

# Narrative Application Form – Individual FD/Construction 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 FD/Construction project should be listed and described in Section G of this form. Questions about the HSIPR program or this application should be directed to the Federal Railroad Administration (FRA) at [HSIPR@dot.gov](mailto: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, along with all supporting documentation, electronically by uploading them to [www.GrantSolutions.gov](http://www.GrantSolutions.gov) by 8:00 p.m. EDT on April 4, 2011.

### A. Point of Contact and Applicant Information

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

<b>(1) Name the submitting agency:</b> Michigan Department of Transportation (MDOT)		<b>Provide the submitting agency Authorized Representative name and title:</b> Kirk T. Steudle, Director		
<b>Address 1:</b> 425 W. Ottawa	<b>City:</b> Lansing	<b>State:</b> MI	<b>Zip Code:</b> 48909-7550	<b>Authorized Representative telephone:</b> (517)373-2114 ext.
<b>Address 2:</b>		<b>Authorized Representative email:</b> SteudleK@michigan.gov		
<b>Provide the submitting agency Point of Contact (POC) name and title (if different from Authorized Representative):</b> Al Johnson, Supervisor - Office of High Speed Rail & Innovative Project Advancement		<b>Submitting agency POC telephone:</b> (517)335-2549 ext. <b>Submitting agency POC email:</b> JOHNSONAL@michigan.gov		
<b>(2) List out the name(s) of additional State(s) applying (if applicable):</b>				

## B. Eligibility Information

Complete the following section to demonstrate satisfaction of an application’s eligibility requirements.

**(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
- Group of States
- Amtrak
- Amtrak in cooperation with one or more States

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

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

**(2) Indicate the planning processes used to identify the proposed FD/Construction project.** As defined in Section 3.5.1 of the NOFA, the process should analyze the investment needs and service objectives of the service that the individual project is intended to benefit. Refer to the FD/Construction Application Package Instructions for more information. The appropriate planning document must be submitted with the application package and listed in Section G.2 of this application.

- State Rail Plan
- Service Development Plan (SDP)
- Service Improvement Plan (SIP)
- Statewide Transportation Improvement Plan (STIP)
- Other, please list this document in Section G.2 with “Other Appropriate Planning Document” as the title
- This project is not included in a relevant and documented planning process

**(3) Verify the completion of Preliminary Engineering requirements.** List the documents that establish completion of Preliminary Engineering for the project covered by this application. Refer to the NOFA and FD/Construction Application Package Instructions for more information. Any document not available online should be submitted with the application package and listed in Section G.2 of this application. If more rows are required, please provide the same information for additional PE requirements in a separate supporting document and list it in Section G.2 of this application.

Documentation	Date of Issue (mm/yyyy)	Describe How Documentation Can Be Verified (choose one)	
		Submitted in GrantSolutions	Web Link (if available)
FD/Construction (FY 2009) Grant Application	3/2010	<input checked="" type="checkbox"/>	
FY10 Individual Project-FD Construction Grant Application	7/2009	<input checked="" type="checkbox"/>	
Final Design Plans for Universal Crossover at MP 52.6.	5/2011	<input checked="" type="checkbox"/>	
FRA Categorical Exclusion	2/2011	<input checked="" type="checkbox"/>	
Project Area Map showing improvements	8/2010	<input checked="" type="checkbox"/>	

**(4) Verify the completion of NEPA documentation.** Indicate the date the document was issued and how the document can be verified by FRA. A NEPA decision document (Record of Decision, Finding of No Significant Impact, or FRA Categorical Exclusion concurrence) is not required for an application but must have been 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. Verified documents can be submitted as a supporting document or referenced through an active public URL. Any document not available online should be submitted with the application package and listed in Section G.2 of this application. Refer to the NOFA and FD/Construction Application Package Instructions for more information.

Documentation	Date of Issue (mm/yyyy)	Describe How Documentation Can Be Verified (choose one)	
		Submitted in GrantSolutions	Web Link (if available)
<b>NEPA Documentation</b>			
<input checked="" type="checkbox"/> Categorical Exclusion Documentation (worksheet)	8/2010	<input checked="" type="checkbox"/>	
<input type="checkbox"/> Environmental Assessment	/	<input type="checkbox"/>	
<input type="checkbox"/> Final Environmental Impact Statement	/	<input type="checkbox"/>	
<b>Project NEPA Determination</b>			
<input checked="" type="checkbox"/> Categorical Exclusion	2/2011	<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/> Finding of No Significant Impact	2/2011	<input checked="" type="checkbox"/>	
<input type="checkbox"/> Record of Decision	/	<input type="checkbox"/>	

**(5) Select and describe the operational independence of the proposed FD/Construction project.**<sup>1</sup> Refer to Sections 3.4.4 and 3.5.2 of the NOFA for more information about operational independence and applications related to previously-selected projects.

