

Intercity Passenger Rail Service White Paper

The MI Transportation Plan (MITP) included the [*Intercity Passenger Transportation*](#) technical report, which contained information and analysis about the intercity passenger rail and bus components of Michigan's passenger transportation system. This white paper provides an update to the intercity passenger rail portions of that technical report.

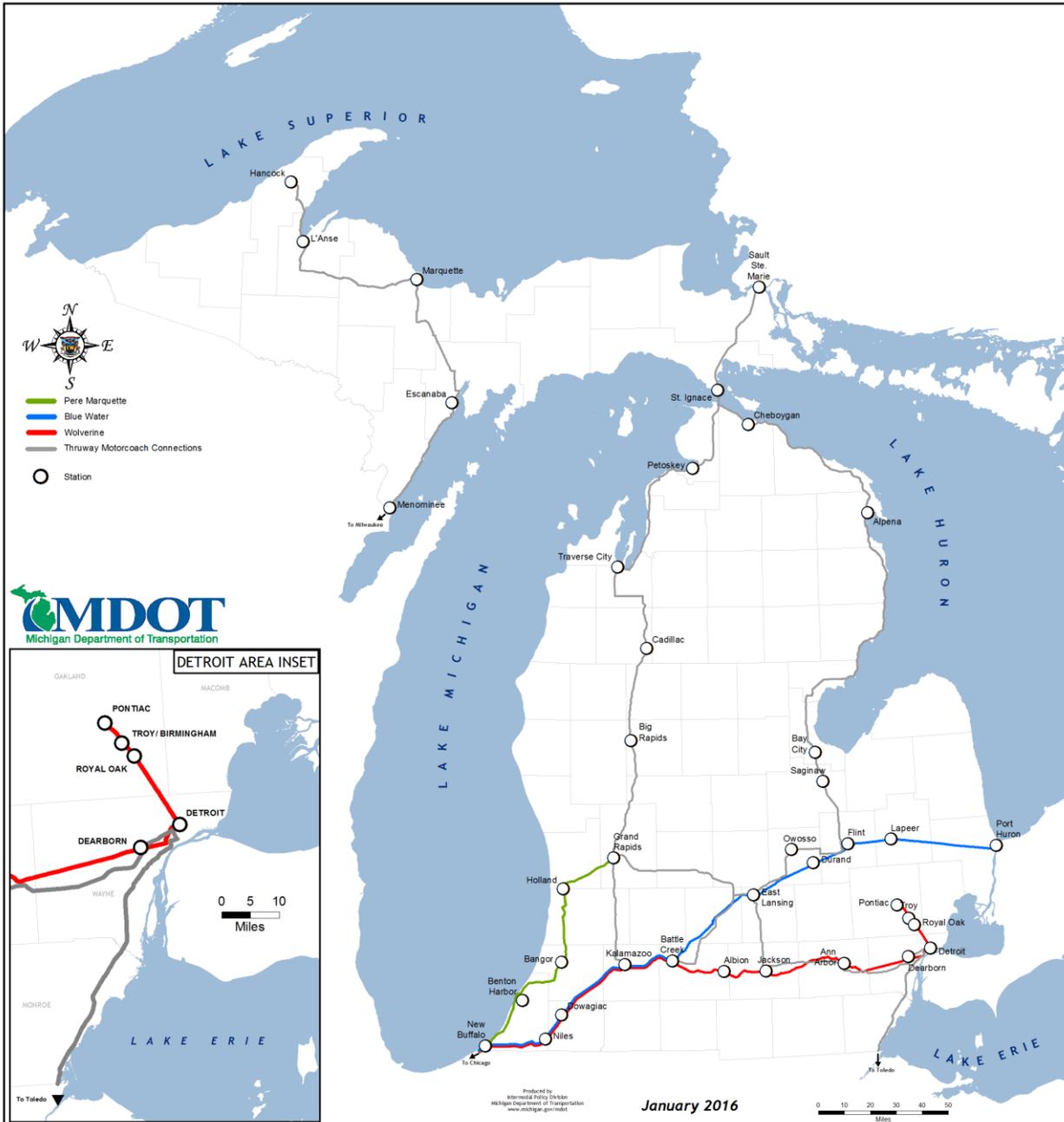
Status of Intercity Passenger Rail Service

Michigan is served by one principal intercity passenger rail service provided by the National Railroad Passenger Corporation (Amtrak), established by Congress with the passage of the National Railway Passenger Service Act of 1970. Amtrak operates a nationwide rail network that serves more than 500 destinations in 46 states, on about 21,000 miles of routes. It is both a business and a public enterprise that relies on funding from Congress. Amtrak initiated service in Michigan in May 1971 as part of its nationwide system. The Wolverine line began in the Detroit and Chicago corridor and was extended to Pontiac in May 1994. The Blue Water line, between Port Huron and Chicago, was initiated in September 1974. Service between Grand Rapids and Chicago began in August 1984 as the Pere Marquette line.

