

Michigan Mobility 2050: Freight Rail

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Introduction

This white paper provides an update to the freight rail elements of the State Rail Plan Supplement that was developed for Michigan Mobility 2045 (MM2045). It revisits freight rail topics that were included in that planning effort to update relevant information sources, and to assess developments in Michigan's freight rail system that have occurred since MM2045 was prepared in 2021. Several information sources provided input to this update:

- **MDOT survey of railroads:** In April 2026, MDOT administered a questionnaire that was distributed to each Class I and Class III railroad operating in the state. The survey asked railroads to provide factual information about their systems and what their railroads transport, as well as recommended project needs. MDOT received 13 survey responses.
- **Updated U.S. Surface Transportation Board (STB) Carload Waybill Sample:** MDOT has obtained a copy of the STB Carload Waybill Sample for each year between 2006 and 2023. This information enables the assessment of freight traffic trends to, from, within and across Michigan between other states. MM2045 relied on data from 2018. Data was updated through 2023 for the current planning effort.
- **Interviews:** MDOT and consultants interviewed two Class I railroads, representatives of Class III railroads, and MDOT agency staff with specific project knowledge.
- **Updated highway/rail grade crossing data:** MDOT collects data on the occurrence of crashes/incidents at highway/rail grade crossings as well as data about the characteristics of highway/rail grade crossings in Michigan. This was updated for the current planning effort.
- **Desktop research:** General research was conducted regarding railroad industry trends, railroad market trends and other factors that influence rail in Michigan.

The topics covered generally correspond to those that were covered in Chapter 5 of the State Rail Plan Supplement of MM2045, although the relationship is not one-for-one, given changes in Michigan's freight rail system since 2021. Topics covered are:

- **Changes in Rail Markets:** How freight rail flows have changed over time, and current trends.
- **Transload Opportunities:** The role of these truck/rail transfer facilities in Michigan's rail system.
- **Rail's Role in Economic Development:** How rail supports economic development in Michigan, examples of major economic development projects that involve rail, and identified needs for rail projects related to economic development.
- **Railcar Availability:** How the availability of certain types of railcars impacts shippers nationwide and in Michigan.
- **Low Density Rail Lines:** Issues and opportunities related to low density rail lines in Michigan, identified needs for low density rail lines. How MDOT supports continued service on these lightly used rail lines.
- **Michigan's Rail Network:** Recent shifts in rail line ownership that could impact Michigan's rail system and how Michigan's rail system interacts with the North American rail network.

- **Michigan Intermodal:** Michigan’s existing intermodal system, recent improvements and proposed improvements to enhance intermodal facilities and how these facilities interact with surrounding communities.
- **Highway Grade Crossing Safety:** Recent trends in grade crossing safety in Michigan.

Changes in Rail Markets

Michigan Freight Rail Traffic Trends

An analysis was conducted using the U.S. STB Carload Waybill Sample, which is a sample of carload waybills¹ for all U.S. rail traffic submitted by those rail carriers terminating 4,500 or more revenue carloads annually.

From 2006 to 2023, the total freight rail tonnage handled by the Michigan rail network declined from 122.6 million tons to 79.7 million tons, or down 35 percent (Figure 1). Over this 17-year period, the compound annual growth rate (CAGR) for freight rail tonnage has been negative 2.5 percent. The economic downturns from the Great Recession in 2009 and Covid-19 pandemic in 2020 impacted rail volumes (shaded in gray on Figure 1). Michigan’s 17-year low for rail tonnage occurred in 2020, when 73.6 million tons were shipped during Covid-19. Rail traffic in 2023 was 8 percent below 2019 levels, the last pre-Covid year.

As shown in Figure 2, rail volumes have declined all over the United States, not just in Michigan. Monthly total carloads carried in the United States decreased from a high of just less than 1.5 million in May 2006 to a low of 844,000 in February 2025 (lowest month for the year 2025). Since 2025, carloads have grown, increasing to 899,000 carloads in February 2026, a 6.5 percent increase from February the year before.

Figure 3 illustrates how the value of freight moving in and out of Michigan has changed in constant 2023 dollars. The value of freight moving out of Michigan decreased from \$79.9 billion in 2018 to \$68.3 billion in 2023, or negative 14.6 percent in constant 2023 dollars. The top three outbound commodities showing the greatest value growth between 2018 and 2019 in Michigan were primary metal products, metallic ores, and food products. Respectively, each commodity group saw value growth in constant 2023 dollars of \$1.5 billion, \$502 million and \$332 million, respectively.² The bottom three commodity groups with greatest value decline over the same time period in constant 2023 dollars were transportation equipment, paper and pulp products, and petroleum products. Transportation equipment declined \$13 billion, or down 22 percent. Paper and pulp products declined \$754 million, or 35.5 percent. Petroleum products declined \$310 million, or 37.6 percent. All figures are in constant 2023 dollars.

The value of railcar freight moving into Michigan increased in constant 2023 dollars from \$49.8 billion in 2018 to \$60.4 billion in 2023, or 17.9 percent. The top three commodities inbound to Michigan with the greatest value growth between 2018 and 2023 were transportation equipment, primary metal products, and miscellaneous or mixed shipments (intermodal). These three commodities grew in constant 2023 dollars by \$6.8 billion, \$2.9 billion and \$2.9 billion. respectively.³ Petroleum products, chemical products,

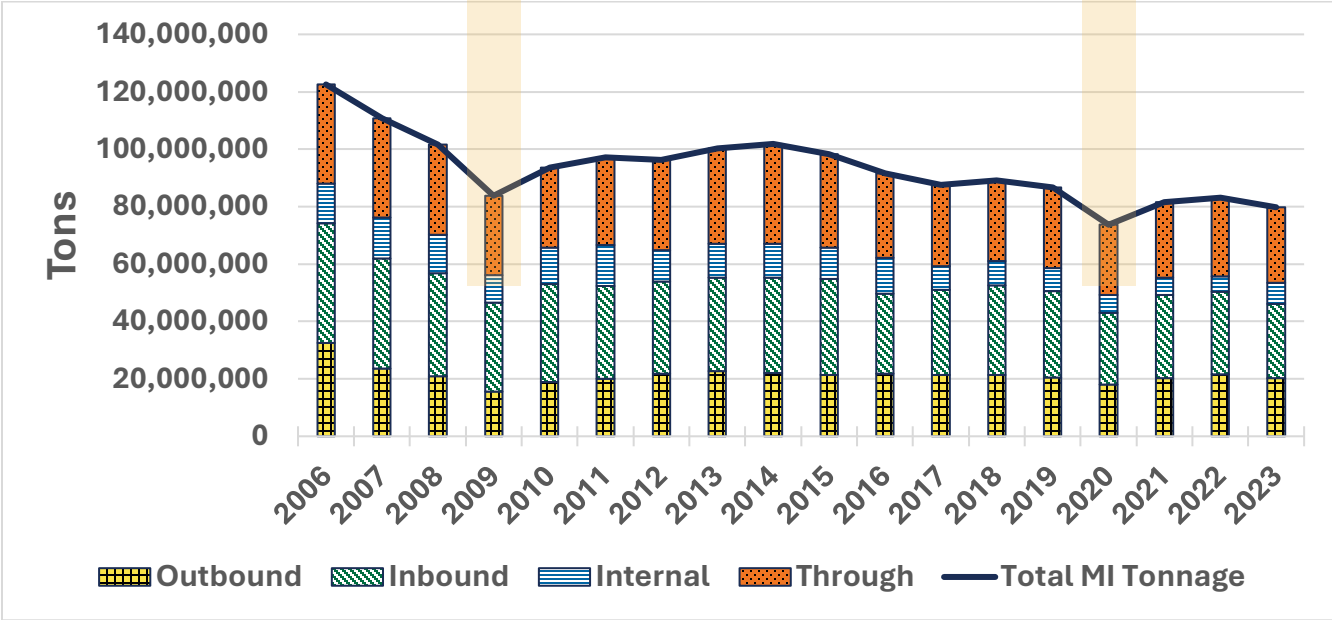
¹ Waybills are documents that accompany freight shipments and provide all of the details of each shipment.

² Freight value data from Transearch 2013-2023.

³ Ibid.

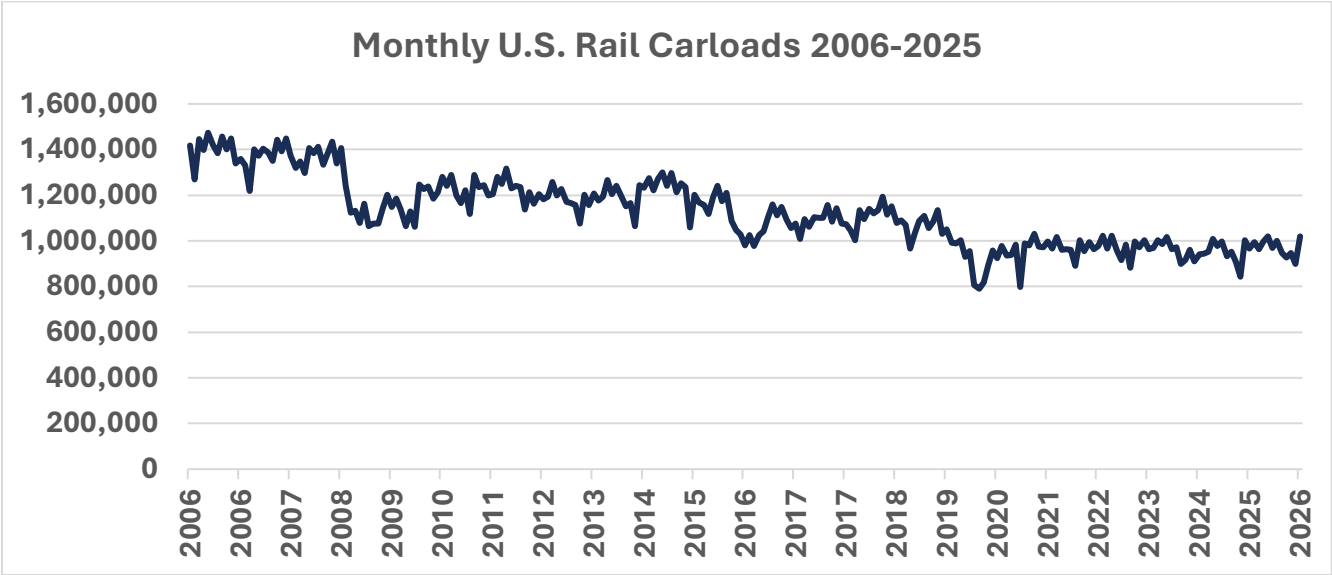
and miscellaneous freights shipments (intermodal) decreased in value inbound to Michigan by \$1.2 billion, \$465 million, and \$301 million, respectively. All figures are in constant 2023 dollars.

Figure 1 - Michigan Annual Freight Rail Tons (2006-2023)



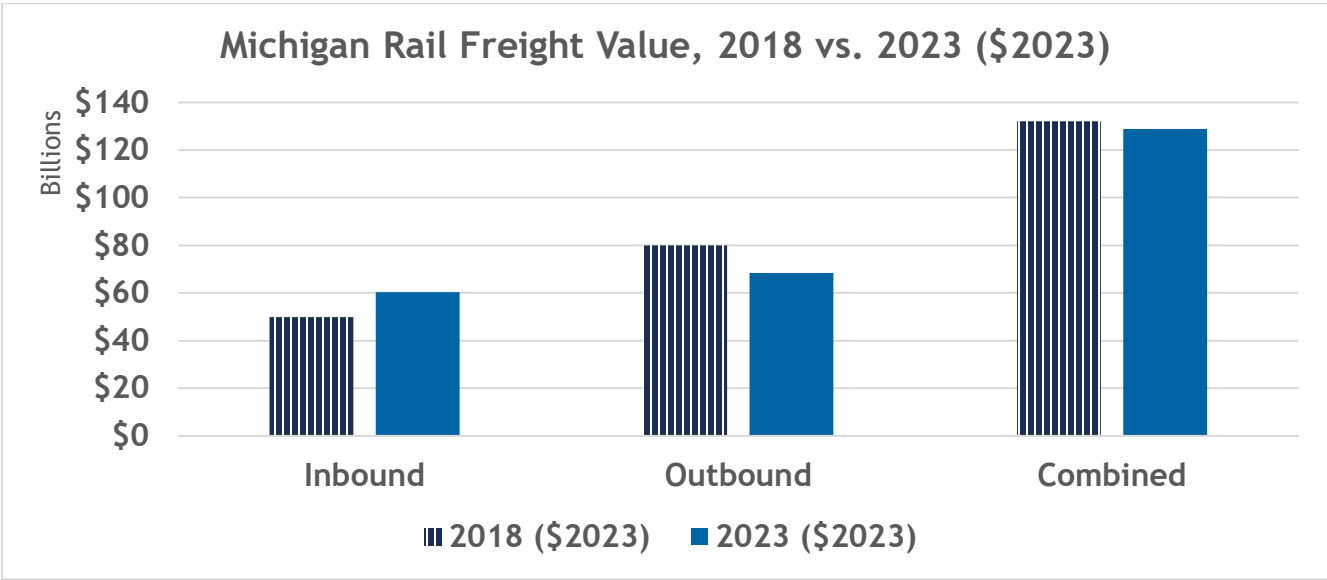
Source: STB Waybill Sample

Figure 2 - U.S. Monthly Rail Carloadings 2006-2025



Source: Bureau of Transportation Statistics

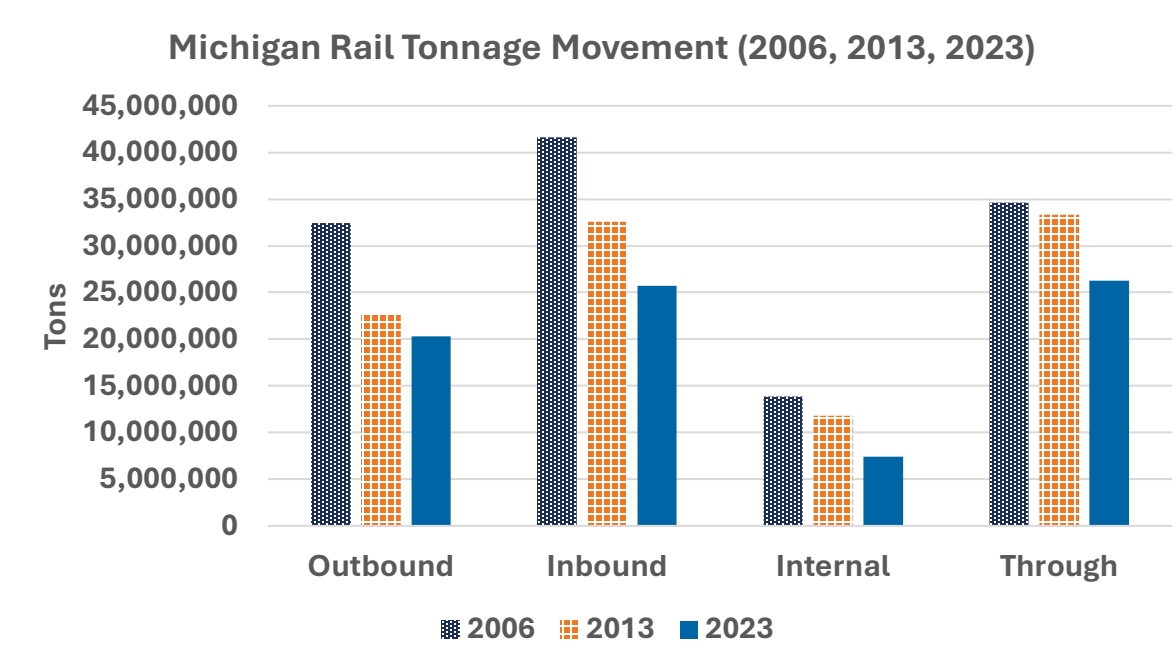
Figure 3 - Michigan Rail Freight Value (2018 Versus 2023) - Constant \$2023



Source: MDOT, S&P Transearch

Michigan’s originating (from Michigan to another state), terminating (from another state to Michigan) internal and overhead (through) freight rail traffic have each declined, as shown in Figure 4. The traffic mix has changed each year, with internal traffic seeing a decrease in share from 11.7 percent to 9.3 percent, while outbound traffic share increased from 22.6 percent to 25.5 percent.

Figure 4 - Outbound, Inbound, Internal and Overhead Rail Tonnage



Source: STB Waybill Sample

As shown in Table 1, transportation equipment, coal, metallic ores, and paper/pulp products are all down more than 50 percent from 2006. Coal and transportation equipment shipped 11 million and 10 million tons less in 2023 than in 2006, respectively.

Over the same 17-year period, some rail freight commodities increased in volume, as summarized in Table 2. However, the tonnage increases in these commodities have not offset freight rail traffic losses in declining commodities. Primary metal products, for example increased 900,000 tons, or 11.4 percent, between 2006 and 2023, and hazardous waste tonnage increased 199 percent, or 122,000 tons.

Global commodity markets help determine freight movements and modal share. For example, rail shipments of crude petroleum and natural gas increased from zero tons in 2006 to just less than 4.5 million tons in 2013, and then 113,000 tons in 2023.

Table 1 - Michigan Rail Freight with Greatest Tonnage Decline (2006-2023)

Freight	STCC	2023 vs. 2006 (Tons)	17-year % Change
Transportation Equipment	37	-10,971,468	-53.4%
Coal	11	-10,424,108	-53.8%
Metallic Ores	10	-7,139,204	-51%
Paper and Pulp Products	26	-3,925,550	-59.3%
Petroleum or Coal Products	29	-2,987,540	-38.3%
Logs, Lumber, and Wood Products	24	-2,210,986	-36.8%
Farm Products	1	-1,812,018	-37.9%
Nonmetallic Ores and Minerals	14	-1,144,812	-35.1%
Miscellaneous or Mixed Shipments	46	-963,160	-16.8%
Clay, Cement, Glass or Stone Products	32	-750,488	-18.1%

Source: STB Waybill Sample

Table 2 - Michigan Rail Freight with Greatest Tonnage Increase (2006-2023)

Freight	STCC	2023 vs. 2006 (Tons)	17-year % Change
Primary Metal Products	33	900,310	11.4%
Hazardous Waste	48	122,222	199.2%
Crude Petroleum and Natural Gas	13	113,335	n/a
Electrical Equipment	36	36,706	112.9%
Machinery	35	20,105	40.5%
Apparel or Finished Textiles	23	9,470	236.2%
Rubber and Plastics	30	6,833	6.9%
Misc Manufacturing Products	39	6,202	64.6%
Textile Mill Products	22	4,080	255%

Looking back 10 years from the most recent available waybill data year (2023), the top five commodity groups shipping via freight rail in Michigan have been the same (Table 3) and have consistently accounted for nearly 60 percent of Michigan's freight rail market. Per Table 3, the ranking between these five commodity groups has changed between 2013, 2019 and 2023. Coal, for instance, was the top Michigan commodity shipped in 2013 and 2019 but fell to second with 11.2 percent of the market in 2023. In contrast, chemical products moved up from second to first with 15.3 percent of the market in 2023.

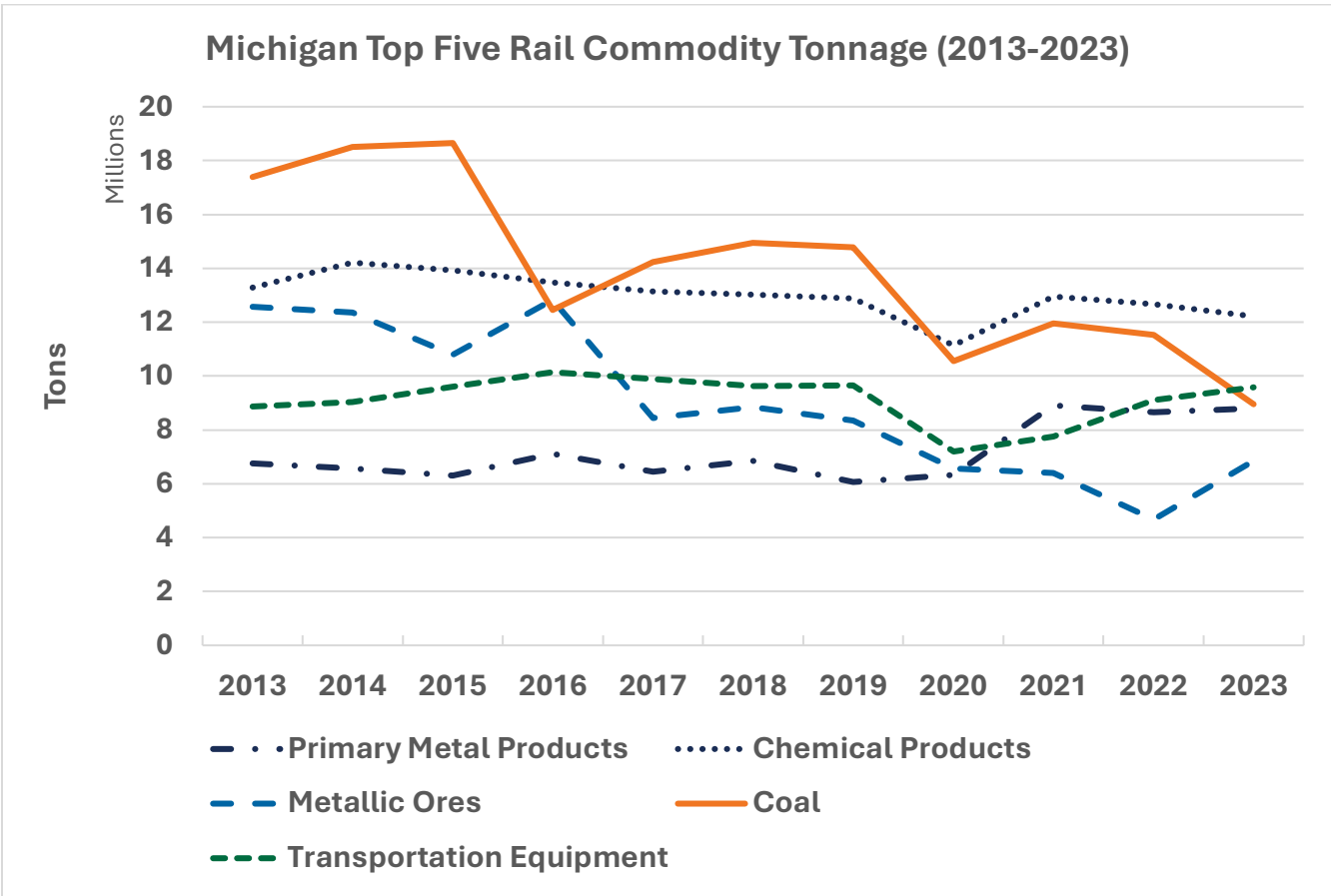
Figure 5 illustrates the tonnage fluctuations of each of the top five commodities between 2013 and 2023. Primary metal products is the only commodity with a 10-year positive growth trend (CAGR = 2.7 percent), increasing from 6.7 million tons in 2013 to 8.6 million tons in 2023. Chemicals and transportation equipment declined between 2013 and 2023, each with a negative 0.8 percent CAGR. Metallic ores declined on average 6.4 percent each year from 2013 to 2023, reaching a low in 2022 of 4.6 million tons. In 2023, metallic ores recovered some tonnage back to rail and reached 6.8 million tons, exceeding levels in 2020 and 2021. Coal declined by an average of 6.4 percent each year between 2013 and 2023, declining from 17.4 million tons to 8.9 million tons.

Table 3 - Michigan Top 5 Rail Commodities (2013, 2019, 2023)

Commodity Group	STCC	2013 % Share	2013 Rank	2019 % Share	2019 Rank	2023 % Share	2023 Rank
Coal	11	17.3%	1	17.1%	1	11.2%	3
Chemical Products	28	13.2%	2	14.9%	2	15.3%	1
Metallic Ores	10	12.5%	3	9.6%	4	8.6%	5
Transportation Equipment	37	8.8%	4	11.1%	3	12.0%	2
Primary Metal Products	33	6.7%	5	7.0%	5	11.0%	4
Total		58.7%		59.7%		58.2%	

Source: STB Waybill Sample

Figure 5 - Michigan Top Five Rail Commodity Tonnage (2013-2023)



Source: STB Waybill Sample

Originating Michigan Rail Tonnage

Table 4 summarizes the top five originating freight rail commodities by tonnage, rail market share and rank. While the top five commodities were the same in 2019 and 2023, their rankings shifted over the four-year time period. In both 2019 and 2023, the top five commodities made up 62.6 percent of the originating freight rail market.

Table 4 - Top Five Michigan Originating Rail Tonnage Commodities (2019 Versus 2023)

Commodities	2019 Tonnage	2019 Share	2019 Rank	2023 Tonnage	2023 Share	2023 Rank
Transportation Equipment	4,877,360	23.8%	1	4,214,305	20.7%	1
Farm Products	2,577,888	17%	2	2,482,170	12.2%	3
Primary Metal Products	1,972,468	7.1%	3	2,635,515	13%	2
Waste or Scrap Material	1,706,684	8.1%	4	1,748,500	8.6%	4
Metallic Ores	1,681,672	7%	5	1,638,985	8.1%	5
Total	12,816,072	62.6%	N/A	12,719,475	62.6%	N/A

Source: MDOT

Terminating Michigan Rail Tonnage

Table 5 summarizes the top five terminating freight rail commodities by tonnage, rail market share and rank. While the top five commodities were the same in 2019 and 2023, their rankings also shifted over the four-year time period. In both 2019 and 2023, the top five commodities made up 78 percent of the terminating freight rail market.

