Project Name: MI:CHI HUB:CHI-DET:MWRRI PHASE 1 IMP *Date of Submission:* 08/24/09 *Version Number:* 1

High-Speed Intercity Passenger Rail (HSIPR) Program

Application Form

Track 1a–Final Design (FD)/Construction & Track 4–FY 2009 Appropriations Projects

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

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

Instructions:

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

A. Point of Contact and Applicant Information

<table>
<tr><td colspan="3">(1) Application Point of Contact (POC) Name:
Al Johnson</td><td colspan="3">POC Title:
Supervisor, Office of High Speed Rail and Innovative Project Advancement</td></tr>
<tr><td>Street Address:
425 West Ottawa
P. O. Box 30050</td><td>City:
Lansing</td><td></td><td>State:
Michigan</td><td>Zip Code:
48909</td><td>Telephone Number:
517/335-2549</td></tr>
<tr><td colspan="3">Fax: 517/373-7997</td><td colspan="3">Email: johnsonal@michigan.gov</td></tr>
</table>

(2) Name of lead State or organization applying *(only States may apply for Track 4)***:** Michigan Department of Transportation

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

(4) Is this project for which you are applying for HSIPR funding related or linked to additional applications for HSIPR funding that may be submitted in this or subsequent rounds of funding? ☒ Yes ☐ No ☐ Maybe

If "yes" or "maybe," provide the following information:

Program/Project Name	Lead Applicant	Track	Total HSIPR Funding Proposed *(if known)*	Status of Application
MI:CHI HUB:CHI-DET:TRACK STAB & ACQ	MDOT	Track 1a - FD/Construction	$251,116,200	Applied
MI:CHI HUB:CHI-DET:W DET CONNECTION TRK	MDOT	Track 1a - FD/Construction	$48,615,299	Applied
MI:CHI HUB:CHI-DET:DIFT EXTERNAL PRJCTS	MDOT	Track 1a - FD/Construction	$72,910,259	Applied
MI:CHI HUB:CHI-DET: STATION TROY	MDOT	Track 1a - FD/Construction	$8,485,212	Applied
MI:CHI HUB:CHI-DET: STATION DEARBORN	MDOT	Track 1a - FD/Construction	$28,204,450	Applied
MI:CHI HUB:CHI-DET: STATION BATTLE CREEK	MDOT	Track 1a - FD/Construction	$3,620,552	Applied
MI:CHI HUB:CHI-DET: STATION KALAMAZOO	MDOT	Track 1b - PE/NEPA	$400,000	Applied
MI:CHI HUB:CHI-DET: STATION ANN ARBOR	MDOT	Track 1b - PE/NEPA	$6,500,000	Applied

Project Name: MI:CHI HUB:CHI-DET:MWRRI PHASE 1 IMP *Date of Submission:* 08/24/09 *Version Number:* 1

B. Project Overview

(1) FD/Construction Project Name: MI:CHI HUB:CHI-DET:MWRRI PHASE 1 IMP

(2) Indicate the Track under which you are applying: Track 1a - FD/Construction
*Please note if you are applying for Track 1a–FD/Construction and Track 4 concurrently, you must submit **two separate versions** of this application into www.GrantSolutions.gov (one for Track 1a –FD/Construction and one for Track 4–FY 2009 Appropriations Projects).*

(3) Indicate the activity(ies) for which you are applying *(check both if applicable)*:
☒ Final Design ☒ Construction

(4) What are the anticipated start and end dates for the FD/Construction Project? *(mm/yyyy)*
Start Date: 06/2010 **End Date:** 5/2012

(5) Total Cost of the FD/Construction Project (year of expenditure (YOE) Dollars*): $ 413,556,288

Please provide proposed inflation assumptions and methodology, if applicable in the space below. *Please limit response to 1,000 characters.*

The MWRRI costs were originally reported in FY 2002 dollars. Michigan escalated those costs to FY 2010 dollars using this methodolgy: Michigan reviewed a variety of indices that monitor construction costs throughout the US. However, no publicly available index exists for rail construction. Very few recent examples of completed intercity passenger rail construction projects especially HSR exist. Michigan chose the Bureau of Labor Statistics which prepares a variety of monthly national Producer Price Indices which are often used to escalate cost adjustments in construction projects. Costs in the Other Heavy Construction table for the past seven years (through 2008) show an annual rate of 5.8%. That would give an inflation factor of 1.57 from 2002 to 2010. This could be a little heavy if prices remain stable in 2009. Stable costs in 2009 for material and labor would adjust to 4.7% annually or an inflation factor of 1.44. Michigan chose an escalation factor of 1.5.

