of anticipated benefits and the amount of Federal funding requested\*\***

The Grant Application demonstrates that the level of anticipated benefits of the Chicago to Iowa City High Speed Intercity Passenger Rail service warrants the amount of Federal funding requested for its development. The Program will generate a benefit-cost ratio of 1.70 on an ongoing basis after infrastructure is complete, over a 30-year horizon and discounted by 7 percent per USDOT guidance. This ratio is stand-alone: it does not include additional construction cost, marketing, operations, maintenance, and ridership synergies the States expect to accrue from the Program's leveraging of the MWRRS Chicago hub and expected purchasing and operations efficiencies. Sources of public benefits include reduction in travel times, travel costs, emissions, and accident costs. Typical value of time savings and vehicle operating costs were used in this analysis. Risk analysis was conducted using probabilities for the various values that would be attained by each variable which entered into the project analysis, as well as any covariances between these variables.

**\*\*The applicant's contribution of a cost share greater than the required minimum 20 percent\*\***

The state of Iowa, the state of Illinois, and the communities of Geneseo, Moline, and Iowa City are committed to the development and sustainability of alternative transportation. Their desire is to use any and all means at their disposal

to contribute a cost share totaling the requisite 20 percent, or greater, to fund their portion of the development and construction of the Program.

### (3) Project Delivery Approach

Describe the risk associated with delivery of the Service Development Program within budget, on time, and as designed:

- The applicant's financial, legal, and technical capacity to implement the project, including whether the application depends upon receipt of any waiver(s) of Federal railroad safety regulations that have not been obtained;
- The applicant's experience in administering similar grants and projects, including a demonstrated ability to deliver on prior FRA financial assistance programs;
- The soundness and thoroughness of the cost methodologies, assumptions, and estimates for the proposed project;
- The reasonableness of the schedule for project implementation;
- The thoroughness and quality of the Project Management Plan;
- The timing and amount of the project's future noncommitted investments;
- The overall completeness and quality of the application, including the comprehensiveness of its supporting documentation;
- The adequacy of any completed engineering work to assess and manage/mitigate the proposed project's engineering and constructability risks;
- The sufficiency of system safety and security planning;
- The project's progress, at the time of application, towards compliance with environmental protection requirements;
- The readiness of the project to be commenced; and
- The timeliness of project completion and the realization of the project's anticipated benefits.

**\*\*The applicant's financial, legal, and technical capacity to implement the project, including whether the application depends upon receipt of any waiver(s) of Federal railroad safety regulations that have not been obtained\*\***

Iowa DOT and Illinois DOT have a strong partnership and long history of successfully completing joint projects. The states share numerous border bridges across the Mississippi River and have an ongoing working relationship in developing and funding joint projects. A recent project, the Interstate 74 Corridor Project, passes through the Quad Cities and involves significant Interstate highway reconstruction and a new Interstate highway bridge across the Mississippi River that spans through the jurisdiction of both Illinois and Iowa.

Projects of comparable size and scope to the Program completed by the Iowa DOT include:

- a) Evaluation of Interstate 80 (ongoing) from Quad Cities to Omaha, which covers much of the same corridor;
- b) Assessment of flood damages to Iowa's railroads (2009), resulting in \$9.6 million in federal grants through FRA's Disaster Assistance Grants;
- c) Completion of the Environmental Impact Statement for the Interstate 74 Corridor Project (2009), with construction costs of nearly \$1 billion; and,
- d) Completion of the Council Bluffs Interstate System highway project (2008), a tiered environmental process with construction costs over \$1 billion, including development of a management plan and a financial plan for submittal to FHWA.

Projects of comparable size and scope to the Program completed by the Illinois DOT include:

- a) Implementation of Illinois DOT's \$14.3 billion highway improvement program (2009), includes an annual program of \$2.4 billion;
- b) Implementation of the Chicago Regional Environmental and Transportation Efficiency Program's (CREATE) partners completed the \$4.5 million railroad modernization project (2008) which improved the 40 year-old signal system and helped mitigate conflicting use of tracks among freight trains, Metra, and Amtrak along the Indiana Harbor Belt Corridor; and,
- c) Continued planning, design, and environmental permitting of the CREATE program towards its ultimate constructed cost of \$1.5 billion, relieving rail congestion in America's most important rail city;
- d) Administration of five state-supported Amtrak routes (2009) operating throughout the state and managing the progress toward the planning, design, permitting, construction, and implementation of the Chicago to St. Louis high speed rail corridor.

In addition, all Illinois state-sponsored trains continue to post record levels of ridership.

**\*\*The applicant's experience in administering similar grants and projects, including a demonstrated ability to deliver on prior FRA financial assistance programs\*\***

Iowa DOT has a long and increasingly active involvement in administering Federal funding for rail projects. Iowa DOT staff has demonstrated the ability to successfully develop diverse projects, ranging from relatively straightforward rail rehabilitation projects to far more complex projects such as development of new rail access to an industrial park, the replacement of rail bridges, and improvements to a Class I railroad serving Amtrak. These experiences have demonstrated Iowa's ability to administer a project from concept, through engineering, letting and construction.

Between 1979 and the conclusion of the Local Rail Freight Assistance Program in the early 2000s, Iowa administered approximately \$39.6 million in federal funding for freight rail development on Iowa's short lines. Many of the projects were federally funded in full while others were supplemented with additional state funds.

In the last few years, Iowa's involvement with federally funded projects has stepped up considerably. Through these additional projects, the department's personnel have gained valuable experience and developed additional expertise and relationships with FRA and numerous railroad company personnel while administering these diverse projects.

In 2005, the Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) included \$5 million in funding for three rail projects in Iowa:

- (1) Eastern Iowa Industrial Center rail access;
- (2) Appanoose County Community Railroad rehabilitation (funding reallocated from original recipient in 2008 Technical Correction bill); and,
- (3) D & W Railroad rehabilitation.

In 2007, an appropriations bill included \$1.1 million for the funding of an Iowa rail project, the Altoona Industrial Spur.

In 2009, Iowa was awarded nearly \$9.6 million in the Railroad Rehabilitation and Repair Program (RRRP) to repair serious flood damages to three of Iowa's short line railroads.

- (1) Cedar Rapids and Iowa City Railway Company (CRANDIC) bridge replacement
- (2) Keokuk Junction yard restoration; and,
- (3) Iowa Northern Railway (IANR) bridge replacement.

Also in 2009, Iowa DOT was one of a handful of states that chose to allocate a portion of highway funding received through the American Recovery and Reinvestment Act (ARRA) funding to rail projects. Five million dollars was set aside for rail projects that were selected through a competitive process; Iowa DOT funded four rail projects.

- (1) Clinton Regional Development Corporation rail access;
- (2) Keokuk Rail Bridge (over the Mississippi River) electrical upgrade;
- (3) IAIS Intermodal Facility improvements in Council Bluffs; and,
- (4) D & W Railroad, Inc. bridge upgrades (to nine bridges).

Through the ARRA rail projects, Iowa DOT staff demonstrated the ability to develop diverse rail projects from concept, through engineering, bid letting and construction in a timely manner. This unique funding source provided many opportunities for Iowa DOT staff and rail project sponsors to work together to implement rail projects that satisfy all federal funding requirements.

In the first round of HSIPR funding, Iowa received two awards, totaling \$18 million:

- (1) Planning grant for the Chicago to Omaha passenger rail corridor; and,
- (2) Additional crossovers on the BNSF Ottumwa Subdivision, a line that hosts Amtrak's California Zephyr.

Illinois DOT has administered grants through its Rail Freight Program since the late 1980s with both State funds and Federal funds from FRA. The State administered a \$60 million grant with Union Pacific Railroad in the early 2000s to upgrade 120 miles of track to FRA Class 6 standards. Most recently, Illinois DOT was successful in obtaining FRA grant funding for high-speed intercity passenger rail from Chicago to St. Louis. The initial \$98 million project, funded through ARRA, will include improvements on a section of track that extends from just north of Alton, Illinois, to south of Springfield, Illinois. It then resumes just north of Springfield and stretches south to Lincoln, Illinois. Upgrades will include the installation of new, high-speed rail, and concrete ties. The agreement between the

Illinois DOT and Union Pacific Railroad will allow upgrades to be made on an initial 90-mile segment of Union Pacific Railroad track to prepare for high-speed service, with work beginning in September 2010.

**\*\*The soundness and thoroughness of the cost methodologies, assumptions, and estimates for the proposed project\*\***

Illinois DOT and Iowa DOTs have extensive experience estimating construction costs for roadway and civil projects based on years of industry experience. The host railroads have a similar level of experience with estimating construction costs for railroad projects. Unit costs obtained from historical DOT bid tabulations, consultant-administered bids, and host railroad experience were applied to the various quantities developed for the project. Estimates for the proposed stations at Geneseo, Moline, and Iowa City were developed based on property acquisition, station renovations, platform construction or reconstruction, signage, parking, sidewalks, roadway improvements, and landscaping. Detailed cost estimates were developed for wayside signaling and at-grade crossing signalization. Contingency costs were applied to individual categories based on the level of detail within the category. An additional lump sum contingency was added to the Eola Main Line Improvements to account for uncertainties with connections to existing trackage that will be required by BNSF. Additional permitting lump sums were added to the Eola Main Line Improvements and Wyanet Connection to account for additional permitting requirements that may develop with these projects. An unallocated contingency was added to the entire project.

**\*\*The reasonableness of the schedule for project implementation\*\***

Illinois DOT and Iowa DOT have reviewed the implementation schedule and determined that it is both reasonable and fully achievable. The Program is designed to minimize the potential for technical, regulatory, financial, organizational, public, and environmental issues that have deleteriously affected previous passenger-rail implementation projects, as follows:

- a) The new service requires construction of limited extent, within existing rights-of-way (with minor exceptions) and no substantial right-of-way acquisition.
- b) The new service will be implemented on existing rail routes that historically hosted passenger rail trains operating at speeds in excess of 100 mph.
- c) The new service will use proven technologies for critical train-control, signal and communications systems; for track-train interfaces, and for track structures. .
- d) There is strong local, regional and state support for the new service.
- e) The Tier 2 Project Level NEPA documents and Preliminary Engineering are all well defined and do not appear to present any type of issues that can not be addressed and resolved within the established time frames.
- f) Both of the host railroads are highly supportive of the new service and have been close partners with the States.
- g) Amtrak conducted a feasibility analysis of the new service and supports the service. Illinois DOT has partnered with Amtrak in the past to introduce very similar service in several other corridors.
- h) Both Iowa DOT and Illinois DOT are very experienced in successfully managing projects of far more complexity and controversy than the new intercity passenger service.
- i) Chicago Union Station is the eastern terminus and is a well established and highly functioning rail terminal.
- j) The States have been close partners and have coordinated and communicated freely and carefully throughout the project.

Illinois DOT and Iowa DOT conclude that there is nothing overly complex about the new service and that all of the schedule risks are manageable.

**\*\*The thoroughness and quality of the Project Management Plan\*\***

Illinois and Iowa DOT have established a multidisciplinary project team for the design and construction of the Program. A Program Management Team (PMT), made up of staff members of various capabilities (environmental, design, planning, program management, financial, and construction) from various offices from both DOTs, has been established for the Program. The PMT will meet monthly to discuss project development and issues that need resolution. In addition, daily internet communications, conference calls, and small group meetings will be utilized to address any items that need immediate attention. The two selected Co-Program Managers, Tamara Nicholson (Director of Iowa DOT's Office of Rail Transportation) and George Weber (Chief, Illinois DOT's Bureau of Railroads), have combined more than 40 years of relevant experience working on numerous projects in the areas of contract and engineering support, as well as overall program management. Nicholson and Weber are responsible for managing all aspects of passenger and freight rail

planning, programming, implementation, and monitoring within their respective states. Both Illinois and Iowa DOTs are well experienced in all financial aspects of major planning projects, and have previously prepared financial, operating, and management plans. Additional details are provided in the attached Program Management Plan.

**\*\*The timing and amount of the project's future noncommitted investment\*\***

Future operating and maintenance subsidies will require appropriations from future legislation. Illinois has a long history of commitment for operations and maintenance along with expansion. Iowa DOT has a 10-year strategic plan that considers ongoing operating and maintenance costs, as well as intercity passenger rail expansion. While Iowa is new to state supported routes requiring operating subsidies, Iowa has a long history of support for passenger rail as shown by Iowa's participation in the MWRRRI and States for Passenger Rail Coalition.

Illinois has been subsidizing Amtrak service since Amtrak's inception in 1971. The State has the oldest State-sponsored train on Amtrak's system, the Illinois Zephyr, which operates between Chicago and Quincy, Illinois.

**\*\*The overall completeness and quality of application, including the comprehensiveness of its supporting documentation\*\***

The documents attached to this Grant Application (as laid out in Roadmap, see attached) provide detail about the various aspects of this Program. A thorough management and financial plan have been established. A service development plan and operating plan have been coordinated. In addition, coordination with all parties has been ongoing to develop the conceptual engineering plans and associated costs for the Program.

A complete list of attachments follows:

- 1) HSIPR Service Development Program Application Form
- 2) HSIPR Service Development Program Budget and Schedule Form
- 3) OMB Standard Forms
  - SF 424: Application for Federal Assistance
  - SF 424C: Budget Information – Construction
    - Construction Budget Detail and Narrative
  - SF 424D: Assurances - Construction
- 4) FRA Assurances Document
- 5) Service Development Plan
- 6) NEPA Documentation: Tier 1 EA, supplemental information, and Draft FONSI
- 7) Project Management Plan
- 8) Financial Plan
- 9) System Safety Plan
- 10) Railroad and Project Sponsor Agreements
- 11) Conceptual Engineering Documentation
  - Conceptual Engineering Drawings
  - Description of New Station Facilities
- 12) Other
  - "GreenLine" Vision and Approach Document
  - Project Location Map
  - Letters of Support
  - Iowa DOT 10 Year Strategic Passenger Rail Plan
  - 2009 Iowa Railroad System Plan
  - Funding Verification Document
  - Application Road Map

- Program at a Glance

**\*\*The adequacy of any completed engineering work to assess and manage/mitigate the proposed project's engineering and constructability risks\*\***

Throughout the planning for the new Chicago to Iowa City Service Development Program, Illinois and Iowa DOTs coordinated closely with Amtrak, the host railroads, and the local communities to develop a concept that provides for new passenger service, while at the same time preserving the existing freight rail service and its future growth potential. The DOTs have also worked their community partners to develop station locations that leverage the available local transportation resources and fit in with the communities' transportation planning efforts. This up-front planning coordination included extensive coordination with Amtrak. Illinois DOT in particular has a long history of working with Amtrak to develop new passenger services very similar to the Chicago to Iowa City service.

The planning for the Chicago to Iowa City Service Development Program included a June 2010, hi-rail trip by representatives of Iowa DOT's rail office, Illinois DOT's program manager, Amtrak, BNSF, IAIS and the technical consultant. Each member of the hi-rail team was provided with complete information that included detailed information on the conceptual engineering, existing track charts, and aerial photography. The team evaluated the proposed station locations at Geneseo, Moline, and Iowa City. Specifically, at each station location, the team evaluated the proposed station facilities, the location of the platform, the adequacy of existing infrastructure, the availability of parking, configuration of the track, the extent of existing freight traffic, and the availability of modal connections. The team reached agreement on the types and extent of infrastructure improvements that would be required at each of the three new station locations. The team also reviewed and visited the various alternative locations for providing a layover facility at Iowa City.

During the hi-rail visit, the team reviewed and evaluated the existing infrastructure and reached final consensus on the new infrastructure that will be required to support the passenger service. Special attention was paid to the route through Rock Island Yard, the route from Moline to Silvas where the BNSF and IAIS share a track, and the BNSF –IAIS crossing near Colona, Illinois. At the Wyonet Connection, the team reviewed the proposed connection and evaluated the location of the proposed turnouts and the connecting rail lines. The team spent a substantial amount of time focused on the Eola Main Line Improvements reviewing the fundamental operational purpose of the improvements and evaluating the various options, visiting the location of the proposed improvements and observing Metra and BNSF operations. The end result of the hi-rail trip was consensus among the various entities in the types and location of the infrastructure improvements that will be required to implement the new Chicago to Iowa City Service Development Program.