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

Briefly clarify the response:

The universal crossover at MP 52.6 is part of the West Detroit Connection Track Project which is an operationally independent.

<sup>1</sup> A project is considered to have operational independence if, upon implementation, 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.



## C. FD/Construction Project Summary

Identify the title, location, and other information of the proposed project by completing this section.

**(1) Provide a clear, concise, and descriptive project name.** Use identifiers such as State abbreviations, major cities, infrastructure, and tasks of the individual project (e.g., “DC-Capital City to Dry Lake Track Improvements”). Please limit the response to 100 characters.

MI-Detroit-West Detroit Connection Track Project-Universal Crossover at MP 52.6 (WDCTPUC)

**(2) If the applicant submitted an application for this project, or a project within the scope, that was not selected, indicate the solicitation under which that application was submitted.** Check all that apply.

- |  |  |
|--|--|
| <input type="checkbox"/> ARRA – Track 1    | <input 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 checked="" type="checkbox"/> FY 2010 Individual Project – FD/Construction |
| <input type="checkbox"/> FY 2009 Residual  | <input type="checkbox"/> N/A   |

**(3) Indicate the activity(ies) proposed in this application.** Check all that apply.

- Final Design     Construction

**(4) Indicate the anticipated duration, in months, for the proposed FD/Construction project.** Consider that American Recovery and Reinvestment Act funding must be obligated by September 30, 2017.

Number of Months: 18

**(5) Specify the anticipated HSIPR funding level for the proposed FD/Construction project.** 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 Project Cost	Non-Federal Match Percentage of Total
\$2,287,916	\$571,979	\$2,859,895	20 %

**(6) Indicate the source, amount, and percentage of non-Federal matching funds for the proposed FD/Construction project.**  
 The sum of the figures below should equal the amount provided in Section C.5. 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 project cost represented by each non-Federal funding source. Provide supporting documentation that will allow FRA to verify each funding source, any documentation not available online should be submitted with the application package and listed in Section G.2 of this application.

Non-Federal Match Funding Sources	Type of Source	Status of Funding <sup>2</sup>	Type of Funds	Dollar Amount	% of Total Project Cost	Describe Any Supporting Documentation to Help FRA Verify Funding Source
Comprehensive Transportation Fund	Existing	Committed	Cash	\$ 571,979	20 %	
				\$	%	
				\$	%	
				\$	%	
				\$	%	
				\$	%	
				\$	%	
				\$	%	
				\$	%	
				\$	%	
<b>Sum of Non-Federal Funding Sources</b>				\$ 571,979	20 %	N/A

**(7) Indicate whether the proposed activities in this application are also included as a component project or phase in a Service Development Program application submitted concurrently.**

- Yes, all of the activities in this application have also been submitted as a component project or phase of a Service Development Program application.
- Yes, some of the activities within this application have also been submitted as a component project or phase of a Service Development Program application.
- No, this application and its proposed activities have not been submitted as a component project or phase of a Service Development Program application.

**(8) Indicate the name of the corridor where the project is located and identify the start and end points as well as major integral cities along the route.**

Chicago Hub (Chicago-Detroit/Pontiac) High Speed Rail Corridor; major intermediate cities consist of Kalamazoo, Battle Creek,

<sup>2</sup> 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.



Jackson, Ann Arbor, and Dearborn

**(9) 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 G.2 of this application.

The universal crossover is to be constructed 1.1 mile west of Detroit's New Center Station at MP 52.6

**(10) Provide an abstract outlining the proposed FD/Construction project.** Briefly summarize the project narrative provided in the Statement of Work in 4-6 sentences. Capture the major milestones, outcomes, and anticipated benefits that will result from the completion of the individual project.

Construct an universal crossover at MP 52.6. This was inadvertently omitted from the West Detroit Connection Track Project (MI-WDJCTP) that was selected by FRA for 50/50 funding using Residual FY 2009 HSIPR Program Funds for construction projects. The final design of the universal crossover will be completed in May 2011. It will be made part of an agreement with the host railroad (CN) currently being developed for the remainder of the West Detroit Connection Track Project. The work will be done by the host railroad (CN). The anticipated benefits include a travel time reduction of five to 10 minutes for the existing six Amtrak trains which will use the segment and improved track utilization by the host railroad and other freight railroads using the Milwaukee Junction-Vinewood segment.

**(11) Indicate the type of expected capital investments included in the proposed FD/Construction project.** Check all that apply.

- Communication, signaling, and control
- Electric traction
- Grade crossing improvements
- Major interlocking
- Positive Train Control
- Rolling stock acquisition
- Rolling stock refurbishments
- Station(s)
- Structures (bridges, tunnels, etc.)
- Support facilities (yards, shops, administrative buildings)
- Track rehabilitation and construction
- Other (please describe)

**(12) Indicate the anticipated service outcomes of the proposed FD/Construction project.** Check all that apply.

- Additional service frequencies
- Service quality improvements
- Increased average speeds/shorter trip times
- Improved operational reliability on existing route
- Improved on-time performance on existing route
- Other (please describe)

Briefly clarify the response(s) if needed:

Passenger and freight trains will usually be separated with passenger trains using the northern track and freight trains the southern track; however, the universal crossover will provide the opportunity for free flow in the vicinity of Detroit's New Center Station..

**(13) Provide the following information about job creation through the life of the proposed FD/Construction project.** Please consider construction, maintenance, and operations jobs.

Anticipated number of <u>annual</u> onsite and other direct jobs created (on a 2080 work-hour per year, full-time equivalent basis).	FD/ Construction Period	First full Year of Operations	Fifth full Year of Operations
	32	0	0
Indicate the anticipated fiscal year.	N/A	2013	2017

**(14) Quantify the applicable service outcomes of the proposed FD/Construction project.** Provide the current conditions and anticipated service outcomes. Future state information is required only for the service outcomes identified in Section C.11.

	Frequencies <sup>3</sup>	Scheduled Trip Time (round-trips, in minutes)	Average Speed (mph)	Top Speed (mph)	Reliability – Provide Either On-Time Performance Percentage or Delay Minutes
<b>Current</b>	3	29	16	25	69
<b>Future</b>	3	19	25	45	80

---

<sup>3</sup> Frequency is measured in daily round-trip train operations. One daily round-trip operation should be counted as one frequency.

**(15) Indicate if any FD or Construction activities that are part of this proposed project are underway or completed.** Check all that apply.

- |   |  |
|---|--|
| <input type="checkbox"/> Final Design activities are complete.                    | <input type="checkbox"/> Construction activities are complete.                               |
| <input checked="" type="checkbox"/> Final Design activities are in progress.      | <input type="checkbox"/> Construction activities are in progress.                            |
| <input type="checkbox"/> No Final Design activities are in progress or completed. | <input checked="" type="checkbox"/> No Construction activities are in progress or completed. |

Describe any activities that are underway or completed in the table below. If more space is necessary, please provide the same information for additional activities underway or completed in a supporting document and list in Section G.2 of this application.

Activity	Description	Completed? (If yes, check box)	Start Date (mm/yyyy)	Actual or Anticipated Completion Date (mm/yyyy)
Final Design	Entire West Detroit Connection Track Project including the universal crossover at MP 52.6	<input type="checkbox"/>	2/2009	5/2011
Final Design	Universal Crossover	<input type="checkbox"/>	9/2010	5/2011
		<input type="checkbox"/>	/	/
		<input type="checkbox"/>	/	/
		<input type="checkbox"/>	/	/
		<input type="checkbox"/>	/	/
		<input type="checkbox"/>	/	/
		<input type="checkbox"/>	/	/

## D. Infrastructure Owner(s) and Operator(s)

Address the section below with information regarding railroad infrastructure owners and operators of the proposed FD/Construction Project. 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 on the prepopulated list, select “Other” and type the name in the adjacent text box within that field. Should the application have more than five owners, please provide the same information for additional owners in a separate supporting document and list it in Section G.2 of this application.

Type of Railroad	Right-of-Way Owner	Route-Miles	Track-Miles	Status of Agreement to Implement
Class 1 Freight	CN	0	0	Preliminary Executed Agreement/MOU

**(2) Name the Intercity Passenger Rail Operator and provide the status of agreement.** If applicable, provide the status of the agreement with the partner that will operate the planned passenger rail service (e.g., Amtrak). Click on the gray box to select the appropriate response from the status of agreement list. 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 G.2 of this application.

Name of Rail Service Operator	Status of Agreement
Amtrak	Partner consulted, awaiting support commitment

**(3) Provide information about the existing rail services within the project boundaries (e.g., freight, commuter, and intercity passenger).** Click on the gray boxes to select the appropriate response from the list of types of service. 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 Existing Speeds Within Project Boundaries (mph)		Number of Route-Miles Within Project Boundaries (miles)	Average Number of Daily One-Way Train Operations <sup>4</sup> within Project Boundaries
		Passenger	Freight		
Intercity Passenger	Amtrak	25		0	6
Freight	CN		25	0	10
Freight	Other: CSAO		25	0	3

<sup>4</sup> 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 passenger rail services and select the approximate cost share to be paid by the beneficiary.**<sup>5</sup> 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 G.2 of this application.

