

Narrative Application Form – Service Development Program Part I



High-Speed Intercity Passenger Rail (HSIPR) Program

Applicants interested in applying for funding under the March 2011 Notice of Funding Availability (NOFA) are required to submit the narrative application forms, parts I and II, and other required documents according to the checklist contained in Section 4.2 of the NOFA and the Application Package Instructions available on FRA’s website. All supporting documentation submitted for this Service Development Program should be listed and described in Section H of this form. Questions about the HSIPR program or this application should be directed to the Federal Railroad Administration (FRA) at HSIPR@dot.gov.

Applicants must enter the required information in the gray narrative fields, check boxes, or drop-down menus of this form. Submit this completed form and the statement of work, along with all supporting documentation, electronically by uploading it into www.GrantSolutions.gov by 8:00 p.m. EDT on April 4, 2011.

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.

(1) Name the submitting agency: Michigan Department of Transportation		Provide the submitting agency Authorized Representative name and title: Kirk T. Steudle, Director		
Address 1: 425 West Ottawa Street	City: Lansing	State: MI	Zip Code: 48909-7550	Authorized Representative telephone: (517)373-2114 ext.
Address 2: P.O. Box 30050		Authorized Representative email: steudlek@michigan.gov		
Provide the submitting agency Point of Contact (POC) name and title (if different from Authorized Representative): Al Johnson, Supervisor		Submitting agency POC telephone: (517)335-2549 ext. Submitting agency POC email: johnsonal@michigan.gov		
(2) List out the name(s) of additional State(s) applying (if applicable): N/A				

B. Eligibility Information

Complete the following section to satisfy requirements for application 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 H.2 of this application.

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

(2) Indicate the status of eligibility documentation including the date of issue and how documentation can be verified by FRA.

Verify any completed Environmental Assessment (EA) or Final Environmental Impact Statement (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 an active public URL. Refer to the Service Development Program Application Package Instructions and Section 5.2 of the NOFA for more information. Project-level NEPA documents for component projects within the Service Development Program may also be included.

A NEPA decision document (Finding of No Significant Impact, Record of Decision, or Categorical Exclusion concurrence) is not required at the time of application, but must be issued by FRA prior to award of a construction grant. Applications that are accompanied by a final NEPA determination will be looked upon favorably during the application review and selection process. Any document not available online should be submitted with the application package and listed in Section H.2 of this application. If more rows are required, please provide the same information for additional documentation in a separate supporting document and list it in Section H.2 of this application.

Service Development Planning

Documentation	Date of Issue <i>(mm/yyyy)</i>	Describe How Documentation Can Be Verified (choose one)	
		Submitted in GrantSolutions	Web Link
<input checked="" type="checkbox"/> Service Development Plan	9/2009	<input checked="" type="checkbox"/>	

Service NEPA Documents

Documentation	Date of Issue <i>(mm/yyyy)</i>	Describe How Documentation Can Be Verified (choose one)	
		Submitted in GrantSolutions	Web Link
<input type="checkbox"/> Categorical Exclusion Documentation (worksheet)	/	<input type="checkbox"/>	
<input checked="" type="checkbox"/> Environmental Assessment (EA)	4/2011	<input checked="" type="checkbox"/>	
<input type="checkbox"/> Final Environmental Impact Statement (EIS)	/	<input type="checkbox"/>	

FRA Decision Documents for Service Development Programs			
Documentation	Date of Issue (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)	/	<input type="checkbox"/>	

Project NEPA Documents			
Documentation (select from the list of choices)	Date of Issue (mm/yyyy)	Describe How Documentation Can Be Verified (choose one)	
		Submitted in GrantSolutions	Web Link
	/	<input type="checkbox"/>	

(3) Indicate the operational independence of the proposed Service Development Program.¹ Refer to Sections 3.5.2 and 3.4.4 of the NOFA for more information about operational independence and applications related to previously-selected projects.

- This program is operationally independent.
- This program is operationally independent when considered in conjunction with previously selected or awarded HSIPR program project(s) (identify previously selected or awarded projects below).
- This program is not operationally independent.

Briefly clarify the response:

MDOT previously applied for \$308 million in federal funding for a FY 2010 Service Development Program (SDP) in Round 2 of the HSIPR program and was selected to receive \$150 million which requires a match of \$37.5 million. This SDP will clarify the purpose of the initial selection of \$150 million for acquisition/professional services for the rail section between Kalamazoo and Dearborn and provide a work plan and necessary funding to build out this section of the corridor over the next three years to increase passenger train speeds to 110 mph.

¹ A Service Development Program is considered to have operational independence if, upon being implemented, it will have tangible and measurable benefits, either independently of other investments or cumulatively with projects selected to receive awards under previous HSIPR program solicitations. Additionally, a Service Development Program may demonstrate operational independence by resulting in tangible and measurable progress in implementing new or substantially improved high-speed or intercity passenger rail service.



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.** If the narrative includes acronyms, the first frequency should be spelled out.

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 (MWRRI) 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 was selected by FRA in 2010 to receive \$3.2 in planning funds and will lead a multi-state effort (Indiana, Illinois and Michigan) to complete a Corridor Investment Plan. This work 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). The 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 National System 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 and plans to increase speeds to 110 mph in the summer of 2011. In addition to this work, Amtrak was awarded ARRA funding (\$31.9M) to extend ITCS and fiber optics from New Buffalo to Porter, IN, building on the work already completed in Michigan on their ownership. Completion of this work would allow passenger train speeds up to 110 mph over their entire ownership in the corridor (approximately 98 miles - Porter, IN to Kalamazoo, MI) Amtrak expects this work to be done by the fall of 2011.

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

1. Illinois was selected for funding from FRA's 2009 HSIPR ARRA grant Program (\$133M) to complete the Englewood Flyover.
2. Indiana was selected for funding from FRA's 2009 HSIPR ARRA grant Program (\$71M) to complete the Indiana Gateway Projects.
3. Michigan was 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.
4. Michigan was selected for funding from FRA's 2nd round of HSIPR Program (\$7.9M) to complete the West Detroit Connection Track Project which relieves passenger/freight congestion at Bay City Junction in Southeast Michigan.
5. Michigan was selected for funding from FRA's 2010 SDP (\$150M) which will be used for acquisition/professional service to acquire NS ownership from Kalamazoo MP 143.2 to Dearborn (MP 7.5 Townline).

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 investments (\$100,000,000) and present planned investments (\$469,600,000) in this corridor.

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 with a few smaller segments reduced to 25 mph. 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) with the funding selected under FRA's 2010 SDP (\$150 million federal, \$37.5 million match). This ownership arrangement will be subject to approval by Surface Transportation Board (STB). This SDP includes funding for phased improvements over the next three construction seasons, which include track rehabilitation, train control, and signal improvements. This would allow for increases in passenger speeds up to 110 mph. This SDP expands on Amtrak's work between Porter, Indiana and Kalamazoo extending to the east (Kalamazoo to Dearborn) which will provide for passenger speeds up to 110 mph for 235 miles (77%) of the 304 mile Chicago-Detroit/Pontiac High Speed Rail Corridor by the end of 2014. MDOT has also submitted an Individual Project application which would provided funding for deferred maintenance on track work to begin in the 2011 construction season. If that project is selected it would prevent further degradation of the infrastructure and service in 2011. This would also prepare the infrastructure for the planned phased improvements, as part of this SDP, over the next three years (FY 2012 through FY 2014 construction seasons).

(2) List other HSIPR projects or activities related to this Service Development Program application. This includes any pending, selected, or awarded planning, PE/NEPA, FD/Construction, Service Development Programs or projects, and other FRA funded programs. The purpose of this list is to identify overlapping or complementary applications, projects, or programs. Click on the gray boxes to select from the list of choices for FRA Solicitation and Status. If the Solicitation is not included in the prepopulated list, select "Other" and type the name in the adjacent gray box within that field.

	Project, Activity, or Service Development Program Name ²	FRA Solicitation	Federal Funding Amount ³ (in thousands of dollars)	Status	GrantSolutions Number and/or Award Number	Does the project contain activities or scope also proposed in this application?
1	MI-CHICAGO HUB-KALAMAZOO_DEARBORN	FY10 SDP	\$ 150,000	Selected	GS # / Award #	Yes
2	Chicago Hub (Chicago-Detroit/Pontiac) High Speed Rail Corridor Program	FY10 Planning	\$ 3,200	Selected	GS # / Award #	No
3	West Detroit Connection Track Project	FY09 Residual	\$ 7,913	Selected	GS # / Award #	No
4	MI:CHI HUB:CHI-DET:STATIONS-BCREEK	ARRA-Track 1a	\$ 3,620	Obligated	GS # / Award #	No
5	MI:CHI HUB:CHI-DET:STATIONS-	ARRA-Track 1a	\$ 28,204	Selected	GS # / Award #	No

² If an applicant is submitting an Individual Project application proposing the same or similar scope as a component project contained in this Service Development Program application, the Individual Project application should be listed.

³ Depending on the status of the Project, Activity, or Program record the amount obligated, awarded, or requested.

	DEARBORN					
6	MI:CHI HUB:CHI-DET:STATIONS-TROY	ARRA-Track 1a	\$ 8,485	Selected	GS # / Award #	No
7	IN-Indiana Gateway	ARRA-Track 1a	\$ 68,720	Selected	GS # / Award #	No
8	IL-CREATE-P1	ARRA-Track 1a	\$ 133,000	Selected	GS # / Award #	No
9	Amtrak ITCS/Fiber Optics Extension (Porter, Indiana to New Buffalo, Michigan)	Other:	\$ 31,911	Obligated	GS # / Award #	No
10	Amtrak Mobility First and Facility upgrades	Other:	\$ 965	Obligated	GS # / Award #	No
11	MI-CHICAGO HUB HSR CORRIDOR (CHICAGO-DETROIT/PONTIAC) WEST DETROIT CONNECTION TRACK UNIVERSAL CROSSOVER MP 52.6	Current NOFA	\$ 2,288	Pending Announcement	GS # / Award #	No
12	MI-CHICAGO HUB HSR CORRIDOR (CHICAGO-DETROIT/PONTIAC) - KALAMAZOO-DEARBORN DEFERRED MAINTENANCE	Current NOFA	\$ 5,170	Pending Announcement	GS # / Award #	No
13	MI-CHICAGO HUB HSR CORRIDOR (CHICAGO-DETROIT/PONTIAC) ANN ARBOR STATION PE/NEPA	Current NOFA	\$ 2,806	Pending Announcement	GS # / Award #	No
14	Next Generation Pool Equipment Procurement (Illinois Lead)	Current NOFA	\$ 952,077	Pending Announcement	GS # / Award #	No
15			\$		GS # / Award #	
16			\$		GS # / Award #	
17			\$		GS # / Award #	
18			\$		GS # / Award #	

D. Executive Summary

Answer the following questions about the proposed program.

(1) Provide a clear, concise, and descriptive project 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). Please limit the response to 100 characters.

MI-CHICAGO HUB-KALAMAZOO_DEARBORN 2

(2) If an application containing the proposed scope was previously submitted for consideration and was not selected, indicate the solicitation under which that application was submitted. Check all that apply.