Throughout the process of the developing the conceptual engineering plans, future train operations and equipment and track and signal maintenance were considered in addition to the coordination with the railroads, local communities and state and local agencies. Iowa DOT and Illinois DOT received outstanding support for the planning efforts from Amtrak, the host railroads and the communities. While there are a few locations where the engineering will require important permitting coordination and engineering design, such as the Wyonet Connection and Eola Main Line Improvements, the inclusion of these areas are critical to the success of the Program. While these areas might be challenges, this Program will to the fullest extent possible, minimize disruptions to the local community and the traveling public while providing additional transportation benefits, provide a safe environment for the traveling public, comply with all environmental commitments, and complete the program without any unresolved disputes.

**\*\*The sufficiency of system safety and security planning\*\***

The Safety and Security Plan developed meets all the requirements of a System Safety Program Plan (SSPP) under the current American Public Transportation Association guidance as described by the Commuter Rail Safety Management Program. While providing overarching direction in compliance with applicable law, it will require and rely on down-stream SSPP's from Amtrak and the host railroads as well as the various contractors brought on under contracts still under development. Conforming SSPPs for the operator, host railroads and other contractors will be a condition of the contractual relationships.

**\*\*The project's progress at the time of application towards compliance with environmental protection requirements\*\***

A Tier 1 Service Level NEPA EA has been completed for this Program. The purpose of the Tier 1 Service Level EA is to provide FRA and the public with full understanding of the service-wide environmental impacts of the alternatives developed to meet the Program purpose and need. The supplemental information to the EA document provides analysis of the potential impacts of Eola Main Line Improvements and the Wyonet Connection. Illinois and Iowa DOTs have concluded that this Program will not have a significant environmental impact. Prior to implementation of passenger rail service between Chicago and Iowa City, Tier 2 Program Level NEPA

documents will be developed for the sections identified in the Service Development Plan. Since the Tier 1 Service Level EA focuses on the broader impacts of the Program as a whole, the Tier 2 Program Level NEPA documents are expected to identify additional state and local level permits and approvals that are needed based upon specific activities to be completed. State and local permits and approvals will be discussed in the Tier 2 Program Level NEPA documents.

**\*\*The readiness of project to be commenced\*\***

The Tier 1 Service Level EA is complete and some Project Level environmental studies have been initiated. Project level activities are well-defined and understood. The Illinois and Iowa DOTs have consulting firms under contract to start Project Level NEPA preliminary engineering. This new service has broad community support, support from the governors, and support from the state legislatures.

**\*\*The timeliness of project completion and the realization of the project's anticipated benefits\*\***

The Program schedule is available in the HSIPR Service Development Program Budget and Schedule Form (see attached). While the schedule is aggressive it is not inconsistent with schedules that Illinois DOT and Amtrak have previously worked under. The schedule considers the NEPA and permitting requirements and preliminary engineering required at the Project level. The Program is scheduled to begin January 2011; start of service is July 2015. The Program's anticipated economic impact benefits will begin to accrue the day the grant money begins to flow through the States and the anticipated public investment benefits will be realized at start of service.

## F. Technical Components

Address the sections below with information on the technical components of the Service Development Program.

**(1) Indicate if you are requesting to be considered a “Standard Capital Project” as described in Section 1.3.1 of the NOFA.<sup>7</sup>**

- Consider this application to be a “Standard Capital Project.”  
 Consider this application to be a “Major Capital Project.”

Explain your response:

The Program costs exceed \$100 million.

**(2) Indicate the operational independence of the Service Development Program.<sup>8</sup>**

- This program is operationally independent.     This program is not operationally independent.

Briefly clarify your response:

This Program will result in a new intercity passenger rail service that demonstrates tangible and measurable benefits.

**(3) Provide Right-of-Way Owner(s) information in the program area.** Where railroads currently share ownership, identify the primary owner. Click on the prepopulated fields to select the appropriate response from the list of choices.

Type of Railroad	Railroad Right-of-Way Owner	Route-Miles	Track-Miles	Status of Agreements to Implement Projects
Regional or Short Line Freight	Iowa Interstate Railroad	107.5	102.4	Preliminary Executed Agreement/MOU
Class 1 Freight	BNSF	117.1	116.2	Preliminary Executed Agreement/MOU
Amtrak	Amtrak	112.0	0.9	Preliminary Executed Agreement/MOU
Amtrak				Master Agreement in Place
Amtrak				Master Agreement in Place
Amtrak				Master Agreement in Place

**(4) Name the Intercity Passenger Rail Operator and provide the status of the agreement.** If applicable, provide the status of agreement with the partner that will operate the planned passenger rail service (e.g., Amtrak). Click on the prepopulated field to select the appropriate response from the list of choices.

Name of Operating Partner:	Status of Agreement:
Amtrak	Preliminary executed agreement/MOU

<sup>7</sup> Please note, that administratively, three primary distinctions exist between the Major and Standard Capital Project designation when applied to a Service Development Program: 1) the approach to the environmental review process; 2) FRA’s use of a Letter of Intent (LOI) to contingently commit funds to the Service Development Program (as described in Section 2 of the NOFA); and 3) the project delivery tools required and used by FRA in managing the Service Development Program.

<sup>8</sup> A Service Development Program is considered to have operational independence if, upon being implemented, it will result in a minimal operating segment of new or substantially improved high-speed or intercity passenger rail service that demonstrates tangible and measurable benefits, even if no additional investments in the same service are made.

**(5) Provide information about the existing rail services within the Service Development Program area (e.g., freight, commuter, and intercity passenger).** Click on the prepopulated field to select the appropriate response from the list of type of service.

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>9</sup> Within Project Boundaries
		Passenger	Freight		
Freight	Iowa Interstate Railroad	N/A	40	107.5	12
Freight	BNSF	N/A	60	117.1	30
Commuter	Metra	70	N/A	38.4	94
Intercity Passenger	Amtrak	79	N/A	112.0	8
Freight					

**(6) Estimate the share of benefits that will be realized by nonintercity rail services and provide the approximate cost share provided by the beneficiary.**<sup>10</sup> Click on the prepopulated fields to select the appropriate response from the lists of type of beneficiary, anticipated share of benefits, and approximate cost share. If more than five types of nonintercity passenger rail are beneficiaries, please provide additional information in a separate supporting document, and list it in Section G.2 of this application.

Type of Nonintercity Passenger Rail	Expected Share of Benefits	Approximate Cost Share
Freight	Less than 50%	0-24%
Freight	Less than 50%	0-24%
Freight	Less than 50%	0-24%
Freight	Less than 50%	0-24%
Freight	Less than 50%	0-24%

**(7) Describe the rolling stock type.** Describe the fleet of locomotives, cars, self-powered cars, and/or train sets that are intended to provide service upon completion of the Service Development Program. Note if the equipment is already owned or needs to be acquired.

New equipment will be purchased for the Program, consisting of two train sets and standby spares. Equipment will be designed to be 125 mph compatible in conformance with the NGECS's promulgated standards, and will be freely pooled with the MWRRS system. Standardization with the train sets with the MWRRS has been established as a desirable goal by Illinois DOT, Iowa DOT, and Amtrak, to enable pooling of equipment for maintenance or overhaul outages, and to provide flexibility of equipment at the Chicago Terminal. Equipment to be compatible with future potential speed increases on the Chicago-Iowa City-Omaha corridor. Equipment for the Program must meet the goals

<sup>9</sup> One daily round-trip operation should be counted as two daily one-way train operations.

<sup>10</sup> Benefits include service improvements such as increased speed, on-time performance, improved reliability, and other service quality improvements.

of the capacity, comfort, convenience, and amenities required by this SDP. The Program requires two train sets to support the proposed two round-trip daily schedule, each set performing one round trip every 24 hours. Each set will consist of one locomotive, four 60-seat coaches, one food-service/24-seat business-class car, and one 50-seat coach/cab-control unit. The train set will be arranged for push-pull operation to reduce station occupancy times at Chicago and eliminate the requirement to turn the train at each end. Including spare equipment to support maintenance, the requirement is for three locomotives, six coaches, three food-service/business-class cars, and three coach/cab-control cars.

Locomotives are proposed to be diesel-electric of 4,200 or greater flywheel horsepower, with Head-End Power to provide electrical power for the train set. Train Performance Calculations with this consist on the route demonstrated that a 4,200-hp locomotive can maintain 79 mph and the proposed schedule with the proposed five-car train set.

The equipment budget is predicated on new equipment. It is possible that suitable equipment, following refurbishment, may be available from Amtrak or other sources.

## G. Additional Information

Provide a response to the following, as necessary, for your Service Development Program.

- (1) Please provide any additional information, comments, or clarifications and indicate the section and question number that you are addressing (e.g., Section A, Question 6).** Completing this question is optional.
- (2) Please provide a document title, filename, and description for all supporting documents.** Ensure that these documents are uploaded to GrantSolutions.gov with your application and use a logical naming convention.

Document Title	Filename	Description and Purpose
Application Roadmap	Application Roadmap.pdf	Assist FRA reviewers in efficiently locating information
Budget and Schedule Form	Budget and Schedule Final.xls	HSIPR Service Development Program Budget and Schedule Form
SF 424: Application for Federal Assistance	sf424.pdf	SF 424 - Signed Core Form
Construction Budget Detail and Narrative	Construction Budget Detail and Narrative.pdf	Supporting data for SF 424C: Budget Information-Construction
FRA Assurance Document	certifications_assurances_signed.pdf	FRA Assurance Document
Service Development Plan	Service Development Plan.pdf	Service Development Plan per NOFA
Draft Finding of No Significant Impact	Draft FONSI.pdf	Draft FONSI - Assist FRA on NEPA evaluation
2009 Tier 1 Service Level Environmental Assessment	2009 Tier 1 Service Level EA.pdf	2009 Tier 1 EA - Demonstrate the Program will not significant adverse environmental consequences
2010 Supplemental Information Document	2010 Supplemental Information Document.pdf	2010 Supplemental - Additional information for the FRA concerning the impacts of specific projects
Project Management Plan	Project Management Plan.pdf	Project Management Plan per NOFA
Financial Plan	Financial Plan.pdf	Financial Plan per NOFA
System Safety Plan	System Safety Plan.pdf	System Safety Plan per NOFA
Railroad and Project Sponsor Agreements	Railroad and Project Sponsor Agreements.pdf	All Railroad and Sponsor Agreements
Project Location Map	Project Location Map.pdf	Project Location Map for the Program
Iowa DOT 10 Year Strategic Passenger Rail Plan	Iowa10YearPlan.pdf	Iowa DOT 10 Year Strategic Passenger Rail Plan
2009 Iowa Railroad System Plan	2009 Iowa Railroad System Plan.pdf	2009 Iowa Railroad System Plan
Funding Verification Document	Funding Verification Document.pdf	Funding Verification Plan for Iowa DOT and Illinois DOT

Description of New Station Facilities	Descr New Station Facilities.pdf	Description of the New Station Facilities (Geneseo, IL; Moline, IL; and Iowa City, IA)
Conceptual Engineering Plans-Part 1	Conceptual Engineering Plans-Part 1.pdf	Conceptual Engineering Plans-Part 1
Conceptual Engineering Plans-Part 2	Conceptual Engineering Plans-Part 2.pdf	Conceptual Engineering Plans-Part 2
Conceptual Engineering Cost Estimate	Conceptual Engineering Cost Estimate.pdf	Conceptual Engineering Cost Estimate Data
GreenLine Approach	GreenLine_VisionandApproach.pdf	GreenLine Approach - Provides details of the innovative sustainability practices of the Program
Letters of Support	Letters of Support.pdf	Demonstrates broad range of support for the Program
Program at a Glance	Program at a Glance.pdf	Provides a summary of key Program information

## H. Checklist of Application Materials

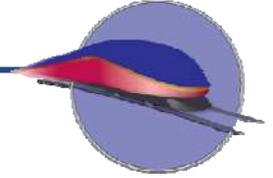
Use this section to determine the thoroughness of your Service Development Program application prior to submission.

Documents	Format
<b>1. Application Form</b>	
<input checked="" type="checkbox"/> HSIPR Service Development Program Application Form [This Form]	Form
<b>2. Budget and Schedule Form</b>	
<input checked="" type="checkbox"/> HSIPR Service Development Program Budget and Schedule Form	Form
<b>3. OMB Standard Forms</b>	
<input checked="" type="checkbox"/> SF 424: Application for Federal Assistance	Form
<input checked="" type="checkbox"/> SF 424C: Budget Information-Construction	Form
<input checked="" type="checkbox"/> SF 424D: Assurances-Construction	Form
<b>4. FRA Assurances Document</b>	
<input checked="" type="checkbox"/> FRA Assurances Document (See Section 4.2.4 of the NOFA)	Form
<b>5. Service Development Supporting Documentation</b>	
<input checked="" type="checkbox"/> Service Development Plan (See Section 3.5 of the NOFA)	No Specified Format
<input checked="" type="checkbox"/> NEPA Documentation (See Section 4.2.5 of the NOFA)	No Specified Format
<b>6. Service Delivery Supporting Documentation</b>	
<input checked="" type="checkbox"/> Project Management Plan (See Section 4.2.6 of the NOFA)	No Specified Format
<input checked="" type="checkbox"/> Financial Plan (See Section 4.2.6 of the NOFA)	No Specified Format
<input checked="" type="checkbox"/> System Safety Plan (See Section 4.2.6 of the NOFA)	No Specified Format
<input checked="" type="checkbox"/> Railroad and Project Sponsor Agreements (See Section 4.2.6 of the NOFA)	No Specified Format
<b>7. Optional Supporting Documentation</b>	
<input checked="" type="checkbox"/> Preliminary Engineering (PE) and/or Final Design (FD) Documentation (See Section 4.2.7 of the NOFA)	No Specified Format
<input checked="" type="checkbox"/> Other Relevant and Available Documentation (See Section 4.2.7 of the NOFA)	n/a

**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**.

# Service Development Program Application Form

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



Applicants interested in applying for funding under the FY10 Service Development Programs solicitation are required to submit this application form and other required documents as outlined in Section H of this application. List and describe any supporting documentation submitted in Section G. Applicants should reference the FY10 Service Development Programs Notice of Funding Availability (NOFA) for more specific information about application requirements. If you have questions about the HSIPR program or this application, please contact the Federal Railroad Administration (FRA) at [HSIPR@dot.gov](mailto:HSIPR@dot.gov).

Applicants must use [this form](#) by entering the required information in the gray narrative fields, check boxes, or drop-down menus. Submit this completed form, along with any supporting documentation, electronically by uploading it into [GrantSolutions.gov](http://GrantSolutions.gov) by 5:00 p.m. EDT on August 6, 2010.

### A. Point of Contact and Applicant Information

Applicant must ensure that the information provided in this section matches the information provided on the SF-424 forms.

<b>(1) Name the submitting agency:</b> Michigan Department of Transportation		<b>Provide the submitting agency Authorized Representative name and title:</b> Kirk T. Steudle, Director		
<b>Street Address:</b> 425 West Ottawa Street P.O. Box 30050	<b>City:</b> Lansing	<b>State:</b> MI	<b>Zip Code:</b> 48909	<b>Authorized Representative telephone:</b> 517-373-2114 <b>Authorized Representative email:</b> steudlek@michigan.gov
<b>Provide the submitting agency Point of Contact (POC) name and title (if different from Authorized Representative):</b> Al Johnson, Supervisor Office of High Speed Rail & Innovative Project Advancement		<b>Submitting agency POC telephone:</b> 517-35-2549 <b>Submitting agency POC email:</b> johnsonal@michigan.gov		
<b>(2) List the name(s) of additional State(s) applying (if applicable):</b>  N/A				

## B. Eligibility Information

Complete the following section to satisfy requirements for applicant eligibility.

