# Indiana State Rail Plan

## Preliminary Executive Summary

Indiana Department
of Transportation

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## Rail Plan Purpose and Content

The 2011 Indiana State Rail Plan is intended to articulate the current and future role of both freight and passenger rail within the Indiana multimodal system. The State Rail Plan continues the efforts that were commenced through the preparation of the 2009 Indiana State Rail Plan. This previous work is being updated to comply with standards that were established by the U.S. Congress in the 2008 Passenger Rail Investment and Improvement Act (PRIIA). The Act requires that states applying for federal rail passenger funding have an approved State Rail Plan which includes the following:

- An inventory of the existing overall rail transportation system and rail services and facilities within the State and an analysis of the role of rail transportation within the State's surface transportation system.
- A review of all rail lines within the State, including proposed high-speed rail corridors and significant rail line segments not currently in service.
- A statement of the State's passenger rail service objectives, including minimum service levels, for rail transportation routes in the State.
- A general analysis of rail's transportation, economic, and environmental impacts in the State, including congestion mitigation, trade and economic development, air quality, land use, energy-use, and community impacts.
- A long-range rail investment program for current and future freight and passenger infrastructure.
- A statement of public financing issues for rail projects and service in the State, including a list of current and prospective public capital and operating funding resources, public subsidies, State taxation, and other financial policies relating to rail infrastructure development.
- An identification of rail infrastructure issues within the State that reflects consultation with all relevant stakeholders.
- A review of major passenger and freight intermodal rail connections and facilities within the State, including seaports, and prioritized options to maximize service integration and efficiency between rail and other modes of transportation within the State.
- A review of publicly funded projects within the State to improve rail transportation safety and security.
- A performance evaluation of passenger rail services operating in the State, including possible improvements in those services, and a description of strategies to achieve those improvements.
- A compilation of studies and reports on high-speed rail corridor development within the State not included in a previous plan under this subchapter, and a plan for funding any recommended development of such corridors in the State.

This document provides a summary of preliminary research efforts and findings to-date regarding the 2011 State Rail Plan.

## Indiana Department of Transportation Rail Functions

### *Draft INDOT Action Plan from 2010 – 2035 LRTP*

The Indiana Department of Transportation Draft of the *2010 – 2035 Long Range Transportation Plan* proposes the following action plan for the State's rail system:

- Continue to closely monitor the lowest-traffic-density short lines and their continued viability and to develop contingency plans where potentially necessary.
- Where the future need is apparent, preserve to the extent possible the 667-mile short line network by continuing to fund track structure rehabilitation, upgrading track structures and bridges to accommodate carloads up to 286,000 lbs.
- Evaluate the attention focused on highway/rail at grade crossings, warning devices, and associated laws provided in drivers license examinations and driver education classes (possibly through a driver survey).
- Examine the potential for public/private partnership to design and construct a new passenger station at Michigan City. Potential participants include the state, Amtrak, private concessionaires, local government, etc.
- Continue regular coordination utilizing Logistics Council as a mechanism to program with the Ports of Indiana and other public port authorities to promote and facilitate intermodal interface with rail in support of Indiana Industries.
- Continue regular coordination with state agencies that support industrial development matters that affect rail carriers, as well as to keep informed of changing industrial trends that will affect the Indiana rail network.
- Continue support of state and regional passenger rail planning activities.
- Continue regular formal meetings with railroads, including Amtrak, shippers, and other stakeholders including the Departments of Transportation in adjacent states.

### *State Rail Funding in Indiana*

The Indiana Industrial Rail Service Fund (IRSF) was established in 1982. The funding is intended to help upgrade Class II and Class III freight railroad physical plant and assist in railroad track improvements related to new business development. The program provides grant and/or loan funding for the rehabilitation of railroad infrastructure or railroad construction. Funding cannot exceed 75 percent of the total cost of the project, but the railroad's contribution may include funds from other state or federal entities.

Funding for the program is generated through a small percentage of the state sales tax and the repayment of past IRSF loans. The maximum grant award is limited based on the total amount available from the funding source, which currently averages $1.5 million to $1.7 million annually. The IRSF is administered by the INDOT Rail Office. In FY2011 IRSF grants totaling $1,498,407 were awarded to eight railroads in the state.

The state-funded Railroad Grade Crossing Fund was instituted by the Indiana State Legislature in 1997 to provide funding for railroad crossing safety improvement projects throughout the state. The program applications are for both passive crossings (which do not utilize automated train-activated warning devices) and train-activated crossings. The funding source for this program is an appropriation from the Indiana General Assembly funded by the Indiana Motor Vehicle Highway Fund. Railroads and local public agencies can apply for other safety improvement grants which include advance warning signs, pavement marking, illumination, surface improvements, vegetation management, and signal lighting upgrades.

The Railroad Grade Crossing Fund can also be used for crossing closures. Crossing closure awards, which permanently close a rail-highway intersection to vehicular traffic, have ranged from $15,000 to $60,000 based on the federal predicted accident rate at the crossing, and the funding criteria established in each funding year. Only local public agencies can receive a closure award.

The Indiana Economic Development Corporation (IEDC) provides financial support for infrastructure improvements in conjunction with projects creating jobs and generating capital investment in Indiana. The program provides funding to local governments for off-site infrastructure projects associated with an expansion of an existing Indiana company or the location of a new facility in Indiana. Funding must be matched by a combination of local government and company financial support. Eligible uses for these funds include the construction, extension or completion of rail spurs and sidings.

### *Federal Rail Funding in Indiana*

Indiana takes advantage of federally funded rail-eligible programs.

The Section 130 Highway-Rail Grade Crossing Program provides federal support in an effort to reduce the incidence of accidents, injuries and fatalities at public highway-rail crossings. States may utilize funds to improve railroad crossings, including the installation or upgrading of warning devices, the elimination of at-grade crossings through grade separation, or the consolidation or closing of crossings. The federal share for these funds is currently 100 percent. INDOT receives approximately $7.2 million in Section 130 funding annually, completing an average of 20 to 25 projects per year.

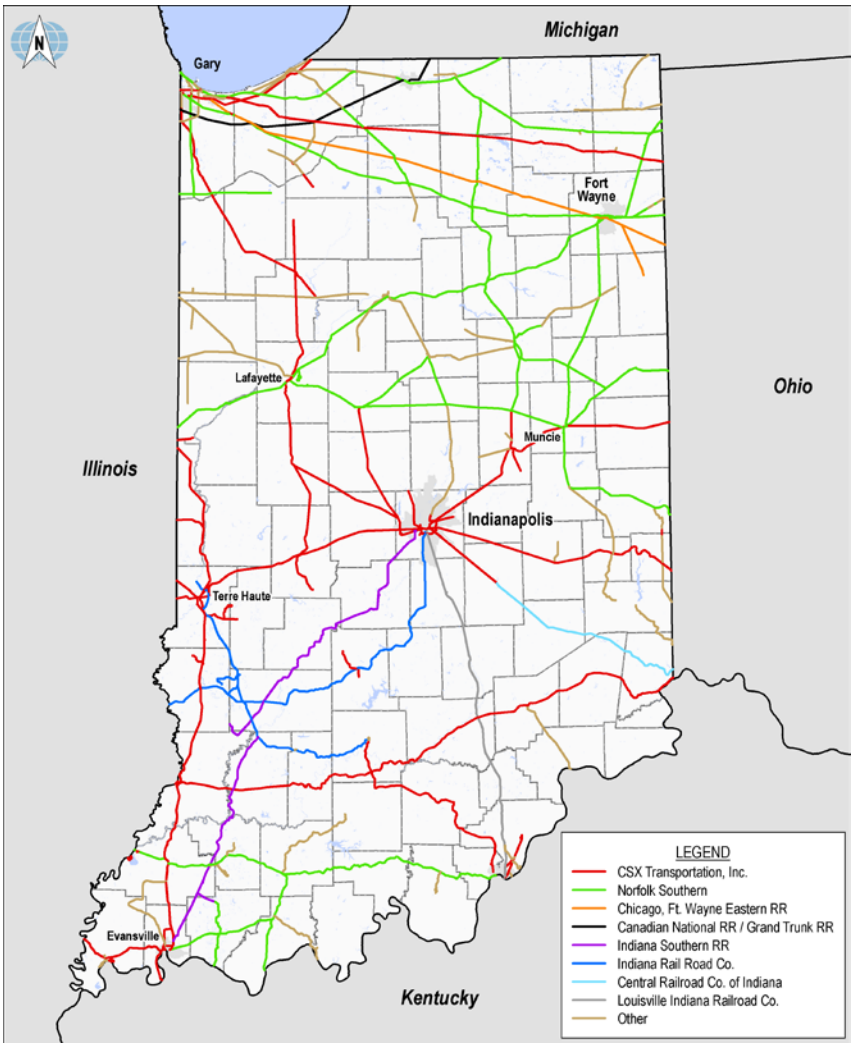
Indiana also participated in a joint High Speed Rail Passenger funds application for the Chicago-Kalamazoo-Detroit corridor for a Service Development Plan and Service NEPA which was awarded $3.2 million.

Indiana has also been allocated $441,000 for a grade separation project in Elkhart, $380,000 for a rail bridge rehabilitation project in Perry Co., and $906,000 for rail line rehabilitation planning in Terre Haute through the Rail Line Relocation Program of the Safe, Accountable, Flexible, Efficient Transportation Equity Act – a Legacy for Users (SAFETEA-LU).

## Overview of the Indiana Rail Network

Three Class I (large) railroads and 39 Class II, III (small) railroads operate over almost 4,000 route miles of active rail lines in the state. **Exhibit 1** is a map of the Indiana freight rail network.

**Exhibit 1: Indiana Rail Network**




*Source: Wilbur Smith Associates with INDOT data*

The rail network within Indiana is an important component to the nation's rail network. In 2008, Indiana was ranked ninth in the nation for total tons carried and seventh in the nation for total carloads. Indiana was among the top ten states in terms of originating rail tonnage for coal, farm products, food products, primary metal products, and waste and scrap. Indiana is the largest originating state for primary metal products, accounting for 21 percent of the nation's originating rail primary metal tonnage. Indiana is among the top ten destination states for coal, petroleum products, primary metal products, and waste and scrap.

In 2009, railroads in Indiana carried a total of 247 million tons and 5.4 million carloads of freight (**Exhibit 2**). The vast majority, approximately 70 percent, of the rail traffic was overhead freight, which passed through Indiana between markets outside the State.

**Exhibit 2: Indiana Rail Traffic Directional Flows**

| Traffic Type | Tons (million) | Percent | Carloads/Units | Percent |
|---|---|---|---|---|
| Interstate Inbound | 28.6 | 11.56% | 329,234 | 6.11% |
| Interstate Outbound | 25.8 | 10.45% | 338,301 | 6.28% |
| Intrastate | 21.5 | 8.71% | 199,708 | 3.70% |
| Through Freight | 171.1 | 69.28% | 4,523,782 | 83.91% |
| **Total=** | **247.0** | **100.00%** | **5,391,025** | **100.00%** |

*Source: Prepared by Wilbur Smith Associates, based on STB Waybill Sample Data*

Coal is the highest volume commodity that travels to or from locations in Indiana (to/from locations within and outside of Indiana).

