Intermodal Freight in Wisconsin – 2025 Update

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Executive Summary

For a more in-depth explanation of the various components of the intermodal ecosystem, please refer to the 2019 report *Overview of Intermodal Freight in Wisconsin*, which includes detailed explanations of basic intermodal terms, equipment used, performance indicators, and entities involved in the intermodal movement of freight.

This report is intended to be a supplement to the 2019 *Overview of Intermodal Freight in Wisconsin* report.[1,2] It includes data and operational updates that have occurred since the 2019 report was published. It also supports the policies found in the 2023 State Freight Plan, where WisDOT committed to collaborate with stakeholders to develop a viable intermodal freight strategy for Wisconsin.[3] