DETROIT/PONTIAC – CHICAGO CORRIDOR

(WITH PROPOSED EXPANSION TO WINDSOR/TORONTO)

US DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
CORRIDOR IDENTIFICATION AND DEVELOPMENT PROGRAM

SUBMITTED BY: MICHIGAN DEPARTMENT OF TRANSPORTATION
OFFICE OF RAIL

I. Cover Page

Corridor Title	Detroit/Pontiac – Chicago (Wolverine)
Applicant	Michigan Department of Transportation
Was a Federal Grant Application Previously Submitted for this Corridor?	Yes – High-Speed Intercity Passenger Rail (HSIPR) Program, FY 2010, Chicago-Detroit/Pontiac Service Development Plan
Other sources of Funding for the Corridor?	Yes – Michigan Comprehensive Transportation Fund, approximately $100 Million annual appropriation
City(-ies), State(s) Where the Corridor is Located	Detroit and Pontiac, Michigan to Chicago, Illinois; includes territory in Indiana
Congressional District(s) Where the Corridor is Located	Michigan Congressional Districts: 4, 5, 6, 11, 12, 13 Indiana Congressional District: 1 Illinois Congressional Districts: 1, 2, 7
Is the Corridor currently programmed or identified in: State rail plan, or regional or interregional intercity passenger rail systems planning study?	Yes – Michigan Mobility 2045 (State Rail Plan), and Chicago-Detroit/Pontiac Service Development Plan
Is the applicant working with other entities in support of the Corridor?	Yes – Amtrak, Michigan Association of Rail Passengers, Midwest Interstate Passenger Rail Compact, Canadian Pacific Railway (CP), Consolidated Rail Corporation (Conrail)

II. Corridor Summary

The Michigan Department of Transportation (MDOT) respectfully submits the ***Detroit/Pontiac – Chicago Corridor*** for inclusion in the Corridor Identification and Development (CID) Program. This corridor, that carries the state-supported Amtrak Wolverine Service, connects the Midwest's two largest metros, Detroit and Chicago, and is comprised of three daily round trips that serve fifteen stations. One of the largest challenges faced on this corridor is service reliability, most notably on-time performance. In addition, MDOT is supportive of reexploring a potential increase in frequency of service on this corridor to offer more options for passengers, ultimately making intercity passenger rail a more attractive mode of transportation. MDOT would also like to explore the potential for expansion of the Wolverine by extending the corridor to Windsor and Toronto, Ontario for one daily round-trip. In addition, MDOT is a joint applicant on the Ohio Rail Development Commission's application to explore a Cleveland-Toledo-Detroit corridor.

III. Corridor Funding

The Office of Rail administers MDOT's rail and port programs, which are primarily supported with annual Comprehensive Transportation Fund (CTF) revenues. While MDOT's rail program funding is subject to annual appropriation and can vary from year to year, it is approximately $100M in FY2023. It is expected to remain relatively consistent going forward. A portion of that state appropriation is used for expenses that are either statutorily (operating support for the three current Amtrak services at $15-30 Million annually) or contractually (such as the maintenance of the Kalamazoo-Dearborn corridor and non-Federal match to existing Federal grants) mandated. These mandatory expenses vary from year to year as well, but in total, require approximately half of our appropriation annually. The remainder is available, at MDOT's discretion, to invest in other priorities in the best interest of rail transportation in Michigan. Those priorities include, but are not limited to, investments in the Detroit/Pontiac to Chicago corridor utilized by the Wolverine. Should this corridor be selected for the Federal Railroad Administration's (FRA) Corridor Identification and Development (CID) Program, the required match for activities beyond Step 1 would come from that discretionary portion of our funding in any appropriate Fiscal Year(s). This funding would also offer potential match funds for projects identified through the CID Program.

As part of a Corridor Investment Plan for the Chicago-Detroit/Pontiac Corridor, a Service Development Plan (SDP) for this corridor was completed in 2017 in partnership with the Federal Railroad Administration (FRA), Illinois Department of Transportation (IDOT), Indiana Department of Transportation (INDOT), and Norfolk Southern (NS). This plan was funded by the FRA's High-Speed Intercity Passenger Rail (HSIPR) Program at $3.2 million and $800,000 match provided by MDOT, IDOT, INDOT, and NS.

In addition, MDOT has successfully completed work, or partnered with third party agencies to complete work, under numerous HSIPR, Consolidated Rail Infrastructure and Safety Improvements (CRISI), and Federal-State Partnership for State of Good Repair (SOGR) grants for improvements on the Detroit/Pontiac – Chicago Corridor. Details are found in the table on the following page.

PASSENGER RAIL FEDERAL GRANTS 2010 to FEBRUARY 2023 Detroit/Pontiac - Chicago Corridor			
Project	**FY Started**	**Fed $ M**	**Federal Grant**
Michigan Line 5 Bridge Reconstruction of Structures PE/NEPA	Pending	$1.55	FY21 State of Good Repair
Jackson-Ypsilanti Curve Mods	Pending	$15.57	FY20 State of Good Repair
Kalamazoo-Dearborn Trespass Grant	2023	$15.62	FY20 CRISI
Kalamazoo-Dearborn Track and Signal Infrastructure Reliability Improvement	2023	$6.52	FY19 State of Good Repair
Battle Creek Station Connection PE/NEPA	2020	$0.75	FY19 CRISI
Kalamazoo-Dearborn, Jackson and Mechanic St. Bridge Replacements	2019	$23.34	FY 18 State of Good Repair
Kalamazoo-Dearborn - Rail Curve Modification Battle Creek to Jackson	2014	$9.40	FY 13 TIGER
West Detroit Connection Track	2012	$7.90	FY09 HSIPR
Kalamazoo-Dearborn - Acquisition/Enhancements/Professional Services	2012	$150.00	FY10 HSIPR
Kalamazoo-Dearborn - Service Development Program	2012	$196.50	ARRA HSIPR
Midwest Next Generation Train Equipment Procurement *	2012	$268.20	ARRA HSIPR
Dearborn Station	2011	$28.20	ARRA HSIPR
Ann Arbor Station - PE/NEPA	2011	$2.80	ARRA HSIPR
Chicago-Detroit/Pontiac Corridor Investment Plan - Environmental Clearance	2011	$3.20	FY10 HSIPR
Troy Station	2011	$8.30	ARRA HSIPR
Battle Creek Station	2010	$3.60	ARRA HSIPR
Total	**2010-23**	**$741.45**	
***** Funding provided to other State DOTs but project benefits all Michigan services as indicated. Illinois DOT lead state for the Midwest.			

IV. Applicant Eligibility

MDOT is the applicant for the Project. As a Department of the State of Michigan, MDOT meets eligibility requirements outlined in Section C.1.b. of the Notice of Funding Opportunity.

V. Detailed Corridor Description

1. Basic Characteristics

The 304-mile corridor between Detroit/Pontiac, Michigan and Chicago, Illinois is part of the "Chicago Hub" Passenger Rail Network and is a federally designated High-Speed Rail Corridor. This existing corridor is one of several major branches in the hub and spoke passenger rail system centered on Chicago, as identified in the Midwest Regional Rail Plan, published by FRA in 2021. It is currently the only corridor outside the Northeast Corridor (Boston to Washington) and Keystone Corridor (Philadelphia to Harrisburg) that features operating speeds of up to 110 mph in the United States.

Current Amtrak services on the Detroit/Pontiac – Chicago Corridor include the Wolverine service at three round trips per day, in addition to a portion of the corridor serving Michigan's other two services daily. The Detroit/Pontiac – Chicago corridor travels through three states (Illinois, Indiana, and Michigan). Corridor ownership includes four railroads – Consolidated Rail Corporation (Conrail), Canadian National (CN), NS, and Amtrak, in addition to the State of Michigan (MDOT). Conrail owns 5 miles; CN owns 27 miles; NS owns 39 miles; Amtrak owns 99 miles; and MDOT owns 136 miles.[1]

[1] *Ownership miles are approximate and may not add up to 304-miles due to rounding up on some numbers.*

FRA has supported the development of this corridor with financial and technical assistance on several projects within all three states. These projects have resulted in a reduction in scheduled trip time between Pontiac and Chicago Union Station of 19 minutes since the HSIPR program began in 2010. Additionally, it is estimated that another 14.5 minutes of trip time reduction will be realized with the completion of ongoing improvement projects funded by FRA, MDOT and Amtrak. Any future improvements made to the corridor would further reduce the trip time. MDOT led a cooperative planning study with IDOT, INDOT, and NS submitted in 2015 with final publication in 2017, that resulted in an FRA recognized Preferred Alternative route between Chicago Union Station and Porter Indiana, and an FRA approved SDP to increase intercity train frequencies.

With an updated SDP, MDOT hopes, in large part, to identify additional improvements to the corridor that will improve on-time performance of the service. In FY2022, this corridor was on time for only 62 percent[2] of its passengers. For years, passenger rail service in the Detroit/Pontiac – Chicago Corridor has been plagued by poor operational reliability, resulting in long travel times that are largely uncompetitive with automobile or air travel. Despite this, the corridor's passenger rail service has seen remarkably high ridership over the years. An improvement in service reliability and on-time performance would further increase the potential growth of this corridor.

Although growth in intercity travel demand in Michigan temporarily subsided due to the pandemic, the growth is returning, as the underlying forces that have driven that growth over the past decades remain unchanged, and yet the capacity of Michigan's transportation system to support that growth continues to fall behind. Ridership potential, as well as operational and capital investment requirements, and public benefits for incremental expanded service on the Detroit/Pontiac – Chicago corridor must be reassessed to determine market demand for additional frequencies. Currently operating at three round-trip trains per day, MDOT would like to assess the potential of adding a fourth round-trip, followed by incremental increases of one additional round-trip per day of up to six round trips. This vision is supported in the Amtrak Connects US plan.[3] Increasing the frequency of rail service within the corridor would significantly improve its attractiveness to travelers and is an integral element needed to allow the rail service to meet existing and future passenger demand.

With the evaluation of increased frequency of service, a potential expansion of the corridor by extending the service to Windsor and Toronto, Ontario for one daily round-trip should also be evaluated. Today, two disconnected passenger rail routes are in operation – Amtrak on the Detroit/Pontiac – Chicago corridor and VIA Rail on the Windsor – Toronto corridor. Routing one Wolverine service per day through the Canadian Pacific Railway (CP) Rail Tunnel to Windsor and onward to Toronto would connect three (Chicago – Detroit – Toronto) of the largest North American metropolitan areas with a single passenger rail service. This service is also documented in Amtrak's Connects US plan. Additionally, an agreement has already been established between CP and Amtrak to allow for one round-trip passenger service per day.