Since the Passenger Rail Investment and Improvement Act of 2008 (PRIIA) took full effect in fiscal year (FY) 2014, taking federal funding away from all but the longest interstate passenger rail routes, state support is needed in order for the three Michigan services to continue. Based on the objective to maintain community access to the national intercity passenger rail network, the State of Michigan currently provides \$25 million per year to support the Blue Water, Pere Marquette and Wolverine services. The current alignments of these Amtrak routes are shown in Figure 1. Intercity passenger rail services are dependent on service contracts with the Michigan Department of Transportation (MDOT). They would not operate without support by the State of Michigan. The State provides 100 percent of the operating and maintenance costs required to cover revenue shortfall.

The Pontiac-Detroit-Chicago corridor is one of the original federally designated High-Speed Corridors. The corridor currently includes the only segment of track outside of the Northeast Corridor (between Boston and Washington, D.C.) that has the technical ability to travel to 110 mph. In February 2012, Amtrak trains began operating at this speed west of Kalamazoo, Michigan, to Porter, Indiana. The intercity passenger rail corridors serve 22 station communities and consists of 521 route miles in Michigan. The Pere Marquette and Blue Water offer one round trip per day. The Wolverine offers three round trips daily.

Figure 1: Michigan's Intercity Passenger Rail System



MDOT's Role in Intercity Passenger Rail Service

Michigan is one of 18 states that contracts with Amtrak for the operation of trains that supplement the national Amtrak network by extending the reach of passenger rail services, or increasing frequencies on national routes. The State Transportation Commission has adopted a policy that acknowledges intercity rail passenger service (including high-speed rail) should be an integral part of the transportation system that meets transportation needs now and in the future. MDOT recognizes that intercity passenger rail is most effective in high-volume travel corridors and performs best with high ridership.

MDOT also is involved in promoting accelerated rail in Michigan as a method to reduce intercity passenger rail travel times that will ultimately be comparable to, or shorter than, auto travel. Accelerated rail provides travel options that conserve energy, reduce pollution, and reduce congestion. Michigan's Accelerated Rail Program is part of a national program to establish a high-speed rail network under the Federal Railroad Administration's (FRA) High-Speed Intercity Passenger Rail Program (HSIPRP).

Finally, Michigan is involved in the Midwest Regional Rail Initiative (MWRRI). This is an effort to ensure Michigan is investing in an intercity passenger rail system that connects to an equally developed system beyond its borders, especially critical in connecting to the Midwest's intercity passenger rail system hub in Chicago. One of the biggest obstacles to improving Michigan's intercity passenger rail service is congestion between Porter, Indiana, and Chicago, Illinois, that causes delays within Michigan. MDOT is leading a multi-state effort to complete a Corridor Investment Plan for the Chicago-Detroit/Pontiac corridor to address these issues.

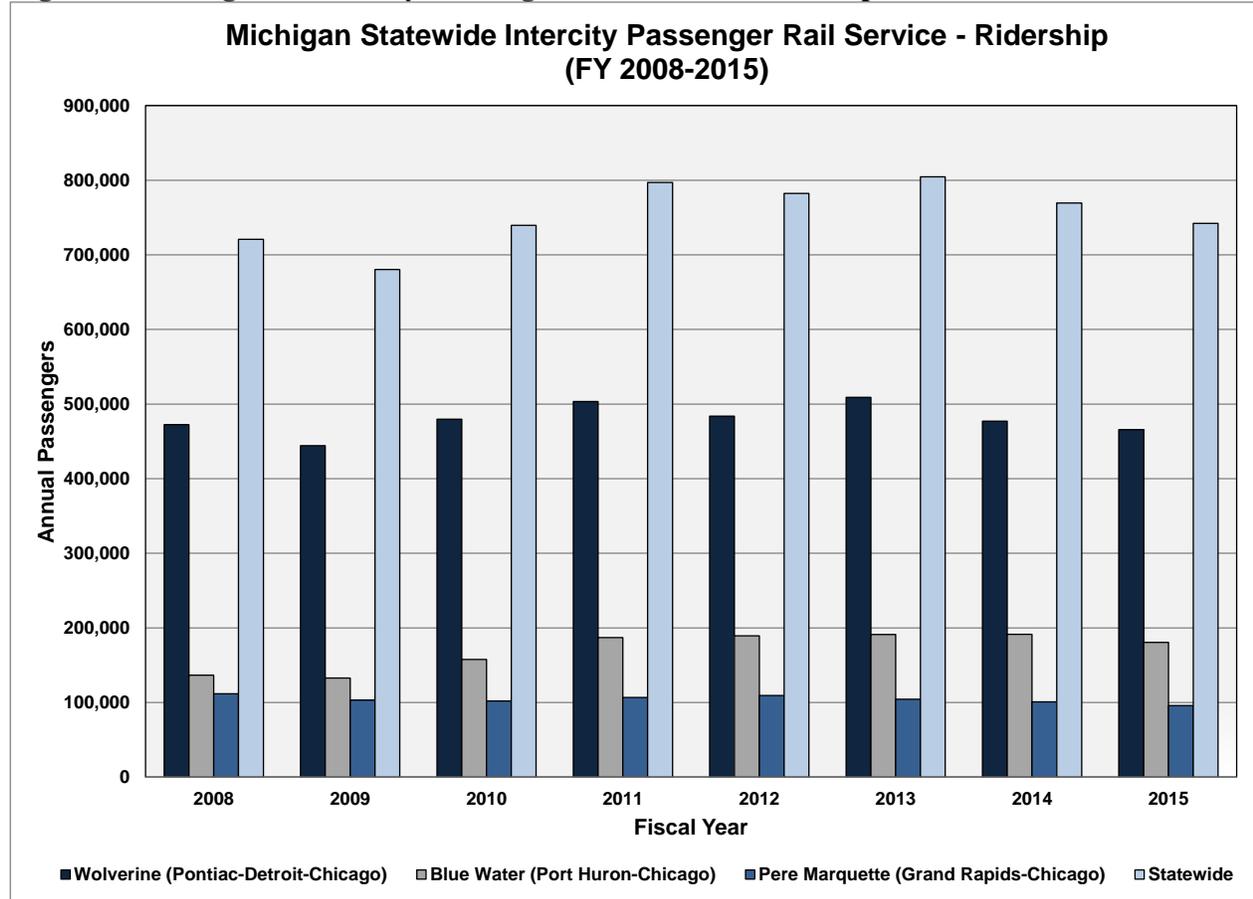
Intercity Passenger Rail Stations

Michigan's 22 stations provide rail passengers the opportunity to access intercity passenger rail transportation along three routes. The amenities offered at these station stops vary from platforms with basic shelters to historic stations and new state-of-the-art transportation facilities. Some of the stations also are intermodal terminals, providing connections to local transit and/or intercity bus.