**(1) Select the appropriate box from the list below to identify applicant type.** Eligible applicants are listed in Section 3.1 of the NOFA.

- State
- Amtrak
- Group of States
- Amtrak in cooperation with a State or States

If selecting one of the applicant types below, additional documentation is required to establish applicant eligibility. Please select the appropriate box and submit supporting documentation to demonstrate applicant eligibility, as described in Section 3.2 of the NOFA to GrantSolutions.gov and list the supporting documentation under “Additional Information” in Section G.2 of this application.

- Interstate Compact
- Public Agency established by one or more States

**(2) Verify the status of eligibility documentation including the dates of issue and how documentation can be verified by FRA.** Verify any completed EA or Final EIS document that demonstrates satisfaction of “Service NEPA” for the proposed Service Development Program by indicating if documents are submitted through GrantSolutions.gov or referenced through a public active URL. See Section 4.2.5 and Appendices 2.1 and 2.2 of the NOFA as references. Second-tier project NEPA documents for projects within the program may also be included. A NEPA decision document (Record of Decision or Finding of No Significant Impact) is not required for an application but must be issued by FRA prior to award of a construction grant. Any eligibility documents should be listed in Section G.2 of this application.

### Service Development Planning

Documentation	Date (mm/yyyy)	Describe How Documentation Can Be Verified (choose one)	
		Submitted in GrantSolutions	Web Link
<input checked="" type="checkbox"/> Service Development Plan	09/2009	<input checked="" type="checkbox"/>	

### Service NEPA Documents

Documentation	Date (mm/yyyy)	Describe How Documentation Can Be Verified (choose one)	
		Submitted in GrantSolutions	Web Link
<input checked="" type="checkbox"/> Final Environmental Assessment (EA)	08/2010	<input checked="" type="checkbox"/>	
<input type="checkbox"/> Final Environmental Impact Statement (EIS)	mm/yyyy	<input type="checkbox"/>	

### FRA Decision Documents for Service Development Programs

Documentation	Date (mm/yyyy)	Describe How Documentation Can Be Verified (choose one)	
		Submitted in GrantSolutions	Web Link
<input type="checkbox"/> Finding of No Significant Impact (FONSI)		<input type="checkbox"/>	
<input type="checkbox"/> Record of Decision (ROD)	mm/yyyy	<input type="checkbox"/>	
Documentation (select from the list of choices)	Date (mm/yyyy)	Describe How Documentation Can Be Verified (choose one)	
		Submitted in GrantSolutions	Web Link
Categorical Exclusion Documentation (worksheet)	mm/yyyy	<input type="checkbox"/>	
Categorical Exclusion Documentation (worksheet)	mm/yyyy	<input type="checkbox"/>	

Categorical Exclusion Documentation (worksheet)	<i>mm/yyyy</i>	<input type="checkbox"/>	
Categorical Exclusion Documentation (worksheet)	<i>mm/yyyy</i>	<input type="checkbox"/>	
Categorical Exclusion Documentation (worksheet)	<i>mm/yyyy</i>	<input type="checkbox"/>	
Categorical Exclusion Documentation (worksheet)	<i>mm/yyyy</i>	<input type="checkbox"/>	
Categorical Exclusion Documentation (worksheet)	<i>mm/yyyy</i>	<input type="checkbox"/>	
Categorical Exclusion Documentation (worksheet)	<i>mm/yyyy</i>	<input type="checkbox"/>	
Categorical Exclusion Documentation (worksheet)	<i>mm/yyyy</i>	<input type="checkbox"/>	
Categorical Exclusion Documentation (worksheet)	<i>mm/yyyy</i>	<input type="checkbox"/>	

## C. Corridor Service Overview

Respond to the following questions to help put this application into the context of the long-term vision and related work for the HSIPR corridor service.

**(1) Provide a brief narrative explaining how this Service Development Program relates to the long-term vision of the HSIPR corridor.**

The Michigan Department of Transportation (MDOT) participated with eight other Midwest states (Indiana, Illinois, Iowa, Minnesota, Missouri, Nebraska, Ohio, and Wisconsin) and Amtrak on the Midwest Regional Rail Initiative (MWRRRI) to develop an enhanced passenger rail system in the Midwest. This work has led to a comprehensive Midwest Regional Rail System (MWRRS) Service Development Plan which provides a long term vision for increased speeds and service frequencies on the Chicago Hub (Chicago-Detroit/Pontiac) High Speed Rail Corridor. Michigan will lead a multi state effort (Indiana, Illinois and Michigan) to complete a Corridor Investment Plan which will include updating the existing MWRRS Service Development Plan for the Chicago-Detroit/Pontiac Corridor and completing a corridor wide environmental document. The Service Development Program (SDP) that has been developed is consistent with the long term plans that have been identified in the overarching MWRRS Service Development Plan for the Chicago Hub (Chicago-Detroit/Pontiac) High Speed Rail Corridor. The SDP is based on existing service frequencies for incremental improvements that have independent utility, and will provide a solid foundation for the development of the Corridor Investment Plan to reach the goals of the MWRRS Service Development Plan.

Current services on the Chicago Hub (Chicago-Detroit/Pontiac) High Speed Corridor include Amtrak's Wolverine service (Chicago-Detroit/Pontiac) at 3 round trips per day and Michigan's state supported Amtrak Blue Water service (Chicago-Port Huron) at one round trip per day. The Blue Water service enters and exits the corridor in Battle Creek. This corridor is 304 miles long and travels through 3 states (Illinois, Indiana, and Michigan). Corridor ownership includes 4 railroads (Norfolk Southern Railway (NS), Amtrak, Conrail Shared Assets Operations (CSAO), and Grand Trunk Western Railroad, Inc. (CN).

The partnership of FRA, Amtrak, General Electric Transportation Systems, and MDOT are developing the western end of the corridor in Michigan between Kalamazoo and New Buffalo as part of FRA's Next Generation High Speed Rail Program - Incremental Train Control System (ITCS) Project. There have been investments of over \$40 million in infrastructure, grade crossings enhancements/closures, and the ITCS. Current intercity passenger rail speeds on the corridor, between Kalamazoo and New Buffalo, reach 95 mph. In March 2010, FRA issued conditional approval to increase speeds in this segment to 110 mph. Amtrak expects those conditions to be met late this year or early in 2011.

There are also several related transportation projects that are being conducted within the corridor. Each of these projects has independent utility but have a positive cumulative impact on service benefits for the corridor. These related transportation projects include:

1. Amtrak was awarded ARRA funding (\$14.5M) to expand ITCS and fiber optics from New Buffalo to Porter, Indiana, which will allow train speeds up to 110 mph over the entire Amtrak ownership (approximately 98 miles Porter, Indiana to Kalamazoo, Michigan). Amtrak's work in this segment is expected to be completed in 2012.
2. Illinois was selected for funding from FRA's 2009 HSIPR ARRA grant Program (\$133M) to complete the Englewood Flyover.
3. Indiana was also selected for funding from FRA's 2009 HSIPR ARRA grant Program (\$71M) to complete the Indiana Gateway Projects.
4. Michigan was also selected for funding from FRA's 2009 HSIPR ARRA grant Program (\$40M) to complete construction of two new stations (Troy/Birmingham and Dearborn) and renovate the station at Battle Creek.

Other related transportation projects include requests for funding under FRA's 2010 HSIPR Grant Program including

1. West Detroit Connection Track Project.
2. CN enhancements from Pontiac to Milwaukee Junction.
3. Track 1B for a new Ann Arbor Station.
4. Track 1B to complete preliminary engineering on the Milwaukee Junction/Beaubien Interlocking External Project. This SDP will provide the funding necessary to bring a long term solution to stability on the federally designated Chicago Hub (Chicago-Detroit/Pontiac) High Speed Rail Corridor. Without this funding, the corridor segment between Kalamazoo (MP 143.2 ) and

Dearborn (MP 7.5 Townline) will continue to degrade and become less reliable for intercity passenger service. No action would offset or completely lose all of the benefits from past (\$100,000,000) and present (\$258,500,000) investments.

NS has indicated to both Amtrak and MDOT that their freight business on this corridor is down and they can no longer justify maintaining track standards to 79 mph on their ownership between Kalamazoo MP (143.2) and Dearborn (MP 7.5 Townline). NS has indicated that their existing freight business only requires track standards to be 25 mph. As a result, NS plans to down grade this track over the next few years by issuing slow orders. The initial slow order was issued on July 1, 2010 reducing passenger speeds from 79 mph to 60 mph on 41.2 miles of track in this segment. NS has indicated that additional slow orders are expected and it will gradually expand 60 mph passenger speeds to the entire segment (135 miles) by the end of 2012.

On January 29, 2010 Amtrak announced that it would perform a high-speed rail improvement study, with assistance from NS, focused on determining what infrastructure upgrades are needed to provide 110 mph train service on the NS owned rail corridor between Kalamazoo and Dearborn. This study was completed in June 2010 and the results have been used in preparing a Service Development Program (SDP) and this application. A summary of the study along with the detailed technical data has been included with this application as supporting documentation.

Based on Amtrak's phased study for this segment of the corridor, the SDP will initially bring long term stability to the Chicago Hub (Chicago-Detroit/Pontiac) High Speed Rail Corridor by completing an ownership arrangement with NS for their trackage between Kalamazoo MP 143.2 and Dearborn (MP 7.5 Townline) and making the necessary improvements to bring the infrastructure to a state of good repair. This ownership arrangement will be subject to approval by the National Transportation Safety Board (NTSB). This would include the rail segments east of Kalamazoo to sustain existing intercity passenger rail service frequencies and speeds initially up to allowable speeds of 79 mph. This positions the Kalamazoo-Dearborn segment to have speeds approved for 110mph expanding on the current work being done by Amtrak to increase speeds up to 110 mph between Porter, Indiana and Kalamazoo. Expanding this work to the east (Kalamazoo to Dearborn) will provide for passenger speed up to 110 mph for 235 miles (77%) of the 304 mile corridor.

**(2) List other HSIPR projects or activities related to this Service Development Program application.** This includes any pending or selected planning, PE/NEPA, FD/Construction, and other Service Development Program activities or projects. The purpose of this list is to identify overlapping or complementary applications, programs, or projects. Click on the drop-down menu to select the FRA solicitation and to indicate if the project was previously selected.

	Project, Activity, or Service Development Program Name <sup>1</sup>	FRA Solicitation	Federal Funding Request (in thousands of dollars)	Status	Does This Project Include Activities That Overlap with Any Projects Included in This Service Development Plan Application?
1	Chicago Hub (Chicago-Detroit/Pontiac) High Speed Rail Corridor Program	FY10 Planning	\$ 3,200.00	Announcement Pending	Yes
2	West Detroit Connection Track Project	FY09 Residual	\$ 7,913.00	Announcement Pending	No
3	MI:CHI HUB:CHI-DET:STATIONS-BCREEK	Track 1a	\$ 3,620.00	Selected	No
4	MI:CHI HUB:CHI-DET:STATIONS-DEARBORN	Track 1a	\$ 28,204.00	Selected	No

<sup>1</sup> Please detail each activity for which HSIPR funding is being requested, or which is directly related to the Corridor Service. For example, if a related Track 1a Project application was already submitted, that application should be separately listed below. If the project covered by that same 1a application is also being submitted as an element of a Track 2 Program, indicate the program when listing the project.

5	MI:CHI HUB:CHI-DET:STATIONS-TROY	Track 1a	\$ 8,485.00	Selected	No
6	IN-Indiana Gateway	Track 1a	\$ 68,720.00	Selected	No
7	IL-CREATE-P1	Track 1a	\$ 133,000.00	Selected	No
8	Amtrak ITCS/Fiber Optics Extension (Porter, Indiana to New Buffalo, Michigan)	Track 1a	\$ 4,500.00	Awarded	No
9	MI-CHICAGO HUB-CN ENHANCEMENTS MILWAUKEE JUNCTION TO PONTIAC	Track 1a	\$ 10,926.00	Announcement Pending	No
10	MI-WEST DETROIT JUNCTION CONNECTION TRACK	Track 1a	\$ 14,660.00	Announcement Pending	No
11	MI-CHICAGO HUB-ANN ARBOR STATION	Track 1b	\$ 6,500.00	Announcement Pending	No
12		Track 1a	\$	Announcement Pending	No
13		Track 1a	\$	Announcement Pending	Yes
14		Track 1a	\$	Announcement Pending	Yes
15		Track 1a	\$	Announcement Pending	Yes
17		Track 1a	\$	Announcement Pending	Yes
18		Track 1a	\$	Announcement Pending	Yes
19		Track 1a	\$	Announcement Pending	Yes

## D. Executive Summary

Answer the following questions about the proposed program.

**(1) Provide a Service Development Program name.** The Service Development Program name must consist of the following elements, each separated by a hyphen: (1) the State abbreviation; (2) the route or corridor name; and (3) a Service Development Program descriptor that will concisely identify the program’s focus (e.g., HI-Fast Corridor-Main Stem).

MI-CHICAGO HUB-KALAMAZOO\_DEARBORN

**(2) Indicate the appropriate corridor name where the Service Development Program is located and identify the start and end points as well as major integral cities along the route.**

This Service Development Program (SDP) is located within the Chicago Hub (Chicago-Detroit/Pontiac) High Speed Rail Corridor. Specifically the SDP is located between the Kalamazoo, Michigan (MP 143.2) and Dearborn, Michigan (CP Townline MP 7.5). This segment of the corridor serves station communities in Kalamazoo, Battle Creek, Albion, Jackson, Ann Arbor, and Dearborn.

**(3) Indicate the anticipated duration, in months, for this Service Development Program (e.g., 36).**

Number of Months: 24

**(4) Indicate the anticipated funding information for the Service Development Program below.** This information must match the SF-424 documents, and dollar figures must be rounded to the nearest whole dollar. When the non-Federal match percentage is calculated, it must meet or exceed 20 percent of the total project cost.

Federal Funding Request	Non-Federal Match Amount	Total Project Cost	Non-Federal Match Percentage of Total
\$ 308,277,159	\$ 77,069,290	\$ 385,346,449	20 %

**(5) Indicate the source, amount, and percentage of matching funds for the Service Development Program provided in Section C.4.** Identify supporting documentation that will allow FRA to verify the funding source. Click on the prepopulated fields to select the appropriate response from the list of choices. Also, list the percentage of the total project cost represented by each non-Federal funding source.

Non-Federal Funding Sources	New or Existing Funding Source?	Status of Funding <sup>2</sup>	Type of Funds	Dollar Amount	% of Total Project Cost	Describe Any Supporting Documentation to Help FRA Verify Funding Source
MDOT	Existing	Committed	Cash	\$ 38,534,645	10 %	Michigan has the statutory legal authority to build and oversee rail capital/operating investment through the State Transportation Preservation Act of 1976, Act 295 of 1976, [MCL 474.51 - MCL

<sup>2</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., statutory authority) to be used to fund the proposed project 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 or appropriation guidance. 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, and additional debt capacity that requires no further approvals and has been dedicated by the sponsoring agency to the proposed project.

**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 capital investment program that has yet to be committed in the near future. Funds will be classified as budgeted when available funding cannot be committed until the grant is executed or due to the local practices outside of the project sponsors 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 capital investment program.



						474.56] and Act 51 of 1951.
NS	Existing	Committed	In-Kind	\$ 38,534,645	10 %	Appraisal (difference between appraisal vs reduction in purchase price)
	New	Committed	Cash	\$	%	
	New	Committed	Cash	\$	%	
	New	Committed	Cash	\$	%	

**(6) Provide a project abstract outlining the Service Development Program.** Briefly summarize the program in 4-6 sentences. Capture the milestones, outcomes, and anticipated benefits that will result from implementing the Service Development Program.

NS has indicated to both Amtrak and MDOT that their freight business cannot justify the need to maintain track conditions for speeds greater than 25 mph. Beginning July 1, 2010 NS issued slow orders on 41.2 miles of this segment limiting passenger rail speeds to 60 mph.

On January 29, 2010 Amtrak announced that it would perform a high-speed rail improvement study, with assistance from NS, focused on determining what infrastructure upgrades are needed to provide 110 mph train service on the NS owned rail corridor between Kalamazoo (MP 143.2) and Dearborn (MP 7.5 Townline). This study was completed in June 2010 and the results have been used in preparing the SDP and this application.

Based on Amtrak's phased study, this SDP will initially bring long term stability to the Chicago Hub (Chicago-Detroit/Pontiac) High Speed Rail Corridor by completing an ownership arrangement with NS, subject to STB approval in accordance with 49 CFR Part 24 and Federal Transit Administration's FTA C 5010.1D for trackage between Kalamazoo (MP 143.2) and Dearborn (MP 7.5 Townline). This will also include bringing the segment of the corridor to a state of good repair by making the necessary capital improvements to the infrastructure, renewing the existing signal system and adding positive train control to rail segments east of Kalamazoo that will sustain existing intercity passenger rail service frequencies and speeds (up to 79 mph) while positioning the corridor to expand on the high speed work that has been done on Amtrak's 98 miles of ownership from Porter, Indiana to Kalamazoo east to Dearborn including passenger speeds to 110 mph. Future increased frequencies will be developed in a multi-state planning study lead by MDOT for a Corridor Investment Plan over the next 12 to 18 months.

The SDP will build on the work that is being accomplished on the western end of the corridor (Porter, Indiana to New Buffalo, MI). Expanding this work to the east (Kalamazoo to Dearborn) will position the corridor for passenger speeds up to 110 mph for 77% of the 304 mile corridor (Porter, Indiana to Dearborn, Michigan). The SDP is expected to realize an average train speed increase of 21 mph (from 64mph to 85 mph) over this segment which will result in 30 minutes in times savings. There is also the expectation that the improvements will provide an additional reduction in delay time by 12 minutes as reported by Amtrak.

**(7) Provide a Service Development Program narrative.** Include the elements below when describing the main features and characteristics of the Service Development Program. Please limit the response to 12,000 characters.

- How this Service Development Program is organized into phases or groups of component projects.<sup>3</sup> Include a description of the activities and the measurable outcomes of each phase or group of activities;
- The location(s) of the Service Development Program's component projects including name of rail line(s), State(s), and relevant jurisdiction(s) (include a map in supporting documentation);
- Substantive activities of the Service Development Program (e.g., specific improvements intended);
- Service(s) that would benefit from the Service Development Program, the stations that would be served, and the State(s) where the service operates;
- Anticipated service design of the corridor or route with specific attention to any important changes that the Service Development Program would bring to the fleet plan, schedules, classes of service, fare policies, service quality standards, train and station amenities, etc.;

<sup>3</sup> The work to complete Service Development Programs can be organized into individual phases. Phases should produce meaningful and measurable service outcomes (e.g., trip time, frequency, or operational reliability) upon completion. Each phase is made up of one or more component projects that are necessary to deliver the outcome(s).

- How the Service Development Program was identified through a planning process and how the Service Development Program is consistent with an overall plan for developing high-speed or intercity passenger rail service, such as a State Rail Plan or plans of local/regional metropolitan planning organizations;
  - How the Service Development Program will fulfill a specific purpose and need in a cost-effective manner;
  - Any use of new or innovative technologies;
  - Any use of railroad assets or rights-of-way, and potential use of public lands and property;
  - Other rail services, such as commuter rail and freight rail that will make use of, or otherwise be affected by, the Service Development Program; and
  - Any PE/NEPA activities to be undertaken as part of the Service Development Program, including but not limited to design studies and resulting program documents, the approach to agency and public involvement, permitting actions, and other key activities and objectives of this PE/NEPA work.
- The components of the SDP are located on the Chicago Hub(Chicago-Detroit/Pontiac) High Speed Rail Corridor, within Michigan, specifically on NS ownership between Kalamazoo, Michigan MP 143.2 and Dearborn, Michigan MP 7.5. This segment of the corridor traverses through the counties of Kalamazoo, Calhoun, Jackson, Washtenaw and Wayne while servicing the Michigan cities of Kalamazoo, Battle Creek, Albion, Jackson, Ann Arbor, and Dearborn. Please reference Segments of Ownership Map in supporting documentation.
- The work plan for this SDP prioritizesthe ownership arrangement prior to proceeding with infrastructure improvements. Based on this priority, MDOT would be the owner and signed preliminary engineering drawings with a host railroad partner would not be necessary. The preliminary engineering drawings are based from Amtrak’s high speed rail study conducted in conjunction with Norfolk Southern Railway. Both Amtrak and NS have reviewed costs estimates and the difference is considered insignificant in regard to the total project costs. Intended improvements in the SDP include:
- Phase 1 - Complete an ownership arrangement for the NS segment (between Kalamazoo and Dearborn). This will provide long term stability for future service and investments of HSIPR funding in the corridor. This transaction will be handled in accordance with 49 CFR Part 24 and Federal Transit Administration’s FTA C 5010.1D for trackage between Kalamazoo (MP 143.2) and Dearborn (MP 7.5 Townline). Also this transaction is subject to subject to STB approval. There is an existing signed memorandum of understanding (MOU) between NS and MDOT. This MOU has been included with this application as supporting documentation. In addition, MDOT and NS are making significant progress in negotiations for an ownership arrangement. As a result of this progress both MDOT and NS are reaffirming the original MOU and indicating a desire to move negotiations from lease/purchase to purchase arrangement. This supplemental MOU has been included as supporting documentation to this application. An initial appraisal was completed on this property back in November 2009. This appraisal has been used to provide an initial estimate for this application. Both parties are familiar with these policies and recognize that this appraisal will need to be refreshed in accordance the previously mentioned policies as negotiations progress. This previous work will serve as the basis to continue negotiations and complete this ownership arrangement. MDOT expects the following outcomes from this acquisition:
1. The freight railroad has officially indicated that it will no longer maintain the corridor for passenger rail operations and public ownership is required remedy this problem for a key corridor on the nation’s passenger rail network. Further degradation would only further degrade passenger services.
  2. Ownership would insure the long term availability of the corridor for high speed intercity passenger rail operations.
  3. Eliminating the uncertainty and delay associated with freight rail negotiations, state ownership and control will make it much easier to adjust current passenger operations and add additional frequencies, including increase speeds as a part of the SDP and consistent with the MWRRS Service Development Plan,
  4. Public ownership and control of the corridor will insure that priority is given to the dispatching of passenger trains as required by federal law.
  5. Public ownership will serve to confirm that public investment will be clearly associated with public benefits.
  6. Public ownership has the potential to reduce long term infrastructure investment costs by eliminating or reducing “arms length” negotiations with the freight railroad.
- Phase 2 - Completion of Final Design and Construction activities for the capital improvements included in the SDP. Amtrak in conjunction with NS has conducted a detailed high speed rail study of this segment of the corridor which includes a plan to restore it to a state of good repair by completing the following improvements:
1. Complete final design including construction, maintenance, operating and service benefit agreements.
  2. Investments in track rehabilitation including: tie and surface line; switch tie renewal; rebuild highway grade crossings; resurface curves; curve modifications; and patch rail installation.

3. Investments in technology including signals, train control, highway warning devices: installation of positive train control; renew signal system; install fiber optics and extend crossing starts.

MDOT expects the following outcomes from these improvements based on average line speed:

1. Initially restore intercity passenger speeds to 79 mph which allows for reductions in travel times by up to 12 minutes between Kalamazoo and Dearborn.
2. An additional travel time reduction of up to 18 minutes will be realized once top speeds are approved for 110 mph.
3. These improvements are expected to increase service reliability by at least 12 minutes per train. Amtrak has reported to MDOT that their trains averaged 19 minutes of delay per train in the time period from July 1, 2009 – June 30, 2010 between Kalamazoo and Dearborn. 61.4% of the delays were attributed to the following four categories:

Passenger train interference	23.1%
Communications & signals	17.5%
Slow Orders (Perm & Temp.)	11.3%
Freight train interference	9.5%

Therefore, it is assumed that of the 19 minutes in average delays as reported by Amtrak, the aforementioned improvements will reduce the average delay by up to 12 (11.66) minutes per train. The signal renewal program and installation of ITCS will eliminate the communications and signal delays, as well as, increase capacity and reduce headway times. As a result, the interference by both passenger and freight trains should be reduced substantially. It is further expected that these improvements will also have a positive effect on the remaining 39.6% of the delay time as the on-time performance percentages increase due to the implementation of the improvements.

4. Based on these expectations, annual minutes of delay reduction for intercity passenger service (6 trains for the Wolverine service and 2 trains for the Blue Water service between Kalamazoo and Battle Creek) on this segment of the corridor would be up to 27,740 minutes.

Specific locations for these capital improvements are described and shown on the preliminary engineering drawings and the work units used in estimating the costs are provided in the Amtrak Study Summary. Both of these documents are provided under supporting documentation.

- Services that benefit from this SDP on the Chicago Hub (Chicago-Detroit/Pontiac) High Speed Corridor include Amtrak's Wolverine service (Chicago-Detroit /Pontiac) at 3 round trips per day and Amtrak's Blue Water service (Chicago-Port Huron) at one round trip per day. The Blue Water service enters and exits the corridor in Battle Creek. The SDP improvements between Kalamazoo and Battle Creek benefit the Blue Water service. Both of these services operate in Michigan, Indiana, and Illinois. While the counties and station communities within the SDP boundaries are direct beneficiaries from the improvements, all stations and communities served along both the Wolverine Service and Blue Water Service will benefit from long term stability, reduced travel times, more reliable service, and the increased safety provided through the improvements in this SDP. In addition, these benefits will be realized by rail passengers when connecting with other services through the Chicago Hub on the MWRRS. Investments for improvements in other areas of the corridor will benefit from the long term stability and service reliability provided with the SDP. Stations on the Wolverine Service include the cities of Pontiac, Birmingham, Royal Oak, Detroit, Dearborn, Ann Arbor, Jackson, Albion, Battle Creek, Kalamazoo, Dowagiac, Niles, New Buffalo, Michigan City, Hammond/Whiting, and Chicago. Stations on the Blue Water Service include the cities of Port Huron, Lapeer, Flint, Durand, East Lansing, Battle Creek, Kalamazoo, Dowagiac, Niles, New Buffalo, and Chicago.
- The existing service design on the corridor will remain. Service frequencies will not be changed.
- Since 1995, MDOT has participated with eight other Midwest states (Indiana, Illinois, Iowa, Minnesota, Missouri, Nebraska, Ohio, and Wisconsin) and Amtrak in the Midwest Regional Rail Initiative (MWRRI) to develop an enhanced passenger rail system in the Midwest. FRA has also participated from time to time. This work has led to a comprehensive MWRRS Service Development Plan which provides a long term vision for increased speeds and service frequencies on the Chicago Hub (Detroit/Pontiac) High Speed Rail Corridor. In addition, Michigan will lead a multi-state effort (Indiana, Illinois and Michigan) to complete a Corridor Investment Plan which will include updating the existing MWRRS Service Development Plan for the Chicago-Detroit/Pontiac Corridor and complete a corridor wide environmental document (Tier 1 EIS). All of the work proposed in this SDP is consistent with the Development of the MWRRS. Also, all of the improvements proposed in this SDP are consistent with MDOT's Commission Policy under Resolution 2004-1 adopted February 26, 2004. This document has been included as supporting documentation.
- The Chicago Hub (Chicago-Detroit/Pontiac) High Speed Rail Corridor is one of the Nation's Federally Designated High-

Speed Rail Corridors and is 304 miles long. This SDP includes a long term solution to bring stability by negotiating an ownership arrangement (subject to STB approval) and constructing capital improvements which initially restore passenger speeds to 79 mph between Kalamazoo and Dearborn and allow for future increases in train speeds to 110 mph. This segment represents 45% or 135 miles of the 304 mile corridor and is seen as an extension of Amtrak's ownership between Kalamazoo and Porter, Indiana (32%/98 miles). This investment comes at a time when intercity passenger rail ridership and revenues are experiencing record growth. The long term vision is for growth to continue.

- This segment of the corridor has very limited freight traffic. The improvements included in this SDP would also benefit any future service increases in intercity passenger rail and any new commuter rail services.
- A Service NEPA Environmental Assessment has been included with this application.

**(8) Indicate the type of expected capital investments included in the Service Development Program. Check all that apply.**

- |   |  |
|---|--|
| <input type="checkbox"/> New rail lines                                   | <input type="checkbox"/> Rolling stock refurbishments                                |
| <input type="checkbox"/> Additional main-line tracks                      | <input type="checkbox"/> Rolling stock acquisition                                   |
| <input checked="" type="checkbox"/> Structures (bridges, tunnels, etc.)   | <input type="checkbox"/> Support facilities (yards, shops, administrative buildings) |
| <input checked="" type="checkbox"/> Track rehabilitation                  | <input type="checkbox"/> Grade crossing improvements                                 |
| <input type="checkbox"/> Major interlockings                              | <input type="checkbox"/> Electric traction   |
| <input type="checkbox"/> Station(s)                                       | <input checked="" type="checkbox"/> Other (please describe): Acquisition             |
| <input checked="" type="checkbox"/> Communication, signaling, and control |  |

**(9) Indicate the anticipated service objectives for the Service Development Program for which you are applying.** Check all that apply.

- Additional service frequencies
- Improved on-time performance of passenger trains
- Reroute existing service
- New service on existing IPR route
- Increases in ridership
- Increases in operational reliability
- New service on new route
- Service quality improvements
- Increased average speeds/shorter trip times
- Other (please describe):

Briefly clarify your response(s) if needed:

**(10) If appropriate, subdivide the Service Development Program into phases (groups of projects) and identify each phase on separate rows of the table.**<sup>4</sup> Detail the service benefits to be realized after completion of each phase on the corresponding row. At the bottom of the table, provide the anticipated service benefits upon completion of the entire Service Development Program. Use as many rows as necessary; if the Service Development Program cannot be subdivided, summarize the information for the entire Service Development Program in the first row.

Phase	Title <sup>5</sup>	Frequencies <sup>6</sup>		Scheduled Trip Time (in minutes)		Average Speed (mph)		Top Speed (mph)		Reliability – Provide Either On-Time Performance Percentage or Delay Minutes	
		Current	Future	Current	Future	Current	Future	Current	Future	Current	Future
I.	Completing an Ownership Arrangement	-	-	-	-	-	-	-	-	-	-
II.	Final Design and Construction of Capital Improvments	3	3	157	145	64	72	79	79	19	7
III.	Proposed increase to 110 mph	3	3	145	127	72	85	79	110		
IV.											
V.											
VI.											
VII.											
VIII.											
<b>Provide the Cumulative Service Outcome</b> <i>(Aggregate Benefits of all Phases)</i>		3	3	157	127	64	85	79	110	19	7

<sup>4</sup> The work to complete Service Development Programs can be organized into individual phases. Each phase should produce meaningful and measurable service outcomes (e.g., trip time, frequency, and/or operational reliability) upon completion. Each phase is made up of one or more component projects that are necessary to deliver the outcome(s).

<sup>5</sup> Title should be a brief descriptive name for the phase.

<sup>6</sup> Frequency is measured in daily one-way train operations. One daily round-trip operation should be counted as two daily one-way train operations.

**(11) Provide information on the component projects within each phase of the Service Development Program identified in Section D.10 above.** For each phase, please list all the projects in the sequence they will be completed. This section is unlocked- the applicant can add rows as needed for additional projects and phases.

PHASE I.		Completing an Ownership Arrangement
Project Name	Short Project Description	Project Cost (in thousands of dollars)
1	Ownership Arrangement	Negotiate and acquire the segment between Kalamazoo MP 143.2 and Dearborn MP 7.5
2		\$ 000
3		\$ 000
4		\$ 000
5		\$ 000
<b>Phase I. Total Cost</b>		<b>\$ 209,000</b>

PHASE II.		Final Design and Construction of Capital Improvements
Project Name	Short Project Description	Project Cost (in thousands of dollars)
1	Design/Professional Services	Extend Crossing Starts
2	Investments - Track Rehabilitation	Tie and Surface Line; Switch Tie Renewal; Rebuild Highway Crossings; Resurface Curves; Curve Modifications; Install Patch Rail
3	Investments – Train Control, Highway Warning Devices	Initial Installatiion of PTC; Renew Signal System; Install Fiber Optic Communication; Extend Crossing Starts
4		
5		
<b>Phase II. Total Cost</b>		<b>\$ 176,346</b>

PHASE III.		<i>[Insert Title from Section D.10]</i>
Project Name	Short Project Description	Project Cost (in thousands of dollars)
1		\$ 000
2		\$ 000
3		\$ 000
4		\$ 000
5		\$ 000
<b>Phase III. Total Cost</b>		<b>\$ 000</b>

PHASE IV.		<i>[Insert Title from Section D.10]</i>
Project Name	Short Project Description	Project Cost (in thousands of dollars)
1		\$ 000
2		\$ 000

3			\$ 000
4			\$ 000
5			\$ 000
<b>Phase IV. Total Cost</b>			<b>\$ 000</b>

## E. Response to Evaluation Criteria

Provide a separate response to the following evaluation criteria to demonstrate how the proposed Service Development Program will achieve each criterion.

### (1a) Potential Transportation Benefits

Demonstrate the potential of the proposed Service Development Program investment to achieve transportation benefits in a cost-effective manner:

- Supporting the development of intercity high-speed rail service;
- Generating improvements to existing high-speed and intercity passenger rail service, as reflected by estimated increases in ridership (as measured in passenger miles), increases in operational reliability (as measured in reductions in delays), reductions in trip times, additional service frequencies to meet anticipated or existing demand, and other related factors;
- Generating cross-modal benefits, including anticipated favorable impacts on air or highway traffic congestion, capacity, or safety, and cost avoidance or deferral of planned investments in aviation and highway systems;
- Creating an integrated intercity passenger rail network, including integration with existing intercity passenger rail services, allowance for and support of future network expansion, and promotion of technical interoperability and standardization (including standardizing operations, equipment, and signaling);
- Encouragement of intermodal connectivity and integration through provision of direct, efficient transfers among intercity transportation and local transit networks at train stations, including connections at airports, bus terminals, subway stations, ferry ports, and other modes of transportation;
- Enhancing intercity travel options;
- Ensuring a state of good repair of key intercity passenger rail assets;
- Promoting standardized equipment (or rolling stock), signaling, communications, and power;
- Improved freight or commuter rail operations in relation to proportional cost-sharing (including donated property) by other benefiting rail users;
- Equitable financial participation in the project's financing, including, but not limited to, consideration of donated property interests or services; financial contributions by freight and commuter rail carriers commensurate with the benefit expected to their operations; and financial commitments from host railroads, non-Federal governmental entities, nongovernmental entities, and others;
- Encouragement of the implementation of positive train control (PTC) technologies (with the understanding that 49 U.S.C. 20147 requires all Class I railroads and entities that provide regularly scheduled intercity or commuter rail passenger services to fully institute interoperable PTC systems by December 31, 2015); and
- Incorporating private investment in the financing of capital projects or service operations.

The Risk Management Plan, Project Management Plan, Financial Plan, MWRRS Service Development Plan, MI: Chicago Hub: Kalamazoo-Dearborn Service Development Program (SDP), and the Amtrak Study Summary support this application in greater detail and these documents have been included with this application as supporting documentation.

The SDP has been prepared in concert with the overarching MWRRS Service Development Plan that justifies the initial investment and related benefits to bring long term stability and a state of good repair to the Chicago Hub (Chicago-Detroit/Pontiac) High Speed Rail Corridor, specifically in the segment currently owned by Norfolk Southern Railway from Kalamazoo MP 143.2 to Dearborn MP 7.5. The SDP will bring long term stability by completing an ownership arrangement (subject to STB approval) and a state of good repair through capital improvements to increase service reliability, decrease travel times by initially restoring passenger speeds up to 79 mph, increase safety by renewing the signal system along with adding positive train control which will allow for future passenger speeds to reach 110 mph, and position the corridor for future investment. Future investment decisions will be made as MDOT leads a multi-state effort to complete a Corridor Investment Plan. This will include revising the current MWRRS Service Development Plan and completing a Corridor Wide Environmental Document for the Chicago Hub (Chicago-Detroit/Pontiac) High Speed Rail Corridor.

Portions of this corridor have been developed under FRA's Next Generation High Speed Rail Program Incremental Train Control System (ITCS) Demonstration Project. Amtrak's current intercity passenger rail service is running up to 95 mph between Kalamazoo and New Buffalo as a result of this investment in ITCS. In March 2010, FRA conditionally approved

this same area to increase speeds to 110 mph. Amtrak is expected to meet these conditions by February 2011. In addition, FRA has provided ARRA funds to Amtrak to extend the ITCS from New Buffalo to Porter, Indiana. This work is expected to be completed by Amtrak in 2012. The SDP will build on the work that has been accomplished between Porter, Indiana and Kalamazoo, Michigan (Amtrak's ownership of approximately 98 miles) by extending ITCS (positive train control) coverage on the corridor from Kalamazoo east to Dearborn, an additional 135 miles.

The SDP improvements are expected to produce the following results to existing intercity passenger service:

1. Long term stabilization for this segment of the corridor. NS has indicated that their freight business needs do not justify maintaining the track for 79 mph service on their corridor ownership between Kalamazoo MP 143.2 and Dearborn MP 7.5. NS has stated that their freight need for track maintenance is 25 mph. They plan to allow the corridor to degrade over time and track speeds will be reduced by issuing a number of slow orders along this segment. NS issued the first slow order on July 1, 2010 for 41.2 miles of track, in this segment, reducing passenger speeds from 79 mph to 60 mph. They have indicated that this will continue and by the end of 2012, speeds will have been reduced on the entire 135 mile segment from 79 mph to 60 mph for passenger train travel. Additional reductions in speeds can be expected to follow after that. The completion of an ownership arrangement will bring long term stability to this segment of the corridor by ensuring that long term investments, both past and present, in intercity passenger rail will not be made. This will also help ensure that service benefits from past and present investments in the entire corridor, will not be lost.

2. Capital improvements to bring this segment of the corridor to a state of good repair by:

a. Restoring passenger speeds to 79 mph on the corridor will initially reduce the trip time by 12 minutes. An additional travel time reduction of up to 18 minutes will be realized once top speeds are approved to go to 110 mph.

b. Increasing reliability/safety – Renewing the signal system and installing ITCS will increase reliability and safety on this segment. Amtrak’s annual On-Time Performance Reports and Minutes of Delay statistics for Amtrak’s operations between Chicago and Detroit were analyzed for six trains over the period 2004-2006. Amtrak’s on-time performance was approximately 50%. The reports indicate that the top reasons for delay were freight train interference, passenger train interference, and cable and signal (C&S) work due to defects. Specifically, Amtrak has reported that their trains averaged 19 minutes of delay per train in the time period from July 1, 2009 – June 30, 2010 between Kalamazoo and Dearborn. 61.4% of the delays were attributed to the following four categories:

Passenger train interference	23.1%
Communications & signals	17.5%
Slow Orders (Perm & Temp.)	11.3%
Freight train interference	9.5%

As part of the SDP of this segment, there is funding included for track infrastructure and signal improvements, the most important being the return of track speeds to 79 mph, renewing of the signal system, and installation of positive train control (ITCS). The infrastructure improvements will remove all the temporary track speed restrictions. The signal renewal program and installation of ITCS will eliminate the communications and signal delays, as well as, increase capacity and reduce headway times. As a result, the interference by both passenger and freight trains should be reduced substantially. Therefore, it is assumed that of the 19 minutes in average delays as reported by Amtrak, the aforementioned improvements will reduce the average delay by up to 12 (11.66) minutes per train. It is further expected that these improvements will also have a positive effect on the remaining 39.6% of the delay time as the on-time performance percentages increase due to the implementation of the improvements. An implemented ownership arrangement will provide greater control of train movements in this area through dispatching.

Annual minutes of delay reduction for intercity passenger service (6 trains for the Wolverine service and 2 trains for the Blue Water service between Kalamazoo and Battle Creek) on this segment of the corridor would be 27,740 minutes.

The overarching MWRRS Service Development Plan has completed a detailed analysis of the potential of connectivity of intercity passenger rail to other modes of transportation. The passenger rail market analysis confirms there is a substantial market for intercity travel between all the cities on the MWRRRI System. In many markets, the MWRRRI System provides a faster, more cost-effective alternative to auto and bus travel. Furthermore, the MWRRRI System provides a more cost-effective means of travel than air travel in many of the smaller urban areas on or near a MWRRRI System corridor. The improvements associated with this SDP are an incremental step in achieving the benefits associated with the full build out of MWRRRI Phase 1.

**(1b) Other Public Benefits**

Describe the potential and actual contributions the proposed Service Development Program would make toward achieving transportation benefits in a cost-effective manner:

- Environmental quality and energy efficiency and reduction in dependence on foreign oil, including use of renewable energy

sources, energy savings from traffic diversions from other modes, employment of green building and manufacturing methods, reductions in key emissions types, and the purchase and use of environmentally sensitive, fuel-efficient, and cost-effective passenger rail equipment;

- Promoting interconnected livable communities, including complementing local or state efforts to concentrate higher-density, mixed-use, development in areas proximate to multi-modal transportation options (including intercity passenger rail stations);
- Improving historic transportation facilities; and
- Creating jobs and stimulating the economy. Although this solicitation is not funded by the Recovery Act, these goals remain a top priority of this Administration. Therefore, Service Development Program applications will be evaluated on the extent to which the project is expected to quickly create and preserve jobs and stimulate rapid increases in economic activity, particularly jobs and activity that benefit economically distressed areas, as defined by section 301 of the Public Works and Economic Development Act of 1965, as amended (42 U.S.C. 3161) (“Economically Distressed Areas”).

The Risk Management Plan, Project Management Plan, Financial Plan, MWRRS Service Development Plan, MI: Chicago Hub: Kalamazoo-Dearborn Service Development Program (SDP), and the Amtrak Study Summary support this application in greater detail and these documents have been included with this application as supporting documentation.

This SDP is an incremental step in realizing the benefits of the fully built-out MWRRS.

Economic and Public Benefits have been estimated for Chicago-Detroit/Pontiac, as a share of the overall benefits previously estimated for the fully built-out MWRRS system. Job creation was estimated using Economic Rents methodology in the updated Chapter 11 of the Project Notebook which is included in the MWRRS Service Development Plan. Exhibit 11.23 reported the employment impact, increase in household income, and increase in property value associated with each MWRRS station (see exhibits 9 & 10). These estimates were developed for a fully-built out MWRRS network as envisioned by Phase 7.

It is noted that Chicago Union Station comprises approximately 26% of the total job creation of the Midwest Region; the remaining 74% of job creation occurs in outlying areas. For every 2.8 jobs created in outlying areas, one job is created in downtown Chicago. Job creation for individual corridors was estimated by summing the job creation for the stations along each corridor. Then the corridor’s share of downtown Chicago jobs could be estimated by applying the 1.0:2.8 ratio just described. Using this analysis enables the estimation of productivity-related job creation associated with each corridor segment. From these estimates at full build out for this segment of the corridor including Kalamazoo, Battle Creek, Albion, Jackson, Ann Arbor, and Dearborn is estimated to be 3,300 jobs. The property value impact for the same communities is \$297 million.

As described in Section 11.4 of the Project Notebook, the construction jobs impact (assessed by Input Output RIMS II methodology) is much smaller than the permanent jobs impact. Nonetheless, as shown in Exhibit 11-29, it was estimated to create 152,063 person-years of work, or an average of 15,206 jobs for each year of the assumed 10-year deployment period for the system. This impact on temporary construction jobs has been estimated as each corridor’s pro-rata share of overall MWRRS capital cost.

Michigan's unemployment rates have been higher than the national average since 2002 and the rate has almost doubled in the past two years, from 7.1% in 2007 to 13.2% currently. Virtually any project construction in Michigan will benefit the state and local economy as well as improve commodity flows at national and international levels. Approximately 91% of Michigan's population lives in areas considered economically distressed according to the federal definition, making Michigan one of the states most impacted by the recent recession. Even before the recession, Michigan faced challenging economic realities due to the loss of manufacturing jobs, particularly those related to the collapsing auto industry.

Currently, the statewide average unemployment rate as of June, 2010 was 13.2% which is considerably more than the current national rate of 9.5 (according to Bureau of Labor Statistics seasonally adjusted). The project areas included in this application are located in the Michigan counties of Calhoun, Jackson, Kalamazoo, Washtenaw and Wayne. According to the definition in Section 301 of the Public Works and Economic Development Act of 1965, as amended (42 U.S.C. 3161), all but Kalamazoo and Washtenaw Counties are economically distressed areas as designated by the Federal Highway Administration ([http://hepgis.fhwa.dot.gov/hepgis\\_v2/GeneralInfo/Map.aspx](http://hepgis.fhwa.dot.gov/hepgis_v2/GeneralInfo/Map.aspx)). Wayne County has an unemployment rate of 16%. Unemployment rates in the remaining counties, range from 7.9% to 24.9%. Only five Michigan counties have unemployment rates below the current national average.

Moving forward with construction of this project will contribute significantly to our efforts to rebuild the state and

local economies of Michigan.

The Executive Office of the President, Council of Economic Advisers, issued a memorandum in May 2009 on “Estimates of Job Creation from the American Recovery and Reinvestment Act of 2009.” The memorandum is available at: <http://www.whitehouse.gov/administration/eop/cea/Estimate-of-Job-Creation/>. Table 5 of this memorandum provides a simple rule for estimating job-years created by government spending, which is that \$92,000 of government spending creates one job-year.

Data specific to this SDP yielded the following job creation figures:

Improvement	Number of Job Years
NS Improvements	1713

Environmental benefits of this project and related projects, compared to no build, highway, and airport alternatives include the following:

Decreased energy consumption due to reduced trip times and service delays which leads to:

Reduced air pollutant emissions and improved air quality

Less land required compared to expanding existing highways and airports

Opportunities for transit-oriented land use development

Fewer environmental impacts on sensitive habitats and water resources (floodplains, streams, and wetlands) than highway and airport alternatives.

The public will also benefit from increased safety as a result of installing a new positive train control technology, renewing the existing signal system and upgrading the existing grade crossings.

With anticipation, local communities throughout the corridor are supporting efforts to develop the Chicago Hub (Chicago-Detroit/Pontiac) High Speed Rail Corridor by promoting interconnected livable communities. Within this project segment, there are at least two examples:

1. The new Dearborn Intermodal Facility has been in the planning and preliminary design phase since 2001 and was recently selected to receive just over \$28 million in HSIPR funding during the first round. This project has received extensive input and scrutiny by local, county, regional and state agencies and organizations. Numerous public meetings and workshops have been held over several years to describe the project, site selection, environmental issues, station elements, design options, transit oriented development (TOD) opportunities and improved connectivity for the overall transportation network. The facility itself was sized to meet projections for high speed rail ridership for a 15-20 year planning horizon, and all the track, platform, signals and controls for the station and the Dearborn area have been studied and examined in detail. The project is consistent with both the high speed rail planning for Michigan and local plans for Dearborn and SE Michigan. Dearborn has a working committee for this project that consists of local stakeholders plus the Southeast Michigan Council of Governments (SEMCOG) and the Michigan Department of Transportation (MDOT). Additionally, Dearborn is fully coordinated with SEMCOG and MDOT rail planning groups including Amtrak, federal agencies and freight railroads. Dearborn is the third busiest station in Michigan and has a convenient location and seamless connectivity to other modes of ground and air transportation. The relocated and expanded Dearborn Intermodal Facility will improve efficiency in all respects over the existing aging and deteriorating Dearborn Amtrak Station. Also, since the new facility will be located directly adjacent to the Henry Ford, (a top Michigan tourist attraction), this allows the elimination of their rail flag stop, thereby providing a single stop in Dearborn for all rail service. The project has an anticipated catalytic effect of offering additional and alternative transportation options and providing a transportation nexus point for the community. As has been proven many times across America, active and functional transportation centers increase urban activity, raise property values, spur related development and create nodes of activity that support higher density development and interesting communities. Dearborn has a long and rich history of being a regional employment center for Greater Detroit and its West Downtown District is a well known regional destination. The addition of the intermodal facility to the downtown district will serve to strengthen an already established district and enliven it as a welcoming point to the community. The improvements associated with this project include the new facility and platform, related site and utility infrastructure, parking, storm water management and the restoration of the second track adjacent to the intermodal facility. The facility will consist of a central structure plus a bridge and tower that will link the facility to both tracks and directly to the Henry Ford property across the tracks. The facility and site will be LEED certified and provide a great opportunity for Dearborn to showcase its Dearborn Green initiative on a highly visible site provided

by the Ford Motor Land Development Company for the project.