2. Corridor Readiness

The corridor currently supports a thriving Amtrak service. MDOT desires to continue to develop the corridor to provide world-class intercity rail service to its customers. MDOT's SDP completed in 2017 identified infrastructure improvements necessary to support Wolverine service frequency increases, including an Alternatives Analysis for the "South of the Lake" (SOTL) segment of the corridor between Chicago, IL and Porter, IN. MDOT recognizes that this document provides a pathway for service

[2] *Source: Amtrak Status Report, October 1, 2022*
[3] *https://www.amtrakconnectsus.com/*

improvement; however, the document requires an update to reflect current priorities for the states and Amtrak, current ridership and revenue forecasts, and current capacity and freight operating regimes for the host railroads. Due to its experience with the 2017 SDP for the corridor, as well as numerous other planning projects, MDOT Office of Rail is well-prepared to manage the preparation of an updated SDP for the corridor, in addition to any of the proposed work from the PE/NEPA phase through Final Design and Construction of the projects identified within the SDP.

3. Eligible Activities

In 2017, an SDP for this corridor was completed in partnership with the FRA, IDOT, INDOT, and NS. This plan was funded by the FRA's HSIPR Program. This application seeks to initiate an update and reassessment of the 2017 SDP under the CID Program, as outlined in Section C.4.a. of the Notice of Funding Opportunity.

4. Intended Operator

The intended operator of the Detroit/Pontiac – Chicago corridor continues to be Amtrak.

5. Legal, Technical, and Financial Capacity

MDOT has the legal, technical, and financial capacity to carry out the proposed project.

Legal Capacity
Michigan has the statutory legal authority to build and oversee rail capital investment through the State Transportation Preservation Act of 1976 "Act 296 of 1976" and "Act 51 of 1951."

Technical Capacity
The MDOT Office of Rail consists of a team of experts in railroad management, each with their own area of expertise. This office is responsible for promoting and developing the infrastructure needed to support intercity passenger rail. 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.

In addition, MDOT is supported by Quandel Consultants, Inc., a 30-person engineering firm specializing in federally funded railroad projects. Quandel represents several Midwest clients in their implementation of freight improvement programs funded through FRA programs.

Financial Capacity
All rail funding in the State of Michigan is subject to annual appropriation. The Rail Operations and Infrastructure line item in MDOT's FY2022-2023 appropriation bill, 2022 PA 166, funds several individual programs and activities, ranging from passenger rail operating assistance to capital and maintenance activities on the 665 miles of state-owned rail lines to programs that enhance economic development and support the state's overall investments in rail infrastructure. For FY2023, the line item is funded with $99,650,700 in state CTF dollars, and provides the authority to spend federal, local, and private dollars. At this time, no local or private dollars are anticipated to be available for expenditure.

Financial statements of the State of Michigan's Comprehensive Annual Financial Report (SOMCAFR) are prepared by the Michigan Department of Management and Budget and are audited by the State

Auditor General. Separate Audited Financial Statements of the restricted funds of MDOT AFR can be found at the Michigan Office of the Auditor General website at: http://audgen.michigan.gov, and MDOT's website at: www.michigan.gov/MDOT.

Audits of the SOMCAFR and MDOT AFR are performed by both the State of Michigan's Auditor General and MDOT's Office of Commission Audits. MDOT's ability to absorb unforeseen cost increases, cost overruns or financial shortfalls is limited to those funds made available to its rail programs per statutory distribution of Michigan's Comprehensive Transportation Fund, per PA 51 of 1951. Allocation of funds over and above those already made available to MDOT's rail program is at the discretion of the state legislature.

6. Challenges to Address

A major challenge facing intercity travelers along the Detroit/Pontiac – Chicago Corridor is the competitiveness of alternative modes of transportation other than automobile. According to the 2017 SDP, over 96% of travelers use automobiles traveling on highways within the corridor. Improved intercity passenger rail service would offer an alternative to traditional highway and air travel between major urban centers in the face of increasing fuel costs and congestion on Midwest highways and at Midwest airports.

Michigan's long-range plan, Michigan Mobility 2045, indicates that our population and economy are changing in response to trends that affect travel patterns and demand across all modes of transportation. Population and jobs are projected to grow gradually over the next 25 years and will likely increase demand for travel, particularly in and between urban areas. An aging population, structural changes in the economy, and the further implementation of new technologies will shape the character of that growth. Non-auto mobility options will be more critical than ever to accommodate demographic change and promote health, equitable access to opportunity, and achieve Michigan's climate goals.

To achieve Michigan's vision for an interconnected multimodal system that is people-focused, equitable, reliable, convenient for all users, and enriches Michigan's economic and societal vitality, our intercity passenger rail corridors must operate more reliably. As stated under *Basic Characteristics* above, customer on-time performance for the Detroit/Pontiac – Chicago corridor was only 62 percent in FY2022. This corridor is continuously one of the worst performing for operational reliability in the country.[4] Despite the infrastructure improvements and investments within the corridor and increasing operational speeds of up to 110 mph, the corridor remains uncompetitive with automobile or air travel due to delays and late trains.

Wolverine Service OTP

FY17	FY18	FY19	FY20	FY21	FY22
All Stations OTP				Customer OTP	
69%	64%	52%	69%	60%	62%

*FY21 began FRA's first full year of Customer OTP as a standard OTP metric.

In large part, this is due to operational constraints and conflicts between passenger and freight service operations on the Norfolk Southern tracks between Chicago and Porter, Indiana in the SOTL portion of the corridor. Addressing the capacity constraints on this portion of the corridor is critical to all three Michigan passenger rail corridors. Solving this issue is key to accomplishing better on-time performance and enabling additional frequencies.