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

<sup>5</sup> Benefits include service improvements such as increased speed or on-time performance, improved reliability, and other service quality improvements.

## E. Additional Response to Evaluation Criteria

Respond to each of the following evaluation criteria in the gray text boxes provided to demonstrate how the proposed FD/Construction project will achieve these benefits.

### (1) Project Readiness

Describe the feasibility of the proposed FD/Construction project 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 Individual FD/Construction Projects 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.

In February 2011, FRA issued a Categorical Exclusion with FONSI for the West Detroit Connection Track Project of which the Universal Crossover at MP 52.6 is a part. An Agreement with the host railroad (CN) is in process. The Work consists of constructing an universal crossover at MP 52.6 between CN's two mainline tracks (see Statement of Work). This work will be performed by CN's work force.

### (2a) Transportation Benefits

Describe the transportation benefits that will result from the proposed FD/Construction project and how they will be achieved in a cost-effective 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 MI-WDCTPUC is one component of the West Detroit Connection Track Project which is an independent improvement to the existing Chicago Hub, Chicago-Detroit/Pontiac intercity high speed rail corridor. The West Detroit Connection Track Project has been selected for funding under FRA's Residual FY 2009 HSIPR Program for construction projects. The proposed improvement (MI-WDCTPUC) will directly benefit the Wolverine passenger rail service between the Dearborn Station and Detroit's New Center Station. Based on Amtrak's published arrival and

departure times, the average speed between these two stations is approximately 16 mph. It is anticipated that the average speed of passenger rail service between Dearborn Station and Detroit's New Center Station will be increased by 5 to 9 mph (21mph to 25mph) which results in a trip time reduction between 7 and 10 minutes. If this project reduces the travel time by only 5 minutes, Amtrak trains would experience 182 fewer hours of delay each year.

Amtrak's Wolverine service provides three daily round trips between Chicago and Pontiac. This project directly benefits the existing service, and is also an incremental benefit to future expansion of the Wolverine service or to the addition of commuter rail service. The Midwest Regional Rail Initiative (MWRRI) identified that the Wolverine could expand to 9 round trips in the future.

MDOT intends to award the construction phase of this project in 2011 and complete construction activities in 2012. The project significantly improves the infrastructure in the West Detroit Junction area by eliminating conflicting passenger and freight movements through the reestablishment of a direct connection track and signal improvements. These improvements will improve safety, reliability and trip times of intercity passenger rail services.

This area is one of the most congested rail segments in Michigan. Twenty-five minute delays to both intercity passenger and freight trains are not uncommon at Bay City Junction. By reestablishing the connection track at West Detroit and adding CTC signalization, passenger and freight movements can be separated. The resulting decrease in congestion will significantly improve safety and reliability and reduce trip times. The project improvements will also contribute to accommodating future additional passenger and commuter rail services.

Improving the reliability and trip times of passenger and freight rail will encourage traditional motorists to utilize intercity passenger rail as a viable alternative mode of transportation. Rail investment will lead to additional opportunities for transit-oriented development and may lead to lower land acquisition needs for highways and airports.

As an example of the cross modal benefits that new or additional intercity passenger rail service can offer, an analysis of the implementation of the 2004 MWRRI Plan showed that the market share of the intercity passenger rail mode in Michigan would increase almost 500 percent with rail having a larger market share than commercial air service.

Michigan has actively participated in the MWRRI since its inception in 1996. The MWRRI System Plan is a nine state effort to implement a coordinated and enhanced High Speed/Intercity Passenger Rail network in the Midwest. Incremental improvements to the Chicago Hub network will improve access to rail passengers traveling throughout the Midwest region. This project provides an important improvement in the Chicago Hub, Chicago-Detroit/Pontiac High Speed Rail corridor. The MWRRI work has led to a comprehensive Service Development Plan which provides a long term vision for increased speeds and service frequencies on the 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 MWRRI Service Development Plan for the Chicago-Detroit/Pontiac Corridor and completing a corridorwide environmental document. All of the work proposed in this Project is consistent with the development of the MWRRI. Also, all of the improvements proposed in the SDP are consistent with MDOT's Commission Policy under Resolution 2004-1 adopted February 26, 2004. This Resolution 2004-1 (see page 30 of "MI-WDJCTP\_Tech\_Report.pdf" and "MI-WDJCTP\_Commission Policy Resolution 2004-11.pdf") and MWRRI Service Development Plan have been uploaded as supporting documentation.

Improvements in on-time performance and reliability of the six daily Amtrak trains on the "Wolverine" service will encourage new ridership and diversions from the traditional use of automobiles. Local transit/transportation options already service the existing stations along the corridor. More efficient passenger rail service will result in more integrated transportation options and enhanced connectivity between local and regional communities.

There are additional transportation options being developed in the Metro Detroit area that support MI-WDCTPCU such as the Woodward Avenue Light Rail Project. In addition, a commuter rail demonstration service is being developed between Ann Arbor and Detroit. These options will function as feeder/distribution services for intercity passenger rail.

The universal crossover will improve freight rail operations by eliminating the conflicts with passenger rail. Reduced congestion will allow more efficient flow through the Bay City Junction. This project is one of the 12 external DIFT projects. Once the external DIFT projects are completed, intermodal freight operations in and through southeast Michigan will be greatly enhanced.

## **(2b) Other Public Benefits**

Describe the other public benefits that will result from the proposed FD/Construction project 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>.

Improvements to on-time performance and reliability of six daily Amtrak trains in this corridor means this project will produce many environmental benefits. More efficient passenger and freight rail services will result in less pollution, lower greenhouse gas emissions, more transportation options and enhanced connectivity between communities.

Beyond freight movement and passenger mobility, intercity rail service provides important environmental benefits to the citizens of Michigan. Freight rail is three times more fuel efficient than the truck mode on a per ton-mile basis. The U.S Environmental Protection Agency (EPA) estimates that a typical freight train emits three times less pollution than a truck per ton-mile. Transportation by rail saves approximately \$266 million annually in pavement damage to Michigan roadways. Rail also reduces truck congestion on Michigan roadways (Michigan Railroads Association, presentation by Bob Chaprnka, August 11, 2008).

Passenger rail travel has similar environmental benefits. Intercity passenger rail consumes 17 percent less energy per passenger mile than airlines and 21 percent less energy per passenger mile than autos (Oak Ridge National Laboratory, Transportation Energy Data Book, Edition 26, 2007). Intercity passenger rail produces 60 percent fewer CO<sub>2</sub> greenhouse gas emissions per passenger mile than the average automobile and about half the greenhouse gas emissions per passenger mile of an airplane. Intercity passenger rail also generates fewer emissions per passenger mile of other pollutants such as nitrous oxide (NO<sub>x</sub>), volatile organic compounds (VOCs) and carbon monoxide (CO) (Vision for the Future – U.S. Intercity Passenger Rail Network Through 2050, prepared for the National Surface Transportation Policy and Revenue Study Commission, December 2007).

The construction of the West Detroit Junction Connection Track project will enhance rail travel as a viable option for mobility in the Metro Detroit area. The increased reliability and improved connectivity will result in passenger rail service becoming a more attractive option for travelers. This accessibility to and from such places as Chicago, Ann Arbor, and Kalamazoo, without automobile ownership or availability, will also create an opportunity for transit-oriented development in the vicinity of Detroit's New Center Station.

The universal crossover element of the West Detroit Junction Connection Track Project will create a vital connection for other transportation modes present in Detroit. The transportation services provided at Detroit's New Center Station include existing bus services on Woodward Avenue and throughout the metro Detroit area as well as a future planned light rail service along Woodward Avenue. The surrounding area is also well suited to accommodate pedestrian and other non-motorized modes of transportation. New riverfront walking trails and bicycle trails within downtown Detroit create a destination and make these areas more "livable".

Intercity passenger rail service provides downtown to downtown connectivity which encourages compact urban development, infilling and downtown redevelopment. This type of "transit friendly" development can be more energy efficient, results in fewer harmful emissions and can be more efficiently provided with urban services than low density urban sprawl.

Based on USDOT estimates that indicate one job will be created or retained for every \$92,000 of construction work, this project will create approximately 32 jobs. This project is located in the city of Detroit, which is in a severely economically distressed area with an unemployment rate of 20 percent. An economic impact analysis has been prepared for the MWRRI plan which recommends 110 mph high speed rail service in the Chicago–Detroit/Pontiac corridor and enhanced service in other Michigan corridors. This analysis, based on full implementation, estimates that improved intercity passenger rail service in Michigan will result in 6,970 new permanent jobs, \$680 million in

increased property values around Michigan stations and a \$138 million increase in annual household income statewide. (Economic Impacts of the Midwest Regional Rail System, Transportation Economics and Management Systems, Inc. and HNTB, November 2006)

Detroit has suffered in recent years with population loss, decentralization, and the effects of suburbanization. The city is ripe to capitalize on this outgrowth through higher density, mixed-use development. The New Center Station area, within this project's limits, is experiencing high-density revitalization, and this project will provide opportunities for continued redevelopment. The proposed Woodward Avenue Light Rail Service is designed with transit-oriented development in mind. This line is currently funded with Federal and privately held interests and is largely intended to spur transit-oriented development in the New Center area, the Woodward Corridor, and downtown Detroit.