2. MDOT has provided \$300,000 to Amtrak and the City of Jackson to stabilize their existing historic station and complete a development study which will allow the City to develop a program for the renovation and of the existing historic railroad station to serve as an intermodal transportation center. The study will outline and develop a work plan to renovate the facility, provide functional areas for various travel modes and passenger needs, and for possible ancillary uses such as restaurants and retail services. Nearly \$1 million ARRA Enhancement funding has been awarded to move this project forward and begin the restoration process.

This SDP will not only bring the infrastructure to a state of good repair, but also allow for long term stability which providing the environment that allows communities like Dearborn and Jackson to move these types of projects forward..

## (2) Sustainability of Benefits

Identify the likelihood of realizing the proposed Service Development Program's benefits, including:

- The quality of a Financial Plan that analyzes the financial viability of the proposed rail service;
- The quality and reasonableness of revenue and operating and maintenance cost forecasts for the benefiting intercity passenger rail service(s);
- The availability of any required operating financial support, preferably from dedicated funding sources for the benefiting intercity passenger rail service(s);
- The quality and adequacy of project identification and planning;
- The reasonableness of estimates for user and non-user benefits for the project;
- The reasonableness of the operating service plan, including its provisions for protecting the future quality of other services sharing the facilities to be improved;
- The comprehensiveness and sufficiency, at the time of application, of agreements with key partners (including the railroad operating the intercity passenger rail service and infrastructure-owning railroads) that will be involved in the operation of the benefiting intercity passenger rail service, including the commitment of any affected host-rail carrier to ensure the realization of the anticipated benefits, preferably through a commitment by the affected host-rail carrier(s) to an enforceable on-time performance of passenger trains of 80 percent or greater;
- The favorability of the comparison between the level of anticipated benefits and the amount of Federal funding requested; and
- The applicant's contribution of a cost share greater than the required minimum of 20 percent.

The Risk Management Plan, Project Management Plan, Financial Plan, MWRRS Service Development Plan, MI: Chicago Hub: Kalamazoo-Dearborn Service Development Program (SDP), and the Amtrak Study Summary support this application in greater detail and these documents have been included with this application as supporting documentation.

The Financial Management Plan describes MDOT's capability to absorb potential cost overruns, financial shortfalls, or financial responsibility for potential disposition requirements. In addition, Michigan has the statutory legal authority to build and oversee rail capital/operating investment through the State Transportation Preservation Act of 1976, Act 295 of 1976, [MCL 474.51 - MCL 474.56] and Act 51 of 1951. If unforeseen increases to the project should occur, MDOT has the financial resources necessary to fund these expenses as outlined in the plan. Audit results are included in the Financial Plan.

Section 2.4 of the SDP presents revenue, operating and maintenance cost projections in exhibits 7 and 8.

The existing Wolverine service is part of Amtrak's National System Service and currently does not require funding from Michigan to support operations. Michigan provides state funding for the Blue Water service (Chicago-Port Huron) which enters and exits this segment of the corridor at Battle Creek. Michigan has a long history of supporting intercity passenger rail and is currently working with Amtrak and other state partners to implement the requirements of Section 209 of the Passenger Rail Investment and Improvement Act.

MDOT has made annual appropriations committed to the continuous investment of state funds in intercity passenger rail since 1974, with over \$50 million in capital and operating investments since 2002. A subsidy has been provided to Amtrak for the Blue Water Service (Port Huron to Chicago) for 35 over years and for the Pere Marquette (Grand Rapids to Chicago) for over 25 years.

MDOT is exploring alternative approaches to funding these potential future costs through innovative partnerships.

Please review the PPP Funding Approach which has been uploaded as supporting documentation.

Since 1995, MDOT has participated with eight other Midwest states (Indiana, Illinois, Iowa, Minnesota, Missouri, Nebraska, Ohio, and Wisconsin) and Amtrak on the MWRRRI to develop an enhanced passenger rail system in the Midwest. The FRA also participates from time to time. This work has led to a comprehensive MWRRS Service Development Plan which provides a long term vision for increased speeds and service frequencies on the Chicago Hub (Chicago-Detroit/Pontiac) High Speed Rail Corridor. In addition, Michigan will lead a multi state effort (Indiana, Illinois and Michigan) to complete a Corridor Investment Plan which will include updating the existing MWRRS Service Development Plan for the Chicago-Detroit/Pontiac Corridor and completing a corridor wide environmental document (Tier 1 EIS). All of the work proposed in this SDP is consistent with the development of the MWRRS. Also, all of the improvements proposed in this SDP are consistent with MDOT's Commission Policy under Resolution 2004-1 adopted February 26, 2004. This Resolution 2004-1 has been uploaded as supporting documentation.

MDOT and NS have signed a memorandum of understanding for an ownership arrangement for this segment of the corridor. In addition MDOT has received and evaluated an independent appraisal for this same segment. These documents will serve as a basis to complete the ownership arrangement (subject to STB approval) for long term stability of the corridor and capital improvements needed to bring it to a state of good repair.

Both Amtrak and NS have estimated the costs of the improvements. The difference in estimates is minimal. MDOT is confident the capital cost estimates requested in this application are adequate and will meet industry standards.

### (3) Project Delivery Approach

Describe the risk associated with delivery of the Service Development Program within budget, on time, and as designed:

- The applicant's financial, legal, and technical capacity to implement the project, including whether the application depends upon receipt of any waiver(s) of Federal railroad safety regulations that have not been obtained;
- The applicant's experience in administering similar grants and projects, including a demonstrated ability to deliver on prior FRA financial assistance programs;
- The soundness and thoroughness of the cost methodologies, assumptions, and estimates for the proposed project;
- The reasonableness of the schedule for project implementation;
- The thoroughness and quality of the Project Management Plan;
- The timing and amount of the project's future noncommitted investments;
- The overall completeness and quality of the application, including the comprehensiveness of its supporting documentation;
- The adequacy of any completed engineering work to assess and manage/mitigate the proposed project's engineering and constructability risks;
- The sufficiency of system safety and security planning;
- The project's progress, at the time of application, towards compliance with environmental protection requirements;
- The readiness of the project to be commenced; and
- The timeliness of project completion and the realization of the project's anticipated benefits.

The Risk Management Plan, Project Management Plan, Financial Plan, MWRRS Service Development Plan, MI: Chicago Hub: Kalamazoo-Dearborn Service Development Program (SDP), and the Amtrak Study Summary support this application in greater detail and these documents have been included with this application as supporting documentation.

MDOT is fluent in railroad laws covering train movement, signalization, hazardous materials and handling of same, track worker protection, railroad employee hours of service and safety protections, and grade crossing safety. MDOT is also familiar with the guidelines and enforcement authority of the FRA, National Transportation Safety Board, FTA and other regulatory bodies, and has experience working with the railroad's larger union organizations (BLE & UTU). These requirements will be followed in work performed by MDOT and will be passed on contractually to sub-recipients when necessary.

Examples of MDOT's experience in similar projects has been provided in F. Technical Components.

MDOT is aware of the good practices of preventive maintenance, engineering-out problem areas in advance of construction, continuous employee training, and conscientious safety and security awareness and reporting.

MDOT is the State Safety Oversight Agency for the Detroit People Mover, and all future rail transit agencies that would initiate commuter, overhead guideway system, or street running operations, not under FRA jurisdiction in Michigan. MDOT is fully compliant with 49 CFR Part 659, Rail Fixed Guideway Systems; State Safety Oversight; Final Rule. MDOT has developed an FTA approved System Safety Program Standard which requires existing and future rail transit agencies to develop System Safety Program Plans and System Security Plans for MDOT's approval. This document can be modified to meet APTA/FRA requirements, including requirements for Collision Hazard Analysis. A copy of Michigan's SSPS has been included with this application as supporting documentation. MDOT is fully capable of conducting internal audits, triennial reviews, and accident investigations. MDOT ensures that the rail transit agency maintains records, files and training reports as prescribed in CFR 49, Part 659.

Michigan has the statutory legal authority to build and oversee rail capital/operating investments through the State Transportation Preservation Act of 1976, Act 295 of 1976, [MCL 474.51 - MCL 474.56] and Act 51 of 1951. If unforeseen increases to the project should occur, MDOT has the financial resources necessary to fund these expenses as outlined in the plan. Audit results are included in the Financial Plan.

Preliminary Engineering Drawings, the results of Amtrak's Study, and NEPA documents have been included as supporting documentation for FRA review.

The SDP has been prepared in concert with the "overarching" MWRRS Service Development Plan that justifies the initial investment and related benefits to bring long term stability and a state of good repair to the Chicago Hub (Chicago-Detroit/Pontiac) High Speed Rail Corridor, specifically in the segment currently owned by Norfolk Southern Railway from Kalamazoo MP 143.2 to Dearborn MP 7.5

MDOT is currently working with a consultant to prepare a State Rail Plan. This work is expected to be completed in the next 12 months.

## F. Technical Components

Address the sections below with information on the technical components of the Service Development Program.

**(1) Indicate if you are requesting to be considered a “Standard Capital Project” as described in Section 1.3.1 of the NOFA.<sup>7</sup>**

- Consider this application to be a “Standard Capital Project.”
- Consider this application to be a “Major Capital Project.”

Explain your response:

1. MDOT has experience implementing similar projects. As an example, the partnership of MDOT, FRA, Amtrak, and General Electric Transportation Systems has worked to implement the Incremental Train Control System through FRA's Next Generation High Speed Rail Program. This technology has received conditional approval from FRA (in March 2010) to raise intercity passenger rail speeds to 110 mph between Kalamazoo and New Buffalo on Amtrak's ownership. Total cost to date on this project is just under \$40 million dollars.

With respect to rail investment management, the State of Michigan, since the mid-1970s, has acquired and managed over 1,000 miles of active rail lines, investing over \$250,000,000 in capital improvements and purchases. The state presently owns and manages approximately 530 miles of rail property, and takes an active role in design and implementation of significant capital improvement projects. The state has dedicated railroad engineering staff in place to plan and implement right-of-way projects to enhance its rail corridors, and the state also has multiple Railroad Safety Inspectors that are well-trained and highly experienced in railroad construction project supervision. Comparable projects managed by internal staff on the state-owned rail network include annual tie and surfacing programs, siding and yard construction, crossing construction, bridge evaluation and repairs, and hands-on supervision of pre-qualified railroad contractors. In addition, the state has its own AREMA-compliant set of standard railroad construction specifications that can be immediately adapted for use in current or future preservation and enhancement projects on the NS railways.

MDOT established a new Office of High Speed Rail and Innovative Project Advancement which consists of a team of experts in rail management, each with their own area of expertise. This office is responsible for promoting and developing the infrastructure needed to support intercity passenger rail, commuter rail and light rail transit services. This office works with contractors, provides project oversight, oversees financial aspects of program development and interacts with stakeholders to ensure the success of all rail projects. Staff members in this office are well-versed in all aspects of project management and have experience in working with rail owners and contractors, stakeholders and federal regulatory agencies.

2. While the total SDP is over \$100 million, the ownership arrangement phase of the SDP is expected to be approximately \$150 million. FRA will have final approval of this transaction. The Final Design / Construction Phase of this project is estimated at just over \$160 million and will be primarily completed under force account work with Norfolk Southern and Amtrak.

3. The capital improvements will initially restore passenger rail speeds to 79 mph on this segment with then increase to 110 mph. Once the Corridor Investment Plan is completed service frequencies and additional speeds increases can be implemented.

4. The technology being used in this SDP is proven. FRA has provided ARRA funding to Amtrak to extend ITCS from New Buffalo to Porter, Indiana. Amtrak is expecting to complete that installation by the end of 2012. In addition, FRA has approved ITCS and provided conditional approval to raises speeds to 110 mph between Kalamazoo and New Buffalo. Amtrak is expected to meet these conditions by early next year.

**(2) Indicate the operational independence of the Service Development Program.<sup>8</sup>**

- This program is operationally independent.     This program is not operationally independent.

Briefly clarify your response:

This SDP provides for completion of an ownership arrangement which will provide long term stability to this segment of the corridor. In addition, completion of the final design/construction activities will allow for the return of passenger rail speed initially to 79 mph in the project area which reduce travel time, increase service reliability and increase safety by renewing the signal system and infrastructure.

<sup>7</sup> Please note, that administratively, three primary distinctions exist between the Major and Standard Capital Project designation when applied to a Service Development Program: 1) the approach to the environmental review process; 2) FRA's use of a Letter of Intent (LOI) to contingently commit funds to the Service Development Program (as described in Section 2 of the NOFA); and 3) the project delivery tools required and used by FRA in managing the Service Development Program.

**(3) Provide Right-of-Way Owner(s) information in the program area.** Where railroads currently share ownership, identify the primary owner. Click on the prepopulated fields to select the appropriate response from the list of choices.

Type of Railroad	Railroad Right-of-Way Owner	Route-Miles	Track-Miles	Status of Agreements to Implement Projects
Class 1 Freight	Norfolk Southern Railway	135	169	Preliminary Executed Agreement/MOU
Amtrak				Master Agreement in Place
Amtrak				Master Agreement in Place
Amtrak				Master Agreement in Place
Amtrak				Master Agreement in Place
Amtrak				Master Agreement in Place

**(4) Name the Intercity Passenger Rail Operator and provide the status of the agreement.** If applicable, provide the status of agreement with the partner that will operate the planned passenger rail service (e.g., Amtrak). Click on the prepopulated field to select the appropriate response from the list of choices.

Name of Operating Partner:	Status of Agreement:
Amtrak	Preliminary executed agreement/MOU

<sup>8</sup> A Service Development Program is considered to have operational independence if, upon being implemented, it will result in a minimal operating segment of new or substantially improved high-speed or intercity passenger rail service that demonstrates tangible and measurable benefits, even if no additional investments in the same service are made.

**(5) Provide information about the existing rail services within the Service Development Program area (e.g., freight, commuter, and intercity passenger).** Click on the prepopulated field to select the appropriate response from the list of type of service.

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>9</sup> Within Project Boundaries
		Passenger	Freight		
Freight	Norfolk Southern Railway		60	135	8
Intercity Passenger	Amtrak	60		0	8
Freight					

**(6) Estimate the share of benefits that will be realized by nonintercity rail services and provide the approximate cost share provided by the beneficiary.**<sup>10</sup> Click on the prepopulated fields to select the appropriate response from the lists of type of beneficiary, anticipated share of benefits, and approximate cost share. If more than five types of nonintercity passenger rail are beneficiaries, please provide additional information in a separate supporting document, and list it in Section G.2 of this application.

Type of Nonintercity Passenger Rail	Expected Share of Benefits	Approximate Cost Share
Other	Less than 50%	0-24%
Other	Less than 50%	0-24%
Other	Less than 50%	0-24%
Other	Less than 50%	0-24%
Other	Less than 50%	0-24%

**(7) Describe the rolling stock type.** Describe the fleet of locomotives, cars, self-powered cars, and/or train sets that are intended to provide service upon completion of the Service Development Program. Note if the equipment is already owned or needs to be acquired.

Amtrak's existing fleet of rolling stock that is used to service the Midwest includes ITCS equipped P-40 locomotives and Horizon passenger equipment, in a push/pull operation. For both the Wolverine and Blue Water Services locomotives are equipped with ITCS equipment.

