



Intercity Rail Service

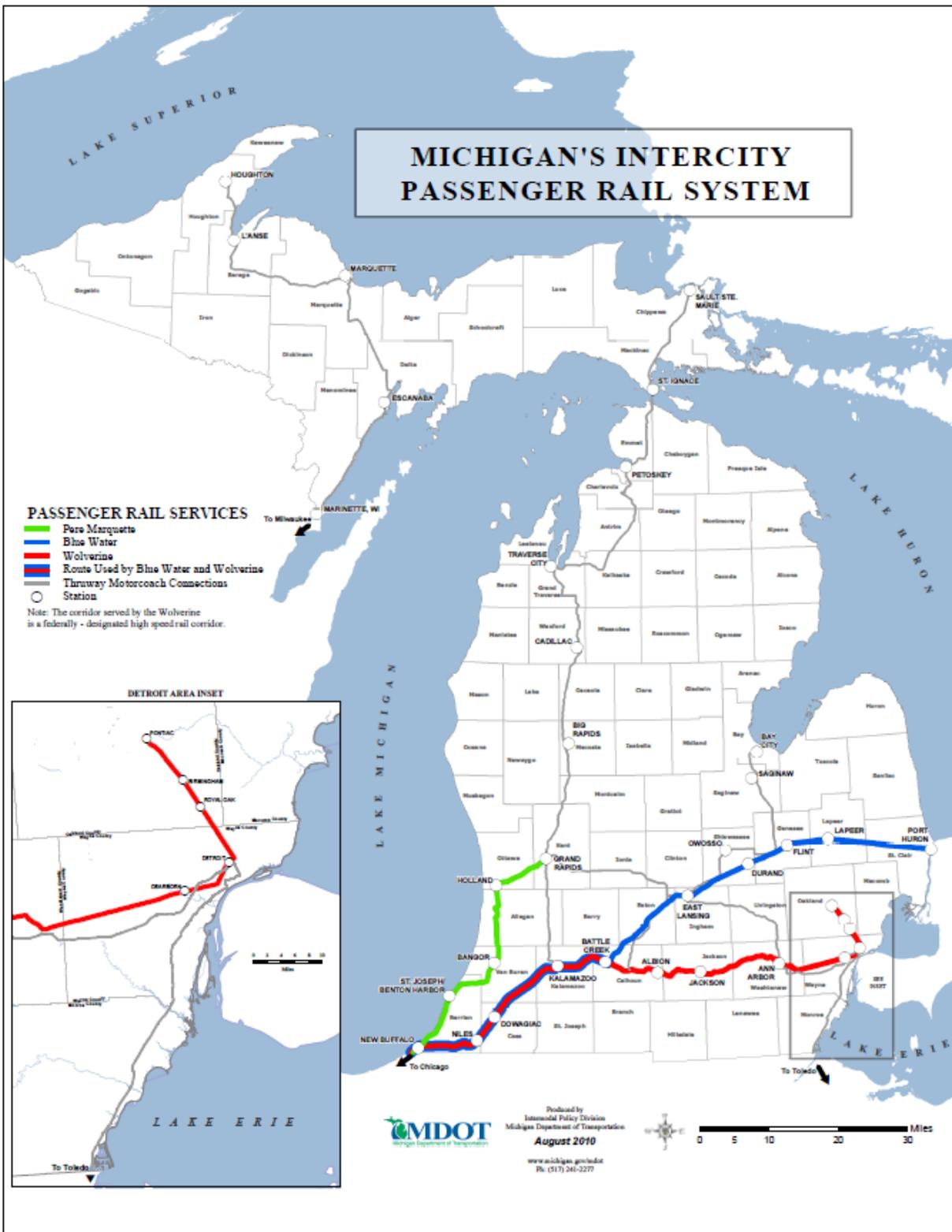
The MI Transportation Plan (MITP) included a technical report on [*Intercity Passenger*](#) transportation that included information and analysis about the intercity passenger rail and bus components of Michigan's passenger transportation system. This white paper provides an update to the intercity passenger 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 on May 5, 1994. The Blue Water line (Port Huron-Chicago) was initiated on Sept. 15, 1974. Service between Grand Rapids and Chicago began on Aug. 5, 1984 as the Pere Marquette line.

State supported intercity passenger rail service in Michigan has emerged in response to federal service funding reductions and to support secondary routes (Blue Water and Pere Marquette services). Based on the state's objective to maintain community access to the national intercity passenger rail network, the State of Michigan currently provides \$8.2 million in funding for the Blue Water and Pere Marquette services. The current alignments of these Amtrak routes are shown in the figure below. Intercity passenger rail services are dependent on service contracts with MDOT. They would not operate without support by the state of Michigan. It is important to note that unlike the Wolverine service, which is part of Amtrak's national system, the Pere Marquette and the Blue Water services are operated by Amtrak at Michigan's request. 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 miles per hour (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 consist 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.





MDOT's Role in Intercity Passenger Rail Service

Michigan is one of 15 states that contract 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 that 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 multistate effort to complete a Corridor Investment Plan for the Chicago-Detroit/Pontiac corridor to address these issues.

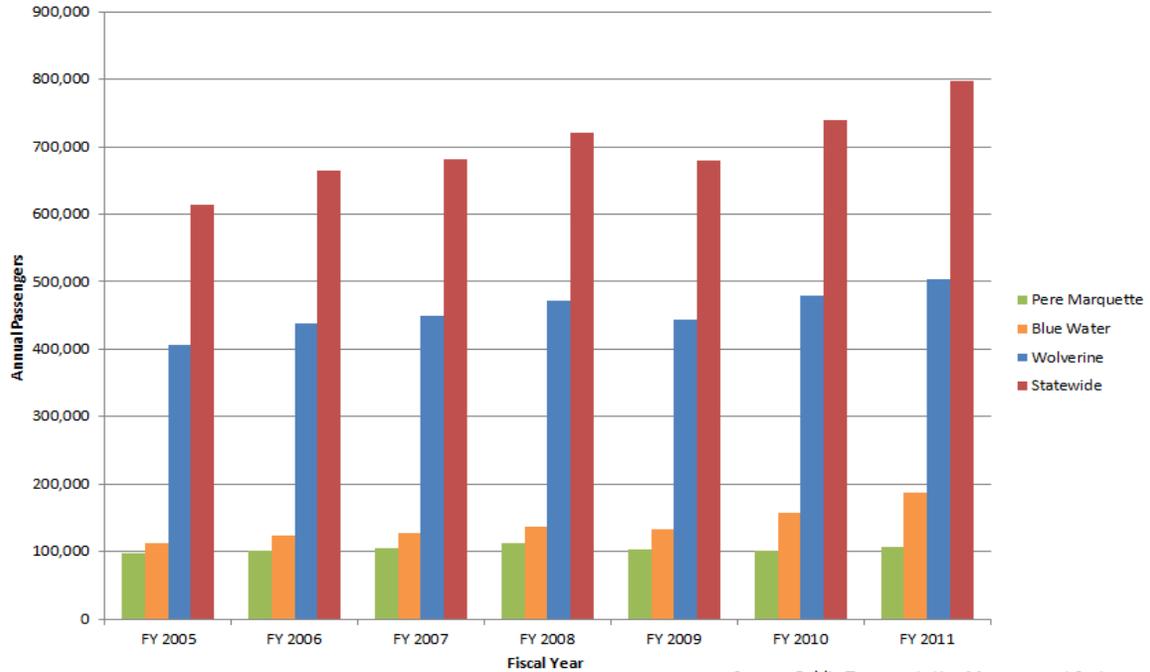
Intercity Passenger Rail Stations

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. Several stations have been recently renovated or replaced and several more are in various stages for future development. Construction of a new Pontiac station was recently completed along with a major renovation to the station in Battle Creek.

Intercity Passenger Rail Ridership and Revenue

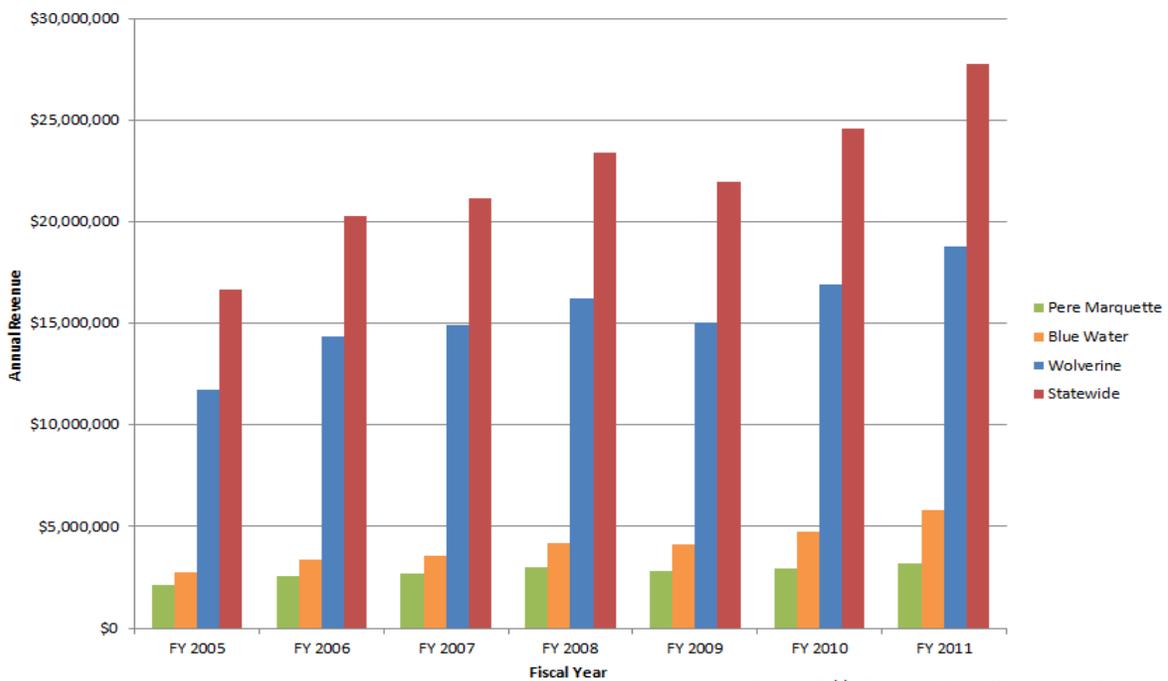
The following chart reflects both ridership and revenue trends since 2005. Intercity Passenger Rail ridership and revenue continue to set new record highs for all three Michigan services.

Michigan Statewide Intercity Passenger Rail Service – Ridership (FY 2005-2011)



Source: Public Transportation Management System

Michigan Statewide Intercity Passenger Rail Service – Revenue (FY 2005-2011)



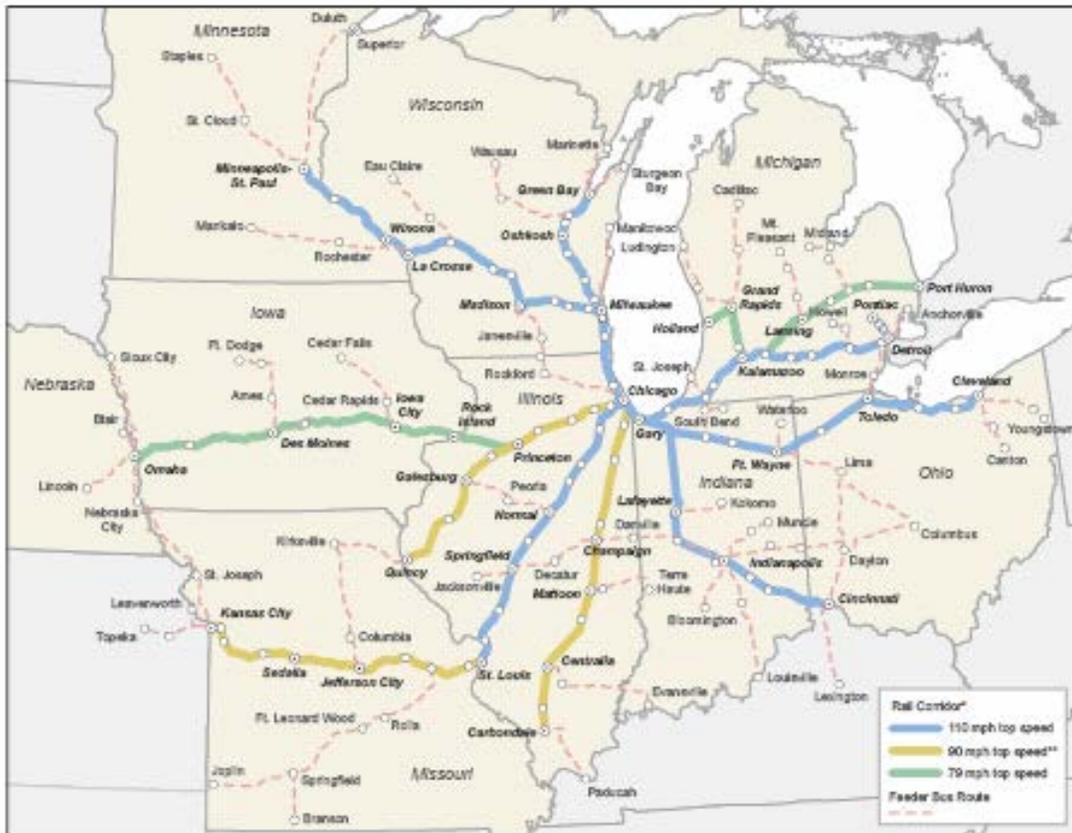
Source: Public Transportation Management System