- | | |
|--|---|
| <input type="checkbox"/> ARRA – Track 1 | <input checked="" type="checkbox"/> FY 2010 Service Development Program |
| <input type="checkbox"/> ARRA – Track 2 | <input type="checkbox"/> FY 2010 Individual Project – PE/NEPA |
| <input type="checkbox"/> FY 2009 – Track 4 | <input type="checkbox"/> FY 2010 Individual Project – FD/Construction |
| <input type="checkbox"/> FY 2009 Residual | <input type="checkbox"/> N/A |

(3) Indicate the anticipated duration, in months, for the proposed Service Development Program. Consider that American Recovery and Reinvestment Act funding must be obligated by September 30, 2017, while FY 2010 funding does not have a deadline.

Number of Months: 36

(4) Specify the anticipated HSIPR funding information for the proposed Service Development Program. This information must match the SF-424 documents, and dollar figures must be rounded to the nearest whole dollar. All applicants are encouraged to contribute non-Federal matching funds. FRA will consider matching funds in evaluating the merit of the application. See Section 3.3 of the NOFA for further information regarding cost sharing.

HSIPR Federal Funding Request	Non-Federal Match Amount	Total Program Cost	Non-Federal Match Percentage of Total
\$196,503,208	\$0	\$196,503,208	0 %

(5) Indicate the source, amount, and percentage of non-Federal match for the proposed Service Development Program (if applicable). The sum of figures below should equal the amount provided in Section D.4. Click on the gray boxes to select the appropriate response from the lists provided in type of source, status of funding, and type of funds. Dollar figures must be rounded to the nearest whole dollar. Also, list the percentage of the total program cost represented by each non-Federal funding source. Provide supporting documentation that will allow FRA to verify each funding source. Any required verification documentation not available online should be submitted with the application package and listed in Section H.2 of this application.

Non-Federal Match Funding Sources	Type of Source	Status of Funding ⁴	Type of Funds	Dollar Amount	% of Total Program Cost	Describe Any Supporting Documentation to Help FRA Verify Funding Source
				\$	%	
				\$	%	
				\$	%	
				\$	%	
				\$	%	
Sum of Non-Federal Funding Sources				\$	%	N/A

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

This SDP is on the Chicago Hub (Chicago-Detroit/Pontiac) High Speed Rail Corridor. Specifically on Norfolk Southern’s ownership, between Kalamazoo and Dearborn. Major cities/station stops in this section include Kalamazoo, Battle Creek, Albion, Jackson, Ann Arbor, and Dearborn.

(7) Describe the project location, using municipal names, mileposts, control points, or other identifiable features such as longitude and latitude coordinates. If available, please provide a project GIS shapefile (.shp) as supporting documentation. This document must be listed in Section H.2 of this application.

The project location is Norfolk Southern ownership between MP 143.2 in Kalamazoo, Michigan and MP 7.5 Townline in Dearborn, Michigan.

(8) Provide an abstract outlining the proposed Service Development Program. Briefly summarize the narrative provided in the Statement of Work in 4-6 sentences. Capture the major milestones, outcomes, and anticipated benefits that will result from implementing the Service Development Program. For any acronyms, spell out the first frequency with the acronym in parentheses. If this application is divided into phases or groupings of component projects⁵, provide a brief abstract of 4-6 sentences for each phase or group of component projects.

This SDP has been broken down into three distinct phases:

⁴ 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.

⁵ An application’s competitiveness may be improved by demonstrating how a proposed project could be divided into discrete phases, each with operational independence, based on geographic section, type of activity, discrete benefits and costs, or other appropriate criteria.

Phase 1- Acquisition/Professional Services - Up to \$187.5 million (\$150 million in federal funding and \$37.5 million in match). Funding for this 1st phase was selected under the FY 2010 SDP. This work is expected to be completed by October 2011 and includes, acquiring professional services to facilitate completion of the acquisition (refreshing existing appraisal, negotiations) and final design of the work anticipated in Phases 2 and 3. This phase will 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 and 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).

Phase 2 -Track Rehabilitation Investments - \$65.0 million. This work begins with stabilizing this section of the corridor by replacing 206,000 ties including ties at switches and crossings. Following tie replacement, the track would be surfaced with an average raise of 1.5 to 2 inches on clean new ballast. There are 48 public crossings in curved areas. Sixty ribbons of continuous welded rail is also estimated for replacement in curved areas for smooth transition into the new rail used in these highway crossings. There will also be 74 crossing panels replaced in 65 private crossings. Track geometry alterations to achieve targets for superelevation and cant deficiency will require a second surfacing pass on the curves. A third pass has been included in those curves where transition spirals need to be changed. This work would restore the track to a state of good repair allowing for passenger speed increases once the investment is made in train control and signals.

Phase 3 - Train Control/Signal Investments - \$131.5 million. This work would replace the current NS signal system which is obsolete, with a Positive Train Control (PTC) system as an extension of the work that has been done by Amtrak on their ownership in this corridor between Porter, Indiana and Kalamazoo, Michigan. In addition, where train speeds are to be raised above 79 mph, active warning devices (gates and lights) will be installed at all crossings, both public and private.

It is estimated that the infrastructure work can be completed over three construction seasons. The SDP expands on Amtrak's work between Porter, Indiana and Kalamazoo extending to the east (Kalamazoo to Dearborn) which will provide for passenger speeds up to 110 mph for 235 miles (77%) of the 304 mile Chicago-Detroit/Pontiac High Speed Rail Corridor by the end of 2014. MDOT has also submitted an Individual Project application for deferred maintenance, which if selected, would provide the necessary funding for track work in the 2011 construction season that would prevent further degradation of the infrastructure and passenger services in preparation of the work tasks requested under this SDP. The SDP is expected to realize an average train speed increase of 21 mph (from 64 mph to 85 mph) over this segment which will result in 30 minutes in times savings. There is also the expectation that these improvements will provide an additional reduction in delay time by 12 minutes as reported by Amtrak.

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

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

(10) Indicate the anticipated service outcomes for the proposed Service Development Program. Check all that apply.

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

Briefly clarify the response(s) if needed:

(11) Describe the rolling stock type (if applicable). 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 Wolverine service includes P-40 locomotives and Horizon passenger equipment in a push/pull operation. Amtrak's consist at peak currently includes 7 coaches, 2 cafe, 1 locomotive and 1 non-powered control unit. MDOT has joined with several other Midwest states (Illinois as lead) and applied for new replacement equipment for all of Michigan's current services. It is envisioned that new equipment could be delivered at the same time this SDP is completed in 2014.

(12) Provide information about job creation through the life of the proposed Service Development Program. Please consider construction, maintenance, and operations jobs.

Anticipated number of onsite and other direct jobs created (on a 2080 work-hour per year, full-time equivalent basis).	FD/ Construction Period	First full year of operation	Fifth full year of operation	Tenth full year of operation
	794	1520	3485	6970
Indicate the anticipated fiscal year.	N/A	2014	2018	2023

(13) Divide the Service Development Program into discrete phases (groups of component projects) and identify each phase on a separate row of the table, if possible.⁶ 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. Refer to Section 4.2.1 of the NOFA for additional information about phasing Service Development Programs.

⁶ An application's competitiveness may be improved by demonstrating how a proposed project could be divided into discrete phases, each with operational independence, based on geographic section, type of activity, discrete benefits and costs, or other appropriate criteria.

Phase	Title ⁷	Frequencies ⁸		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.	Acquisition/Professional Services	0	0	0	0	0	0	0	0	0	0
II.	Track Rehabilitation Investments	3	3	157	145	64	72	79	79	19	7
III.	Train Control/Signal Investments	3	3	145	127	72	85	79	110	19	0
IV.											
V.											
VI.											
VII.											
VIII.											
Provide the Cumulative Service Outcome <i>(Aggregate Benefits of all Phases)</i>											

⁷ Title should be a brief descriptive name for the phase.

⁸ Frequency is measured in daily round-trip train operations. One daily round-trip operation should be counted as one frequency.



(14) Provide information on the component projects within each phase of the proposed Service Development Program identified in Section D.14 above. For each phase, please list all component projects in the sequence they will be completed. If this application is not phased, include all component projects within the Phase I table. The sum of Phase Total Costs should equal the Total Program Cost indicated in Section D.4. This section is unlocked – the applicant can add rows and adjust column widths as needed for additional projects and phases.

PHASE I.		<i>Acquisition/Professional Services</i>	
Component Project Name	Short Project Description	Project Cost	
1	Professional Services	Contract with consultants to facilitate completion of appraisal, acquisition, and Final Design activities.	
		\$ Selected in FY 2010 SDP \$150M with \$37.5M match	
2	Appraisal	Refresh appraisal with new across the fence, going concern, and net liquidated values.	
		\$ Selected in FY 2010 SDP \$150M with \$37.5M match	
3	Acquisition	Negotiate and complete an acquisition of this section of the corridor with Norfolk Southern	
		\$ Selected in FY 2010 SDP \$150M with \$37.5M match	
4	Final Design	Complete Final Design for investments in track rehabilitation, Train control, and signals.	
		\$ Selected in FY 2010 SDP \$150M with \$37.5M match	
5			
		\$	
		Phase I. Total Cost	\$ Selected in FY 2010 SDP \$150M with \$37.5M match

PHASE II.		<i>Track Rehabilitation Investments</i>	
1	Tie and Surface	Replace 206,000 ties (1,228 per mile) then surface the track with an average rise of 1.5 to 2.0 inch on clean new ballast.	\$ 39,445,011
2	Switch Tie	Renew switch ties to include all mainline and control siding turnouts at a rate of 40%. This includes 86 turnouts requiring approximately 3,300 ties.	\$ 866,385
3	Rebuild Highway Crossings	Replace track structure at crossing entirely. This includes 180 track crossing panels in 137 public crossings and 74 crossing panels in 65 private crossings.	\$ 11,846,926
4	Install Patch Rail	Install up to 60 ribbons of continuous welded rail to replace worn second hand rail in curves that need to match new rail in highway crossings (48 highway crossings are in curves).	\$ 9,539,234
5	Resurface Curves/Curve Modifications	A second surfacing pass is needed on curves to achieve targets for super-elevation. A third pass will be needed for curves where the transition spirals need to be changed.	\$ 3,318,444
		Phase II. Total Cost	\$ 65,016,000

PHASE III.		<i>Train Control/Signal Investments</i>	
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1	Install Fiber Optic Communications	Install fiber optic communication along entire track right-of-way which provides foundation for the rest of the train control/signal work activities.	\$10,199,250
2	Renew Signal System	The renewal of the signal system will encompass items 2, 3, and 4 which will be done simultaneously on finite sections of the railroad in a sequence governed by where the worst train delays due to signal failures are now being experienced. New bungalows will be installed at all locations that contain the necessary signal equipment, PTC equipment, warning device activation systems and links to the rest of the system through the fiber optic network. An estimated 25 servers will provide information links between locations via radio and the fiber optic backbone. Radio communications antennas will be installed at each server location to provide information to trains and to communicate with dispatch personnel.	\$ 43,481,224
3	Install Positive Train Control	See 2 above.	\$ 56,554,958
4	Install Active Warning Devices at Passive and/or Private Crossings	Flashers and gates will be installed at all 65 private crossings. See 2 above.	\$ 17,373,756
5	Extend Crossing Starts	Extend crossing starts in areas where train speeds can be raised to 79 MPH on existing warning devices simply by extension before signal system is renewed.	\$ 3,878,020
Phase III. Total Cost			\$ 131,487,208

PHASE IV.			
1		\$	
2		\$	
3		\$	
4		\$	
5		\$	
Phase IV. Total Cost			\$

E. Infrastructure Owner(s) and Operator(s)

Address the sections below with information regarding railroad infrastructure owners and operators of the proposed Service Development Program. Applicants that own and/or control the infrastructure to be improved by the project or have a service outcomes agreement in place with the infrastructure owning railroad for the proposed project, or an executed agreement that could be amended with the infrastructure owning railroad for a project(s) located on the same corridor as the proposed project, will be looked upon favorably during the application review and selection process.

(1) Provide information regarding Right-of-Way Owner(s). Where railroads currently share ownership, identify the primary owner. Click on the gray boxes to select the appropriate response from the lists of railroad type, right-of-way owner, and status of agreement. If the Right-of-Way Owner is not included in the prepopulated list, select “Other” and type the name in the adjacent text box within that field. Should this application have more than five owners, please provide the same information for additional owners in a separate supporting document and list it in Section H.2 of this application.

Type of Railroad	Railroad Right-of-Way Owner	Route-Miles	Track-Miles	Status of Agreements to Implement Projects
Class 1 Freight	NS	135	169	Preliminary Executed Agreement/MOU

(2) Name the Intercity Passenger Rail Operator and provide the status of the agreement. If applicable, provide the status of agreement with the entity that will operate the planned passenger rail service (e.g., Amtrak). Click on the gray box to select the appropriate response from the list of choices for Status of Agreement. Should the proposed service have more than three operators, please provide the same information for additional operators in a separate supporting document and list it in Section H.2 of this application.

Name of Operating Partner	Status of Agreement
Amtrak	Partner consulted, awaiting support commitment

(3) Provide information about the existing rail services within the proposed Service Development Program area (i.e., freight, commuter, and intercity passenger). Click on the gray box to select the appropriate response from the list of type of service and name of operator. If the Name of Operator is not included in the prepopulated list, select “Other” and type the name in the adjacent text box within that field.

Type of Service	Name of Operator	Top Speed Within Project Boundaries (mph)		Number of Route-Miles Within Project Boundaries (miles)	Average Number of Daily One-Way Train Operations ⁹
		Passenger	Freight		
Freight	NS		60	135	8
Intercity Passenger	Amtrak	79		135	6

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



(4) Estimate the share of benefits that will be realized by non-intercity rail services and select the approximate cost share provided by the beneficiary.¹⁰ Click on the gray boxes to select the appropriate response from the lists of type of beneficiary, expected share of benefits and approximate cost share. If more than three types of non-intercity passenger rail are beneficiaries, please provide additional information in a separate supporting document, and list it in Section H.2 of this application.

Type of Non-Intercity Passenger Rail	Expected Share of Benefits	Approximate Cost Share
Freight	Less than 50%	1-25%

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



F. Response to Evaluation Criteria

Respond to each of the following evaluation criteria in the gray text boxes provided to demonstrate how the proposed Service Development Program will achieve each criterion.

(1) Project Readiness

Describe the feasibility of the proposed Service Development Program to proceed promptly to award, including addressing:

- The applicant’s progress, at the time of application, in reaching compliance with NEPA for the proposed project. Although a NEPA decision document (Record of Decision, Finding of No Significant Impact, Categorical Exclusion determination) is not required at the time of application, applications for Service Development Programs that are accompanied by a final NEPA determination will be looked upon favorably during the application review and selection process;
- The applicant’s progress, at the time of application, in reaching final service outcomes agreements (where necessary) with key project partners. Applicants that own and/or control the infrastructure to be improved by the project or have a service outcomes agreement in place with the infrastructure owning railroad for the proposed project, or an executed agreement that could be amended with the infrastructure owning railroad for a project(s) located on the same corridor as the proposed project, will be looked upon favorably during the application review and selection process; and
- The quality and completeness of the project’s Statement of Work, including whether the Statement of Work provides a sufficient level of detail regarding scope, schedule, and budget to immediately advance the project to award.

MDOT has included a Service NEPA Environmental Assessment document with this SDP application which MDOT believes to be in compliance and ready for FRA action and decision for a Finding of No Significant Impact clearing the way for work to begin. MDOT has been working with FRA on this document and incorporated all comments received.

Funding for moving Phase 1 work (Acquisition/Professional Services was selected for award in Round 2 (\$150 million federal/\$37.5 million match). Progress is being made to move this selection into a grant award. MDOT is currently completing a refresh of the appraisal verifying the Net Liquidated, Going Concern, and Across the Fence Values 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). These appraisals will be used in negotiating the final acquisition price of this section of the corridor between MDOT and NS and will be subject to approval by the Surface Transportation Board. Once the acquisition is approved over 77% of the 304 mile Chicago Hub (Chicago-Detroit/Pontiac) High Speed Rail Corridor will be in Public Ownership (Amtrak 100 miles and MDOT 135 miles). Final Service Outcome Agreements would no longer be necessary.

The additional investment in infrastructure of \$196,503,208 in this 135-mile section of the corridor to achieve passenger speeds of up to 110 mph is relatively inexpensive when compared to other projects of this scope. This additional investment between Kalamazoo, MI and Dearborn, MI will expand on the work in Amtrak ownership from Porter, IN to Kalamazoo, MI allowing for passenger speeds up to 110 mph on 235 miles or 77% of the 304 mile Chicago Hub (Chicago-Detroit/Pontiac) High Speed Rail Corridor.

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 the Statement of Work included in this application. Phased improvements over the next three construction seasons are planned which include track rehabilitation and train control/signal improvements. This would allow for increases in passenger speeds up to 110 mph. A summary of the study along with the detailed technical data has been included with this application as supporting documentation.

(2a) Transportation Benefits

Describe the transportation benefits that will result from the proposed Service Development Program and how they will be achieved in a cost efficient manner, including addressing:

- Generating improvements to existing high-speed and intercity passenger rail service, as reflected by estimated increases in ridership, increases in operational reliability, 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 high-speed and intercity passenger rail network;
- Encouragement of intermodal connectivity and integration, including a focus on convenient connection to local transit and street networks, as well as coordination with local land use and station area development;
- Ensuring a state of good repair of key intercity passenger rail assets;
- Promoting standardized rolling stock, signaling, communications, and power equipment;
- Improved freight or commuter rail operations, in relation to proportional cost-sharing (including donated property) by those other benefiting rail users;
- Equitable financial participation from benefiting entities in the project's financing;
- 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, and increase safety by renewing the signal system along with adding positive train control which will allow for passenger speeds to reach 110 mph. Future investment decisions throughout this corridor 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 in revenue service 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 and increase passenger speed to 110 mph in the summer of 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 the fall of 2011 allowing for passenger speeds up to 110 mph over their entire ownership, 98 miles. This SDP will build on the work that has been accomplished between Porter, Indiana and Kalamazoo, Michigan 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. Acquisition/Professional Services - MDOT was selected to receive \$150 million in federal funds requiring a \$37.5 million match in the 2nd round of FRA's HSIPR program. This funding will be used to bring long term stabilization for this segment of the corridor by completing an acquisition arrangement and working through final design of the improvement anticipated under this SDP. 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 with a few smaller segments reduced to 25 mph. 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. 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 in service benefits, both past and present, in intercity passenger rail will not be lost.

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

a. Increasing passenger speeds up to 110 mph on the corridor will reduce the trip time by 30 minutes.
 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, the most important being increasing track speeds up to 110 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 MWRRS. In many markets, the MWRRS provides a faster, more cost-effective alternative to auto and bus travel. Furthermore, the MWRRS provides a more cost-effective means of travel than air travel in many of the smaller urban areas on or near a MWRRS corridor. The improvements associated with this SDP are an incremental step in achieving the benefits associated with the full build out of MWRRS Phase 1.

(2b) Other Public Benefits

Describe the other public benefits that will result from the proposed Service Development Program and how they will be achieved in a cost-effective manner, including addressing:

- The extent to which the project is expected to create and preserve jobs and stimulate increases in economic activity;
- Promoting environmental quality, energy efficiency, and reduction in dependence on oil, including the 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; and
- Promoting coordination between the planning and investment in transportation, housing, economic development, and other infrastructure decisions along the corridor, as identified in the six livability principles developed by DOT with the Department of Housing and Urban Development and the Environmental Protection Agency as part of the Partnership for Sustainable Communities, which are listed fully at <http://www.dot.gov/affairs/2009/dot8009.htm>.

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 the Chicago-Detroit/Pontiac corridor, 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. 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 auto industry.

Currently, the statewide average unemployment rate as of February, 2010 was 10.4% which is considerably more than the current national rate of 8.9% (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, Calhoun and Washtenaw counties are economically distressed areas as designated by the Federal Highway Administration (http://hepgis.fhwa.dot.gov/hepgis_v2/GeneralInfo/Map.aspx). Moving forward with construction of this project will contribute significantly to our efforts to rebuild the state and local economies of Michigan.

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

There are 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 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 provides the environment that allows communities like Dearborn and Jackson to move these types of projects forward.

(3) Project Delivery Approach

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

- The timeliness of project completion and the realization of the project’s benefits;
- The applicant’s financial, legal, and technical capacity to implement the project;
- The applicant’s experience in administering similar grants and projects;
- The soundness and thoroughness of the cost methodologies, assumptions, and estimates;
- The thoroughness and quality of the Project Management Plan;
- The timing and amount of the project's future noncommitted investments;
- The adequacy of any completed engineering work to assess and manage/mitigate the proposed project’s engineering and constructability risks; and
- The sufficiency of system safety and security planning.

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 include:

1. 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.
2. 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.

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.

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 Preliminary Engineering Drawings 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 July 2011.

(4) Sustainability of Benefits

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

- The applicant’s financial contribution to the project;
- The quality of a Financial Plan that analyzes the financial viability of the proposed rail service;

- The quality and reasonableness of revenue, operating, and maintenance cost forecasts;
- The availability of any required operating financial support, preferably from dedicated funding sources;
- The quality and adequacy of project identification and planning;
- The reasonableness of estimates for user and non-user benefits for the project; and
- The reasonableness of the operating service plan.

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 of 2008.

MDOT has made annual appropriations committed to the continuous investment of state funds in intercity passenger rail since 1974, with over \$60 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 over 35 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.

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.

G. Statement of Work

The Statement of Work (SOW) is a required document. This must be submitted using the Narrative Application Form Part II. Statement of Work available on FRA’s website to provide the required information. The quality and completeness of this document will be measured as a Project Readiness evaluation criterion, as outlined in Section 5.2.1 of the NOFA.

Please provide the SOW as a separate document and list it in Section H.2 of this application.

The SOW is a description of the work that will be completed under the grant agreement and must address the background, scope, and schedule, and include a high-level budget for the proposed Service Development Program.

- (1) The SOW is required for a complete application package.
- (2) The SOW should contain sufficient detail so that both FRA and the applicant can:
 - a. Understand the expected outcomes of the work to be performed by the applicant, and
 - b. Track applicant progress toward completing key project tasks and deliverables during the period of performance.
- (3) The SOW should clearly describe project objectives, but allow for a reasonable amount of flexibility regarding how the objectives will be accomplished. It is important to describe the overall approach to and expectations for project/activity completion.
- (4) If the SOW describes work for phases and/or groups of component projects, the larger program should be explained in the background section of the SOW. The remainder of the SOW should be limited to describing the activities that directly contribute to the combined FRA and applicant effort which is funded under the grant agreement.