**Exhibit 3: Originating and Terminating Tonnage by Commodity**

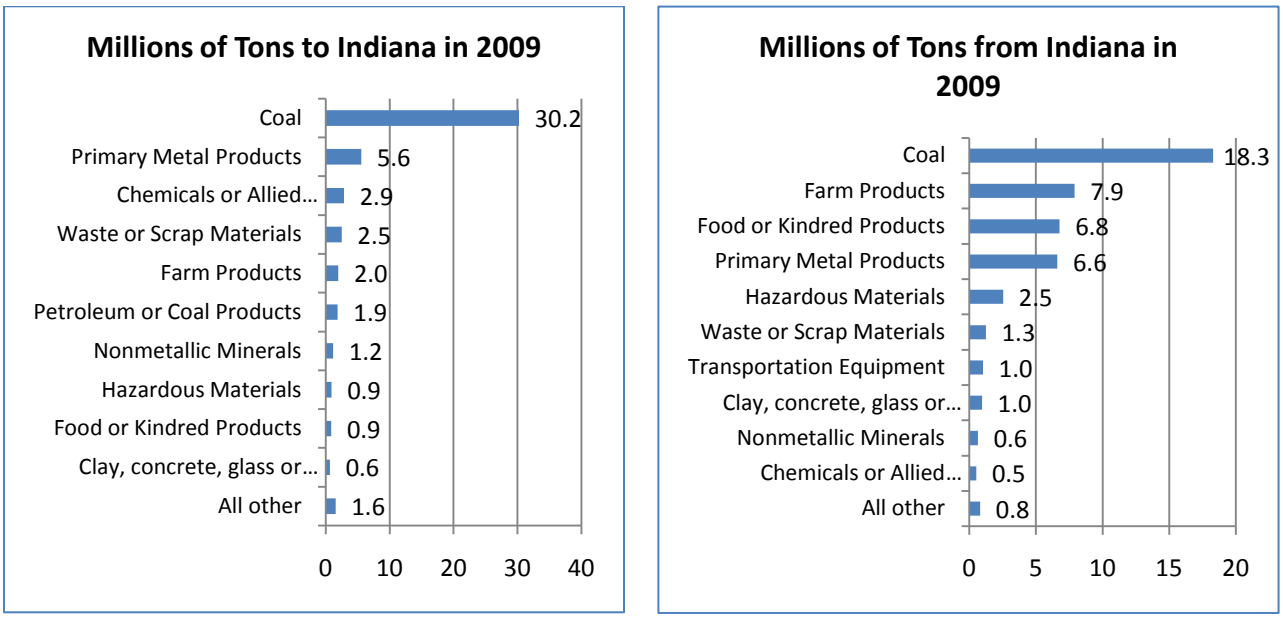
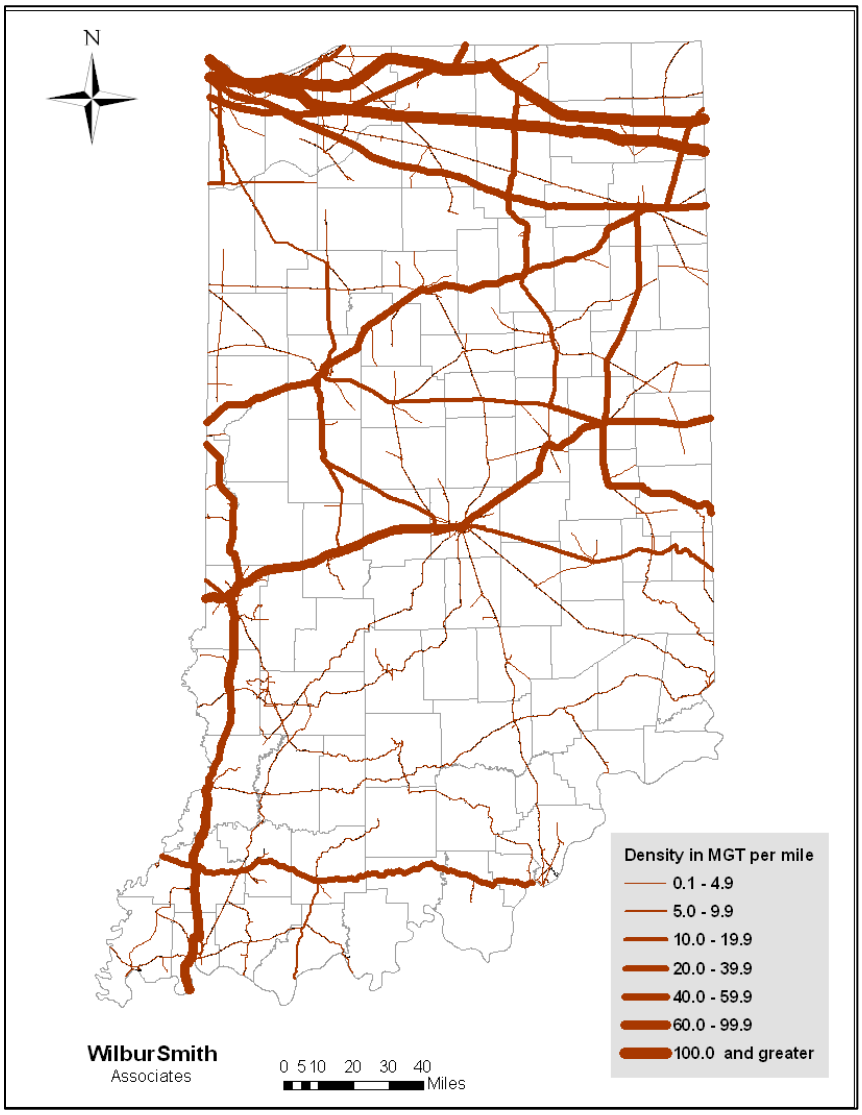



**Exhibit 4** displays the density of rail lines within Indiana in millions of gross tons[1] per mile per year. As can be seen, many of the highest density rail lines cross east-west in the northerly portion of the state.

[1] "Gross ton" statistics include both the weight of cargo and the weight of railcars and locomotives in contrast to "Net ton" figures which include only the weight of the cargo.