Of the total cost of the FD/Construction Project, how much would come from the FRA HSIPR Program: (YOE Dollars**) $ 413,556,288

Indicate percentage of total cost to be covered by matching funds 0 %
Applications submitted under Track 4 require at least a 50 percent non-Federal match to be eligible for HSIPR funding.

***** Year-of-Expenditure (YOE) dollars are inflated from the base year.
** This is the amount for which the applicant is applying.

(6) Project Overview Narrative. *Please limit response to 5,000 characters.*

Provide an overview of the main features and characteristics of the FD/Construction Project, including:

- The location of the project including name of rail line(s), State(s), and relevant jurisdiction(s) (include map if available in supporting documentation).
- Identification of service(s) that would benefit from the project, the stations that would be served, and the State(s) where the service operates.
- How the project was identified through a planning process and how the project is consistent with an overall plan for developing High-Speed Rail/Intercity Passenger Rail service.
- How the project will fulfill a specific purpose and need in a cost-effective manner.
- The project's independent utility.
- The specific improvements contemplated.
- Any use of railroad assets or rights-of-way, and potential use of public lands and property.
- Other rail services, such as commuter rail and freight rail that will make use of, or otherwise be affected by, the

project.

This project is ready to proceed. This estimated start date is based on when the funding announcements are made and funds obligated.

This project consists of several smaller project segments located along the Chicago Hub HSR Corridor (Chicago - Detroit/Pontiac). The corridor traverses Oakland, Wayne, Washtentaw, Jackson, Calhoun, Kalamazoo, Van Buren, Cass, and Berrien Counties. The corridor serves the Michigan cities of Pontiac, Birmingham, Royal Oak, Detroit, Dearborn, Ann Arbor, Jackson, Albion, Battle Creek, Kalamazoo, Dowagiac, Niles and New Buffalo, connecting these cities to the Chicago hub. The corridor includes segments owned by NS, CN, Conrail Shared Asset Operations and Amtrak. Aerial maps 1 through 20 illustrate the project location, rail line ownership and mileposts. These aerial maps are available at an FTP site; details are in Section F. Intercity passenger service in the corridor includes three daily round trips between Chicago and Detroit/Pontiac (Amtrak Wolverine Service) as well as a portion of one daily round trip between Chicago and Port Huron (Amtrak Blue Water Service).

Improvements to this Michigan rail corridor are identified in Phase 1 of the MWRRI System Plan. Since 1996, the Midwest Regional Rail Initiative (MWRRI) advanced from a series of service concepts including increased operating speeds, train frequencies, system connectivity, and service reliability into a well-defined vision for creating a 21st Century regional passenger rail system. This vision reflects a fundamental change in the manner in which passenger rail service is provided throughout the Midwest. This regional system would use existing rail rights-of-way shared with freight and commuter rail, modern equipment and advanced train control technologies to connect the population, economic, university and tourist centers of the nine Midwest states comprising the MWRRI.

This vision has been transformed into a transportation plan known as the Midwest Regional Rail System (MWRRS). The features of the MWRRS include the following:

- Use of 3,000 miles of existing rail rights-of-way to connect rural, small urban, and major metropolitan areas
- Safe, comfortable, and reliable service to over 100 midwestern cities, linking the region's major economic centers
- A "hub-and[spoke" passenger rail system providing service to and through Chicago to locations throughout the Midwest
- Access to approximately 80 percent of the region's 65 million residents
- Introduction of modern, state-of-the-art trainsets capable of operating at speeds up to 110 mph
- More and better amenities including first class seating for all, power outlets at each seat, wireless network access, and food service
- Provision of multi-modal connections to improve system access

Additional information about the MWRRI and the MWRRS are available from our ftp site; see Section F for details.