Table 5 - Top Five Michigan Terminating Rail Tonnage Commodities (2019 Versus 2023)

Commodities	2019 Tonnage	2019 Share	2019 Rank	2023 Tonnage	2023 Share	2023 Rank
Coal	14,757,918	48.9%	1	8,936,410	34.7%	1
Chemical Products	2,943,428	9.8%	2	2,727,989	10.6%	4
Transportation Equipment	2,391,324	7.9%	3	2,829,025	11%	3
Miscellaneous or Mixed Shipments	1,976,120	6.5%	4	2,359,880	9.2%	5
Primary Metal Products	1,720,316	5.7%	5	3,336,235	13%	2
Total	23,789,106	78.8%	N/A	20,189,539	78.4%	N/A

Source: MDOT

Internal Michigan Rail Tonnage

Table 6 summarizes the top five intrastate freight rail commodities by tonnage, rail market share and rank. As was the case with originating and terminating traffic, while the top five commodities were the same in 2019 and 2023, their rankings shifted over the four-year time period. In both 2019 and 2023, the top five commodities made up 96 percent of the intrastate freight rail market.

Table 6 - Top Five Michigan Intrastate Rail Tonnage Commodities (2019 Versus 2023)

Commodities	2019 Tonnage	2019 Share	2019 Rank	2023 Tonnage	2023 Share	2023 Rank
Metallic Ores	6,600,000	82.1%	1	5,030,000	67.9%	1
Nonmetallic Ores and Minerals	494,172	6.1%	2	472,126	6.4%	4
Transportation Equipment	315,760	3.9%	3	543,890	7.3%	3
Chemical Products	198,120	2.5%	4	364,840	4.9%	5
Petroleum or Coal Products	161,148	2%	5	723,956	9.8%	2
Total	7,769,200	96.7%	N/A	7,134,812	96.3%	N/A

Source: MDOT

Overhead (Through) Michigan Rail Tonnage

Table 7 summarizes the top five overhead freight rail commodities by tonnage, rail market share and rank in the year 2019. Together, these five commodities made up 63.7 percent of the freight rail overhead traffic. In 2023, the makeup of the top five commodities changed (Table 8). Food products and miscellaneous or mixed shipments (intermodal) no longer were in the top five, replaced by transportation equipment and clay, cement, glass or stone products. The top five commodities in 2023 comprised 65.8 percent of the total freight rail overhead traffic market moving through Michigan.

Table 7 - Top Five Michigan Overhead Rail Tonnage Commodities (2019)

Commodities	2019 Tonnage	2019 Share	2019 Rank
Chemical Products	8,469,423	30.2%	1
Petroleum or Coal Products	2,643,768	9.4%	2
Primary Metal Products	2,373,696	8.5%	3
Food Products	2,238,852	8%	4
Miscellaneous or Mixed Shipments	2,112,880	7.5%	5
Total	17,838,619	63.7%	N/A

Source: MDOT

Table 8 - Top Five Michigan Overhead Rail Tonnage Commodities (2023)

Commodities	2019 Tonnage	2019 Share	2019 Rank
Chemical Products	7,789,742	29.7%	1
Primary Metal Products	2,829,095	10.8%	2
Petroleum or Coal Products	2,705,820	10.3%	3
Transportation Equipment	1,985,070	7.6%	4
Clay, Cement, Glass or Stone Products	1,967,440	7.5%	5
Total	7,769,200	65.8%	N/A

Recent Trends

The analysis of the STB Carload Waybill Sample above ends in 2023, whereas MM 2050 was completed in 2026. During stakeholder outreach, railroads were asked to provide anecdotal information about recent freight rail trends. This information augments the waybill analysis and captures more recent experiences of railroads. Several themes were mentioned at multiple meetings:

- Shipments of construction materials such as aggregates reportedly are strong. For some Michigan railroads, development patterns have created opportunities. As suburbs have grown in southeast

Michigan, demand for aggregates has increased but the ability to establish nearby quarries has declined. Railroads can ship aggregates from the northern part of the Lower Peninsula to southeast Michigan.

- Due to the construction of data centers, railroads have been handling electrical equipment, which often requires high and wide clearance (project cargo). This is an important consideration for rail lines in Michigan, particularly as it relates to platforms at intercity passenger rail stations when level boarding is required. Without gauntlet tracks or platforms with flip-up features, level boarding platforms could significantly limit freight movements, including project cargo that requires wide horizontal clearances.
- Waste and scrap are railroad traffic opportunities. This includes metal scrap associated with the automotive industry, as well as waste, such as municipal solid waste or construction and demolition waste. This feedback from the railroads is consistent with the data seen in Table 2, where hazardous waste increased 122,000 tons, or nearly 200 percent between 2006 and 2023.

Transload Opportunities

Rail transload facilities are logistics sites where freight is transferred between railcars and trucks (or vice versa), allowing shippers without direct rail access to utilize the rail network. They typically handle bulk, liquid or oversized commodities such as aggregates, grain, chemicals, lumber and industrial products. Depending on the cargo, rail transloads use different equipment and facilities like conveyors, pumps, cranes, warehouses and storage yards.

Transload sites range in scale, complexity and capacity. The simplest rail transload sites amount to no more than a spur track next to a dirt road where freight can be transferred. The most advanced transloads include gated and secured facilities, storage, yard capacity and the capability of handling multiple commodity types. Importantly, rail transloads should **not** be confused with rail intermodal, which refers specifically to the movement of domestic and international shipping containers and truck trailers between road and rail modes. Transloads can be owned and operated by Class I railroads, short lines, industrial parks or other shippers with access to the rail network. They can also be operated by third parties. In some cases, shippers with a direct rail spur may offer use of their facilities to outside customers unrelated to their core business.

In Michigan, transload facilities play a critical role in extending the reach of short line and Class I railroads to customers located off the rail network, in both rural and urban areas. By enabling flexible first-mile/last-mile connections, transloading helps rail compete with trucking. As a result, these facilities are key nodes in the state's freight system, linking local industries to Class I railroads and national supply chains while supporting economic activity across Michigan's manufacturing and agricultural sectors.

During outreach for MM2050, railroads reported they continue to consider transload facilities as opportunities to grow carload volume and attract traffic from highways to rail. As one short line holding company stated, "Transloads are useful because they concentrate rail activity. Instead of customer locations spread about, customers bring their loads to the yard."

Short line and Class I railroads have proposed new transload facilities due to their low barriers to entry and potential to open new business opportunities. For this Rail Plan, stakeholders have proposed transload locations on the Jackson and Lansing (JAIL) line and at the former DTE power plant in Monroe County. Table 9 summarizes transload projects that railroads have proposed for MM2050.

Table 9 - Summary of Proposed Shortline Transload Investment Projects

Railroad	Estimated Total Cost	Projects
Hamilton Northwestern RR (HNW)	\$4,000,000	1
Indiana and Ohio Railway (IORY)	\$2,000,000	1
Lake State Railway (LSRC)	\$18,000,000	15
West Michigan RR (WMI)	\$2,000,000	1
Total	\$26,000,000	18

Source: MDOT 2025 Class III Survey Responses

Rail's Role in Economic Development

Rail plays an important role in economic development in Michigan. Rail service and infrastructure help make Michigan a more desirable place to do business and attract and retain companies in Michigan. A range of different rail infrastructure projects can support economic development by enabling railroads to better serve their customers. Some of the investments that can most directly support economic development are industrial access projects.

Industrial Access

Industrial rail access or direct access refers to sidings and spurs that provide rail service to shipper facilities. Properties connected to the rail network reduce handlings, minimize drayage and help maintain competitive shipping economics for rail-served customers.

Competition for good industrial development sites is common. Businesses that do not require rail access can easily occupy a site that already has or would be ideal for rail access. Conversely, businesses that require rail access cannot occupy a site without rail access and therefore have fewer options when selecting site locations. As of 2026, the proliferation of data centers development has added additional demand for site profiles that are typically attractive to rail users, such as access to open land, energy and water.

Similarly, areas that have historically been industrialized but have seen an influx of other mixed uses, including retail, residential and recreational activities, have become less attractive for industrial applications due to resistance from local communities. For example, one short line cites that Manistee and Muskegon, which were once more industrial but are now oriented toward tourism and recreation, are less favorable to industrial activities.

In addition to seeking individual site locations with one parcel or an assembly of land parcels, businesses can also look for direct rail access at industrial parks, where multiple businesses are located in a cluster together. Industrial parks that provide rail access can attract a more diverse set of businesses. According to Class I business development managers, industrial parks generally offer smaller parcels ranging from 10 to 20 acres, while standalone developments typically require on average 60 to 80 acres.

Industrial Access Projects

The primary program MDOT administers for facilitating or improving industrial rail access is the Freight Economic Development Program (FEDP), which funds rail spurs and freight customer rail infrastructure. The program enables participating businesses to establish, maintain and expand cost-effective access to the freight rail network.

Support for these programs among Class I and short line railroads is strong. As part of the MM2050 rail plan outreach, railroads interviewed for MM2050 were supportive of the FEDP, as are rail customers. As noted by a Class I representative, “FEDP is unique and valuable.” Support for the FEDP program suggests strong demand for new or improved access to shipper locations.

The Michigan Department of Transportation's (MDOT) Freight Economic Development Program (FEDP) can cover up to 50 percent of costs associated with infrastructure to ship by rail. Projects are evaluated based on public benefits, such as increased rail volumes and job creation, relative to costs. FEDP can cover up to 50 percent of material, labor and equipment associated with the installation or rehabilitation of rail customer infrastructure, up to a maximum of \$2 million.

Eligible costs include but are not limited to turnouts, track, ties, ballast and material handling infrastructure related to rail, such as unloading pits. Table 10 summarizes the number of projects, funds granted and project value for the FEDP from 2021 to April 2026.

Table 10 - Michigan Freight Rail Economic Development Program Projects (2021-2026)

Year	Number of Projects	Grant Amount	Project Value	Grant-To-Value Ratio
2021	11	\$6,328,842	\$13,022,917	48.6%
2022	8	\$7,337,151	\$15,196,343	48.3%
2023	4	\$4,159,266	\$8,918,531	46.6%
2024	8	\$6,848,843	\$14,577,251	47%
2025	9	\$6,667,980	\$16,511,709	40.4%
2026	5	\$1,456,918	\$2,913,838	50%

Source: MDOT

Direct rail access can be easily implemented in or near existing rail facilities, provided there is available land. Ideal examples cited by railroads include situations where a direct rail access spur close to a railyard adds convenience to the railroad, which can service the facility readily and does not have to consume considerable crew time for one customer.

Table 11 summarizes projects proposed by short line railroads for MM2050 relating to industrial access. Not all Michigan railroads completed surveys, and it should not be expected that every industrial development or direct rail prospect in Michigan would be listed in the surveys received. However, the examples in Table 11 provide a good representative sample of the types of projects being planned by Class III railroads to provide direct rail access.

Table 11 - Industrial Rail Access Projects Cited in Class III Railroad Surveys

Railroad	County	Project	Description	Cost
LSRC	Saginaw	Bunge Grain - Carrolton Direct Connection	Creates direct connection to eliminate trains advancing across Davenport and Genesee avenues while switching railcars for Bunge Grain.	\$1,400,000
LSRC	Arenac, Iosco Counties	Huron Sub South End Passing Siding	Build a new passing siding on the Huron sub at undetermined location between Omer and Tawas to better serve developing industries, and improve mainline capacity.	\$4,000,000
LSRC	Arenac County	Standish Grain Loading Capacity	Construct additional side track to allow loading of unit grain trains without utilizing mainline capacity.	\$1,800,000
MQT	Lake	Potash	Connect railroad with Potash Plant.	\$40,000,000

Source: MM2050 Rail Surveys

Railroad Industrial Development

Railroads take an active role in developing rail-served sites for current and prospective customers. Norfolk Southern (NS) and CSX both operate formal industrial development programs that support rail-served site selection and readiness. NS provides end-to-end support, from site selection through track design, using its NSites platform and a portfolio of more than 700 rail-served properties. A search of the NSites web portal in June 2026 returned 22 potential industrial sites connected to NS lines. NS has also introduced its REDI Sites program to certify locations and accelerate investment decisions. Similarly, CSX's comparable effort is its Select Site program, which pre-qualifies a small share of rail-served sites based on detailed criteria such as utilities, transportation access, and environmental readiness, with designations from Platinum to Bronze. A search of CSX's Select Sites in June 2026 returned one Bronze-level site located in Michigan. Both railroads partner with state and local entities to align infrastructure and site readiness with industrial demand, positioning rail access as a key factor in winning large-scale manufacturing and logistics projects in Michigan.

Short line holding companies such as Watco and Genesee & Wyoming (G&W) also emphasize industrial development on the properties they control. While these efforts often are on smaller projects, short lines can also be involved in large scale, mega-site projects, particularly if the short line can offer access to more than one Class I railroad. G&W maintains a formal program that supports site selection, rail infrastructure expansion and transloading, with a large inventory of development sites and active investment tied to customer facilities. Watco similarly integrates industrial development into its operations by offering engineering, logistics and real estate support, using its Michigan short lines to connect customers to the Class I network.