[4] *Source: Amtrak Status Report, October 1, 2022*

Offering travelers more schedule options is also essential in achieving Michigan's vision, especially with our rapidly aging population and generational preferences for alternatives to automobile driving. Increasing frequency of service on the Detroit/Pontiac – Chicago corridor would offer more flexibility and options to travelers. Accessibility and connectivity are the bedrock of the transportation system and fundamental to unlocking Michigan's economic growth and equitable access to opportunities.

Increasing frequency of service within the corridor to meet travel demand and ridership potential, as well as expanding the corridor into Canada, will attract new customers and provide transportation options to travelers. While an agreement between CP and Amtrak is already in place to allow for one round-trip service per day through the CP Rail Tunnel, many challenges exist in extending the corridor through Windsor to Toronto. Not only does this take the corridor across an international boundary, involving many levels of governmental oversight including customs inspections agencies on both sides of the border, it also must consider political sensitivities that have become barriers in the past. Establishing a Pre-Clearance Agreement at the Federal level between U.S. and Canada will be critical to the success of the corridor extension. Additionally, the corridor extension will need to address challenges such as crew and equipment limitations.

7. Users and Beneficiaries

The primary beneficiaries of the Detroit/Pontiac – Chicago Corridor are existing and future riders of Amtrak's Wolverine and Blue Water services. Interstate travelers that normally rely on driving or bussing along the I-94 corridor or taking commercial flights between Detroit and Chicago will have a trip time competitive transportation option when this passenger rail corridor achieves MDOT's vision. Improvements within the corridor will support the Amtrak service's competitiveness with air, automobile, and bus travel for intercity trips. The average train ticket is economically competitive with other modes which benefits college students, low-income populations and people that do not have a personal automobile. Because the reliability and trip time often discourage potential users from choosing rail, investing within this corridor will help to improve the service's ability to give confidence to consumers that rail service is fast, effective, and reliable. This in turn, offers benefits to both Amtrak and the State of Michigan, in terms of improved farebox recovery ratios.

According to a 2019 study completed by Michigan State University,[5] travelers utilizing the Wolverine service had the following trip purposes:

Wolverine Travelers – Trip Purpose	
Visit Friends and Family	49.17%
Leisure and Other	19.58%
Vacation	14.17%
Business	12.91%
School	4.17%

Other users of the corridor include freight railroad operators – Canadian National, Norfolk Southern, and Conrail – as well as freight rail customers in Michigan that desire for their products to reach their destinations on a more economical and reliable basis. Although freight traffic is minimal on the Amtrak/MDOT-owned segments of the corridor, the trackage through Detroit, SOTL and Chicago are extremely congested sections of railroad that would need investment to benefit passenger service. MDOT understands that private railroads have incredible leverage over investments that are completed

[5] *"Intercity Bus and Passenger Rail Study," September 2019, Prepared by Michigan State University*

on their assets, and MDOT looks forward to collaborating with FRA to show how passenger rail investments can benefit the freight railroads to improve their level of service for their customers.

8. Potential Scaling of the Corridor

MDOT's priority is to improve on-time performance within the corridor. Following that, MDOT is interested in scaling the implementation of additional frequencies of service from three to four daily round trips initially, then to five and then six round trips daily. MDOT would monitor market demand and performance of the additional frequency to support decisions to incrementally increase to additional frequencies.

In addition, MDOT is interested in scaling the implementation of the cross-border passenger connection. Providing the initial connection to Windsor Rail Station, through the CP Rail Tunnel, would allow travelers from the United States access to the VIA Rail network, with service to Toronto. A future direct connection to Toronto from Detroit, with a sealed train traveling from the border, is most attractive to MDOT.

9. Prioritization of Corridors

In addition to this Detroit/Pontiac – Chicago Corridor application, MDOT is submitting independent applications for the Port Huron – Chicago Corridor (Amtrak *Blue Water*) and the Grand Rapids – Chicago Corridor (Amtrak *Pere Marquette)*. MDOT's priority for these applications, based on ridership and OTP, is as follows:

Prioritization of Corridors with Supporting Data			
Rank	**Corridor**	**FY22 Ridership**	**On-Time Performance**
1	Detroit/Pontiac – Chicago	367,254	62%
2	Port Huron – Chicago	145,072	66%
3	Grand Rapids – Chicago	86,148	73%

10. Other Information to Consider

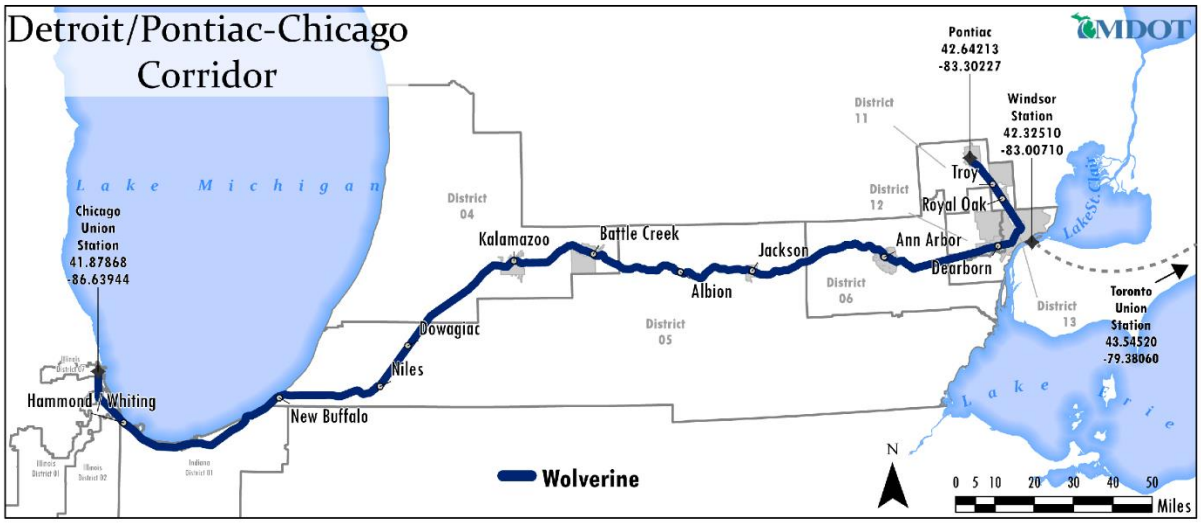
The following documents support the development of this corridor:

- FRA Midwest Regional Rail Plan
- Midwest Regional Rail Initiative
- Michigan Mobility 2045
- Michigan Mobility 2045, Rail Supplement
- Amtrak Connects US

Letters of support for the corridor can be found in the Attachments to this application and have been received from Amtrak, CP Rail, Conrail, Michigan Association of Rail Passengers, and the Midwest Interstate Passenger Rail Compact.

VI. Corridor Location

The Detroit/Pontiac – Chicago Corridor traverses through three states (Michigan, Indiana, and Illinois), with four host railroads (CN, Conrail, NS, and Amtrak). Within each state, the passenger rail service travels through many counties and cities. The Illinois portion of the corridor begins at the Illinois/Indiana state line and ends at the Chicago Union Station. This segment of 15 miles is entirely within the City of Chicago & Cook County. The Indiana portion of the corridor is 43 miles in length and begins at the Illinois/Indiana state line, ends at the Indiana/Michigan state line, and includes Lake, Porter, and La Porte Counties, Indiana. Finally, in Michigan, the corridor is 246 miles long, begins at the Michigan/Indiana state line, ends at the Pontiac Station located in Oakland County, Michigan, and travels through the counties of Berrien, Cass, Van Buren, Kalamazoo, Calhoun, Jackson, Washtenaw, Wayne, and Oakland. Within these counties, the corridor in Michigan serves the cities of New Buffalo, Niles, Dowagiac, Kalamazoo, Battle Creek, Albion, Jackson, Ann Arbor, Dearborn, Detroit, Birmingham/Troy, Royal Oak, and Pontiac.



VII. Evaluation and Selection Criteria

1. Corridor Benefits

A. Projected Ridership, Revenues, Capital Investment, and Operating Funding Requirements

Amtrak Connects US estimates, based on Amtrak's 2021 forecasts, the following:

Wolverine Projections from Amtrak Connects US					
Corridor	**Ridership**	**Operating Cost**	**Revenue**	**State Payment**	**Capital Cost**
Detroit/Pontiac – Chicago[6]	754,000	$44.6 million	$36.4 million	$8.2 million	$1.5 billion
Chicago – Detroit – Windsor/Toronto[7]	190,000	$8.1 million	$6.7 million	$1.4 million	$144 million

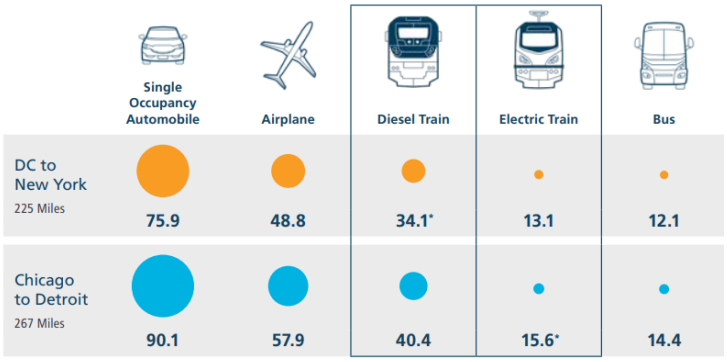
The update of an SDP for the corridor is expected to refine these estimates.

[6] *Based on 6 round trips daily.*
[7] *Based on 1 round trip daily.*

B. Environmental, Congestion Mitigation, and Other Public Benefits

There is significant opportunity to reduce carbon emissions. This is due to an increased energy efficiency of trains versus other forms of transportation. Travel on Amtrak trains outside the NEC emits up to 55% fewer GHGs than driving alone, and up to 30% fewer than flying.[8] These benefits would scale with corridor expansion. As referenced in the Connects US plan, Amtrak trains are energy-efficient and will grow even more efficient with the latest generation of locomotives, which are 10% more fuel-efficient than previous diesels. Across Amtrak's national system, traveling by Amtrak is 46% more energy efficient than driving, and 34% more efficient than flying.[9]

See image below from Amtrak's Connects US plan, which features the environmental impact comparison of greenhouse gas emissions on the Detroit/Pontiac – Chicago corridor.



Calculations use EPA's Emission Factors for Greenhouse Gas Inventories (March 2020) and the IPCC Fifth Assessment Report's global warming potential values for CO_2, CH_4, and N_2O. These figures are based on Amtrak's FY19 national network operations and are not route specific. By 2026, Amtrak will be operating Charger locomotives that are 10% more fuel efficient— further reducing Amtrak's GHG emissions. *Not an option for this route; data only for comparison.

As referenced in Amtrak's Corridor Vision in the Connects US plan, offering modal choices, and attracting new rail customers results in a reduction in highway congestion, as well as in vehicle crashes and the accompanying injuries and fatalities.

C. Projected Trip Times and Competitiveness with Other Modes

Current average trip times between the corridor termini total 6 hours and 11 minutes. Approximately 14.5 minutes of additional estimated trip time reduction is anticipated with the completion of ongoing improvement projects funded by FRA, MDOT and Amtrak. Any future improvements made to the corridor would further reduce the trip time.

Differing population growth in different regions, shifting travel preferences, congestion on other modes, and concern over impacts of climate change all combine to underscore the importance of a new vision for how intercity rail can serve the nation's transportation needs. By diverting passengers to rail traffic, fewer cars will be on the region's roads. This modal diversion improves the safety of these passengers due to the higher risk of traveling in automobiles. The modal diversion reduces the wear on the existing roadways and will reduce the maintenance costs associated with paving and painting. Furthermore, the reduction of cars on roadways improves congestion providing a benefit to the existing drivers. Finally, the Project and modal diversion will provide travel cost savings, to those passengers who are diverted from automobile to rail travel. The savings are seen in a reduction in operating costs of personal

[8] *Source: Amtrak Connects US, 2021*
[9] *Source: Amtrak Connects US, 2021*

vehicles, such as gasoline, maintenance, tires, and automobile depreciation. However, this reduction in operating costs is partially offset by the purchase of a train ticket.

D. Economic and Employment Impacts

This corridor is home to Michigan's largest city, the automobile capital of the world. Advanced manufacturing is a large part of the economy along the corridor, in addition to health sciences, food processing, agribusiness, and technological innovation. Some of the largest employers along the corridor include General Motors, Stellantis, Ford Motor Company, the University of Michigan, Pfizer, Kellogg, and more.

Intercity passenger train travel with more frequent and reliable service effects the competitiveness of the state and region to attract new residents, business opportunities and tourism. Additionally, the diversion from highways to intercity passenger rail provides economic competitive benefits by providing a reduction in roadway fatalities and crashes, congestion savings, travel cost savings, roadway maintenance savings, and emissions savings.

Improvements to operational reliability and the expansion of service by increasing frequency on this corridor is part of a larger effort to improve rail transportation in the State of Michigan and in the United States. This overall effort contributes to the economic competitiveness of Michigan and the United States over the medium and long-term by improving the national transportation system while creating and preserving jobs.

E. Benefits to Rural Communities

Transportation options in rural areas allow for access to food, healthcare, educational opportunities, and employment. It allows access to non-farming jobs, increases tourism and travel, helps make rural communities more attractive to larger corporations, and provides access to higher education and training for rural citizens.

Although many stations on this corridor are in smaller urbanized areas, many riders of this service live in the surrounding rural areas. Improvements on this corridor will help to make the rail travel mode more competitive with air, automobile, and bus for intercity trips. The average train ticket is economically competitive with other modes, but often the reliability, trip time, and schedule pushes users to other options.

Improving operational reliability and increasing frequency of intercity passenger rail service in the corridor will allow rural citizens more dependable service options to make it to healthcare appointments, education options, and employment in the connecting urban areas. This provides confidence to consumers that rail service is fast, effective, and reliable.

F. Serving Historically Unserved or Underserved and Low-Income Communities or Areas of Persistent Poverty

Nearly 62 percent[10] of the station communities served by the Detroit/Pontiac – Chicago Corridor are within opportunity zones for historically unserved or underserved, low-income, or persistent poverty areas. This corridor provides these areas with a wider range of travel options so that they can affordably expand their personal mobility.

[10] *Source: USDOT, Areas of Persistent Poverty & Historically Disadvantaged Communities, 2023*

G. Connectivity with Other Modes

Intercity passenger rail service within the state of Michigan connects with other modes at stations, as well as offers the ability to bring bicycles onto trains. Additionally, all Michigan stations but one (Albion) offer connections to local transit. Thirteen of Michigan's stations provide connections to intercity buses. Amtrak provides this connecting bus service using locally contracted intercity buses, which extends the network by 1,470 miles within Michigan.[11] The table on the following page includes modal connections within the Detroit/Pontiac – Chicago corridor.

Modal Connections by Station (Detroit/Pontiac – Chicago Corridor)		
Station	**Intercity Bus Connections**	**Transit Connections**
Pontiac	Indian Trails	SMART
Detroit	Greyhound, Amtrak Thruway Motorcoach	Q-Line, Detroit DOT
Troy	N/A	SMART
Royal Oak	N/A	SMART
Dearborn	Greyhound, Amtrak Thruway Motorcoach	SMART
Ann Arbor	Greyhound, Indian Trails, Baron Bus, Amtrak Thruway Motorcoach	Ann Arbor Transportation Authority
Jackson	Amtrak Thruway Motorcoach	Jackson Area Transportation Authority
Albion	Greyhound	N/A
Battle Creek	Indian Trails, Miller, Greyhound, Amtrak Thruway Motorcoach	Battle Creek Transit
Kalamazoo	Greyhound, Indian Trails, Amtrak Thruway Motorcoach	Metro Transit
Dowagiac	N/A	Dowagiac Dial-A-Ride Transit
Niles	N/A	Niles Dial-A-Ride Transit
New Buffalo	N/A	Berrien Bus (Dial-A-Ride)

The potential to benefit or improve connectivity with existing or planned transportation services of other modes does exist within the corridor. By supporting the reliability of consistent passenger operations and on time performance, it provides the ability for travelers to utilize the corridor's services for connections to other modes, such as connecting to buses or flights. In addition, throughout the development of the SDP, it is likely that station improvements will be identified as a need. As stations are updated and improved, integration and connections with other modes such as transit and active transportation are improved. In turn, this multiplies the convenience and perceived value of intercity passenger rail transportation.