Planned improvements to the Amtrak portion of the corridor (Kalamazoo to Porter) include track improvements, upgrades to signalization and grade crossing improvements.

Planned improvements to the NS portion of the corridor (Dearborn to Kalamazoo) and the Conrail Shared Assets portion (West Detroit Junction to Dearborn) include construction of sidings, track improvements, signalization upgrades, grade crossing improvements and expansion of the positive train control system. The three sidings and second main track extensions on the NS portion of the corridor total 38.5 miles of new track to be constructed.

Planned improvements to the CN portion of the corridor (Pontiac to West Detroit Junction) include rehabilitation and replacement of rail, replenishing track ballast, replacement of rail ties, upgrades to signalization, grade crossing improvements and expansion of the positive train control system.

Additional detail pertaining to grade crossing improvements mentioned above are available from our ftp site; see Section F.

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

☒Yes (Final Design) ☐Yes (Construction) ☐No

If "Yes," please describe the activities that are underway or completed in the table below.[1] *If more than three activities, please detail in Section F of this application.*

Activity	Description	Completed? (If yes, check box)	Actual Initiation Date (mm/yyyy)	Actual or Anticipated Completion Date (mm/yyyy)
Final Design	Replace designated rail and ties, distribute ballast, surface track, upgrade signalization and construct 3 sidings. See Aerial Maps, 1-20 on our ftp site; see Section F for details.	☒	04/2009	01/2010
Final Design	Plans for installation and extension of positive train control (see additional information in Section F)	☐	11/2005	12/2009
		☐		

(8) Describe the project service objectives *(check all that apply):*

☐Additional Service Frequencies
☒Improved Service Quality
☒Improved On-Time Performance on Existing Route
☒Increased Average Speeds/Shorter Trip Times
☒Other *(Please Describe):* Increased safety; improvement/repair of infrastructure to support additional frequencies once new equipment is purchased.

(9) Types of capital investments contemplated *(check all that apply):*

☐ Structures (bridges, tunnels, etc.)
☒ Track Rehabilitation
☒ New or restored sidings/passing tracks
☐ Major Interlockings
☐ Station(s)
☒ Communication, Signaling and Control
☐ Rolling Stock Refurbishments
☐ Rolling Stock Acquisition
☐ Support Facilities (Yards, Shops, Admin. Buildings)
☒ Grade Crossing Improvements
☐ Electric Traction
☐ Other *(Please Describe)*:

(10) Right-of-Way-Ownership. Provide information for all railroad right-of-way owners in the FD/Construction Project area. Where railroads currently share ownership, identify the primary owner. *If more than three owners, please detail in Section F of this application.*

Type of Railroad	Railroad Right-of-Way Owner	Route Miles	Track Miles	Status of Agreements to Implement Projects
Class 1 Freigh	CN	27.18	53.42	Host Railroad Consulted, but S
Class 1 Freigh	CASO	4.55	9.1	Host Railroad Consulted, but S
Class 1 Freigh	NS	134.4	168.57	Host Railroad Consulted, but S

[1] Please note: (a) requests for reimbursement of costs incurred prior to enactment of the relevant appropriations will not be considered and (b) supporting documentation for activities may also be required as noted in Appendix 2 of the HSIPR Guidance.

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

Type of Service	Name of Operator	Top Speed Within Project Boundaries		Number of Route-Miles Within Project Boundaries	Average Number of Daily One-Way Train Operations[2] within Project Boundaries	Notes
		Passenger	Freight			
Freight	CN		60	27.18	13	
Freight	NS		60	134.44	8	Fifth train movement would be NS turn-around service between Burns Harbor and Dowagiac
Freight	CSAO		60	4.55	5	

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

The current stock includes the same type of rolling stock used for other Amtrak service routes such as Chicago to St. Louis--ITCS equipped P-40 locomotives and Horizon passenger equipment in a push/pull operation. Additional rolling stock needed to support future increased service frequency along the corridor will be ultra-modern deisel-electric train sets with certified crash worthiness, computer connections, safety enhancements, etc, such as those manufactured by Siemens or Talgo.

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

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

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

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C. Eligibility Information

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

☒ State
☐ Amtrak

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

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

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

Document Name	Completion Date (mm/yyyy)
Aerial Maps 1-20 with insets showing track layout plans, at an FTP site; details are in Section F.	08/2009
.	