Railcar Availability

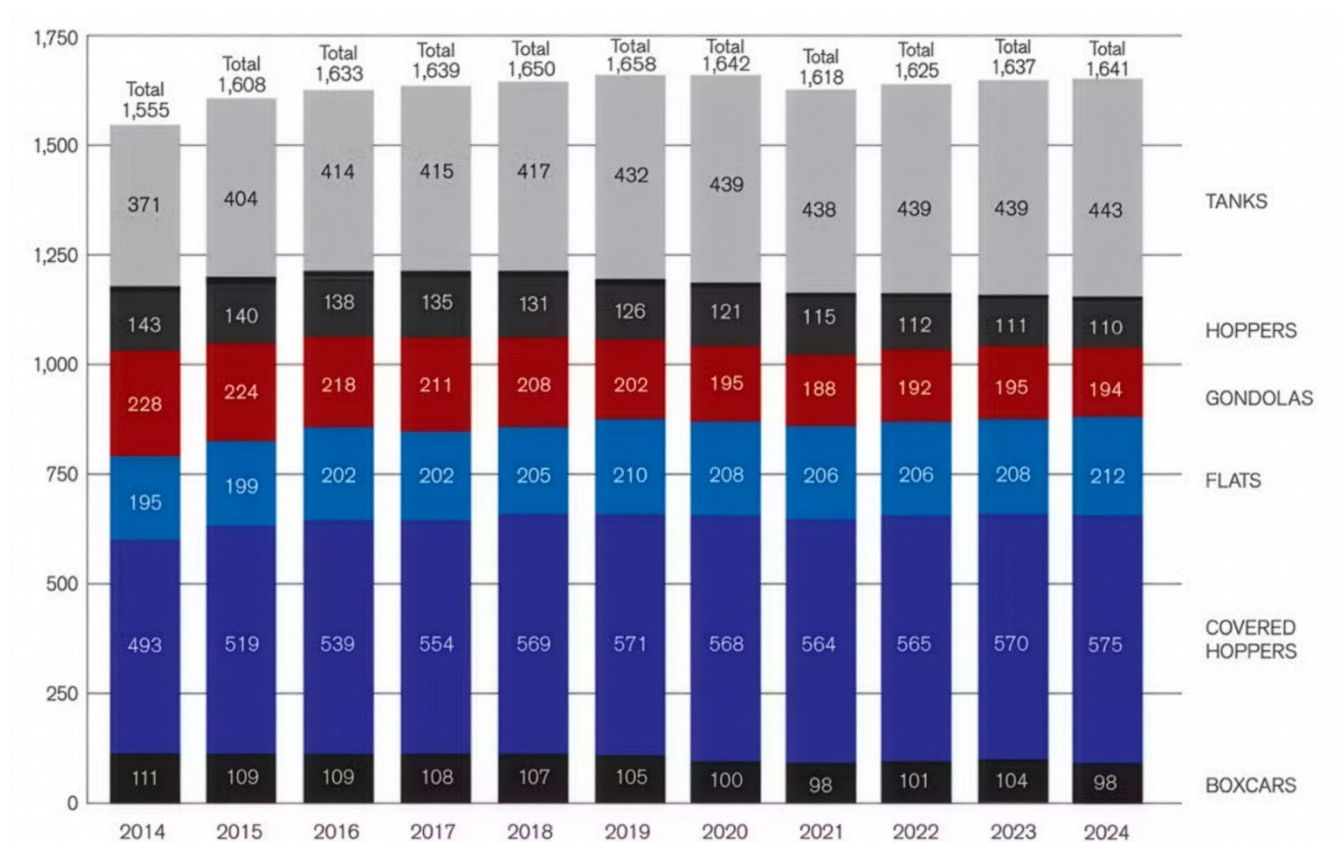
National Freight Rail Equipment Trends

The availability of rail equipment is one of the essential determinants to whether freight tonnage can move by rail. Even if price, transit time, service reliability and all other terms and conditions are acceptable for a shipper to choose rail, the transportation cannot be delivered without available equipment. Therefore, the trends affecting the overall size, makeup, age, ownership and availability of different types of railway equipment in the U.S. rail network are germane to policymakers and other transportation planning stakeholders.

U.S. rail equipment is tracked by Railinc, a wholly owned, for-profit subsidiary of the Association of American Railroads (AAR). Railinc is the rail industry's central repository for interline rail data, including the Universal Machine Language Equipment Register (UMLER), which tracks more than 2 million unique pieces of rail, steamship and highway equipment.

As of the end of 2024, UMLER reports 1.6 million rail equipment types were revenue-generating railcars, or equipment that paying shippers would use to move freight. As shown in Figure 6, the revenue-generating fleet fluctuates year over year as new cars are added and old cars are retired and scrapped. Since 2014, the overall fleet size has increased by 5.5 percent, or 86,000 units. Equipment condition, freight markets and age influence the fleet size. The AAR sets guidelines on how long a railcar can remain in interchange service, whereby a car is shared between railroads. For cars built after 1974, AAR specifies a useable interchange life of 50 years, with an option for extension up to 15 more additional years if certain conditions are met, including testing, key component replacements and approval by the AAR testing committee.

Figure 6 - Total North American Revenue Railcar Fleet



Source: [Railway Age, Dec. 5, 2023](#).

Approximately one-third of all revenue-generating railcars are owned by railroads. The remainder are private cars owned by shippers or third-party equipment leasing companies. Railroad ownership of freight cars has been steadily declining as railroads spend less capital on freight equipment and push the equipment investment responsibility to shippers and railcar leasing companies.

Tank Cars

Tank cars are used to ship liquid and gaseous commodities, including industrial chemicals, slurries, biofuels, crude oil, liquified petroleum gas (LPG), and food grade liquids. Since 2014, the tank car fleet has increased 19.4 percent, or by 72,000 units. Growth across all these markets, particularly in energy, has been the primary drivers for tank car fleet expansion.

Hopper Cars

Hopper cars (open top) are used to ship ores, coal, minerals and other aggregates that can be in the open and get wet. Hoppers feature dumper-trap doors that can be opened in the bottom of the car to unload. The hopper fleet declined 23 percent between 2014 and 2024 from 228,000 units to 198,000 units. The decline in hopper car units is due in large part to the lower volume of coal as coal power plants have been decommissioned or converted to natural gas.

Gondolas

Gondolas carry a wide variety of freight that is immune to weather conditions and can be unloaded by crane, magnet or rotary dumpers (where the entire car is turned upside down to empty the contents). Examples include aggregates, minerals, scrap metal, irregular shaped loads, metals, steel, logs, waste and recyclables. Since 2014, the gondola fleet has decreased by 14 percent, or 34,000 units. Similar to hopper cars, the need for gondolas dedicated to coal service declined along with coal-based power generation.

Flatcars

Flatcars vary by configuration and usage, including standard flatcars, centerbeams (dedicated to lumber), autoracks (finished vehicles) and intermodal (container) cars. The North American Flatcar fleet grew by 8.7 percent, or 17,000 railcars, between 2014 and 2024. Freight types shipped on the flatcar fleet have grown, including lumber, automobiles and intermodal.

Covered Hoppers

Bulk shipments that cannot be exposed to weather elements are shipped in covered hoppers. Examples include corn, wheat, oats, milled products, cement, sand, ash, clay and other dry-bulk goods such as fertilizers, phosphates and plastic pellets. Most commodities carried by covered hoppers have grown, as has the fleet of covered hoppers since 2014. As of 2024, 79,000 new covered hoppers have been added to the North American fleet, increasing the roster by 15.9 percent.

Boxcars

As one of the most versatile freight cars, boxcars are optimal for freight that must be protected from weather, theft and contamination. Boxcars provide a completely enclosed unit that can be sealed at origin and unsealed at destination. Freight carried in boxcars includes consumer and retail goods, paper, pulp, pulpboard, lumber, insulation, building products, auto parts, industrial parts, metals, palletized freight, canned goods, dry foods and breakbulk (large bags of bulk freight). The total boxcar fleet has decreased 13,000 units, or 11.7 percent, since 2014.

Newer boxcars have more carrying capacity than the older boxcars being retired. According to TTX, a nationwide railcar pooling company owned by the Class I railroads, new 60-foot F boxcars offer a 205,000-pound load capacity compared to 155,000 pounds in many older cars. A total of 20,000 new boxcars have entered the North American fleet since 2016.

Boxcars come in a wide variety of sizes and configurations, but most newer boxcars are 50-foot-high cube and 60-foot-high cube. Commonly known as the 50-foot F and 60-foot F boxcars, both are capable of carrying payloads of 100 tons or the equivalent of three to four truckloads of freight.

Notwithstanding the 20,000 new boxcars built since 2016, the Railway Supply Institute (RSI), which represents owners, lessors, shippers and suppliers, has highlighted to the STB an impending boxcar “cliff,” whereby 22 percent of the fleet will reach mandated retirement by 2030. Moreover, RSI similarly cites the shrinking of the fleet by 38 percent since 2008 as further indication that the replacement rate of the boxcar fleet has been insufficient.

Private Car Owner Issues with Railroad Service and Demurrage

Because railroads have encouraged private car ownership, shippers and railcar leasing companies have invested in new equipment and have expanded their fleets to provide adequate capacity. However, railroads have enforced demurrage charges, or fees, to private railcar owners when private railcars have remained in locations on railroad property longer than a defined grace period.

The irony for shippers and private car owners is that the railroad ultimately controls the delay in moving a private railcar off railroad property. Moreover, service degradation requires shippers to increase their fleet sizes and otherwise achieve a lower return on the investment made in private railway equipment.

Shipper associations have petitioned the STB for solutions such as reciprocal demurrage, whereby a shipper or private car owner can charge a railroad for holding or not advancing private equipment through the network after a certain period. The petition was filed on July 26, 2021, but on June 26, 2025, the STB ruled that, “it is unable to reach a majority on the petition for rulemaking, but the proceeding will remain open.”

Rail Equipment Pooling

To boost railcar utilization and efficiency, railroads create and work with railcar “pools” that share ownership between railroads and enable a railcar to flow freely across the rail system of pooling participants to whatever load is most optimal. Non-pooled railcar assets, whether privately or railroad-owned, can only be loaded by the owner. If the railcar interchanges with another railroad to reach its final destination, the interchanging railroad(s) must return the car back to the owning railroad without a load. The result is that non-pooled equipment inherently has a higher empty return ratio, or empty mileage, than pooled assets that can take a load from the next most convenient location regardless of where the pooled railcar originally came from. Pooling, when possible, reduces empty miles, lowers capital costs, increases equipment utilization, standardizes assets and provides operational flexibility that can pivot to market demands.

TTX owns 10.1 percent of the 1.6 million North American railcar fleet and provides railcar pooling. TTX owns 37,000 boxcars and gondolas, and more than 140,000 intermodal well cars. Railroads can also assign their railcars to TTX pools or other railcar pools between specific railroads. Railcar pooling is determined by the needs of the individual railroad, market, shipper and competitive considerations.

Michigan Railcar Availability

Stakeholder outreach with Class I and short line railroads indicated that the railroads in Michigan are experiencing some issues with railcar availability. Short lines in particular note how many railcar types are going to age out, or meet the 50-year mandatory retirement limit prescribed by the FRA. Unique car types, such as log cars, woodchip hoppers, mill gondolas and other specialized equipment suitable for one type of customer or load, are not expected to be replaced by the railroads. This means that if new cars were to be built, the investment would come from either car leasing companies or rail shippers. While short lines acknowledge some investment by Class I railroads in boxcars, their view is the replacements are not making up for the capacity lost. For example, the age out of 50-foot boxcars is limiting some business opportunities that could otherwise be fulfilled. Other short lines indicate that while they were not

particularly concerned about railcar availability on their own systems, they do see railcar availability nationwide becoming a growing issue.

Seasonality plays a role for railcar availability in Michigan, particularly in agricultural markets. For instance, because Michigan is further north, the harvest is later in the season, which makes it more challenging to secure railroad equipment such as covered hoppers since that equipment is already dispatched to other states and customers.

Some short lines cite examples where shipments are delayed or revert to truck because equipment is unavailable. Michigan is also at a disadvantage versus other states because of its peninsula geography, whereby equipment has fewer routing options for reloading versus other more centrally located states.

Global markets, supply chains and freight demand affect railcar supply. For instance, one short line noted an oversupply of some aggregate cars (hoppers, gondolas) following the decline of the shale boom.

Railroads cited multiple strategies to prevent car supply shortages for the freight they ship. Owning your own fleet, for example, ensures that your equipment will be available for your customers. A case in point is Lake State Railway (LSRC), which owns cars key to its customer base. In 2023, G&W used grant funds to help purchase a fleet of 44 covered grain hoppers for its Michigan customer use. Leasing cars is a less capital-intensive approach to acquiring equipment and allows railroads to increase or decrease their fleets and expenses depending on demand. G&W for instance, leases 1,000 covered hoppers. Similarly, LSRC leases more than 200 cars to augment their fleet.

Shippers also play a role in influencing railcar availability. For example, grain shippers that hold their grain until just before harvest to get the best prices possible risk not having available equipment to ship since demand for the railcar at the time of harvest is high and railroads are reluctant commit equipment to them because they are uncertain when the cars will be needed and if the cars will be turned around quickly. Shippers can help solve railcar availability by turning equipment quickly (loading and unloading) and not using railroad owned equipment for storage.