Intercity Passenger Rail Ridership and Revenue

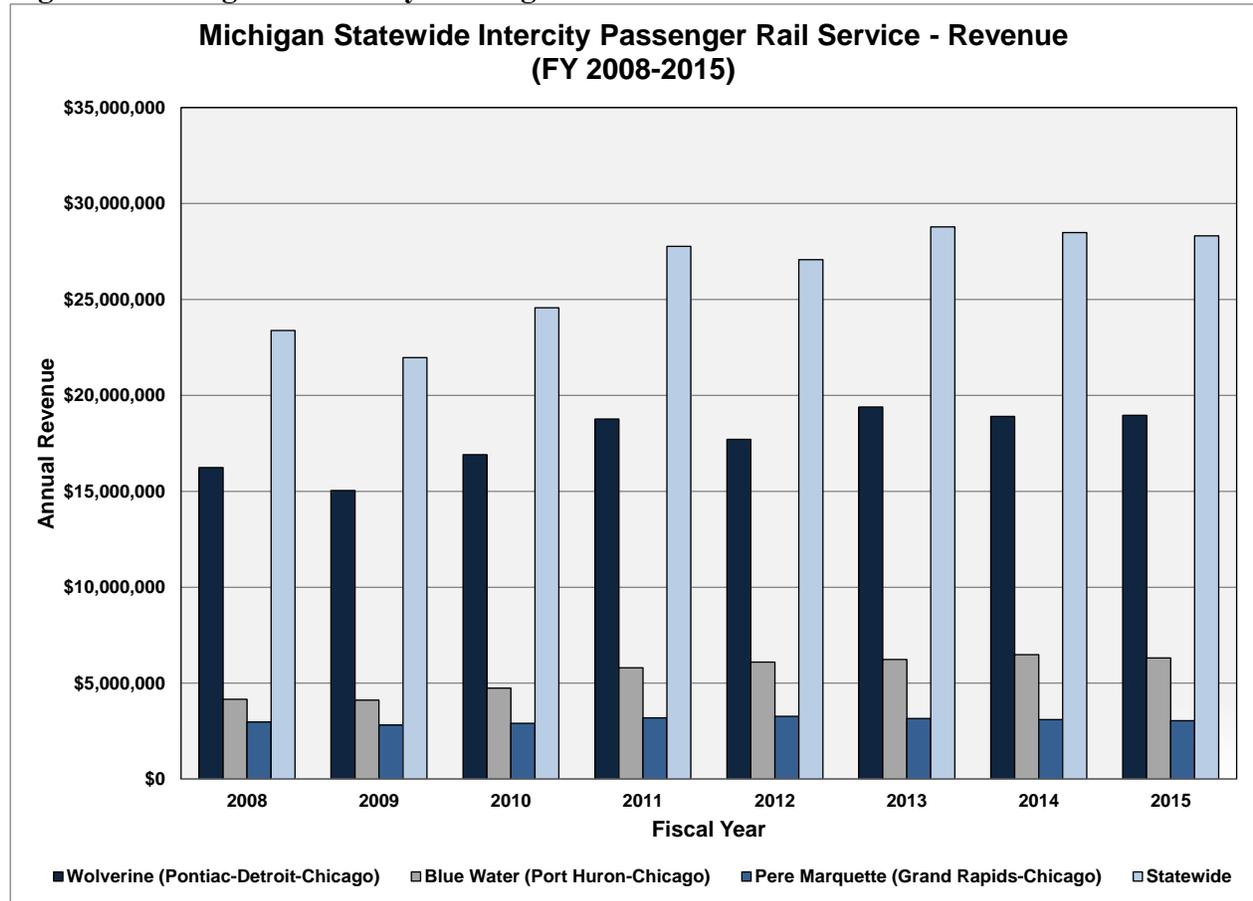
Figure 2 and Figure 3 reflect both ridership and revenue trends since 2008. Intercity passenger rail ridership and revenue continue at high levels.

Figure 2: Michigan’s Intercity Passenger Rail Service Ridership



Source: Amtrak

Figure 3: Michigan’s Intercity Passenger Rail Service Revenue



Source: Amtrak

Intercity Passenger Rail Planning

Planning data is collected on a monthly basis from Amtrak, including ridership, revenue, passenger-mile, train-mile, trip origin/destination, and on-time performance statistics for the three routes serving Michigan. In 2011, the current State Rail Plan was completed and is available on the [MDOT - State Rail Plan](#) website.

Michigan received funding from FRA’s HSIPRP as the lead state to develop a Corridor Investment Plan for the Chicago-Detroit/Pontiac high-speed rail corridor. After this work is completed, Michigan will be eligible to apply for future FRA HSIPR funding and make the improvements necessary to increase frequencies up to 10 round trips on this corridor.

MWRRRI long-range planning continues for regional intercity passenger rail, in cooperation with eight other Midwestern states. Efforts continue to develop an improved and expanded intercity passenger rail system in the Midwest (Figure 4).

Figure 4: Midwest Intercity Passenger Rail System



*Indiana DOT is evaluating additional passenger rail service to South Bend and to Louisville.
**In Missouri, current restrictions limit train speeds to 79 mph.

Source: Michigan Department of Transportation

Intercity Passenger Rail Project Work

MDOT has been very successful in securing more than \$511 million in federal funding to advance Michigan’s Accelerated Rail Program under FRA HSIPRP. The following capital improvement projects are currently under way, recently completed, or scheduled within the Five-Year Work Program (State Transportation Improvement Program).