Intercity Passenger Rail Planning

Planning data is collected on a monthly basis from Amtrak. Data collected includes 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 website: (<http://www.michigan.gov/mdot>).

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.

MWRRI 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.



*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's 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 underway, recently completed, or scheduled within the Five-Year Work Program (State Transportation Improvement Program).

- Corridor Investment Plan \$3.2 million – Funding for 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 \$346.5 million - MDOT entered into a purchase and sale agreement with Norfolk Southern Railway for ownership of approximately 135 miles of railroad between Kalamazoo and Dearborn on the Chicago-Detroit/Pontiac corridor. MDOT has completed negotiations and will enter into an operating and maintenance agreement in the summer of 2012. Construction to enhance this segment of the corridor for accelerated speeds up to 110 mph is scheduled to begin this year and will be completed by fall of 2014.
- West Detroit Connection Track Project \$7.9 million – With final design nearly complete, the project is expected to begin construction in the spring of 2013. The West Detroit connection between the Canadian National/Norfolk Southern mainline and Conrail Shared Assets Operations mainlines is a major choke point for the Wolverine line. The project is to construct a new connecting track that would enable passenger services to be separated from freight service, avoiding the 15 mph speed restriction on the existing route. It would travel up to 40 mph, providing more efficient and direct passenger rail services. This new connection track provides a more direct route for passenger trains between the Dearborn station and the Detroit New Center Station.
- Stations Projects \$47.9 million - Six station projects including Dearborn Station relocation, Troy Station relocation and transit-oriented development, Jackson Station historic station improvements, Battle Creek Station renovation, Ann Arbor Station preliminary engineering and environmental work for a new station, and finally the development of a new Grand Rapids Station.
- Midwest Next Generation Train Equipment Procurement \$105 million - Michigan will participate in a joint procurement, led by Illinois Department of Transportation (DOT), 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 2015.



- Porter, IN-Kalamazoo (completed 2012) – Next Generation High-speed Rail Program - Incremental Train Control System between Porter, Indiana and Kalamazoo, Michigan This segment of Amtrak ownership represents nearly 100 miles of the federally designated Chicago-Detroit/Pontiac High-speed Rail Corridor. Passenger trains speeds of 110 mph were approved and began in February 2012.

Intercity Passenger Rail Funding

The Comprehensive Transportation Fund is the primary source of state funding for Michigan's public transportation programs. Fortunately, ridership and revenue have increased on the intercity routes to help offset the amount of state support required. However, the increased ridership and revenue is not enough to offset continued reductions in the appropriation. Service cuts may be required if the additional funding is not provided.