Low Density Rail Lines

Challenges

Michigan's short line railroads face maintenance and capital challenges driven by their relatively low traffic densities and limited revenue base. Many lines operate on older infrastructure, including track and signaling systems, and must find the right balance between routine maintenance and major rehabilitation in their spending and investment programs. Other challenges include but are not limited to:

Operational: Interchange requirements from Class I railroads can sometimes be challenging for short lines. For example, the available interchange times and frequency from the Class I can determine what level of service the shortline is capable of providing to an end customer; e.g., two times per week versus five times per week.

Likewise, evolving unit train policies from Class I railroads impact short lines, where Class I's provide a pricing incentive to increase unit train size, which requires short lines serving unit train loading areas to

provide more capacity (or switching). For example, to serve a unit train customer, LSRC must switch trains multiple times because unit train unloading capacity is not available. Michigan short lines expect Class I railroads to continue to increase unit train sizes. According to short line consultations, currently CSX trains are approximately 90 cars, NS recently moved to 105 cars, and western carriers are increasing to 130 car trains.

Operational patterns also affect service reliability, scheduling and routing decisions that influence traffic flows, overall network competitiveness and the ability of the short line to secure, sustain and grow its traffic base.

Commercial: Short lines participate in rail moves either as a handling line or an interline settlement system (ISS) carrier. ISS short lines have the ability to negotiate their own rates when pricing freight while handling lines are reimbursed by a handling fee negotiated with a Class I railroad. In both cases, securing freight that must interchange requires negotiating with Class I commercial and marketing teams that could have different priorities, pricing policies and cost structures depending on the commodity, customer, equipment and lane the freight will move in.

Michigan Truck Weight Regulations: During interviews for MM2050, short lines and Class I railroads mentioned the challenge of modal competition with trucking given Michigan's unique truck weight regulations. Michigan's truck weight policy focuses on axle loadings, allowing trucks with additional axles to legally carry up to 164,000 pounds while maintaining relatively low per-axle loads to limit pavement damage. This creates a competitive advantage for trucking in bulk commodity markets, as shippers can move heavier loads per trip compared to most other states limited to 80,000-pound gross truck weight. As a result, freight rail faces greater competition in Michigan since trucks can achieve lower unit costs and higher flexibility over short and medium distances. The policy has historically suppressed some rail market share in sectors like aggregates, forest products and manufacturing inputs, while encouraging railroads to focus on longer-haul, intermodal or high-volume corridors where trucking's flexibility advantage is reduced. As a consequence, lighter density rail lines in Michigan are at a competitive disadvantage with not only trucks operating in Michigan but also light density rail lines in other states with more restrictive truck weight requirements.

Financial: Railroading by definition is capital intensive, with companies typically spending 15-20 percent of revenues on maintenance or capital expenditures. Low-density lines frequently do not produce enough cash flow to fully finance all required upgrades to make a line more efficient. Large expenditures, such as bridge replacements, are even more challenging and sometimes result in lines being taken out of service, discontinued or abandoned.

For example, G&W notes the need to upgrade the Huron and Easter line (HESR) with heavier rail but is challenged to justify the investment due to the lines being at the end of the Michigan peninsula and low traffic density. G&W cites that they have also been pursuing Consolidated Rail Infrastructure and Safety Improvements (CRISI) grants to fund bridge and other projects on various Michigan lines, underscoring the importance of federal grant programs.

Another example from stakeholder outreach includes LSRC, which cites aging infrastructure and has reflected an extensive list of 78 projects totaling \$280 million in their short line survey response. LSRC

notes that while CRISI and state programs have helped, there remain many projects intended to correct the inefficiency of their railroad's layout. LSRC is using the railroad in ways different from what it was built for, running unit trains on a railroad that was assembled from three earlier railroads that have sub-optimal connections.

Safety: Every short line and Class I railroad will state that safety is their number one priority. Lower-density lines may see trains substantially less frequently than higher-density lines, which encourages complacency among drivers that never expect to see a train because they have never seen one at a certain crossing. Upgrades to crossings require close coordination with local communities and state partners to align on design enhancements and determine funding sources.

Investment Needs

MDOT received 13 unique surveys in response to Class III railroad outreach for the MM2050 Rail Plan update. Participating railroads specified a total of 153 projects estimated to cost \$791 million. Projects include track capacity, rehabilitation and upgrades, bridge investments, grade crossings, locomotives, signals, transload terminals and economic development. Table 12 summarizes the same project list by project type and cost.

Table 12 - Michigan Class III Railroad Project Types (MM025)

Project Type	Estimated Total Cost	Projects
Track upgrade	\$454,610,000	49
Bridge	\$93,245,000	41
Yard	\$53,250,000	8
Grade Separation	\$45,000,000	3
Track relocation	\$42,100,000	3
Transload	\$26,000,000	18
Siding	\$22,150,000	5
Signal	\$19,750,000	5
Building	\$11,600,000	6
Fleet Upgrade	\$11,040,000	1
Grade Crossing	\$5,800,000	7
Interlocker	\$3,500,000	1
Economic Development/Capacity	\$1,000,000	1
Locomotives	\$850,000	2
Locomotive upgrade	\$700,000	2
Track rehab	\$86,000	1
Other	\$1,000,000	1
Grand Total	\$791,681,000	154

Source: Shortline Railroad Surveys MM2050

Michigan Programs to Help Operators of Low-Density Rail Lines

MDOT provides several programs that assist railroads that operate low-density rail lines and ensure that Michigan shippers on these lines can continue to receive service.

Michigan Rail Enhancement Program (M-REP)

In 2023, MDOT inaugurated a new program, the Michigan Rail Enhancement Grant Program (M-REP), which provides grants to improve, expand and rehabilitate freight rail corridors and facilities that will immediately result in quantifiable and non-speculative public benefits. Grants can cover up to 70 percent of eligible project costs. Eligible applicants include freight railroads and owners of multi-user transload facilities.

Eligible project costs include fixed assets such as track, ties, bridges, crossings, rail scales on mainline corridors and rail yards, intermodal facilities and transload facilities. Movable equipment and/or rolling stock may be considered if plans are submitted that adequately address Michigan specific use. Ineligible work items include design, engineering, permit fees and right-of-way acquisition. Applicants must contribute at least 30 percent of the eligible project costs. Table 13 summarizes MREP disbursements from 2023-2026.

Table 13 - MREP Program Summary (2023-2026)

FY	Number of Projects	Grant Amount	Project Value	Grant-To-Value Ratio
2023	14	\$20,733,680	\$69,169,222	30%
2024	11	\$20,676,477	\$38,752,365	53.4%
2025	9	\$20,365,974	\$40,801,617	49.9%
2026	11	\$15,225,757	\$22,418,919	67.9%
Total	45	\$77,001,888	\$171,142,123	45%

Source: MDOT

Michigan Rail Loan Assistance Program (MiRLAP)

MiRLAP, provides no-interest loans for projects that improve freight rail infrastructure in the state of Michigan. As outlined in statute, eligible projects include preserving, rebuilding, rehabilitating or building facilities or improvements on railroad property. Funds awarded through the program may also be used as a non-federal match for any federal rail infrastructure project and, under certain circumstances, to acquire property to preserve or improve freight rail service.

Table 14 summarizes the eight projects funded by MiRLAP from 2021-2026. Six of these went under contract in 2026, and there were no projects funded in 2022, 2023, 2024 or 2025. MiRLAP is a revolving loan fund, which means applications for projects can only be accepted when capital is available to lend. For example, if loans have been disbursed for projects, there is less funding available for future loans. As loans are repaid, the account balance increases, opening more loan capacity. Loan-to-value ratios (LTV) for the projects funded range between 50 to 90 percent for the last five years. The highest allowable LTV is 90 percent, with loans limited to \$2 million per project and \$2 million per applicant.

Table 14 - MIRLAP Projects Funded (2021-2026)

FY	Recipient	Location	Contract Amount	Total Rail Project Costs	Loan-To-Value Ratio
2021	Great Lakes Central Railroad	Cadillac	\$982,352	\$1,099,280	89.4%
2021	Huron & Eastern Railway Company Inc.	Tuscola County	\$695,993	\$773,326	90%
2026	Coopersville & Marne Railway Co.	Kent, Ottawa Counties	\$297,000	\$330,000	90%
2026	Great Lakes Central Railroad	Washtenaw, Livingston, Shiawassee Counties	\$1,798,173	\$1,997,970	90%
2026	Huron & Eastern Railway Co.	Tuscola Counties	\$2,000,000	\$2,414,601	82.8%
2026	The Indiana Northeastern Railroad Co.	Branch, Hillsdale Counties	\$1,997,313	\$2,269,674	88%
2026	Lake State Railway Co.	Crawford Counties	\$1,471,689	\$1,635,210	90%
2026	Lake State Railway Co.	Crawford, Otsego Counties	\$528,311	\$1,056,621	50%

Source: MDOT

Michigan's Rail Network

Since the development of MM2045, several significant developments will or could significantly impact Michigan's rail network and how it integrates with the national rail network.

Great Lakes Central Lines Sale to WATCO

The Great Lakes Central Railroad (GLC) is the second-largest Class III (short line) railroad in Michigan by mileage, operating 360 miles of track across 15 counties in the central and northern Lower Peninsula. GLC as a company emerged in 2005 from the purchase of the Tuscola & Saginaw Bay Railway (TSBY). The line runs north from Ann Arbor to Cadillac, with branches extending further north and west to Traverse City, Petoskey and Yuma. Primary commodities on GLC include soybeans, corn, other agricultural products, fertilizers, plastics and LPGs.

In March 2025, Watco Holdings, a minority investor in GLC since 2013, announced its intent to acquire full ownership and operations of GLC. The STB approved the transaction on Aug. 29, 2025. The acquisition brings GLC into Watco's broader portfolio of more than 40 North American short lines and regional railroads, expanding its footprint in Michigan. Of the 360 total GLC route miles, Watco leases 340 miles

from the State of Michigan and owns 19.5 miles. Under Watco, GLC will continue to employ approximately 60 people and serve more than 25 customers.⁴

GLC will integrate closely with Watco's existing Michigan properties, most notably the Ann Arbor Railroad (AA) and Grand Elk Railroad (GDLK), as shown in Figure 7. The connection with the Ann Arbor Railroad establishes north-south connectivity under one holding company across Michigan's lower, central, and northern Lower Peninsula. Integrating GLC also enables Watco to optimize traffic flows between its Michigan short lines, other Class III carriers and Class I partners. Through GLC, GDLK and AA, Watco can interchange with CSX, CN, NS, Mid-Michigan Railroad (MMRR), Huron and Eastern (HESR), Indiana and Ohio (IORY), Wheeling and Lake Erie (WE), Grand Rapids Eastern (GR), Marquette Rail (MQT) and Michigan Southern (MSO).⁵

Benefits to the transaction cited in the STB filing include providing access to Watco's national marketing team and enabling Watco to invest \$3.7 million into the GLC network.⁶ Other benefits Watco and the State of Michigan expect to realize include further capital investment in infrastructure and equipment, including locomotives. In addition, Watco expects the integration to open GLC to a more comprehensive suite of resources, including customer service, engineering, accounting, billing, safety, logistics services, purchasing and other economies of scale difficult to leverage under an individual operating property.

⁴ [Watco assumes operations of Great Lakes Central Railroad in Michigan](#). (2025). 9and10News.Com.

⁵ [WATCO](#).

⁶ [STB Approves Watco Holdings, Inc. Acquisition of Great Lakes Central Railroad - Surface Transportation Board](#). (2025, August 29). Surface Transportation Board.

Figure 7 - Watco Lines in Michigan



Source: Watco

Union Pacific Acquisition of Norfolk Southern

On Dec. 19, 2025, Union Pacific (UP) filed an application with the STB to acquire NS. The application was rejected by the STB on Jan. 16, 2026, as incomplete. However, UP filed a revised application on April 30, 2026. The STB can either approve, reject or accept the merger (with or without conditions).

If the merger is approved, it would fundamentally change the U.S. railroad industry. Since 1999, two railroads (NS and CSX) have controlled most railroad infrastructure and traffic east of the Mississippi River, while BNSF and UP have controlled most railroad traffic and infrastructure west of the Mississippi River. The proposed UP-NS merger would create the first transcontinental U.S. railroad, shown in Figure 8. Many industry observers believe that a UP-NS merger could lead the other two of the “big four” railroads (BNSF and CSX) to also merge. Thus, two railroads would control most U.S. freight rail traffic.

Figure 8 - UP and NS Rail Systems



Source: UP

The primary rationale for the merger, as articulated in the merger application, is the resulting reduction in shipments involving multiple Class I railroads (interline service). Because the new railroad would cover both the eastern and western United States, the merged railroad could deliver shipments on one railroad (single-line service) more frequently than could two separate railroads. According to the application, the merger would particularly benefit shippers within 250 miles of a Class I railroad interchange since railroads prefer not to handle shipments within 250 miles. For locations like Michigan within the 250-mile area, the merger would remove this disincentive. According to the application, the efficiencies of the merger would

result in an 11 percent increase in rail traffic, of which 82 percent would represent truck traffic shifting to rail. Since UP and NS announced their intent to merge, a range of representatives from the public sector, shippers and shipper associations have supported or opposed the merger.

Merger Implications for Michigan

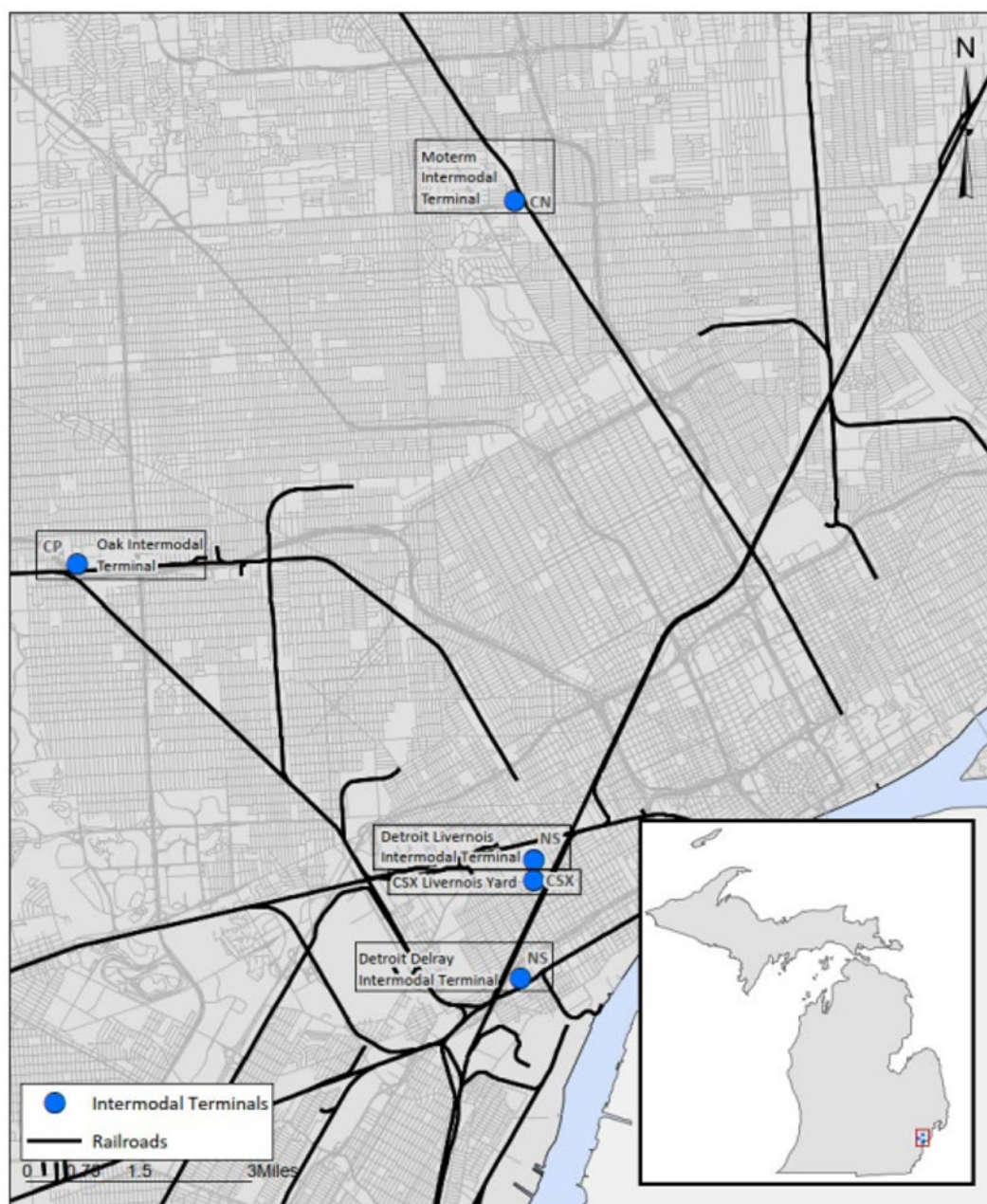
In discussing the merger with stakeholders and reviewing Michigan's location in the U.S. rail network, the merger could result in advantages or disadvantages for the state. The merger application identifies a "watershed" area within 250 miles of where UP and NS have interchanges, and it is these areas that, according to the application, would most benefit from the merger. Most of Michigan's Lower Peninsula lies within the watershed area. Discussions with stakeholders have suggested that Michigan's proximity to Chicago has limited the usage of rail for westbound movements. For example, the merger could create opportunities for westbound intermodal service that are not available now.

On the other hand, some railroads that interchange with CSX have expressed concern about the merger. Currently, UP is indifferent if it interchanges with CSX or NS, but post-merger, will only want to interchange with NS, and could disfavor traffic that interchanges with the CSX. Another issue raised was that mergers also often entail consolidation, which creates congestion.

Michigan Intermodal

Four Class I railroads provide intermodal service to Michigan, and all of Michigan's intermodal terminals are clustered in the Detroit region (Figure 9). Addresses and operating times are shown in Table 15. The CN intermodal is the only terminal open seven days per week. No terminal is open 24 hours per day.

Figure 9 - Michigan Intermodal Terminals



Source: MM2045 Rail Plan: Railroad Carrier Websites, MDOT Transload Database

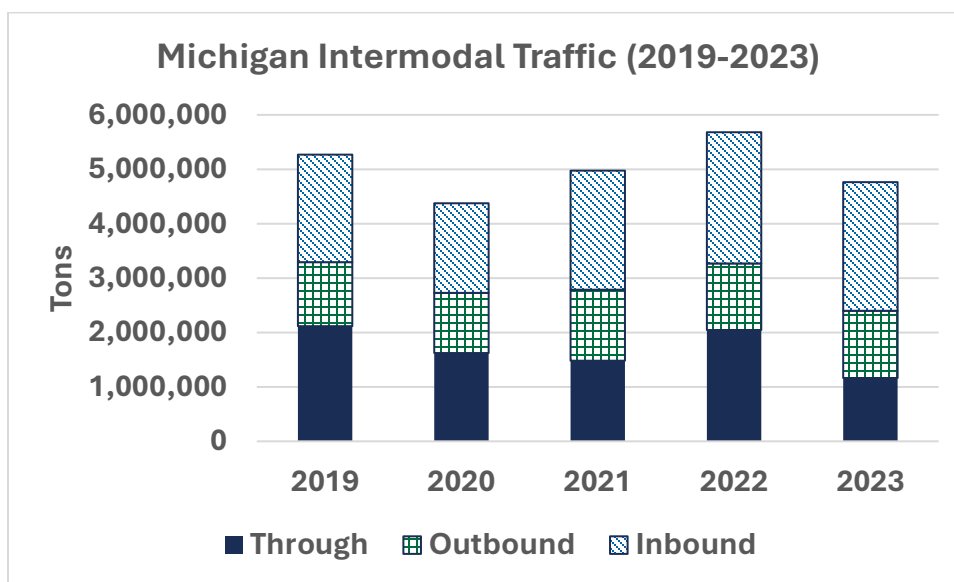
Table 15 - Michigan Intermodal Terminal Operating Times and Addresses

Railroad	Terminal	Hours	Address
CN	Detroit Intermodal Terminal	Monday - Friday: 5 a.m. - 9 p.m. Saturday - Sunday: 7 a.m. - 3 p.m.	923 West 8 Mile Road Ferndale, MI 48220
CPKC	Detroit Intermodal Terminal	Monday - Friday: 5 a.m. - 8 p.m. Saturday: 8 a.m. - 4 p.m. Sunday: Closed	12594 Westwood Detroit, MI 48223
CSX	CSX DetroitI	Monday - Friday: 5 a.m. - 7 p.m. Saturday: 7 a.m. - 4 p.m. Sunday: Closed	6750 Dix St. Detroit, MI 48209
NS	NS - Delray	Monday - Friday: 8 a.m. - 5 p.m. Saturday - Sunday: Closed	8501 Fort St. Detroit, MI 48209
NS	NS - Livernois	Monday - Friday: 7 a.m. 7 p.m. Saturday: 7 a.m. - 3 p.m. Sunday: Closed	2725 Livernois Ave. Detroit, MI 48209

Source: CN, CPKC, CSX and NS websites

How intermodal traffic flows into Michigan is determined by the railroad that carries the traffic. It is geographically impractical for NS or CSX to move overhead intermodal traffic through Michigan. CN and CPKC networks, on the other hand, cross Michigan between Canada and other parts of the United States. Through-, or overhead, traffic accounted for 40 percent of all intermodal tonnage in 2019. Since then, overhead traffic has declined to 25 percent of total intermodal traffic. Intermodal traffic has fluctuated, declining in 2020 mostly due to the Covid-19 pandemic but then rebounding to a new 17-year high in 2022 of 5.6 million tons.

Figure 10 - Michigan Intermodal Traffic

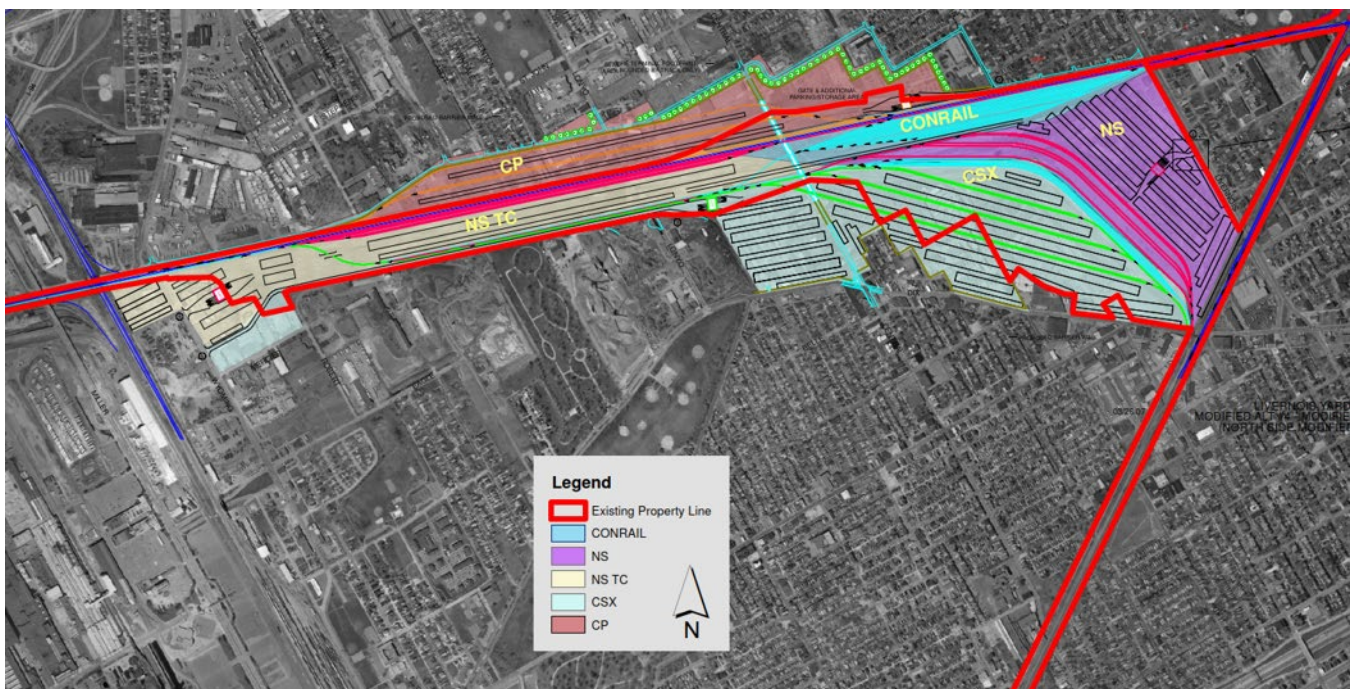


Source: STB waybill sample

Detroit Intermodal Freight Terminal Initiative

The Detroit Intermodal Freight Terminal (DIFT) Study originated in the early 1990s as a state-led effort to address growing intermodal demand, limited terminal capacity and the desire to get trucks out of neighborhoods in the Detroit region. DIFT is a program of projects, including improvements to rail lines and rail line junctions (interlockings), and a grade separation in the Detroit area, as well as a vision for a consolidated intermodal hub at the Livernois Intermodal Facility (IMF). The concept envisioned CPKC, CSX and NS intermodal operations combining at the Livernois IMF (Figure 11). Over time, the initiative advanced through feasibility studies and environmental review. The original DIFT concept received a formal record of decision in 2010.

Figure 11 - Original DIFT Consolidation Concept



Source: MDOT

DIFT organized 23 unique projects into three separate five-year phases. The first five-year phase included seven projects (Table 16). Other elements of DIFT were not formerly prioritized by railroads but their relative importance was discussed during DIFT development meetings. When MM2045 was completed in 2021, three projects from the first five-year phase had been completed or were underway. None of the projects from the second or third phases have been initiated.

Table 16 - DIFT First Five-Year Project Phase

Project	Cost	Status
Delray Interlocker	\$16,000,000	Completed
West Detroit Interlocker	\$16,000,000	Completed
Waterman/Dix Interlocker	\$4,000,000	Not started
Track from Delray to Dix	\$2,700,000	Completed
CP YD Interlocker	\$3,600,000	Not started
Pave Norfolk Southern Portion of Livernois-Junction Yard	\$26,000,000	Underway
Design of Civil Work Outside Terminal, Including Central Avenue Underpass	\$7,000,000	Not started

Source: MDOT

While the fully integrated DIFT concept has not been built as originally envisioned as of 2026, some core objectives, including improving coordination among rail carriers and the City of Detroit, have driven a series of proposed incremental investments, including projects that were part of the original DIFT concept and others that were developed outside of DIFT.

MDOT, in partnership with the City of Detroit and NS, was awarded \$67.4 million as part of a CRISI grant for paving and expanding capacity at the Livernois IMF, replacing diesel gantry cranes with new hybrid and fully electric gantry cranes, and improving the yard-public interface through entrance enhancements. The total project cost is \$112.4 million, with the remaining match being split between the State of Michigan, the City of Detroit, and NS.

The project will expand the Livernois IMF container lift capacity from 107,000 to 250,000 containers annually and includes improvements at key roadway intersections near the facility. These upgrades will reduce the number of trucks on the region's roads and enhance the quality of life for residents of the surrounding communities. Figure 12 shows the proposed layout and key improvements to the Livernois IMF facility.

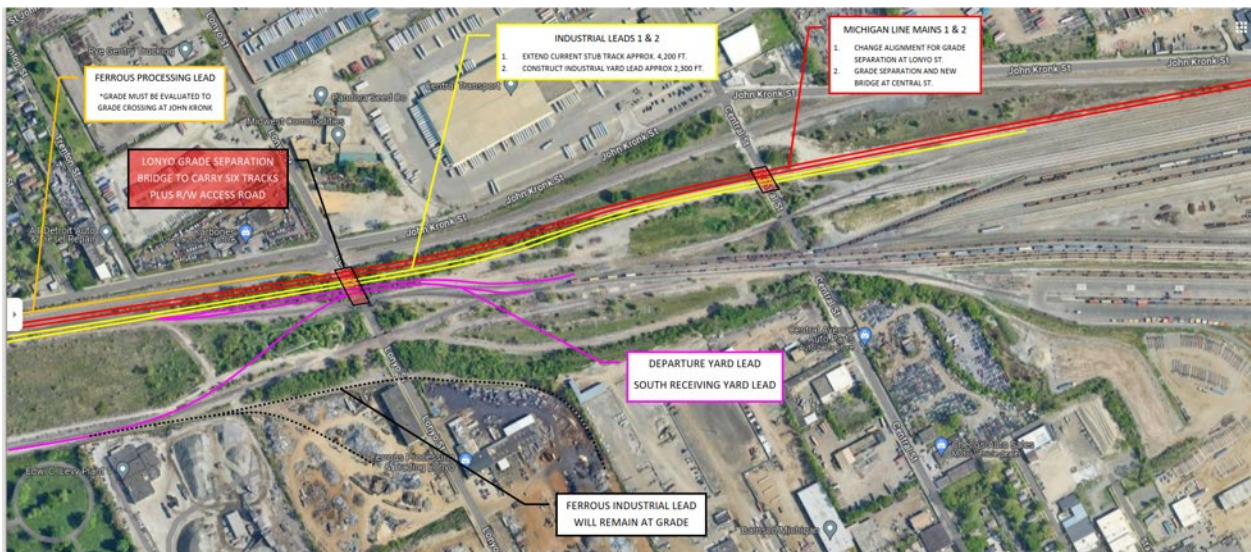
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CSX is also undertaking improvements to its section of the Livernois IMF since MM2045. With assistance in 2024 from MDOT's Michigan Rail Enhancement Grant Program, CSX is paving the yard, replacing lift equipment and making general improvements to the serving rail line.

The City of Detroit has also sponsored the Central-Lonyo Grade Crossing Elimination Project, which was awarded \$5.2 million from the FRA's Rail Crossing Elimination (RCE) Program. The proposal will consolidate tracks near Livernois Yard and shift most rail movements onto new bridges over Lonyo Street and Central Avenue, eliminating three at-grade crossings (Figure 13).

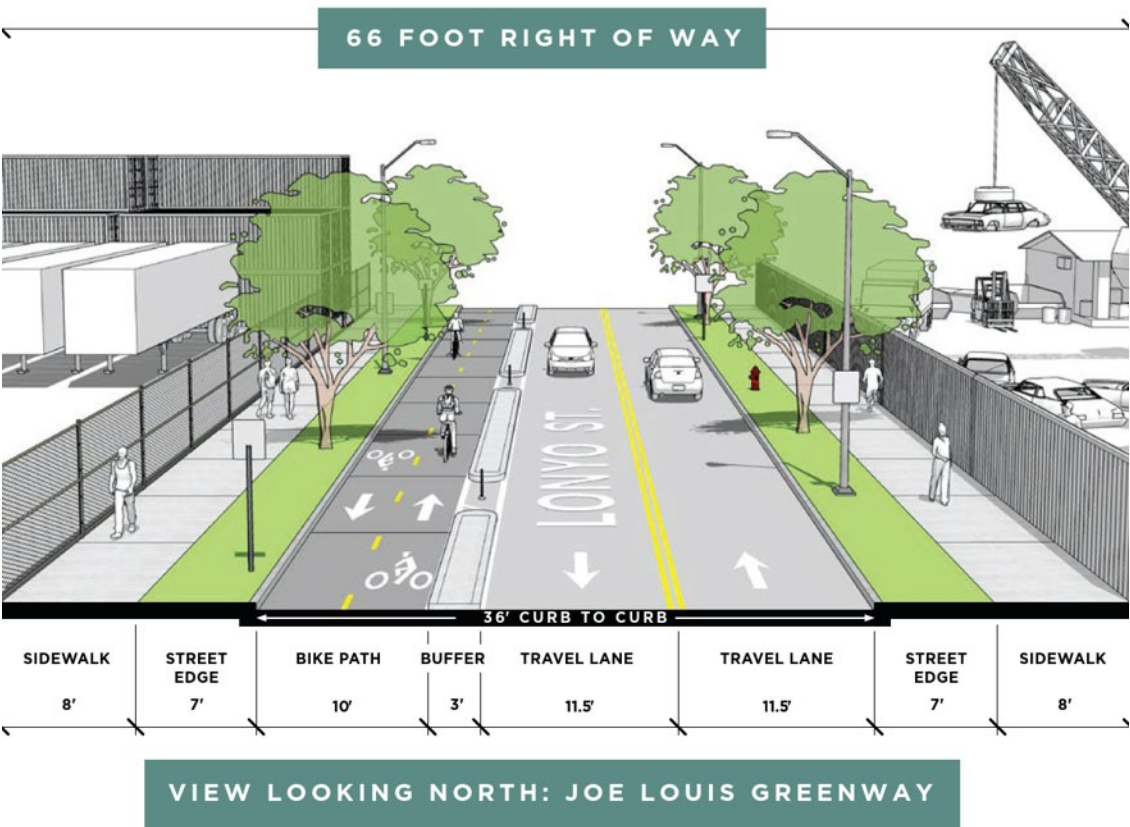
The Central-Lonyo Grade Crossing project will also benefit the Joe Lewis Greenway, a planned biking and walking trail that extends from the Detroit Riverfront to Highland Park, Dearborn and Hamtramck. The project development effort funded by RCE will incorporate integration of this developing linear park linking multiple Detroit neighborhoods. Lonyo Street will incorporate new bicycle and pedestrian infrastructure, which will be incorporated into the grade separation project (Figure 14).

Figure 13 - Proposed Grade Separation and Line Alignment Projects (West Livernois Yard)



Source: MDOT

Figure 14 - Proposed Improvements to Lonyo Street to Include Joe Lewis Greenway



Source: MDOT

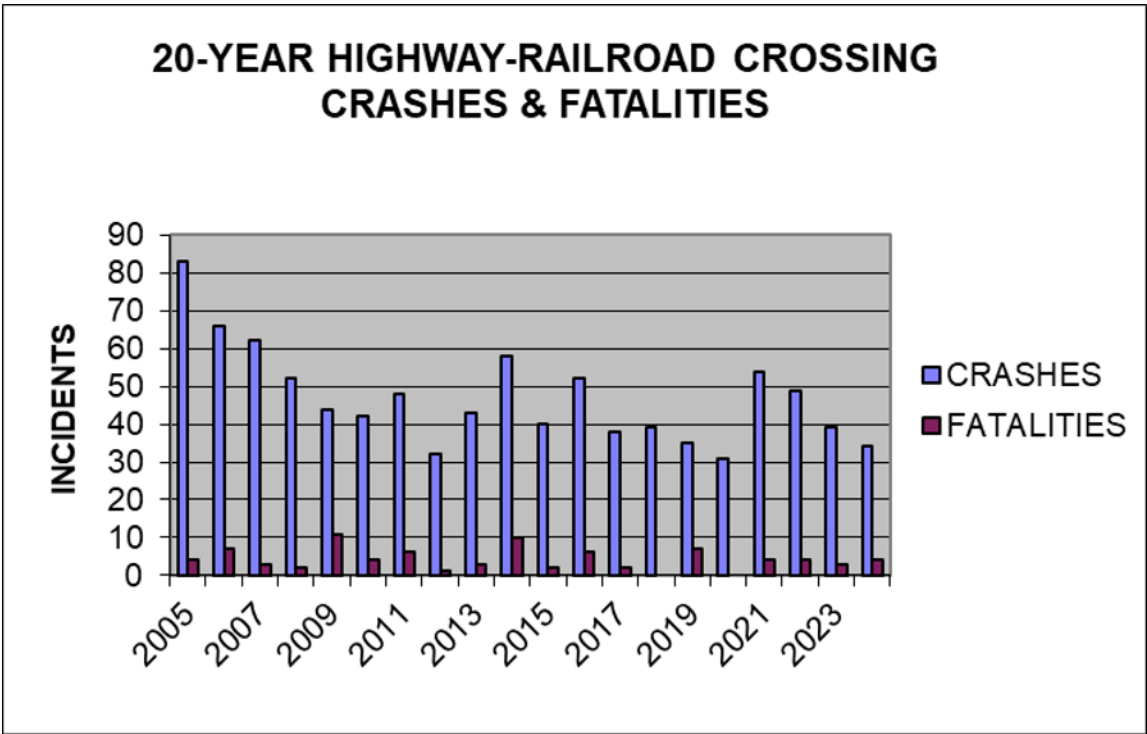
Highway Grade Crossing Safety

The FRA reports that on average across the United States, eight people or vehicles are hit by trains each day and 96 percent of rail-related fatalities over the past 10 years are due to highway-rail grade crossing and trespassing related incidents.⁷ The vast majority of these incidents are preventable, underscoring the importance of state level-grade crossing safety, education and investment programs.

Michigan Grade Crossing Incident Trends

Within Michigan, the 20-year period (Figure 15) shows a long-term trend of decreasing highway-railroad crossing crashes and fatalities. From a 20-year peak in 2005 of 83 crashes, Michigan experienced 32 crashes in 2025, with an all-time low of 31 in 2020. Over the same time period, fatalities have fluctuated between zero and 10 in a single year. While improvements to grade crossing safety have been made, these results suggest that more work and investment are needed.