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

Documentation	Date *(mm/yyyy)*	Describe How Documentation Can be Verified
☒ Categorical Exclusion Documentation	08/2009	Categorical Exclusion Worksheet uploaded at www.GrantSolutions.gov
☐ Final Environmental Assessment		
☐ Final Environmental Impact Statement		

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

Documentation	Date *(mm/yyyy)*	Hyperlink *(if available)*
☐ Categorical Exclusion Determination		
☐ Finding of No Significant Impact		
☐ Record of Decision		

D. Public Return on Investment

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

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

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

Phase I Implementation of MWRRI will improve roadway congestion by offering another mode option with comparable total travel times and user costs. The infrastructure improvements will also benefit rail freight carriers and users, since freight trains will also be able to operate at higher speeds and will experience less delay on heavily used segments. Grade crossing improvements and full implementation of positive train control systems are designed to support increased train speeds by providing safeguards for the joint use of both passenger and freight trains, enhancing safety at grade crossings, and managing train traffic more effectively.

The table showing Operational and Ridership Benefits Metrics in 1B below shows that, with these improvements, on-time performance will improve from 26.4% to 90% of trains arriving on-time within the first year of operation. This reliability will have a profound effect upon passenger rail travel demand in the corridor. Daily round trips will double and annual passenger trips will increase by a factor of 2.7 to 1,215,500 within five years. This increased ridership will significantly reduce predicted roadway congestion that would occur without having high-speed rail as a viable mode choice.

Developing high-speed passenger rail services by constructing these infrastructure enhancements and increasing train frequencies, combined with the planned enhancements to connection points (stations) along the

corridor, will have a positive effect on land use. More compact development is expected to occur around stations serving multiple modes and this compacting of development also results in reduced vehicle miles of travel for local auto trips.

This project provides an opportunity to advance the high speed rail program by demonstrating the effects of a 200-mile segment equipped for trains operating at 110 mph. This project will expanding on 100 miles of Amtrak-owned rail that will be equipped to support train speeds up to 110 mph and equip the adjacent 100 miles of track currently owned by NS to support train speeds up to 110 mph.

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

Project/Program Metric	Actual— FY 2008 levels	Projected Totals by Year (Actual Levels Plus Project-Caused Changes Only)		
		First Full Year After Project Completion	Fifth Full Year After Project Completion	"X" If N/A or Unsure
Annual passenger-trips	437,700	693,300	1,215,500	☐
Annual passenger-miles (millions)	93.44 M	148.43 M	259.61 M	☐
Annual IPR seat-miles offered (millions)				☒
Average number of daily round train trip operations (typical weekday)	3	3	6	☐
On-time performance (OTP)[3] – percent of trains on time at endpoint terminals	26.4	90	90	☐
Average train operating delays: minutes of en-route delays per 10,000 train-miles[4]				☒
Top operating speed (mph)	95	110	110	☐
Average scheduled operating speed (mph) (between endpoint terminals)	54	63	63	☐

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

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

- How the project will result in the creation and preservation of jobs, including number of onsite and other direct jobs (on a 2,080 work-hour per year, full-time equivalent basis), and timeline for achieving the anticipated job creation.
- How the different phases of the project will affect job creation (consider the construction period vs. operating period)
- How the project will create or preserve jobs or new or expanded business opportunities for populations in Economically Distressed Areas (consider the construction period vs. operating period)

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

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

- How the project will result in increases in efficiency by promoting technological advances.
- How the project represents an investment that will generate long-term economic benefits (including the timeline for achieving economic benefits and describe how the project was identified as a solution to a wider economic challenge)
- If applicable, how the project will help to avoid reductions in State-provided essential services.

Michigan has had unemployment rates higher than the national average since 2002 and the rate has more than doubled in the past two years, from 7.1% in 2007. 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 destressed according to the federal definition, making Michigan one of the states most impacted by the recent recession. Even before the recession, Michigan faced challenging economic realities due to the loss of manufacturing jobs, particularly those related to the collapsing auto industry. Currently, the statewide average unemployment rate is 15.4% which is considerably more than the current national rate of 9.7.

The MWRRI included a Midwest Economic Analysis of demand-side user benefits as defined by the Federal Railroad Administration for high-speed rail economic evaluation. The results of that analysis predicted that 10-15% of the $23 billion total user benefits would be ascribed to Michigan, amounting to between $2.3 and $3.45 billion. From both the federal and state perspective, implementation of the MWRRI is a major boost in the economy of the nine-state region and the U.S. economy. The MWRRI projects as a whole yield an 80% economic return on investment over the life of the project. During the construction period the regional economic impact in the nine Midwest states is estimated to $5.3 billion in increased earnings and $16.9 billion in increased output by the region's businesses. The MWRRI is expected to yield 15,200 full-time jobs annually during the 10-year construction period (construction plus other industry jobs). A total of $4.911 billion of increased joint development potential is expected in the 102 station cities served by the MWRRI system--13 of which are located along this corridor in Michigan. Michigan's share of these economic benefits would significantly improve the economic outlook for the State of Michigan.

The project areas included in this application are located in the Michigan counties of Berrien, Calhoun, Cass, Jackson, Kalamazoo, Oakland, Van Buren, Washtenaw and Wayne. According to the definition in Section 301 of the Public Works and Economic Development Act of 1965, as amended (42 U.S.C. 3161), all but Kalamazoo and Washtenaw Counties are economically distressed areas as designated by the Federal Highway Administration (http://hepgis.fhwa.dot.gov/hepgis_v2/GeneralInfo/Map.aspx). Wayne County has the highest unemployment rate, 18.5%. The average unemployment rate over the past 24 month period, 2007-2008, for Wayne County is 3.8% above the national average. Unemployment rates in the remaining eight counties, range from 10.6% to 14.4%. Only Washtenaw and Kalamazoo Counties have unemployment rates below the 2008 national average.

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

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

	FD/ Construction Period	First full Year of Operations	Fifth full Year of Operations
Anticipated number of annual onsite and other direct jobs created (on a 2080 work-hour per year, full-time equivalent basis)	500	3,780	5,670

(3) Environmental Benefits. *Please limit response to 4,000 characters.*

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

- Any projected reductions in key emissions (CO2, O^3, CO, PMx, and NOx) and their anticipated effects. Provide any available forecasts of emission reductions from a baseline of existing service for the first and fifth years of full operation *(provide supporting documentation if available).*
- Any expected energy and oil savings from traffic diversion from other modes and changes in the sources of energy for transportation. Provide any available information on changes from the baseline of the existing service for the first and fifth years of full operation (*provide supporting documentation if available*).
- Use of green methods and technologies. Address green building design, "Leadership in Environmental and Energy Design" building design standards, green manufacturing methods, energy efficient rail equipment, and/or other environmentally-friendly approaches.

Environmental benefits associated with Phase I Implementation of the MWRRI include reductions in roadway congestion and the associated energy use and vehicle emissions due to travellers shifting from the highway mode. Use of the MWRRS instead of auto and air travel will also promote a number of environmental benefits including more efficient land use, less noise pollution, minimal alterations to hydrological characteristics, minimal visual intrusion on the landscape and minimal disturbances to natural flora and fauna.

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

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

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

Phase 1 implementation of the MWRRI will enhance rail service efficiency and reliability between Pontiac and the Michigan/Indian State Line. The improvements will result in a rail system that will contribute to more livable communities and enhance the overall quality of life in Michigan and the Mid-west region. By expanding positive train control systems to allow speeds of up to 110 mph along the corridor, on-time performance and reliability measures will be improved, thus enhancing customer service and generating greater ridership. A portion of this ridership can be expected to come from direct transfers from the other modes. Because many of the stations are located in densely populated and walkable urban/downtown environments or central business districts, increasing ridership levels will result in economic benefits as people seek services within close proximity to the 13 stations within the corridor. The Kalamazoo Station provides a good example of integrating intercity passenger rail, intercity bus (Greyhound), and local transit, all at the same terminal location within a block of the central business district. The surrounding area is also well suited to accommodate pedestrian and biking modes. The Jackson Station is striving to emulate the Kalamazoo example. The 13 Michigan stations in the Chicago Hub corridor display a range of characteristics, from those in smaller cities such as Albion and Dowagiac, to those in urbanized Dearborn and Detroit.

Increased efficiency and reliability of the existing rail service can also help ease motor vehicle congestion on Interstate 94 and ensure an affordable and reliable transportation option to Michigan residents and visitors. Individually, each of these benefits will contribute to enhancing livability and livable communities in Michigan, but when combined the benefits are compounded. More efficient passenger rail service will result in less pollution, lower greenhouse gas emissions, more transportation options and enhanced connectivity between communities.

E. Project Success Factors

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

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

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

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

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

MDOT engineers are highly skilled and thoroughly trained in project management, as evidenced by their track record in applying new technology and innovations to address a full array of rail transportation challenges. MDOT was the first state to interconnect traffic and grade crossing signals to prevent motorists from being trapped on a grade crossing. MDOT is currently conducting an FRA-approved test project using raisable barriers to prevent gate running violations. MDOT has partnered with the FRA, Amtrak and General Electric to implement an Incremental Train Control System (ITCS) which resulted in FRA approval in 2005 to operate passenger trains at 95 mph and we anticipate FRA approval in 2009 for train speeds up to 110 mph.

MDOT has initiated and successfully managed a variety of large-scale projects. One example is the early preliminary engineering for the Detroit Intermodal Freight Terminal (DIFT) Project, which will soon move into subsequent implementation phases. The DIFT project will consolidate the routing of the CSX, NS, CN, CSAO, and Amtrak through the city of Detroit to reduce congestion for freight services. Since the mid-1970s the State of Michigan 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 still 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. The state also has multiple railroad inspectors that are well-trained and highly experienced.

Michigan is also home to one of the original six federally-designated high speed rail corridors as a result of MDOT's long-standing advocacy for integrated interstate high-speed passenger rail services and its commitment to and participation in the MWRRI.

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

The MDOT Office of High Speed Rail and Innovative Project Advancement 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 rail rapid 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.

The workforce will be mainly from the railroads, using force accounts. Some final design may be done by engineering firms under contract. For generic capital improvements our engineering staff would consult directly with the railroad engineering staff to finalize plans and validate materials, quantities and locations. Depending on final lease negotiations, construction work may be contracted and performed directly with existing NS labor, or as a conventional bid-letting under standard MDOT procedures that are fully compliant with all relevant federal guidelines. If work is to be done by NS employees, all work will be done in accordance with NS's standard railroad labor practices. If work is done by railroad

contractors through competetive bidding, MDOT already has multiple pre-qualified railroad contractors who are familiar with relevant state and federal rules governing such work.

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

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

Please limit response to 1,500 characters.

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

Michigan will contract with the host railroads and draw on their expertise where applicable to construct infrastructure improvements. MDOT will seek Amtrak support for technical assistance to extend the positive train control system to the east of Kalamazoo. In addition, Michigan will seek Amtrak support for development of train schedules, projection of ridership and revenues, projection of annual operating funding requirements, station development, negotiation/coordination with host railroads, and engineering design support. Michigan will also seek FRA assistance with new equipment inspections.

Without funding for a change in control of the NS lines, NS has assured MDOT that the lines will remain capped at a 79 mph maximum for the duration of their ownership. Thus, MDOT control of the line appears mandatory to the success of high speed passenger rail service and for the investments required to preserve existing service.

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

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

2A. Ownership Agreements – Describe how agreements will be finalized with railroad infrastructure owners listed in the "Right-of-Way Ownership" and "Service Description" tables in Section B. If appropriate, "owner(s)" may also include operator(s) under trackage rights or lease agreements. Describe how the parties will agree on project design and scope, project benefits, project implementation, use of project property, project maintenance, scheduling, dispatching and operating slots, project ownership and disposition, statutory conditions and other essential topics. Summarize the status and substance of any ongoing or completed agreements. *Please limit response to 2,000 characters.*

Agreements will be negotiated for almost half the corrirdor.

An internal team of MDOT executive and attorney general staff are presently negotiating the final lease terms on ownership and control of the NS Rail Lines. Assisting our team is a highly-regarded railroad attorney with over 20 years experience in developing comparable transactions, including multiple transactions with NS. The lease agreement template (attached as portion of the MOU) addresses all relevant aspects of the proposed transaction, including current and future cost obligations of the parties, maintenance standards and responsibilities, frequency and schedule of current and future services, facility access, freight rights, planned improvements, dispute resolution, planned interim cost adjustment factors, and relevant contingency language. Upon execution, the lease also provides for a joint coordination committee (to be comprised of personnel from MDOT administrative staff and NS administrative staff) that will oversee performance and compliance with conditions established by the lease. The present status of the ongoing negotiations is positive, with all parties communicating and participating in good faith toward developing a mutually satisfactory agreement in advance of the receipt of any ARRA awards.

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

Operating agreements will be negotiated with Amtrak, as has been done with Amtrak for decades.

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

Amtrak.

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

Copies of Agreements with host railroads are pending. The governors of eight Midwestern states including Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, Wisconsin and the Mayor of Chicago signed a letter and Memorandum of Understanding on July 27, 2009 to work coorperatively in developing the MWRRI High Speed Rail Corridors throughout the Midwest Region. Copies of the letter and MOU are attached to this application.

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

Not Applicable

(3) Financial Information.

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

Non FRA Funding Sources	New or Existing Funding Source?	Status of Funding[5]	Type of Funds	Dollar Amount (YOE Dollars)	% of Project Cost	Describe Uploaded Supporting Documentation to Help FRA Verify Funding Source
	New	Committed				
	New	Committed				
	New	Committed				

[5] Reference Notes: The following categories and definitions are applied to funding sources:
Committed: Committed sources are programmed capital funds that have all the necessary approvals (e.g. legislative referendum) to be used to fund the proposed project/program without any additional action. These capital funds have been formally programmed in the State Rail Plan and/or any related local, regional, or State Capital Investment Program CIP or appropriation. Examples include dedicated or approved tax revenues, State capital grants that have been approved by all required legislative bodies, cash reserves that have been dedicated to the proposed project/program, and additional debt capacity that requires no further approvals and has been dedicated by the sponsoring agency to the proposed project/program.
Budgeted: This category is for funds that have been budgeted and/or programmed for use on the proposed project but remain uncommitted, i.e., the funds have not yet received statutory approval. Examples include debt financing in an agency-adopted CIP that has yet to be committed in their near future. Funds will be classified as budgeted where available funding cannot be committed until the grant is executed, or due to the local practices outside of the project sponsor's control (e.g., the project development schedule extends beyond the State Rail Program period).
Planned: This category is for funds that are identified and have a reasonable chance of being committed, but are neither committed nor budgeted. Examples include proposed sources that require a scheduled referendum, requests for State/local capital grants, and proposed debt financing that has not yet been adopted in the agency's CIP.

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

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

☒ Yes ☐ No

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

(a) How did you project future State operating subsidies for the benefiting service(s); and

(b) What are the source, nature, and likelihood of the funding that will enable the State to finance the projected increases in annual operating subsidies due to the project?

The State of Michigan MDOT acknowledges that operating and maintenance expenses may increase in this corridor in the future. The extent of MDOT's exposure to future costs is uncertain at this time and must be negotiated between MDOT, the operator and host railroad during final construction and operating agreements. MDOT offers the following assurances to FRA regarding MDOT's ability to finance future costs needed by MDOT:

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

•In addition, MDOT is exploring alternative approaches to funding these potential future costs through innovative partnerships (See Section F for a further explanation of this innovative approach)..

Subsidy	Actual— FY 2009 levels (YOE Dollars)	Projected Totals by Year (Actual Levels Plus Project Caused Changes Only) (YOE Dollars)	
		First Full Year After Project Completion	Fifth Full Year After Project Completion
State operating subsidy (total for all benefiting services)	$7.1 million		

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

MDOT has attached a Financial Management Plan with this application for the project. The plan describes MDOT's capability to absorb potential cost overruns, financial shortfalls, or financial responsibility for potential dispostion requirements. In addition, Michigan has the statutory legal authority to build and oversee a rail capital investment through the State Transportation Preservation Act of 1976, Act 295 of 1976, [MCL 474.51 - MCL 474.56] and Act 51 of 1951. As noted in the report, at this time there are no risk factors to note. 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.