<sup>9</sup> One daily round-trip operation should be counted as two daily one-way train operations.

<sup>10</sup> Benefits include service improvements such as increased speed, on-time performance, improved reliability, and other service quality improvements.

## G. Additional Information

Provide a response to the following, as necessary, for your Service Development Program.

- (1) Please provide any additional information, comments, or clarifications and indicate the section and question number that you are addressing (e.g., Section A, Question 6).** Completing this question is optional.
- (2) Please provide a document title, filename, and description for all supporting documents.** Ensure that these documents are uploaded to GrantSolutions.gov with your application and use a logical naming convention.

Document Title	Filename	Description and Purpose
MI-Chicago Hub: Kalamazoo-Dearborn Service Development Plan	SDP_Chicago Hub_Kalamazoo-Dearborn HSR Corridor Program_Aug6.pdf	Service Development Program
MWRRS Serivc Development Plan	MWRRS Service Development Plan.pdf	Service Development Plan -Supports SDP as part of planning/policy decision
MI-Chicago Hub: Kalamazoo-Dearborn Project Management Plan	PMP_Chicago Hub_Kalamazoo-Dearborn HSR Corridor Program_Aug6.pdf	Project Management Plan
MI-Chicago Hub: Kalamazoo-Dearborn Financial Plan	FP_Chicago Hub_Kalamazoo-Dearborn HSR Corridor Program_Aug6.pdf	Financial Plan
Service NEPA Environmental Assessment Chicago-Detroit/Pontiac Rail Corridor Improvements	Service NEPA EA Chicago-Detroit-Pontiac.pdf	Support NEPA Requirements
Pontiac-Detroit-Chicago High Speed Rail Corridor CORRIDOR SEGMENTS BY RAILROAD OWNERSHIP	Segments Ownership Map.pdf	Visual of Chicago-Detroit/Pontiac HSR corridor ownership
Michigan State Transportation Commission Resolution 2004-1	Commission Policy Resolution 2004-1	Supports SDP as part of planning/policy decision
HSR Public-Private Partnerships	PPP Funding Approach.pdf	Support states approach to funding services
Email on July 1, 2010 Slow order from NS	NS Speed Restriction HSR Application Kalamazoo - Dearborn.pdf	Verification of Slow order issued July 1, 2010
Memorarndum of Understanding Between Michigan DOT and Norfolk Souhern Railway Company for the Chicago-Detroit/Pontiac High Speed Rail Corridor	Norfolk Southern MOU.pdf	MOU between NS and MDOT for an ownership arrangement.
Support Letters	Support Letter.pdf	Letters of support for the SDP
MDOT Passenger Rail Map	MDOT_Passenger Rail Map.pdf	Show Michigan's existing Passenger Rail Service
MI-Chicago Hub: Kalamazoo-Dearborn Project Management Plan	RMP_Chicago Hub_Kalamazoo-Dearborn HSR Corridor Program_Aug6.pdf	Risk Management Plan
AMTRAK ANALYSIS of the	Amtrak Study Summary.pdf	Amtrak Study which supports SDP

RAIL LINE from KALAMAZOO to TOWN LINE		
AIP between Amtrak and MDOT	Amtrak AIP NS Segment.pdf	Railroad Project Sponser Agreements
Michigan System Safety Program Standard	Michigan System Safety Program Standard.pdf	System Safety Program Plan
PE Project Maps	Service_NEPA_EA_Kalamazoo_Dearborn.pdf	Support of PE Requirements
Construction Budget Form 424C	NSIMPROVEMENTS.pdf	424C
Budget Narraitive	NSBUDGET NARRATIVE_1.pdf	Support for 424C form
PE Aerial and Track Charts	3d_13 Dearborn_Kalamazoo_Round 2 NS.pdf	Support PE/NEPA
Reaffirmation Letter	8 6 2010 Reaffirmation Letter NS Michigan.pdf	Support for progress on Ownership Arrangement
MOU Operating & Implementation	8 6 2010 Mem of Agreement Mich NS.pdf	Support for progress on Ownership Arrangement

## H. Checklist of Application Materials

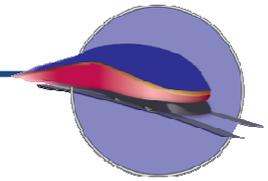
Use this section to determine the thoroughness of your Service Development Program application prior to submission.

Documents	Format
<b>1. Application Form</b>	
<input checked="" type="checkbox"/> HSIPR Service Development Program Application Form [This Form]	Form
<b>2. Budget and Schedule Form</b>	
<input checked="" type="checkbox"/> HSIPR Service Development Program Budget and Schedule Form	Form
<b>3. OMB Standard Forms</b>	
<input checked="" type="checkbox"/> SF 424: Application for Federal Assistance	Form
<input checked="" type="checkbox"/> SF 424C: Budget Information-Construction	Form
<input checked="" type="checkbox"/> SF 424D: Assurances-Construction	Form
<b>4. FRA Assurances Document</b>	
<input checked="" type="checkbox"/> FRA Assurances Document (See Section 4.2.4 of the NOFA)	Form
<b>5. Service Development Supporting Documentation</b>	
<input checked="" type="checkbox"/> Service Development Plan (See Section 3.5 of the NOFA)	No Specified Format
<input checked="" type="checkbox"/> NEPA Documentation (See Section 4.2.5 of the NOFA)	No Specified Format
<b>6. Service Delivery Supporting Documentation</b>	
<input checked="" type="checkbox"/> Project Management Plan (See Section 4.2.6 of the NOFA)	No Specified Format
<input checked="" type="checkbox"/> Financial Plan (See Section 4.2.6 of the NOFA)	No Specified Format
<input checked="" type="checkbox"/> System Safety Plan (See Section 4.2.6 of the NOFA)	No Specified Format
<input checked="" type="checkbox"/> Railroad and Project Sponsor Agreements (See Section 4.2.6 of the NOFA)	No Specified Format
<b>7. Optional Supporting Documentation</b>	
<input checked="" type="checkbox"/> Preliminary Engineering (PE) and/or Final Design (FD) Documentation (See Section 4.2.7 of the NOFA)	No Specified Format
<input checked="" type="checkbox"/> Other Relevant and Available Documentation (See Section 4.2.7 of the NOFA)	n/a

**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**.

# Service Development Program Application Form

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



Applicants interested in applying for funding under the FY10 Service Development Programs solicitation are required to submit this application form and other required documents as outlined in Section H of this application. List and describe any supporting documentation submitted in Section G. Applicants should reference the FY10 Service Development Programs Notice of Funding Availability (NOFA) for more specific information about application requirements. If you have questions about the HSIPR program or this application, please contact the Federal Railroad Administration (FRA) at [HSIPR@dot.gov](mailto:HSIPR@dot.gov).

Applicants must use [this](#) form by entering the required information in the gray narrative fields, check boxes, or drop-down menus. Submit this completed form, along with any supporting documentation, electronically by uploading it into [GrantSolutions.gov](http://GrantSolutions.gov) by 5:00 p.m. EDT on August 6, 2010.

### A. Point of Contact and Applicant Information

Applicant must ensure that the information provided in this section matches the information provided on the SF-424 forms.

<b>(1) Name the submitting agency:</b> North Carolina Department of Transportation NC-SEHSR-Piedmont Corridor Service 5th Frequency Phase I		<b>Provide the submitting agency Authorized Representative name and title:</b> Patrick Simmons		
<b>Street Address:</b> 1 South Wilmington Street	<b>City:</b> Raleigh	<b>State:</b> NC	<b>Zip Code:</b> 27601	<b>Authorized Representative telephone:</b> (919) 733-7245 ext. 263 <b>Authorized Representative email:</b> pbsimmons@ncdot.gov
<b>Provide the submitting agency Point of Contact (POC) name and title (if different from Authorized Representative):</b>		<b>Submitting agency POC telephone:</b> same as above <b>Submitting agency POC email:</b> same as above		
<b>(2) List the name(s) of additional State(s) applying (if applicable):</b>				

## B. Eligibility Information

Complete the following section to satisfy requirements for applicant eligibility.

**(1) Select the appropriate box from the list below to identify applicant type.** Eligible applicants are listed in Section 3.1 of the NOFA.

- State
- Amtrak
- Group of States
- Amtrak in cooperation with a State or States

If selecting one of the applicant types below, additional documentation is required to establish applicant eligibility. Please select the appropriate box and submit supporting documentation to demonstrate applicant eligibility, as described in Section 3.2 of the NOFA to GrantSolutions.gov and list the supporting documentation under “Additional Information” in Section G.2 of this application.

- Interstate Compact
- Public Agency established by one or more States

**(2) Verify the status of eligibility documentation including the dates of issue and how documentation can be verified by FRA.** Verify any completed EA or Final EIS document that demonstrates satisfaction of “Service NEPA” for the proposed Service Development Program by indicating if documents are submitted through GrantSolutions.gov or referenced through a public active URL. See Section 4.2.5 and Appendices 2.1 and 2.2 of the NOFA as references. Second-tier project NEPA documents for projects within the program may also be included. A NEPA decision document (Record of Decision or Finding of No Significant Impact) is not required for an application but must be issued by FRA prior to award of a construction grant. Any eligibility documents should be listed in Section G.2 of this application.

### Service Development Planning

Documentation	Date <i>(mm/yyyy)</i>	Describe How Documentation Can Be Verified (choose one)	
		Submitted in GrantSolutions	Web Link
<input checked="" type="checkbox"/> Service Development Plan	08/2010	<input checked="" type="checkbox"/>	

### Service NEPA Documents

Documentation	Date <i>(mm/yyyy)</i>	Describe How Documentation Can Be Verified (choose one)	
		Submitted in GrantSolutions	Web Link
<input type="checkbox"/> Final Environmental Assessment (EA)	<i>mm/yyyy</i>	<input type="checkbox"/>	
<input checked="" type="checkbox"/> Final Environmental Impact Statement (EIS)	06/2002	<input checked="" type="checkbox"/>	

FRA Decision Documents for Service Development Programs			
Documentation	Date (mm/yyyy)	Describe How Documentation Can Be Verified (choose one)	
		Submitted in GrantSolutions	Web Link
<input type="checkbox"/> Finding of No Significant Impact (FONSI)	mm/yyyy	<input type="checkbox"/>	
<input checked="" type="checkbox"/> Record of Decision (ROD)	10/2002	<input type="checkbox"/>	www.fra.dot.gov/downloads/RRDEV/Setier1rod.pdf
Documentation (select from the list of choices)	Date (mm/yyyy)	Describe How Documentation Can Be Verified (choose one)	
		Submitted in GrantSolutions	Web Link
Final Environmental Assessment (EA)	04/2009	<input checked="" type="checkbox"/>	for Charlotte Gateway Station
Categorical Exclusion Documentation (worksheet)	mm/yyyy	<input type="checkbox"/>	
Categorical Exclusion Documentation (worksheet)	mm/yyyy	<input type="checkbox"/>	
Categorical Exclusion Documentation (worksheet)	mm/yyyy	<input type="checkbox"/>	
Categorical Exclusion Documentation (worksheet)	mm/yyyy	<input type="checkbox"/>	
Categorical Exclusion Documentation (worksheet)	mm/yyyy	<input type="checkbox"/>	
Categorical Exclusion Documentation (worksheet)	mm/yyyy	<input type="checkbox"/>	
Categorical Exclusion Documentation (worksheet)	mm/yyyy	<input type="checkbox"/>	
Categorical Exclusion Documentation (worksheet)	mm/yyyy	<input type="checkbox"/>	
Categorical Exclusion Documentation (worksheet)	mm/yyyy	<input type="checkbox"/>	

## C. Corridor Service Overview

Respond to the following questions to help put this application into the context of the long-term vision and related work for the HSIPR corridor service.

**(1) Provide a brief narrative explaining how this Service Development Program relates to the long-term vision of the HSIPR corridor.**

This Service Development Program includes 5 interrelated projects in Charlotte, NC required to relocate the city station stop from the freight yard to the downtown area (including grade separations, track work, and a new and improved passenger station). These projects are part of the Charlotte Railroad Improvement & Safety Program (CRISP). These improvements will: make the station more accessible to downtown, be more appealing to the traveling public, and improve safety and operations. These projects will also improve the performance of the existing NC-supported Piedmont Corridor between Charlotte and Raleigh along the NCRP rail line.

The existing service includes three round trips between Charlotte and Raleigh, with a fourth round-trip planned for start-up in the second quarter of 2014. The third and fourth round trips are possible because of federal grants provided through the ARRA funding program in 2010. In addition to the improvements to the existing passenger rail service, the component projects are also necessary to advance the 5th round trip service towards implementation. The 5th round trip continues NCDOT's HSIPR passenger train frequency building block approach which FRA has embraced (as documented in the FRA Technical Monograph: Transportation Planning for the Richmond - Charlotte Railroad Corridor, January 2004).

The Piedmont Corridor is an integral piece of the federally-designated Southeast High Speed Rail (SEHSR) corridor that will connect the Northeast Corridor at Washington, D.C. to Atlanta and to Florida. North Carolina's Service Development Plan envisions providing a total of 16 service frequencies servicing the Piedmont Corridor, with 8 of those daily service frequencies continuing onto the NEC. The complete build-out of SEHSR service will result in major ridership gains and a financially sustainable passenger system. The Piedmont 5<sup>th</sup> round trip and SEHSR service to the NEC cannot be implemented without moving the Charlotte station from the freight yard.

North Carolina's planning for the Piedmont Corridor has been conducted in consultation and coordination with the Commonwealth of Virginia, FRA and Amtrak to ensure that all parties are working toward the same ultimate build-out of the SEHSR high-speed corridor.

**(2) List other HSIPR projects or activities related to this Service Development Program application.** This includes any pending or selected planning, PE/NEPA, FD/Construction, and other Service Development Program activities or projects. The purpose of this list is to identify overlapping or complementary applications, programs, or projects. Click on the drop-down menu to select the FRA solicitation and to indicate if the project was previously selected.

	Project, Activity, or Service Development Program Name <sup>1</sup>	FRA Solicitation	Federal Funding Request (in thousands of dollars)	Status	Does This Project Include Activities That Overlap with Any Projects Included in This Service Development Plan Application?
1	Congestion Mitigation	Track 1a	\$ 26,317.10	Awarded	No
2	SEHSR - Piedmont Corridor Service Current Needs and 3rd Frequency	Track 2	\$ 23,496.20	Awarded	Yes
3	SEHSR - Piedmont Corridor Service 4th Frequency	Track 2	\$ 467,138.50	Awarded	Yes
4	SEHSR - Piedmont Corridor Service 5th Frequency Phases I	FY10 SDP	\$ 306,018.30	Announcement Pending	Yes

<sup>1</sup> Please detail each activity for which HSIPR funding is being requested, or which is directly related to the Corridor Service. For example, if a related Track 1a Project application was already submitted, that application should be separately listed below. If the project covered by that same 1a application is also being submitted as an element of a Track 2 Program, indicate the program when listing the project.

	& II				
5		Track 1a	\$	Announcement Pending	Yes
6		Track 1a	\$	Announcement Pending	Yes
7		Track 1a	\$	Announcement Pending	Yes
8		Track 1a	\$	Announcement Pending	Yes
9		Track 1a	\$	Announcement Pending	Yes
10		Track 1a	\$	Announcement Pending	Yes
11		Track 1a	\$	Announcement Pending	Yes
12		Track 1a	\$	Announcement Pending	Yes
13		Track 1a	\$	Announcement Pending	Yes
14		Track 1a	\$	Announcement Pending	Yes
15		Track 1a	\$	Announcement Pending	Yes
17		Track 1a	\$	Announcement Pending	Yes
18		Track 1a	\$	Announcement Pending	Yes
19		Track 1a	\$	Announcement Pending	Yes

## D. Executive Summary

Answer the following questions about the proposed program.