H. Connection Between Most Populated Metropolitan Areas

This corridor connects the two most populated metropolitan areas in the Midwest. According to the 2020 U.S. Census, Chicago ranked 3rd and Detroit ranked 14th in the most populated metropolitan areas within the United States. When considering the expansion of the corridor to Toronto and comparing data for North America, Chicago ranks 4th, Toronto ranks 7th, and Detroit ranks 18th for most populated metropolitan area in North America.

I. Enhancements to Regional Equity and Geographic Diversity

It is estimated that at least 25 percent[12] of the Detroit population does not own a personal vehicle, which makes access to intercity transportation options critical. Having this access provides the opportunity for a growth in regional equity with access to higher education institutions, jobs, health care, and more. While the Detroit/Pontiac – Chicago corridor is intercity and not commuter, offering more frequencies on the corridor would open additional opportunities to connect Detroit and Ann Arbor, for

[11] *Michigan Mobility 2045, State Rail Plan Supplement*
[12] *Source: University of Michigan, Detroit Metropolitan Area Communities Study, 2017*

example. This would allow households that do not own a personal vehicle expanded access to several universities, as well as healthcare centers.

Expansion of the corridor to Windsor and Toronto, Ontario enhances the geographic diversity of the service. In addition to providing a critical missing link in intercity passenger rail transportation by connecting three of the largest urban areas in North America, it opens many opportunities for station communities and travelers living in those communities. Providing this improved access to another country and metropolitan area will help local Michigan station communities leverage and attract new generations of Americans, who tend to travel more frequently and gravitate towards trains and transit options. Similarly, the corridor can benefit older generations who are less comfortable driving than they once were.

J. Integration into the National Rail Passenger Transportation System

The corridor will remain integrated into the national rail passenger transportation system. Improving operational reliability, providing more options for travelers, and extending the corridor through Windsor to Toronto offers better connectivity between Amtrak routes connecting at Chicago Union Station.

2. Technical Merit

A. Readiness

MDOT is well-prepared and ready to commence activities under the CID Program and eagerly anticipates the start of Step 1 and Step 2. Updating its 2017 SDP for the corridor will provide the data and guidance necessary to assist MDOT in developing Office of Rail priorities for project implementation.

B. Experience of Key Personnel

MDOT's experienced staff in the Office of Rail will lead the project. Office of Rail Director, Peter Anastor, leads a dedicated team of MDOT employees focused on all rail activities in Michigan. Peter has over 25 years of experience in leading high-level teams within Michigan government to promote economic development opportunities and the efficient utilization of infrastructure assets. MDOT's Chief Rail Engineer, Brandan Maurer, leads the Infrastructure and Asset Management section within the office and has over 10 years of transportation development and management experience. Nikkie Johnson leads the Passenger and Freight Development section within the office and has over 15 years' experience managing rail programs within the State of Michigan. Jeff Martin has over 7 years of experience managing various components of Michigan's passenger rail program within the Office of Rail and is a key member of the project team. Sara Moore has over 20 years of transportation planning, policy oversight, and development experience within MDOT, including over 14 years in MDOT's rail office. Sara will be the MDOT project manager.

C. Commitment to Operation

MDOT is committed to the implementation and operation of the corridor. As noted in *Section III. Corridor Funding* of this application, MDOT currently funds three State-Supported Amtrak routes and receives an annual appropriation from the state legislature and retains a level of flexibility in determining how that funding is used within the rail program. This allows MDOT the ability to invest in priorities that are found to be in the best interest of rail transportation in Michigan.

D. Inclusion in Planning Studies

The Detroit/Pontiac – Chicago Corridor is an established corridor within the national rail network. Increased frequency of service, as well as the extension of the corridor to Toronto have been included in the FRA's Midwest Regional Rail Plan, which was published in October 2021. These improvements and expansion of services were also identified in Amtrak's Connects US plan published in June 2021, and in Michigan Mobility 2045, published in November 2021, which serves as Michigan's long-range transportation plan, rail plan, and freight plan.

E. Funding Commitment

As previously mentioned, MDOT is committed to funding the state match portion of Steps 2, and 3 of the CID Program, as well as through implementation and operation of the corridor, subject to annual appropriation.

F. State Rail Plan Inclusion

All aspects of this application were included in Michigan Mobility 2045, which serves as the State Rail Plan for Michigan.

G. Passenger Operator Support

Amtrak will continue operation of the Detroit/Pontiac – Chicago service and has expressed support for increased frequency, as well as the extension to Windsor and Toronto.

VIII. DOT Strategic Goals

1. Strategic Goals

A. Safety

The Detroit/Pontiac – Chicago Corridor is already included in Amtrak's System Safety Program Plan. The most important facet of rail planning, design and operations is promoting the safety of passengers and rail workers. The future Michigan rail system will ensure safety by employing the most current train control technology and track inspection equipment. Minimizing interactions between trains and automobiles through grade crossing management will also be considered during the planning process.