**Exhibit 4: 2008 Density of Indiana Rail Lines in Millions of Gross Tons per Mile**



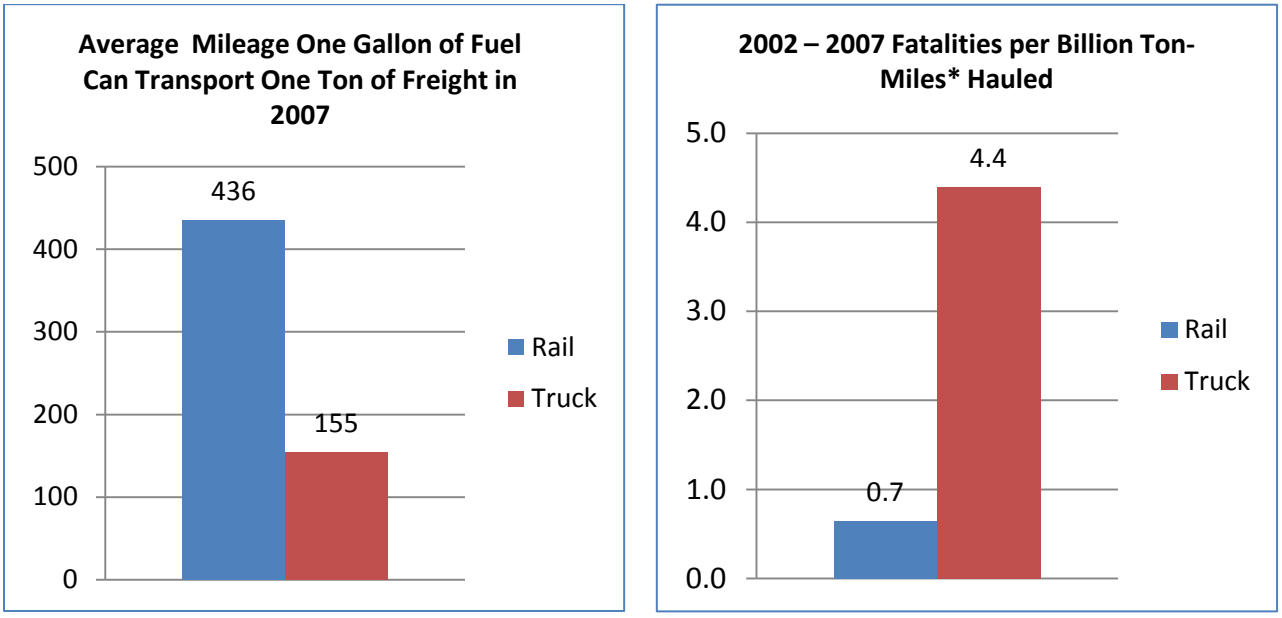

*Source: Prepared by Wilbur Smith Associates based upon data supplied by INDOT and the FRA*

## Impacts of Freight Rail Transportation in Indiana

Freight rail service has a large impact on the competitive position of Indiana businesses, as well as on the general quality of life within the state. For shippers that receive or ship low value, bulk commodities long distances, rail service can not only be beneficial, but vital to continued business success due to its lower transportation costs. Rail provides a number of societal benefits as well. A single freight train can carry the equivalent of 280 truck loads or more of freight, thus potentially removing large volumes of freight from the highway system. Rail is also a relatively safe and fuel efficient mode of transportation. Data from the Texas Transportation Institute and the Association of American Railroads suggests that rail was

2.8 times more fuel efficient than trucking in 2007.[2] Data from the Texas Transportation Institute suggests that the rate of fatalities per ton-mile for rail is about16 percent of that for trucking.[3]

**Exhibit 5: Comparison of Truck and Rail Fuel Consumption, Fatality Rate**




*Source: Association of American Railroads, Texas Transportation Institute*

*A ton-mile is the movement of one ton of freight one mile

## Rail Safety in Indiana

A number of federal and Indiana state agencies, in concert with local communities and Indiana rail operators continue to make progress to increase rail safety and security. Rail safety requirements are provided through a combination of federal and state laws. Most safety-related rules and regulations fall under the jurisdiction of the Federal Railroad Administration (FRA), as outlined in the Rail Safety Act of 1970 and other legislation, such as the recent Rail Safety Improvement Act of 2008. The primary rail safety issues relate to the following: highway/rail at-grade crossing safety, rail safety inspection, trespassers on rail lines, movement of hazardous materials, and the implementation of new technology. As is shown in **Exhibit 6**, the level of rail safety in Indiana has improved significantly in the past decade, with a declining trend in fatalities, injuries, and the number of accidents.

**Exhibit 6: Total Rail Accidents/Incidents in Indiana (2001-2010)**

| | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|
| Fatalities | 28 | 26 | 29 | 39 | 36 | 23 | 34 | 28 | 27 | 16 |
| Nonfatal Injuries | 240 | 201 | 201 | 211 | 194 | 207 | 204 | 192 | 168 | 161 |
| Other Accidents/Incidents | 171 | 150 | 168 | 174 | 214 | 149 | 164 | 137 | 83 | 107 |
| **Total** | **439** | **377** | **398** | **424** | **444** | **379** | **402** | **357** | **278** | **284** |

*Source: FRA Office of Safety Analysis*

[2] Association of American Railroads, *Railroad Facts*, 2009 Edition, Texas Transportation Institute, *A Modal Comparison of Domestic Freight Transportation Effects on the General Public*, Amended March 2009.
[3] Ibid. Texas Transportation Institute.

As shown in **Exhibit 7**, train accidents usually account for a relatively small portion of accidents/incidents.[4] In most years, other accidents/incidents occur with greater frequency than highway-rail incidents.

**Exhibit 7: Rail Accidents/Incidents in Indiana by Type (2001-2010)**

| | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|
| Train Accidents | 90 | 54 | 84 | 81 | 95 | 65 | 78 | 67 | 42 | 42 |
| Highway-Rail Incidents | 165 | 175 | 146 | 159 | 177 | 140 | 164 | 141 | 98 | 112 |
| Other Accidents/Incidents | 184 | 148 | 168 | 184 | 172 | 174 | 160 | 149 | 138 | 130 |
| **Total** | **439** | **377** | **398** | **424** | **444** | **378** | **402** | **357** | **278** | **284** |

*Source: FRA Office of Safety Analysis*

## Existing Passenger Rail Service

Intercity passenger rail travel is provided by the National Railroad Passenger Corporation, also known as Amtrak, to a limited number of cities across Indiana's northern and central regions. Amtrak Thruway Motor Coach services provide connections to Amtrak trains in South Bend and Indianapolis. Commuter rail service in Northern Indiana is provided by the Northern Indiana Commuter Transportation District (NICTD).

**Exhibit 8: Summary of Existing Passenger Rail Routes**

| Route | Description | Indiana Station Locations | Frequency |
|---|---|---|---|
| Amtrak *Cardinal/ Hoosier State* | *Cardinal:* New York – Chicago via Indianapolis, Philadelphia, Baltimore, Washington, DC; *Hoosier State*: Indianapolis to Chicago | Connersville, Indianapolis, Crawfordsville, Lafayette, Rensselaer, Dyer | *Cardinal:* 1 round trip 3 days per week; *Hoosier State:*1 round trip 4 days per week |
| Amtrak *Capitol Limited* | Chicago to Washington, DC via Cleveland and Pittsburgh | Waterloo, Elkhart, South Bend | 1 round trip daily |
| Amtrak *Lake Shore Limited* | Chicago – New York/Boston via Cleveland and Buffalo | Waterloo, Elkhart, South Bend | 1 round trip daily |
| Amtrak *Wolverine* | Chicago – Detroit/Pontiac | Hammond-Whiting, Michigan City | 3 round trips daily |
| NICTD Commuter Rail | South Bend – Chicago | Hammond, East Chicago, Gary, Portage, Chesterton, Michigan City, Hudson Lake, South Bend | Weekdays: 20 trains westbound, 21 trains eastbound; Weekends and holidays: 11 eastbound, 10 westbound |

## Proposed Passenger Rail Service

The Midwest Regional Rail Initiative (MWRRI) is an ongoing effort to improve rail service in the Midwest, sponsored by transportation agencies from the states of Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Nebraska, Ohio, and Wisconsin. Additional sponsors and stakeholders include

[4] Train accidents are defined as an "event involving on-track rail equipment that results in monetary damage to the equipment and track above a certain threshold. Lading, clearing costs and environmental damage is not included. A highway-rail incident is considered to be "any impact between a rail and a highway user at a crossing site, regardless of severity." Other incidents are "events other than train accidents or crossing incidents that caused a death or nonfatal condition to any person." Most fatalities in this category are trespassers.

Greyhound Lines, Inc., the Federal Railroad Administration (FRA), and Amtrak. The plan calls for a series of passenger rail routes with speeds up to 110 miles per hour, resulting in reduced travel times with increased train frequencies and improved on-time performance relative to existing Amtrak services. The proposed Midwest Regional Rail System is shown in **Exhibit 9.**

**Exhibit 9: Midwest Regional Rail System**


Some of the activities regarding the MWRRI with which INDOT has been involved include the following:

- In fall 2009, the Michigan DOT, in cooperation with the Illinois and Indiana DOTs, released a *Service NEPA Environmental Assessment, Chicago-Detroit/Pontiac Rail Corridor Improvements from Chicago, Illinois to Pontiac, Michigan*. This is the route used by the existing Amtrak *Wolverine* service. The project would involve upgrades of the track and stations to allow higher speeds, purchase 134 miles of the NS line between Kalamazoo and Dearborn on which NS plans to downgrade speeds, purchase of new rolling stock. In October 2009, the FRA announced the award of $150 million in High-Speed Intercity Passenger Rail (HSIPR) Program funding to Michigan DOT for the proposed purchase and incremental restoration of the NS Kalamazoo-Dearborn line.
- In August of 2009, Indiana DOT submitted an application to the FRA for HSIPR Program for funding of the Indiana Rail Gateway Project. That project, estimated to cost $71.4 million, would

upgrade the NS Chicago-Cleveland line between Porter and the Indiana/Illinois state line and the Amtrak Michigan Line east of Porter. This project was selected for a grant under the HSIPR Program.

- In October 2009, Indiana DOT submitted an application to the FRA for HSIPR Program for funding the Chicago-Cleveland High Speed Rail Project. That project, estimated to cost $2.8 billion, would implement high speed rail services at speeds of up to 110 mph in the states of Indiana, Illinois and Ohio. The project would consist of new track, track upgrades and the purchase of rolling stock. However, this project was not selected for a grant under the HSIPR Program, per the selections announced in October, 2010.

Apart from the MWRRI, Indiana DOT in September 2005 released a study on the potential for a high speed rail service between Indianapolis and Louisville. This service would replace the discontinued Amtrak *Kentucky Cardinal* and connect with the *Cardinal* and *Hoosier State* services in Indianapolis.

In March of 2011, NICTD published its *West Lake Corridor Study*. The purpose of the study was to identify and evaluate alternatives to serve the broader portions of Lake and Porter Counties with commuter services to downtown Chicago. NICTD is also investigating two changes to its existing route. First is a potential reroute through Michigan City, so that the line would no longer run on track embedded in 11th Street, while the second is a new route to access the South Bend Station from the west rather than approaching it circuitously from the east as it does today.

Potential new commuter services have been investigated in Indianapolis as part of the Indy Connect initiative. The Indiana General Assembly passed an act in 2007 requiring INDOT to study the feasibility of a commuter rail system with service from Muncie to Indianapolis and from Indianapolis to Bloomington, including stops in Anderson, Noblesville, Fishers, Indianapolis, and Bloomington. The resulting study was published in 2008.

## Indiana Rail Issues and Opportunities

Freight tonnage on Indiana's rail network is expected to increase by about 50 percent between 2009 and 2040. This will place a significant strain on Indiana's rail network. A recent report by the Association of American Railroads suggests that unless the capacity of Indiana's major rail lines is significantly expanded, many of these lines will be above capacity by 2035.[5] The forecasted level of service on Indiana's primary rail lines without capacity improvements is shown in **Exhibit 10**. The red lines are those that are expected to be over capacity; the yellow, at capacity; and the green, below capacity.

Other capacity issues relate to the low density rail lines within the state. Increasingly, the industry is switching to railcars that have a maximum allowable weight of 286,000 pounds. But many smaller railroads in Indiana, as in other states, operate over tracks and bridges that cannot accommodate these heavier cars. **Exhibit 11** classifies rail lines within the state as to their ability to handle 286,000 lb

[5] Cambridge Systematics, Inc. for the Association of American Railroads, *National Rail Freight Infrastructure Capacity and Investment Study*, September 2007.

railcars.[6] Red lines signify track which cannot accommodate 286,000 lb cars, rail lines outlined in yellow can accommodate some 286,000 lb loadings, and lines in green can accommodate the heavier railcars.