Figure 15 - Michigan Grade Crossing Crashes and Fatalities (2005-2025)



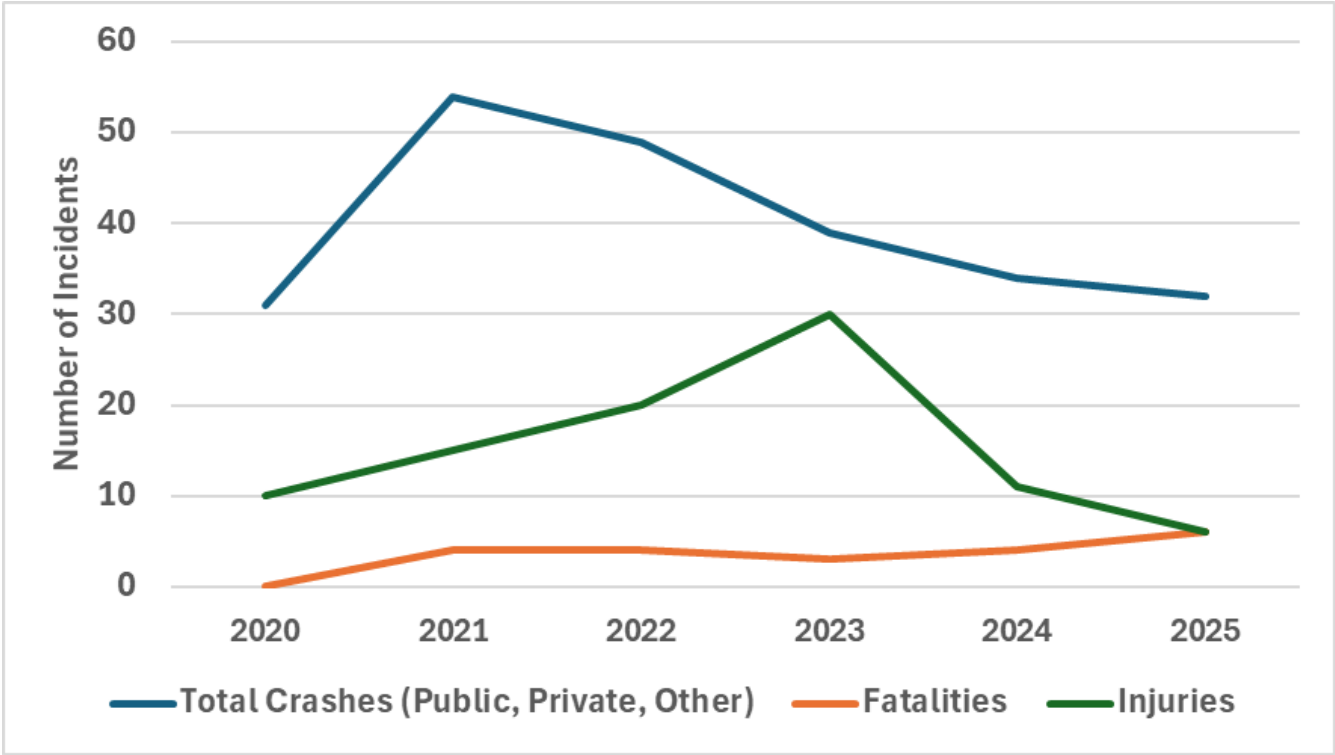
Source: MDOT

Within the last six years since 2020, total grade crossing crashes in Michigan have ranged from 31 to 54, with the peak occurring in 2021. Since 2021, the total number of crashes has been declining. Crashes, injuries and fatalities as shown in Figure 16. Injuries and fatalities, while related, do not necessarily rise or fall with the same pattern or rate as crashes. For instance, Michigan saw a five-year high for injuries in 2023,

⁷ [Highway-Rail Grade Crossing Safety and Trespass Prevention](#). (2026). USDOT.

when total crashes decreased to 39 from the five-year high in 2021 (54 crashes). Likewise, despite total crashes decreasing to 32 in 2025, Michigan experienced six fatalities (five-year high) in the same year.

Figure 16 - Michigan Grade Crossing Crashes, Injuries and Fatalities (2020-2025)



Source: MDOT

Table 17 summarizes crashes at public grade crossing from 2020 through 2025 and includes the subcategories based on the type of protection installed at the grade crossing. In addition, Table 17: Michigan Grade Crossing Crashes illustrates how the fatalities and injuries associated are not necessarily directly correlated with crossing incidents.

Figure 17 shows the number of crashes between 2020 and 2025 by type of warning device at the crossing. Thirty-nine percent of crashes occurred at gated crossings, which suggests that motorists and others have been going around the gates. At the same time, passive warning devices, which include the crossbuck, crossbuck with yield sign, and crossbuck with stop sign together accounted for 35 percent of incidents.

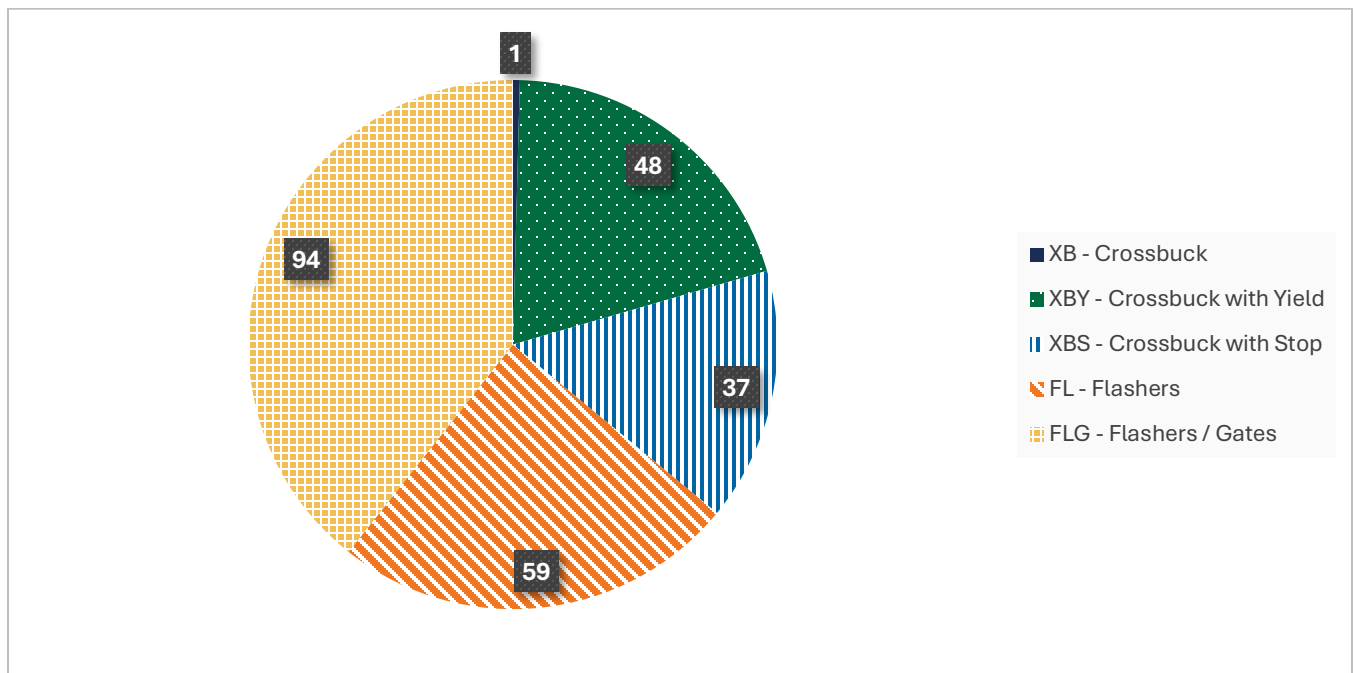
In 2021, 19 crashes occurred where vehicles drove into a train occupying a crossing. In 2024, these types of incidents fell to seven, then increased back to 14 in 2025.

Table 17 - Michigan Grade Crossing Crashes

Public Crossings	2020	2021	2022	2023	2024	2025
XB - Crossbuck	0	1	0	0	0	0
XBY - Crossbuck with Yield	9	9	8	7	6	9
XBS - Crossbuck with Stop	4	7	9	7	6	4
FL - Flashers	11	13	12	10	7	6
FLG - Flashers / Gates	7	24	20	15	15	13
Total Public Crossing Crashes	31	54	49	39	34	32
Fatalities	0	4	4	3	4	6
Injuries	10	15	20	30	11	6
CHT (Car Hit Train)	11	19	10	9	7	14

Source: MDOT

Figure 17 - Public Crossing Crashes by Signage and Signal (2020-2025)



Source: MDOT

Safety Investment Programs, Administration and Section 130

MDOT's Rail Safety and Administration Section inspects more than 4,500 public highway-railroad grade crossings in the state on a biennial schedule, maintains a comprehensive database to manage crossing-related data and convenes Diagnostic Study Team Review (DSTR) meetings to address prospective safety enhancements. The Rail Safety and Administration Section is the state's railroad regulatory authority, empowered to order enhancements and monitor compliance with corrective measures at all public grade crossings.

MDOT is responsible for implementing and administering the public highway-railroad grade crossing safety program in compliance with relevant federal guidelines and Federal Highway Administration directives, as generally prescribed by US Code Title 23, Section 130 (Section 130 program). Projects are primarily federally funded, but MDOT provides state funding as well. MDOT oversees the entire process from data collection, project development, delivery, final billing, inspection and auditing to assure compliance with all relevant federal and state guidelines.

In addition to performing comprehensive analysis of car-train crash trends to assist in making project development decisions, MDOT staff monitor ongoing program effectiveness. Monitoring suggests a 75 percent risk reduction at crossings that have been upgraded.

Local Grade Crossing Program (LGCP)

Michigan's Local Grade Crossing Program implements the Section 130 Program, reviewing crossing data and crash statistics and creating an annual listing of prioritized crossing locations for DSTR meetings to address prospective crossing safety improvements. Now a part of the Rail Safety and Administration Section, the Local Grade Crossing Program develops, authorizes and administers safety enhancement projects at highway-railroad grade crossings on county, city or village roadways.

Trunkline Grade Crossing Program (TGCP)

In coordination with the LGCP, the Trunkline Crossing Program evaluates, prioritizes and manages projects to address highway-railroad crossing needs on roadways under state jurisdiction (trunklines). Trunkline crossings comprise about 5 percent of the total crossings in Michigan. Because almost all crossings on the trunkline system are already equipped with active warning devices, many of the Trunkline Crossing Program's projects address other crossing issues, such as poor approaches and surface conditions. The Trunkline Crossing Program also provides funding and coordination for highway-railroad crossing safety elements within trunkline roadway projects.

Section 130 and Grade Crossing Enhancement Effectiveness

Table 18 summarizes the Michigan Section 130 program by total number of projects and funding for 2021-2025, which has ranged between \$7.7 million and \$11.2 million annually. Projects are divided into three core categories:

Crossing Approach Improvements: Includes pavement markings, signs, sightline improvements and elements not involving active crossing equipment.

Active Grade Crossing Equipment Installation/Upgrade: Covers upgrading passive warning devices to active as well as replacing, renewing or upgrading active signaling equipment on crossing with existing active warning devices.

Grade Crossing Elimination: Covers complete elimination of a highway/rail grade crossing.

Michigan measures the effectiveness of grade crossing enhancement projects and the overall program through the exposure reduction percentage metric, which measures the crossing exposure reduction level

by comparing the pre-project warning level to the post-project warning level.⁸ For the measurable projects, the exposure reduction percentage has ranged from 68 to 84 percent between 2021 and 2025.

Table 18 - Crossing Enhancement (Section 130) Program Projects, Spending and Exposure Reduction

Category	2021	2022	2023	2024	2025
Category 1: Crossing Approach Improvements	\$2,498,352	\$2,534,551	\$6,061,981	\$3,830,919	\$788,902
Category 3: Active Grade Crossing Equipment Installation/Upgrade	\$8,533,983	\$5,356,070	\$5,520,282	\$9,236,557	\$6,761,448
Category 6: Grade Crossing Elimination	\$202,500	\$776,363	\$311,000	\$445,165	\$175,000
Total Funding	\$11,234,835	\$8,666,984	\$11,893,263	\$13,512,641	\$7,725,349
Total Projects (MDOT)	42	51	45	55	28
Exposure Reduction Percentage	71%	68%	80%	84%	71%

Source: MDOT

In addition, Michigan tracks the effectiveness of improvement projects with “before and after” crash statistics for locations with prior crash history. MDOT’s database of grade crossing crashes, fatalities and injuries identifies projects and tracks performance of implemented improvements. The database monitors incidents five years before the project and three years following project completion to provide a before and after comparison.

As shown in Table 18, the projects completed in year 2021 produced a 71 percent reduction in overall grade crossing incidents over the three-year post-completion reporting period. Over the last five project completion year periods since 2021, Michigan grade crossing improvement projects achieved more than 90 percent incident reduction in three of the five years and reached a 100 percent reduction for projects completed in 2020.

⁸ It should be noted that certain enhancements such as improving approaches and surfaces or extending gates to three-quarter roadway length provide a clear safety benefit but are **not** measurable by current risk assessment formulae.

Table 19 - Grade Crossing Enhancement Program Incident Reduction

		Before Crash Data - Five Years				After Crash Data - Three Years				
Project Completion Year	Three-Year Reporting End	Fatal	Serious Injury	Other Injury	Property Damage Only	Fatal	Serious Injury	Other Injury	Property Damage Only	Incident Reduction Percentage (All Types)
2021	2024	0	0	6	11	0	2	0	3	71%
2020	2023	1	1	1	5	0	0	0	0	100%
2019	2022	0	3	4	8	0	0	0	1	93%
2018	2021	2	3	2	12	0	0	0	1	95%
2017	2020	3	0	4	13	0	0	0	1	93%

Source: MDOT

State Grade Separation Funding Legislation

Grade Separation Program

In 2023, Michigan created a statewide grade separation grant program via Public Act 66 (created the program) and Public Act 67 (provides implementation guidance). The state has appropriated \$40 million for the program in FY 2026. The two state bills established a program that can apply disbursements directly to eligible applicants, which also can leverage MDOT grants as matching funds for federal funding programs.

Grant funds awarded may be used by the funding recipient for any stage of design and construction related to either of the following:

- A grade separation project.
- A project that improves traffic at a rail crossing without a full grade separation, including but not limited to construction of a rail siding or spur.