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

Final Design Duration:	6 months
Construction Duration:	18 months
Rolling Stock Acquisition Duration:	months
Rolling Stock Testing Duration:	months
Service Operations Start date:	*(mm/yyyy)*

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

This project can provide opportunity and service for any person or business that desires quality and reliable service to Chicago, Detroit, or any community in between. The new track capacity and uncongested movement will open more options for business ventures in southeast Michigan as well as the entire corridor and state. Large orders for rail, turnouts, manpower, and other materials coming from this project will stimulate economic growth, and the hope is that all the material needed for a successful project will come from local and regional vendors and manufacturers based in the United States. For example, this project will provide Michigan with opportunities to manufacture the necessary rolling stock to support the goals and objectives of the MWRRI. Michigan hopes the entire ARRA program stimulates businesses to expand and hire new employees to complete the projects nationwide in this rare opportunity.

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

With this major influx of funding from the federal government, through ARRA, most railroads will need to employ new engineering personnel, to facilitate the on-time completion of the projects, thus introducing a new generation of engineers into the railroad side of engineering. The new employees will hopefully bring renewed energy, enthusiasm and innovative ideas to the rail industry, along with sound solutions to industry challenges now and in the future. High speed rail and its related equipment should open a new venue for engineers to explore and expand upon. MDOT hopes that the railroads and the FRA take this opportunity to look at the industry and ignite renewed interest and commitment to passenger rail and intermodal freight. This renewed

commitment to rail transportation will help the United States catch up with our foreign partner countries and take high-speed rail travel to the next level for speed, reliability, comfort, convenience and safety. It can also be the industry's chance to diversify their workforce in the engineering and management levels, giving everyone an equal chance to excel.

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F. Additional Information

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

A map of all stations in the Chicago Hub corridor has been uploaded at www.GrantSolutions.gov, in the "Additional Supporting Documents" area."

Section B, Question 6 - Project Overview

Aerial Maps 1-20 are available at
*ftp://ftp.*********/HighSpdRail_Applications/HighSpdRailCorr_AerialMaps/*

For more information about MWRRI and MWRRS, see reports 1 through 6 at
*ftp://ftp.*********/HighSpdRail_Applications/*

For more information about grade crossing improvements, go to our ftp site,
*ftp://ftp.*********/HighSpdRail_Applications/ .*

Section B, Question 7 - Status of Activities

Aerial Maps 1-20 are available at
*ftp://ftp.*********/HighSpdRail_Applications/HighSpdRailCorr_AerialMaps/*

Positive train control system installation is complete from mp 150-mp 216. Design is completed for mp 216-mp 241.41 (by Amtrak). Design is under way for mp 143-mp 150 (by Amtrak). When complete, the entire Amtrak owned segments will be positive train control equipped.

Section B, Question 10 - Right of Way Ownership:

Type of Railroad: Amtrak
Railroad Right-of-Way Owner: Amtrak
Route Miles: 79.34
Track Miles: 93.42
Status of Agreements to Implement Projects: Host Rail Road Consulted

Section B, Question 11 - Services

Type of Service: Intercity Passenger
Name of Operator: Amtrak
Top Speed Within Project Boundaries - Passenger: 95
Number of Route-Miles Within Project Boundaries: 245.51
Average Number of Daily One-Way Train Operations within Project Boundaries: 6

Type of Service: Freight
Name of Operator: CSX
Top Speed Within Project Boundaries - Freight: 60
Number of Route-Miles Within Project Boundaries: 0
Average Number of Daily One-Way Train Operations within Project Boundaries: 3

Type of Service: Freight
Name of Operator: CP
Top Speed Within Project Boundaries - Freight: 60
Number of Route-Miles Within Project Boundaries: 0
Average Number of Daily One-Way Train Operations within Project Boundaries: 21

Section C, Question 2

Aerial Maps 1-20 are available at
*ftp://ftp**********/HighSpdRail_Applications/HighSpdRailCorr_AerialMaps/*

Section E, Question 3C

For more information about the innovative approach of using Public Private Partnerships, file HSR_FRA application_PPP.doc has been uploaded to www.GrantSolutions.gov in the "Additional Supporting Documents" area.

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G. Summary of Supporting Materials

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

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

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