**Exhibit 10: Indiana Corridor Level of Service in 2035 without Improvements**

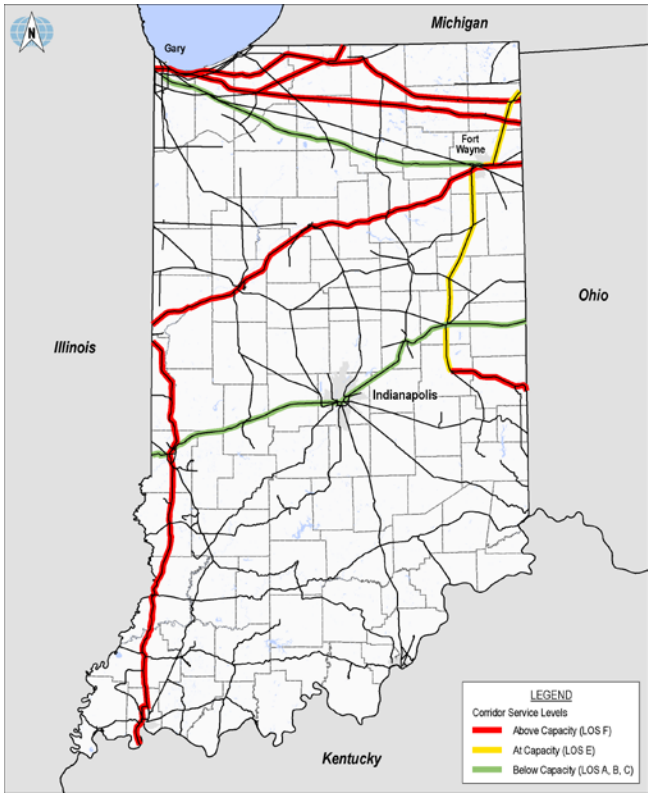
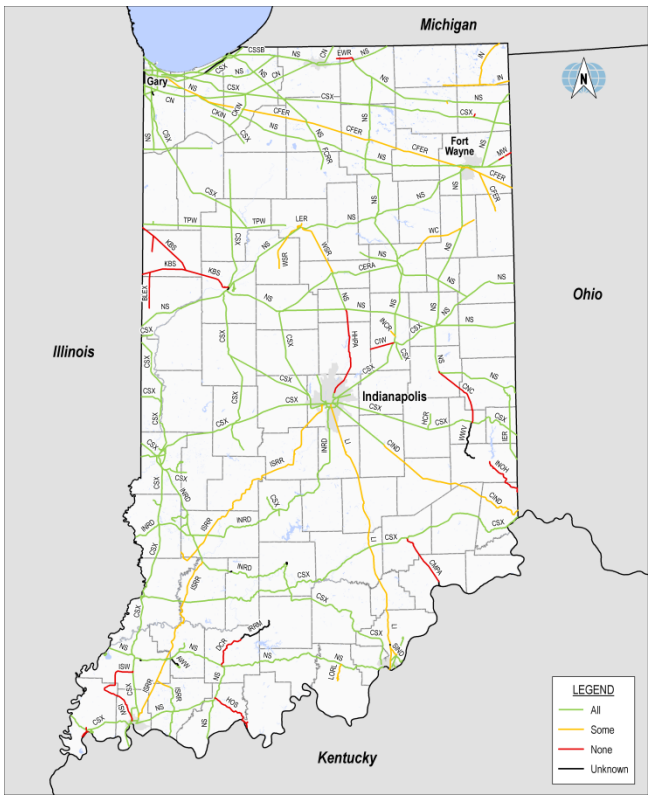



**Exhibit 11: Ability of Rail Lines within Indiana to Accommodate 286,000-lb Railcars**




Another rail issue within Indiana relates to the state's proximity to Chicago. Traditionally, Indiana has played a relatively minor role in the nation's intermodal truck/rail container and trailer network. Because a preponderance of intermodal traffic passes through Chicago and because railroad economics favor longer distance shipments, Indiana was historically at a disadvantage in establishing logistics hubs centered around truck/rail intermodal ramps within Indiana. The cost of transferring West Coast intermodal traffic from Chicago to points in Indiana, usually by truck, further diminished any intermodal cost advantages to Indiana rail uses. However, current and forecasted congestion in Chicago, as well as the increasing efficiency with which eastern and western railroads transfer railcars between each other's systems, could increase opportunities for Indiana to play a larger role in the nation's intermodal network. This larger role could in turn promote logistics and transportation employment within the state.

## Next Steps

One of the federal requirements for State Rail Plans listed above included an identification of rail infrastructure issues within the State *that reflects consultation with all relevant stakeholders*. Anyone with an opinion about rail service in Indiana can qualify as a "relevant stakeholder." We welcome your

[6] Based upon data collected by INDOT in 2006.

views. Questionnaires are available at INDOT planned open houses, as well as online at http://www.in.gov/indot/3499.htm. Other additional activities in preparing the State Rail Plan will include a system evaluation and the establishment of a program of rail capital projects.