**(3) Project Delivery Approach**

Describe the risk associated with the delivery of the proposed FD/Construction project 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 documentation;
- 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 MI-WDCTPUC is a high priority project for Michigan that will increase safety and reduce congestion and conflicts in a highly congested area. Because of the many benefits the project will bring, MDOT has virtually completed the Final Design utilizing State funds. Risks associated with engineering and construction have been assessed and mitigated during the final design process, and any design and construction risks that remain are minimal.

Separating the freight and passenger trains and adding CTC signals at this location will significantly improve safety. The new CTC signals will accommodate the future placement of PTC systems. The reestablished connection track also adds additional redundancy to the area that could be used as an alternate connection for non-passenger trains if an emergency event occurred.

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 and a draft Preliminary Collision Hazard Analysis (between Ann Arbor, MI and Detroit's New Center Station) has been included with this application as supporting documentation. MDOT is fully capable of conducting internal audits, regularly scheduled reviews, and accident investigations. MDOT ensures that the rail transit agency maintains records, files and training reports as prescribed in 49 CFR Part 659.

The MI-WDJCTP is progressing on schedule, and MDOT believes there are no significant risks within MDOT's control that are associated with the project progression. All plans have been designed according to the current edition of the American Railway Engineering and Maintenance -of-Way Manual for Railway Engineering (AREMA). MDOT intends to obligate construction funds in early 2011 and complete construction in 2012.

**(4) Sustainability of Benefits**

Identify the likelihood of realizing the proposed FD/Construction project's benefits, including addressing:

- The applicant's financial contribution to the project;
- The quality of a financial planning documentation that analyzes the financial viability of the HSIPR service that will benefit

from the project;

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

The Wolverine service is part of Amtrak's National System and includes three daily round trips between Chicago and Detroit/Pontiac. PRIIA Section 209 requires Amtrak to develop and implement a standard methodology for allocating capital and operating costs to the states by October 2013. Michigan continues to work with Amtrak on this process.

The MI-WDCTPUC as one element in the West Detroit Connection Track Project was identified as a beneficial project in the NEPA and planning phases of MDOT's DIFT project. The benefits of the MI-WDCTPUC will be realized independently of other improvements along the Chicago Hub, Chicago-Detroit/Pontiac High Speed Rail Corridor. This project is consistent with the overarching MWRRI Service Development Plan

Secondary benefits such as increased ridership due to improved on-time reliability and reduced vehicular traffic are difficult to predict and quantify. However, MDOT expects the project to positively affect these areas.

MDOT has been coordinating the MI-WDCTPUC as one element in the West Detroit Connection Track Project with the host railroads and Amtrak. Although formal agreements have not been executed, construction and service agreements are being developed which will incorporate measurable and enforceable outcomes.

As one of the external DIFT projects, a pre-development agreement has been executed. This document (See page 63 of MI-WDJCTP\_DIFT\_ROD.pdf) memorializes the intention of each party to participate in the DIFT project. When funding for additional DIFT-related interlocker projects is available, MDOT will execute a contract with the owning railroad for each interlocker improvement. The owning railroads will likely construct the improvements with their own forces or by contract with third parties.

As part of the final design process, draft construction agreements are being finalized with CN and CSAO. Amtrak is developing service outcome agreements that MDOT, Amtrak, and the host railroads will sign. Maintenance and operating agreements between the host railroads and Amtrak will be modified to address the improvements resulting from the MI-WDCTPUC.

The estimated total cost of the MI-WDCTPUC is \$3,000,000. MDOT is requesting federal funds for 80 percent of the eligible costs. State funds (cash and soft-match) will be used to provide the 20 percent match. State funds were used to advance the Final Design work. MDOT is requesting the State funds used on the final design phases of the project be considered as "soft-match" on the construction phase. If federal funds are not allocated to this project, MDOT will fund the entire project with State funds. By providing federal funds to this project, MDOT will be able to utilize the excess state funds remaining after the match to pursue additional rail improvements.

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.