By supporting the operational reliability and expansion of passenger rail service, these improvements will help to sustain and grow ridership on the Wolverine passenger service. As travel by rail is significantly safer than travel by passenger vehicle, and passenger vehicle is the primary competing mode for this corridor, supporting and increasing ridership in this corridor results in an overall increase in safety to the transportation system and a decrease in transportation-related fatalities and serious injuries.

B. Economic Strength and Global Competitiveness

Infrastructure Investment and Job Creation
Implementation of the improvements to this corridor is expected to create jobs in the rail industry, from construction to operations and maintenance. These jobs will generate additional household income

across the region. Overall, the corridor will support existing industries and foster the growth of new businesses across the Midwest by improving access between communities. Improved service and stations will encourage transit-oriented development, which will result in an increase in property values.

Support Resilient Supply Chains and Economic Opportunity
The corridor will also support the resiliency of the Midwest supply chain through construction of the improvements identified in the SDP such as new track, structures, stations, platforms, and signal and communications equipment that will increase rail network capacity, reduce congestion, and increase multimodal connections. This will create a more balanced, multimodal transportation network that provides a viable transportation alternative for underserved communities and segments of the population that cannot, or choose not to, drive.

The extension of the corridor through Windsor to Toronto provides a critical missing link in the rail passenger transportation system. Enabling this corridor expansion will connect the economic megaregion from Chicago to Detroit to Toronto. This megaregion is already a global economic powerhouse and will continue to grow with added passenger connectivity.

C. Equity

MDOT has a duty to serve all Michiganders, including minority groups, low-income populations, the elderly, people with disabilities, and all those who traverse the state. MDOT recognizes its responsibility to provide fairness and equity in all its programs, services, and activities, and to abide by and enforce federal and state civil rights legislation related to transportation. MDOT is committed to achieving transportation equity through the fair distribution of the impacts of transportation resources, projects, and policies. MDOT recognizes that not all Michiganders have the same access to opportunity, safe mobility options, and healthy environments.

Improvements to the Detroit/Pontiac – Chicago corridor will expand transportation options and provide more opportunities for residents across the region to choose a safe and cost-effective mode of transportation. It will enhance Michigan's rail system and serve cities and historically underserved areas. There will be more opportunities to connect smaller and rural communities.

Historically, transportation planning decisions and infrastructure development have systematically created inequitable transportation systems that have imposed a heavy burden on the Black community. 20% of Black households nationwide do not have access to an automobile.[13] This is the highest percentage among all races and ethnicities. Additionally, one-third of low-income African Americans nationwide live in a zero-vehicle household.[14] In an automobile-dominated transportation system, lack of automobile access hinders the ability to reach jobs, education, healthy food, and more. However, recent and emerging mobility options offer an opportunity to rectify the failed legacy of the transportation policies and infrastructure network that has plagued the Black community for generations. Intercity passenger rail transportation offers one such opportunity.

The Wolverine service links Detroit and Chicago, which have populations composed of 85% and 50% persons of color, respectively.[15] More specifically, the percent of the populations of Chicago and Detroit identifying as Black or African American alone are of 54% and 78% respectively.[16] Improving reliability and service options for the corridor will help to provide opportunities for Black households to access

[13] *Congressional Black Caucus Foundation Report: New Routes to Equity, 2020*
[14] *Congressional Black Caucus Foundation Report: New Routes to Equity, 2020*
[15] *Source: U.S. Census Bureau*
[16] *Source: U.S. Census Bureau*

and travel to jobs outside of their home area, attend higher education institutions, and more. By supporting the infrastructure which improves access to these historically underserved populations, the corridor supports racial equity.

By providing transportation options to those without cars, the passenger rail services operating over the Detroit/Pontiac – Chicago corridor provide access to economically disadvantaged portions of the population. By providing an affordable and reliable means of transportation, these services reduce barriers to opportunity for this portion of the population.

D. Climate and Sustainability

In response to the dramatic impacts of human induced climate change on the health and prosperity of Michiganders, Governor Whitmer committed Michigan to the goals of the Paris Agreement to reduce greenhouse gas emission by at least 26- 28 percent below 2005 levels by 2025. Reducing transportation-related emissions is a necessary component of Michigan's strategy. Altogether, cars, trucks, marine vessels, trains, and aircraft contribute 29 percent of total U.S. greenhouse gas emissions, the highest share of any sector. Without significantly decreasing transportation emissions over the next two decades, Michigan will risk incurring greater and greater damage to its infrastructure, health, and economy as severe weather escalates in frequency, duration, and intensity.

A robust passenger rail system throughout the Midwest can help address the climate change impacts mentioned above, as well as sustainability, by diverting auto and air travelers to rail. This will remove millions of car trips and plane trips annually and reduce congestion on highways and in airports. Energy-efficient passenger trains use less fuel than cars and planes and provide a climate change-friendly mode of public transportation. As climate change impacts become more severe with more frequent and acute storms, increased pollution and other impacts, resilient rail infrastructure and robust passenger rail service will be critical to the region.

E. Transformation

This corridor is in the Midwest, which serves as the heart of the nation's rail network, with one out of every four U.S. freight trains passing through Chicago each year, totaling about 500 freight trains and 800 passenger and commuter trains every day. The update of a Service Development Plan for the Detroit/Pontiac – Chicago corridor will help to improve the network such that the benefits are felt locally, regionally, and nationally through increased capacity, increased frequencies, stronger supply chain resiliency, and a maintained set of rail assets in a state of good repair.

2. High-Speed Rail Corridor Designation

The Detroit/Pontiac – Chicago Corridor is a federally designated High-Speed Rail Corridor.