- Corridor Investment Plan (federal grant amount - \$3.2 million): Funding for the development of a Corridor Investment Plan for the Chicago-Detroit/Pontiac corridor. The Corridor Investment Plan includes completing an Environmental Impact Statement and Service Development Plan.
- Kalamazoo-Dearborn Acquisition and Corridor Enhancement (federal grant amount is \$346.5 million): MDOT purchased approximately 135 miles of railroad between Kalamazoo and Dearborn on the Chicago-Detroit/Pontiac corridor from Norfolk Southern Railway in 2012 and entered into an operating and maintenance agreement with Amtrak.

Construction to enhance this segment of the corridor for accelerated speeds up to 110 mph is under way and will be completed by fall 2016.

- West Detroit Connection Track Project (federal grant amount - \$7.9 million): Construction is nearly complete on this project to separate passenger and freight operations and eliminate a major choke point for the Wolverine line. This new connection track provides a more direct route for passenger trains between the Dearborn station and the Detroit New Center Station.
- Stations Projects (federal grant amount - \$47.9 million): Six station projects, including Dearborn Station relocation; Troy Station relocation and transit-oriented development; Grand Rapids station relocation; Jackson Station historic station improvements; Battle Creek Station renovation; and Ann Arbor Station preliminary engineering and environmental work for a new station.
- Midwest Next Generation Train Equipment Procurement (federal grant amount is \$105 million): Michigan will participate in a joint procurement, led by the Illinois Department of Transportation (IDOT), on a Midwest procurement effort for Next Generation Train Equipment. The new train equipment will replace existing equipment on all three Michigan services. The new equipment is expected to begin delivery in fall 2016.

Intercity Passenger Rail Funding

The Comprehensive Transportation Fund (CTF) is the primary source of state funding for Michigan's public transportation programs. CTF revenue made available to passenger rail has increased in recent years, but has been supplemented by state general funds to meet needs. In November 2015, a new state transportation revenue package was enacted which will provide a more secure source of funding going forward. However, with increasing demands for operating assistance mandated by PRIIA and increased maintenance and capital needs on the state-owned Kalamazoo-Dearborn corridor, funding is barely keeping pace with the increasing needs. Service cuts may be required if funding proves insufficient.

Federal-Grant Funding

As noted previously, Passenger Rail has successfully acquired a number of grants in recent years on FRA's HSIPRP Competitive Grant to enhance passenger rail service in Michigan.

Michigan intends to pursue future grant funding through the Federal Transit Administration (FTA) and FRA, both of which are awarded under a competitive process. They normally require a local and/or state match of 20-50 percent of the required capital.

Performance Metrics

MDOT's Transportation Management System (TMS) contains ridership, revenue, and level of service data supplied monthly by Amtrak. The TMS generates reports using this data by month, or by year, and calculates various ratios used as performance measures.

There are a number of indicators used to measure the performance of intercity passenger rail services. These include:

- Yield (revenue per passenger-mile): This is used by Amtrak to measure the performance of individual trains and services.

- **Cost-effectiveness (revenue to cost ratio):** The revenue-to-cost ratio indicates the ability of revenues generated by the service to cover the cost of providing the service. Revenue and costs can be compared directly or using ratios, such as revenue and cost per passenger-mile, or revenue and cost per train-mile.
- **Productivity (passenger-miles per train-mile):** This indicates how much travel is generated by the service being provided.
- **On-time performance (percentage of trains within allowable arrival time bracket):** Daily reports are accessed, reviewed, and summarized for monthly reports. Trains are expected to leave as scheduled and arrive within 15 minutes of their scheduled arrival time.
- **Customer Service Index (comparisons of monthly customer surveys):** This includes monthly surveys by Amtrak to obtain customer feedback on each service route. This includes obtaining feedback on such factors as overall satisfaction, on-time performance, cleanliness, comfort, staff courtesy, etc.
- **Trip generation (boarding/de-boarding per service area population):** This provides an idea of the ability of a given service area to generate intercity passenger rail ridership.

Amtrak also provides on-time performance data for each of the three routes serving Michigan. MDOT has been provided access to Amtrak's Arrow System for monitoring purposes. This data indicates scheduled arrival times for each station, actual arrival and departure times for each individual train, delay (examples of delay conditions include freight interference, signal interruptions, weather-related problems, speed restrictions and car/train crashes), and other on-time performance statistics. The Arrow System reports allow MDOT to determine problem areas, identify trends that may be disrupting service, or other situations that need to be addressed by Amtrak and MDOT to improve or restore customer satisfaction.