The existing Wolverine service is part of Amtrak's National System and currently does not require funding from Michigan to support operations. Michigan provides 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 continuous investments of state funds in intercity passenger rail since 1974, with approximately \$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 the Pere Marquette (Grand Rapids to Chicago) for over 25 years.

## F. 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 G.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 of the proposed project.

- (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.

## G. Optional Supporting Information

Provide a response to the following questions, as necessary, for the proposed FD/Construction project.

**(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.

FUNDING GENERAL - MDOT requested federal funding (50% FRA/50% State) from the FRA 2009 Residual Funding (\$65 million) for the MI-WDJCTP on May 19, 2010. MDOT requested federal funding (80% FRA/20% State) from the FY 2010 PRIIA (\$2.125 billion) for the MI-WDJCTP on August 6, 2010. This application consisted of this same project work as the May 19<sup>th</sup> submittal plus the universal crossover at MP 52.6. This additional work was requested by CN to provide greater flexibility for mixed freight and passenger operations. Addition of the universal crossover and the associated CTC signal work adds approximately \$3,000,000 to the project.

SECTION B (2) - The MI-WDJCTP has been in the Michigan's State Transportation Improvement Plan (STIP) since 2008 under various funding scenarios. The current STIP indicates funding under a 50% Federal/50% State funding scenario (See MI-WDJCTP\_TIP.pdf).

**(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
FY 2008 - 2011 STIP/TIP Project Data	MI-WDJCTP_TIP.pdf	Metropolitan Planning Organization's TIP & MDOT's STIP
FRA Categorical Exclusion	MI-WDJCTP_CE_02_01_11.pdf	FRA Categorical Exclusion for West Detroit Connection Track Project
Project Maps	MI-WDJCTP_Signed_Project_Location_Maps.pdf	Page 1: Project Location Map with proposed improvements signed by Amtrak and host railroads indicating PE phase is completed and accepted. Page 2 indicates the general project location.
Final Design Drawings	Part 1 - Rail Plans 032811[1].pdf	Drawings show the current status of final design including the Universal Crossover.
Chicago – Detroit/Pontiac Corridor Service Development Plan	MI-WDJCTP_Corridor_Svc_Dev_Plan.pdf	Service Development Plan developed for the Chicago Hub- Chicago -Detroit/Pontiac HSR corridor
Service Development Plan for the Midwest Regional Rail System	MI-WDJCTP_MWRRI_Service_Development_Plan.pdf	Service Development Plan developed for the MWRRI
Draft Preliminary Collision Hazard Analysis	MI-WDJCTP_DRAFT_PCHA_AA_to_Detroit.pdf	Draft Preliminary Collision Hazard Analysis between Ann Arbor Station and Detroit's New Center Station.
DRAFT Tri-Party Project Benefits/Service Outcomes Agreement	MI-WDJCTP_Draft_Service_Agreement.pdf	Draft agreement that will be completed by MDOT, host railroads, and Amtrak
Project Management Plan	MI-WDJCTP_PMP.pdf	Project Management Plan for Project
Risk Management Plan	MI-WDJCTP_RMP.pdf	Risk Management Plan for the project
Financial Management Plan	WDCTPUC FP3.2011 NOFA.doc	Support project Financially
MDOT System Safety	MI-WDJCTP_SSPS.pdf	MDOT's System Safety Program Standard

Program Standard		for Railroad Systems
Intercity Passenger Technical Report	MI-WDJCTP_Tech_Report.pdf	MDOT's Intercity Passenger Technical Report from the 2005-2030 Long Range Plan supporting the development of Intercity Passenger Rail
Agreement In Principle Between Michigan and Amtrak	MI-WDJCTP_AmtrakAIP.pdf	Agreement In Principle Between Michigan and Amtrak supporting FY 2010 PRIIA Grant Programs
Host RR Agreements	MI-WDJCTP_Host_RR_FA.pdf	Support RR host for improvements
Letters of Support	MI-WDJCTP_Letters_of_Support.pdf	Letters of Support for the MI-WDJCTP
MDOT Commission Resolution Supporting Intercity Rail Projects	MI-WDJCTP_Commission Policy Resolution 2004-11.pdf	MDOT Commission Resolution Supporting Intercity Rail Projects
WDJCTP	West Detroit statement of work_032311.pdf	Statement of Work
Universal Crossover SOW	West Detroit Universal Crossover PartII SOW.doc	Part 2 Statement of Work
Budget Support	westdetroituniversal424C.pdf	424C Form
<b>Budget Form</b>	<b>westdetroituniversalcrossover_1.pdf</b>	<b>Required budget form</b>

# Narrative Application Form Individual FD/Construction 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 G.2 of the Narrative Application Form Part I.