**(1) Provide a Service Development Program name.** The Service Development Program name must consist of the following elements, each separated by a hyphen: (1) the State abbreviation; (2) the route or corridor name; and (3) a Service Development Program descriptor that will concisely identify the program’s focus (e.g., HI-Fast Corridor-Main Stem).

NC-SEHSR-Piedmont Corridor Service 5<sup>th</sup> Frequency Phase I

**(2) Indicate the appropriate corridor name where the Service Development Program is located and identify the start and end points as well as major integral cities along the route.**

This Service Development Program is located in North Carolina's Piedmont Corridor, which is a part of the larger SEHSR Corridor, stretching from Charlotte to Washington, DC. The Piedmont Corridor connects Charlotte and Raleigh, North Carolina and serves the following cities and stations: Raleigh, Cary, Durham, Hillsborough (new with 5<sup>th</sup> Frequency Phase II), Burlington, Greensboro, High Point, Lexington (new with 5<sup>th</sup> Frequency, Phase II), Salisbury, Kannapolis, and Charlotte (relocated with 5<sup>th</sup> Frequency, Phase I).

**(3) Indicate the anticipated duration, in months, for this Service Development Program (e.g., 36).**

Number of Months: 60

**(4) Indicate the anticipated funding information for the Service Development Program below.** This information must match the SF-424 documents, and dollar figures must be rounded to the nearest whole dollar. When the non-Federal match percentage is calculated, it must meet or exceed 20 percent of the total project cost.

Federal Funding Request	Non-Federal Match Amount	Total Project Cost	Non-Federal Match Percentage of Total
\$ 155,142,280	\$ 50,917,620	\$ 211,059,972	24 %

**(5) Indicate the source, amount, and percentage of matching funds for the Service Development Program provided in Section C.4.** Identify supporting documentation that will allow FRA to verify the funding source. Click on the prepopulated fields to select the appropriate response from the list of choices. Also, list the percentage of the total project cost represented by each non-Federal funding source.

Non-Federal Funding Sources	New or Existing Funding Source?	Status of Funding <sup>2</sup>	Type of Funds	Dollar Amount	% of Total Project Cost	Describe Any Supporting Documentation to Help FRA Verify Funding Source
State of North Carolina (including NCRR)	New	Committed	Cash	\$ 42,917,620	20 %	see G-2 supporting documents
CATS and Charlotte DOT	New	Committed	Cash	\$	4 %	see G-2 supporting documents

<sup>2</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., statutory authority) to be used to fund the proposed project 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 or appropriation guidance. 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, and additional debt capacity that requires no further approvals and has been dedicated by the sponsoring agency to the proposed project.

**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 capital investment program that has yet to be committed in the near future. Funds will be classified as budgeted when available funding cannot be committed until the grant is executed or due to the local practices outside of the project sponsors 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 capital investment program.



				8,000,000		
Other Federal Funding (included to reach total project cost)	New	Committed	Cash	\$ 5,000,000	2 %	see G-2 supporting documents
	New	Committed	Cash	\$	%	
	New	Committed	Cash	\$	%	

**(6) Provide a project abstract outlining the Service Development Program.** Briefly summarize the program in 4-6 sentences. Capture the milestones, outcomes, and anticipated benefits that will result from implementing the Service Development Program.

North Carolina's Piedmont Corridor 5th Frequency Phase I Service Development Program consists of 5 integrated projects promoting increased ridership, equipment utilization, grade crossing safety, speeds, train turn times, accessibility, mobility, pedestrian safety, schedule reliability, and transit oriented development (TOD).

The elements in this Service Development Program (SDP) are interrelated components which are necessary to advance the 5th round trip service towards implementation. The implementation for the 5th Frequency occurs in four phases: Phase I builds ridership and improves safety by relocating the Charlotte station and grade-separating the highest traffic at-grade crossing in the State (the Sugar Creek crossing, project #30). Phase II also builds ridership and improves safety by adding new station stops at Hillsborough and Lexington, and grade-separating another high traffic at-grade crossing. Phase III provides the needed capacity and improvements to implement the 5th round trip. Phase IV entails the equipment and maintenance facilities improvements to support longer train sets. Phases III and IV will be sought in the next round of applications. The 5th round trip continues NCDOT's "building block approach" for additional HSIPR passenger train frequencies, which FRA has embraced. FRA funded all of NCDOT's projects in its 3rd and 4th Frequency Track 2 ARRA applications in January 2010. The building block approach culminates in the build-out of the SEHSR service where 4 interstate (Charlotte to the NEC via Raleigh and Richmond) and 4 intrastate round trips are envisioned, resulting in major ridership gains that cause the service to be financially sustainable.

**(7) Provide a Service Development Program narrative.** Include the elements below when describing the main features and characteristics of the Service Development Program. Please limit the response to 12,000 characters.

- How this Service Development Program is organized into phases or groups of component projects.<sup>3</sup> Include a description of the activities and the measurable outcomes of each phase or group of activities;
- The location(s) of the Service Development Program's component projects including name of rail line(s), State(s), and relevant jurisdiction(s) (include a map in supporting documentation);
- Substantive activities of the Service Development Program (e.g., specific improvements intended);
- Service(s) that would benefit from the Service Development Program, the stations that would be served, and the State(s) where the service operates;
- Anticipated service design of the corridor or route with specific attention to any important changes that the Service Development Program would bring to the fleet plan, schedules, classes of service, fare policies, service quality standards, train and station amenities, etc.;
- How the Service Development Program was identified through a planning process and how the Service Development Program is consistent with an overall plan for developing high-speed or intercity passenger rail service, such as a State Rail Plan or plans of local/regional metropolitan planning organizations;
- How the Service Development Program will fulfill a specific purpose and need in a cost-effective manner;
- Any use of new or innovative technologies;
- Any use of railroad assets or rights-of-way, and potential use of public lands and property;
- Other rail services, such as commuter rail and freight rail that will make use of, or otherwise be affected by, the Service Development Program; and
- Any PE/NEPA activities to be undertaken as part of the Service Development Program, including but not limited to design studies and resulting program documents, the approach to agency and public involvement, permitting actions, and other key activities and objectives of this PE/NEPA work.

<sup>3</sup> The work to complete Service Development Programs can be organized into individual phases. Phases should produce meaningful and measurable service outcomes (e.g., trip time, frequency, or operational reliability) upon completion. Each phase is made up of one or more component projects that are necessary to deliver the outcome(s).

- The application/SDP entails 5 discrete projects (including grade separations, track work, and the new Charlotte station) that are all building blocks that will contribute to providing an additional service round trip on the Raleigh to Charlotte (Piedmont) Corridor. The measurable outcomes of the projects include increased OTP, ridership, average speed, improved safety, congestion reduction, and decreased travel time. The five projects are organized into a single phase and are summarized in the following narrative along with a location map.

- The application includes:

CRISP – Northend improvements Phase 1, 36th ST grade separation located at NCCR milepost (MP) 373.3 to 377.1 in Charlotte.

CRISP – Northend improvements Phase 1, Sugar Creek RD grade separation and Craighead RD crossing closure located at NCCR MP 375.4 in Charlotte.

CRISP – Charlotte Southend improvements, which include bridge modifications at 4th, 5th, 6th, Trade ST and Morehead Ave are all located between NS MP 377.1 and 381.7 in Charlotte.

CRISP – Charlotte Station Track Improvements, located at NS MP 377.3 to 378 in Charlotte.

Charlotte Station Construction, located at NS MP 377.7.

- CRISP Northend improvements include 36th ST grade separations. This project eliminates an at-grade crossing of the busy NCCR/NS mainline by placing the road below grade. The project will increase freight capacity north of the freight yard which frees up needed additional capacity for passenger trains south of the yard. In addition, passenger train speeds will increase to 79 from 60 mph. Combined with other crossing improvements, this project will help create an 11 mile stretch of the SEHSR in Charlotte with only one at-grade crossing.

CRISP Northend improvements also include Sugar Creek RD grade separations of two existing NS mainline tracks; a proposed 3rd mainline/yard lead track; the 2 proposed light rail tracks; and the future passenger-only bypass tracks (total of 7 tracks). The project also includes the closure of Craighead RD; a humped at-grade crossing with limited sight distance. Safety risks and vehicle delays will increase with SEHSR, Crescent Corridor and new CATS light rail service projects necessitating improvements to the busiest at-grade crossing in the State.

The primary objective of the CRISP NS Southend improvements is to improve capacity so that passenger trains can serve the new Charlotte Station without conflicts with NS freight operations. Since commuter and passenger rail trains will not interface with freight rail traffic through the Charlotte Station complex, the maximum intermodal freight train speeds through this area will be 60 mph. The top passenger train speeds for mainline tracks through this area will be 79 MPH with the objective to reach 90 MPH on the corridor.

CRISP – Charlotte Southend improvements include a wye at Charlotte Junction to serve the Charlotte Station and future programmed NCDOT Locomotive and Railcar Maintenance Facility. The improvements include the addition of a 3rd mainline thus eliminating conflicts between passenger rail service (and future SEHSR trains) with the two existing NS mainline tracks. The project will provide the track necessary for turning intercity and high speed trains returning north as well provide additional capacity for meets and overtakes. The improvements are required for schedule reliability and improve safety.

CRISP – Charlotte Station Track Improvements include construction/modification of bridges at 4th, 5th, 6th, and Trade STs as well as Morehead Ave. The project will construct station track to serve a 1,200 ft. platform required for passenger trains to access the new Station. The project will allow passenger trains to serve the station without interfering with NS freight

operations. The bridges will also allow for construction of a 3rd station track and 2nd passenger platform to the east as frequencies warrant such construction.

Charlotte Station construction consists of a new station downtown to serve intercity rail, with adjacent facilities serving CATS commuter rail service, streetcar, bus rapid transit, local/express buses and intercity buses. The station will accommodate increased passenger service round trips and accommodate longer passenger trains. Additional riders will be attracted due to the improved location, accessibility and condition of the station.

- The corridor program is designed to provide a host of enhancements to intercity passenger rail service along the existing Piedmont Corridor. This service will be provided at the following stations: Raleigh, Cary, Durham, Burlington, Greensboro, High Point, Salisbury, Kannapolis, and Charlotte. All service is located within NC. Additional services that would benefit from the corridor program include commuter passenger rail services as offered by CATS and AMTRAK; public transit services provided by CATS, Triangle Transit, and others; as well as rail freight services offered by NS.

- Because the corridor program consists of improvements to an existing service, there are no changes planned in the classes of service, fare policies, or service quality standards. The NS Mainline Track Improvements project will upgrade the capacity and speed of the NS railroad and allow for other transportation improvements in Charlotte. The program will improve freight operations, increase passenger rail speeds and allow for the relocation of the intercity passenger rail station to Charlotte. The Charlotte Station, its tracks and platforms, new Charlotte Wye, and portions of the North End Bypass Tracks are all on NCDOT and NS ROW. The Charlotte Station tracks and platforms will all be constructed on NCDOT ROW. The new Charlotte Station will provide greater amenities than the existing station such as: improved bike/ped access, intermodal transfers, innovative environmental and energy efficient design, and other improvements that will enhance the public's travel experience.

- HSR service from DC to Charlotte has been a planning focus for many years. The process began when the USDOT formally designated the SEHSR Corridor on 10/20/1992. In subsequent years, the corridor was expanded to the south to include FL and to the east to Hampton Roads. To move the corridor closer to realization, the states of NC and VA agreed to jointly develop the required planning and environmental documentation. By 1998, a memorandum of understanding was entered into by the NCDOT, VA Department of Rail and Public Transportation, FHWA, and the FRA. In 2010, the 2 states formed an interstate compact to jointly advance the SEHSR corridor project.

In 1991, a Tier I EIS began with nine alternatives. A draft EIS was concluded in 2001 and a final EIS with a preferred corridor was issued in June 2002. FRA and FHWA jointly issued a Record of Decision (ROD) in October 2002. The Tier II EIS for the Richmond to Raleigh segment of SEHSR is well under way, with completion currently slated for 2010 and a ROD expected in 2011.

NC has a history of comprehensive state rail planning to guide the development of freight and passenger rail with the most recent one being issued in 2009. These rail plans have recognized the vision of high speed rail and actively planned and programmed projects to implement SEHSR. NC has elected to use an incremental building block approach for the implementation of SEHSR. This approach provides additional phased rail passenger service round trips with the infrastructure improvements necessary to accommodate future round trips. As each round trip is added, the state moves one step closer to the vision of high speed rail from Charlotte to DC via Raleigh and Richmond.

To implement a new round trip, NC conducted a comprehensive evaluation to determine the individual projects required to provide the service and categorizes projects by round trip. All the projects are on NC's TIP, demonstrating NC's commitment to funding these programs.

- The purpose and need for this project was initially identified in the SEHSR Tier I EIS and is currently being reviewed in public hearings in the Tier II EIS. Alternatives were vetted to assure cost effectiveness.

The purpose of this application is to secure funding assistance for needed upgrades for the continuation and improvement of rail passenger service throughout the Piedmont Corridor.

The purpose of CRISP is to implement railroad infrastructure enhancements that will support the Charlotte Station and the implementation of an expanded passenger rail network in NC, and the SEHSR Corridor. The projects will accomplish the following: enhance intercity passenger rail service for Charlotte and the region; develop and expand intermodal connections; reduce conflicts with freight rail operations; minimize adverse effects on area neighborhoods and businesses; and improve safety. The current Charlotte Station is of outmoded design, over capacity, and does not meet federal standards, Amtrak

standards and various state design standards. Additionally, the current location is in the middle of an active NS freight yard, creating numerous conflicts for both freight and passenger rail traffic and lacks connectivity to other transportation modes, the downtown and to the region.

The Rail Division (the 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 Division has several rail consulting firms under on-call contracts to ensure availability of specialized rail expertise. Contractors are available to perform specialized planning and performance analysis/studies, final design engineering and construction management. The above demonstrates NCDOT's commitment to managing contracts in a cost effective manner to ensure delivery of projects on budget and on schedule.

Projects within the SEHSR program are sequenced to minimize rail traffic interferences and delays while providing a cost effective contracting approach. Improving current conditions in a prioritized way has been the basis for initial project sequencing.

- The Charlotte Station will serve as an anchor for transit oriented development, utilizing the NCDOT's legislated authority (SL 2006-230) to enter into public-private partnerships between NC and a future developer(s). This will promote area development and redevelopment thereby enhancing the attractiveness of using HSIPR. The new station will utilize "green" building techniques and will meet LEED certification criteria.
- The corridor program uses ROW and trackage primarily owned by the NCRR. The ROW used on the corridor south of MP 376 is owned by NS. The Charlotte Station and platforms will be constructed on property owned by NCDOT and Charlotte.
- The corridor program is designed principally to benefit intercity passenger rail operated between Charlotte and Raleigh. However, the track improvements proposed will improve rail freight performance for NS as well. The improvements in Charlotte such as the closure of Craighead RD and grade separation projects at Sugar Creek RD and 36th ST will also benefit commuter rail service provided by CATS.
- NCDOT is seeking PE/NEPA funding as part of each of the component projects except for the Charlotte Station. NEPA activities are underway on all projects. NCDOT will follow all FRA/NEPA requirements.

**(8) Indicate the type of expected capital investments included in the Service Development Program. Check all that apply.**

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> New rail lines                        | <input type="checkbox"/> Rolling stock refurbishments                                |
| <input checked="" type="checkbox"/> Additional main-line tracks           | <input type="checkbox"/> Rolling stock acquisition                                   |
| <input checked="" type="checkbox"/> Structures (bridges, tunnels, etc.)   | <input type="checkbox"/> Support facilities (yards, shops, administrative buildings) |
| <input checked="" type="checkbox"/> Track rehabilitation                  | <input checked="" type="checkbox"/> Grade crossing improvements                      |
| <input checked="" type="checkbox"/> Major interlockings                   | <input type="checkbox"/> Electric traction   |
| <input checked="" type="checkbox"/> Station(s)                            | <input checked="" type="checkbox"/> Other (please describe): Safety improvements     |
| <input checked="" type="checkbox"/> Communication, signaling, and control |  |