H. Optional Supporting Information

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

(1) Please provide any additional information, comments, or clarifications and indicate the section and question number that being addressed (e.g., Section E. 2). Completing this question is optional.

(2) Please provide a document title, filename, and description for all optional supporting documents. Ensure that these documents are uploaded to GrantSolutions.gov with the narrative application form and use a logical naming convention.

Document Title	Filename	Description and Purpose
MI-Chicago Hub: Kalamazoo-Dearborn Service Development Plan	SDP_Chicago Hub_Kalamazoo-Dearborn2 HSR Corridor Program_April 4.pdf	Service Development Program
MWRRS Service 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-Dearborn2 HSR Corridor Program_April 4.pdf	Project Management Plan
MI-Chicago Hub: Kalamazoo-Dearborn Financial Plan	FP_Chicago Hub_Kalamazoo-Dearborn2 HSR Corridor Program_April 4.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
Memorandum of Understanding Between Michigan DOT and Norfolk Southern Railway Company for the Kalamazoo-Dearborn Section of the Chicago-Detroit/Pontiac High Speed Rail Corridor	NS-Michigan MOUs.pdf	MOU between NS and MDOT for acquisition
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-	RMP_Chicago Hub_Kalamazoo-Dearborn2	Risk Management Plan

Dearborn Risk Management Plan	HSR Corridor Program_April 4.pdf	
AMTRAK ANALYSIS of the RAIL LINE from KALAMAZOO to TOWN LINE	Amtrak Study Summary.pdf	Amtrak Study which supports SDP
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	PE Aerial Track Chart Drawings Kalamazoo_Dearborn.pdf	Support of PE Requirements
Construction Budget Form 424C	424C NSIMPROVEMENTS.pdf	424C
Budget Narraitive	NSBUDGET NARRATIVE_1.pdf	Support for 424C form
NS Railway Ownership	NS_Railway_Section Map.pdf	Support Map for Project Location
Budget Form	Budget MI-CHICAGO HUB-KALAMAZOO_DEARBORN 2.pdf	Support for cost of project
SOW Part 2	MI-CHICAGO HUB-KALAMAZOO_DEARBORN2 Part 2.pdf	Support application with SOW

Narrative Application Form – Service Development Program Part II Statement of Work



High-Speed Intercity Passenger Rail (HSIPR) Program

Statement of Work

The quality and completeness of this document will be measured as a Project Readiness evaluation criterion, as outlined in Section 5.2.1 of the NOFA. The applicant must provide a sufficient level of detail regarding scope, schedule, and budget that demonstrates the project is ready to immediately advance to award. Tables have been provided as illustrative examples for capturing data however, applicants can delete or adjust the tables as necessary. This form must be listed in Section H.2 of the Narrative Application Form Part I.

- (1) **Background.** Briefly describe the events that led to the development of this Service Development Program and the issue the program will address. Also describe the transparent, inclusive planning process used to analyze the investment needs and service objectives of the full corridor on which the Service Development Program is located.

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 (MWRRI) 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.

Significant past investments have been made in infrastructure on this corridor in Michigan (over \$100 million) and additional infrastructure investments have been selected for investment in this corridor under FRA's HSIPR program (over \$255 million). One section of this federally designated high speed rail corridor includes NS ownership between Kalamazoo (MP 143.2) and Dearborn (MP 7.5 Townline). 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. 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 with a few smaller segments reduced to 25 mph. 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. 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 SDP application are adequate and will meet industry standards.

- (2) **Scope of Activities.** Clearly describe the scope of the proposed Service Development Program and identify the general objective and key deliverables.

(2a) **General Objectives.** Provide a general description of the work to be accomplished through this grant, including program work effort, location, and other parties involved. Describe the end-state of the program, how it will address the need identified in Background (above), and the outcomes that will be achieved as a result of the program, such as;

- 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.; and
- Other rail services, such as commuter rail and freight rail that will make use of, benefit from, or otherwise be affected by, the Service Development Program.

The SDP would benefit services in the Chicago Hub (Chicago-Detroit/Pontiac) High Speed Rail Corridor. Current services on this corridor include Amtrak's National System 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). This SDP is focused in Michigan on one key section (approximately 135 miles) of the corridor which is currently owned by Norfolk Southern Railway. This section is from Kalamazoo, MI (MP 143.2) to Dearborn, MI (MP 7.5 – Townline). This section serves several key station communities including Kalamazoo, Battle Creek, Albion, Jackson, Ann Arbor, and Dearborn.

This SDP will provide the funding necessary to bring a long term solution to stability on this federally designated 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). This ownership arrangement will be subject to approval by the Surface Transportation Board (STB). Phased improvements over the next three construction seasons are also planned which include track rehabilitation, train control, and signal improvements. This would allow for increases in passenger speeds up to 110 mph. The SDP expands on Amtrak's work between Porter, Indiana and Kalamazoo by extending to the east (Kalamazoo to Dearborn) which will provide for passenger speeds up to 110 mph for 235 miles (77%) of the 304 mile Chicago-Detroit/Pontiac High Speed Rail Corridor by the end of 2014. MDOT has also submitted an Individual Project application that would provide funding for deferred maintenance for track work in the 2011 construction season. If selected, this would prevent further degradation of this section of the corridor prior to the SDP work that would begin in FY 2012. The SDP is expected to realize an average train speed increase of 21 mph (from 64 mph to 85 mph) over this segment which will result in 30 minutes in times savings. There is also the expectation that other improvements will provide an additional reduction in delay time by 12 minutes as reported by Amtrak.

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 investments (\$100,000,000) and present planned investments (\$469,600,000) in this corridor.

Future intercity passenger service increases as part of the MWRRS and commuter rail service between Ann Arbor and Detroit is planned and would also be beneficiaries of these improvements in the future.

(2b) Description of Work. Provide a detailed description of the work to be accomplished through this grant by phase, component project, or major task (e.g., FD and Construction) including the geographical and physical boundaries of the program. Address the work in a logical sequence that would lead to the anticipated outcomes and the end state of the activities.

- Include a description of the activities and the measurable outcomes of each phase or group of activities
- Substantive activities of the Service Development Program (e.g., specific capital investments proposed);
- 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);
- Any use of new or innovative technologies; and
- Any use of railroad assets or rights-of-way, and potential use of public lands and property.

The overall objective of this SDP is to bring long term stability to the Chicago Hub (Chicago-Detroit/Pontiac) High Speed Rail Corridor and build on the success that has been experienced within the corridor on the Amtrak ownership between Porter, Indiana and Kalamazoo, Michigan where current revenue passenger speeds of 95 mph will be increased to 110mph this summer/fall in a relatively short time frame. This will be accomplished in three phases of work as follows:

Phase 1- Acquisition/Professional Services - Up to \$187.5 million (\$150 million in federal funding and \$37.5 million in match). Funding for this 1st phase was selected under the FY 2010 SDP. This work is expected to be completed by October 2011 and includes, acquiring professional services to facilitate completing acquisition (refreshing the existing appraisal/negotiations) and completing final design of project work anticipated in phases 2 and 3. This phase will 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 and 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 would put approximately 235 miles of the 304 mile corridor in public ownership (Porter, IN to Dearborn, MI).

Phase 2 -Track Rehabilitation Investments - \$65.0 million. This work would begin by stabilizing this section of the corridor by replacing 206,000 ties including ties in switches and grade crossings. Following tie replacement, the track would be surfaced with an average raise of 1.5 to 2 inches on clean, new ballast. There are 48 public crossing in curved areas. Sixty ribbons of continuous welded rail is also estimated for replacement in curved areas for smooth transition into the new rail used in these highway crossings. There will also be 74 crossing panels replaced in 65 private crossings. Track geometry alterations to

achieve targets for superelevation and cant deficiency will require a second surfacing pass on the curves. A third pass has been included in those curves where transition spirals need to be changed. This work would restore the track to a state of good repair allowing for passenger speed increases once the investment is made in train control and signals. Completion of this work would allow passenger train speeds up to 79 mph until positive train control is installed.

Phase 3 - Train Control/Signal Investments - \$131.5 million. This work would replace the current NS signal system which is obsolete, with a Positive Train Control (PTC) system as an extension of the work that has been done by Amtrak on their ownership in this corridor between Porter, Indiana and Kalamazoo, Michigan. In addition, where train speeds are to be raised above 79 mph, active warning devices (lights and gates) will be installed at all crossings, both public and private.

It is estimated that the infrastructure work can be completed over three construction seasons beginning in FY 2012. The SDP is expected to realize an average train speed increase of 21 mph (from 64 mph to 85 mph) over this segment which will result in 30 minutes in times savings. There is also the expectation that these improvements will provide an additional reduction in delay time by 12 minutes as reported by Amtrak.

(2c) Deliverables. Describe the work products of the program that were provided to FRA during the application process or will be completed as a part of this grant. In the table provided, list the deliverables, both interim and final, that are the outcomes of the phases and/or component projects. The table below should match the information provided in Sections D.14 and D.15 of the Narrative Application Form Part I.

The final work product of this SDP will be to move 135 miles (Kalamazoo MP 143.2 to Dearborn MP 7.5-Townline) of this federally designated high speed rail corridor into public ownership, capable of passenger speeds up to 110 mph by the end of the FY 2014 construction season.

(3) Project Schedule. In the table below, estimate the approximate schedule for completing each phase. If there is only one phase, estimate the duration for each component task. For total project duration, reference Section D.3 of the Narrative Application Form Part I.

	Phase or Component Project	Duration		
		Start Month	to	End Month
1	Acquisition/Professional Services	Feb 2011	to	October 2011
2	Track Rehabilitation Investments	October 2011	to	October 2014
3	Train Control/Signal Investments	October 2011	to	October 2014
	Total Duration	<i>36 (Phase 1 work previously funding in FY 2010 SDP- \$150 million federal/\$37.5 million match)</i>		

(4) Project Cost Estimate/Budget. Provide a high-level cost summary for the phases, if applicable, of Service Development Program work in this section, using the Service Development Application Package Instructions, Narrative Application Form Part I, and the HSIPR Service Development Program Budget and Schedule form as references. The figures in this section of the Statement of Work should match exactly with the funding amounts requested in the SF-424 form, the HSIPR Service Development Program Budget and Schedule form, and in Section D of the Service Development Program Narrative Application Form. If there is any discrepancy between the Federal funding amounts requested in this section, the SF-424 form, the HSIPR Service Development Program Budget and Schedule form, or Section D of the Narrative Application Form Part I, the lesser amount will be considered as the Federal funding request. Round to the nearest whole dollar when estimating costs.

The total estimated cost for the proposed Service Development Program is provided below, for which the FRA grant will contribute no more than the Federal funding request amount indicated. Any additional expense required beyond that provided in this grant to complete the Service Development Program project shall be borne by the Grantee.

Service Development Program Overall Cost Summary		
#	Phase	Cost in FY11 Dollars
1	Acquisition/Professional Services	<i>Phase 1 work previously funding in FY 2010 SDP-</i>

		<i>\$150 million federal/\$37.5 million match</i>	
2	Track Rehabilitation Investments	\$ 65,016,000	
3	Train Control/Signal Investments	\$ 131,487,208	
	Total program cost	\$ 196,508,208	
Federal/Non-Federal Funding			
		Cost in FY11 Dollars	Percentage of Total Program Cost
	HSIPR Federal funding request	\$ 196,508,208	100 %
	Non-Federal match amount	\$ 00,000	00 %
	Total program cost	\$ 196,508,208	100 %