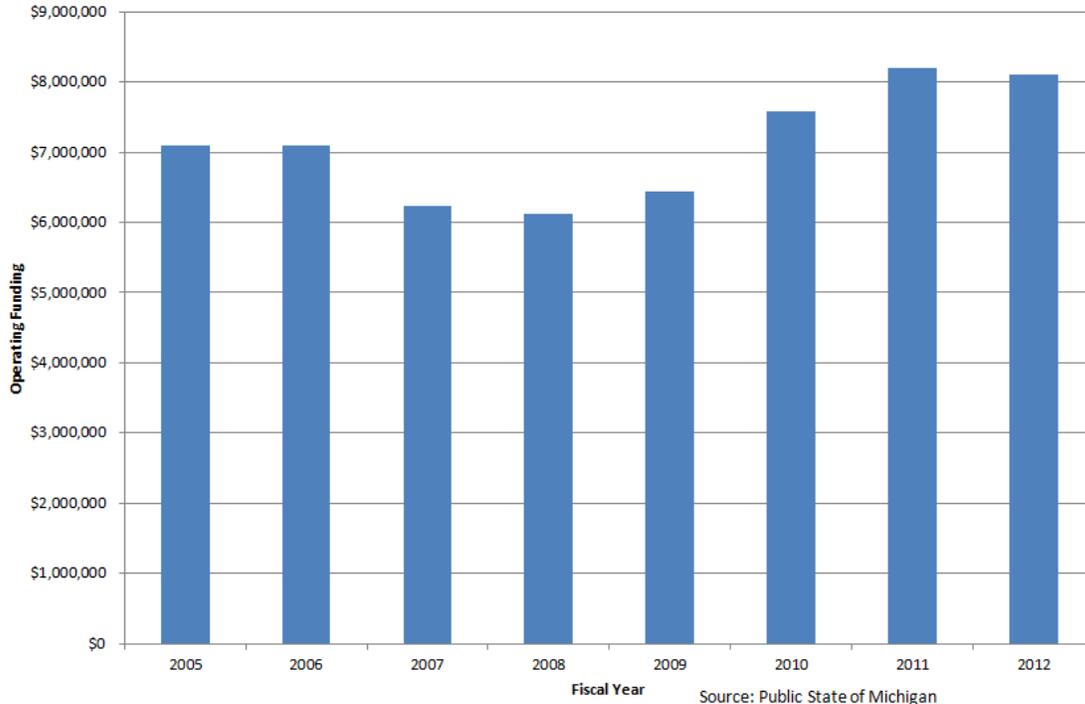
Additionally, Section 209 of the Passenger Rail Investment and Improvement Act of 2008 (PRIIA) required Amtrak to develop a cost methodology for all corridors under 750 miles in length. PRIIA also requires the shifting of funding services from the federal government via Amtrak to the states for services on designated high-speed rail corridors (Wolverine), short-distance corridors or routes of not more than 750 miles, and services operated at the request of a state (Pere Marquette and Blue Water). Therefore, all Michigan existing intercity and future high-speed rail passenger services are affected by this legislation.

The methodology that is developed must ensure that within five years from the date of enactment (October 2013), comparable services in all states and groups of states will be treated equally. Further, the methodology must allocate to each route the costs incurred only for the benefit of that route, and a proportionate share, based upon factors that reasonably reflect relative use of costs incurred for the common benefit of more than one route. Once implemented, the methodology may be revised at any time by Amtrak, as long as revisions are consistent with the intent of PRIIA and are done in consultation with U.S DOT and the states.

Amtrak estimates cost for MDOT on all three Michigan services at \$23.8 million for operating and capital. This includes \$14.2 million for the Wolverine service, \$6.1 million for the Blue Water service, and \$3.5 million for the Pere Marquette service.



**Michigan Statewide Intercity Passenger Rail Service – Operating Funding
(FY 2005-2012)**



Federal Funding

Corridor Development

Title IX federal funds in the amount of \$70 million have been authorized for each of the fiscal years (2006 through 2013) to develop rail corridors, including the development of the infrastructure and the acquisition of rights-of-way, locomotives, rolling stock, and signal equipment.

Technology Development

Title IX federal funds in the amount of \$30 million have been authorized for each of the fiscal years (2006 through 2013) for improving rail technology.

Rail Service and Capacity Enhancement

Title IX authorizes \$35 billion in loan authority for projects that enhance rail service and capacity. Such investments could result in reduced travel times and/or improved on-time performance by increasing the capacity of the rail system.

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 and the Federal Rail Administration, 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. In 2005, the yield was 14 cents for the Pere Marquette, 12 cents for the Blue Water, and 13 cents for the Wolverine. This resulted in 13 cents for the entire Michigan system.
- 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 (boardings/de-boardings 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 provided access to Amtrak's Arrow System for monitoring purposes. This data indicates scheduled arrival times for each station and 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.