- (1) Background.** Briefly describe the events that led to the development of this FD/Construction project and the issue the project 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 individual FD/Construction project is located.

An universal crossover at MP 52.6 was one of a number of improvements in the CN segment between Dearborn and the Detroit New Center Station identified in discussions involving CN, SEMCOG, MDOT, and Quandel Consultants (MDOT and SEMCOG's general engineering consultant). It was inadvertently omitted from the list of improvements included in the MI-WDJCTP application submitted to FRA for Residual FY 2009 HSIPR Program Funds for construction projects (50/50) that has been selected for funding. The universal crossover is needed to maximize utilization of both mainline tracks in the vicinity of Detroit's New Center Station. This project is part of the Midwest Regional Rail System Plan. FRA has issued a Categorical Exclusion for the West Detroit Connection Track Project of which the universal crossover at MP 52.6 is a part.

- (2) Scope of Activities.** Clearly describe the scope of the proposed FD/Construction project and identify the general objective and key deliverables.

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

The project consists of constructing an universal crossover at MP 52.6 which is located 1.1 miles southwest of Detroit's New Center Station (MP 53.7). It involves CN Railway which owns the right-of-way within which the universal crossover will be constructed and Amtrak which will operate six intercity passenger trains daily over this route. The universal crossover will permit passenger and freight trains to switch from CN Mainline Track 1 to CN Mainline Track 2, and vice versa, providing greater flexibility for train movements through this area..

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

The project consists of constructing an universal crossover at Milepost 52.6 which is located 1.1 miles southwest of Detroit's New Center Station (MP 53.7). This is part of a larger project, the West Detroit Junction Connection Track Project (MI-WDJCTP), which was selected for federal funding using FRA Residual FY 2010 HSIPR Program Funds for construction projects (50/50). The larger project extends from just west of West Detroit Junction (MP 50.0) through MP 51.3 to MP 52.6 involving a connecting track, a one-mile track extension, and several crossovers.

The universal crossover will permit passenger and freight trains to switch from CN Mainline Track 1 to CN Mainline Track 2, and vice versa. Specifically, this will allow freight trains to vacate the northern main when Amtrak trains are arriving and departing from Detroit's New Center Station. At the same time, it allows Amtrak trains to use the southern main and switch over to the northern main as they approach the New Center Station from the west.

**(2c) Deliverables.** Describe the work products of the project to be completed to FD, or constructed in accordance with the FD 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 project tasks.

The universal crossover at MP 52.6 is the work product in final design now and to be constructed in 2011 and 2012.

	Deliverable	Task
1	Final design drawings	Complete final design drawings for universal crossover at MP 52.6 (CN).
2	Universal Crossover at MP 52.6 (CN)	Construct universal crossover at MP 52.6 (CN)
3		
4		

**(3) Project Schedule.** In the table below, estimate the approximate duration for completing each task in months. For total project duration, reference Section C.4 in the Narrative Application Form Part I.

The final design of the universal crossover will be completed in May 2011. It is part of an agreement with the host railroad (CN) currently being developed for the remainder of the West Detroit Connection Track Project (MI-WDJCTP). The work will be done by the host railroad and completed by December 2012.

	Task	Duration		
		Start Month	to	End Month
1	Professional Services	7/2011	to	12/2012
2	Construction	7/2011	to	12/2012
	Total project duration	[18 months]		

**(4) Project Cost Estimate/Budget.** Provide a high-level cost summary of FD/Construction work in this section, using the FD/Construction Application Package Instructions, the HSIPR Individual Project Budget and Schedule form, and the Narrative Application Form Part I 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 Individual Project Budget and Schedule form, and Section C of the Narrative Application Form Part I. If there is any discrepancy between the Federal funding amounts requested in this section, the SF-424 form, the HSIPR Individual Project Budget and Schedule form, or Section C 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 of the proposed FD/Construction project 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 proposed FD/Construction project shall be borne by the Grantee.*

FD/Construction Project Overall Cost Summary		
#	Task	Cost in FY11 Dollars
1	Track Work	\$ 1,040,000
2	PTC	\$ 1,291,680
3	Professional Services	\$ 277,111
4	Contingency (10%)	\$ 251,104
	Total FD/Construction project cost	\$ 2,859,895

Federal/Non-Federal Funding			
		Cost in FY11 Dollars	Percentage of Total Activities Cost
	Federal funding request	\$ 2,287,916	80 %
	Non-Federal match amount	\$ 571,979	20 %
	Total FD/Construction project cost	\$ 2,859,895	100 %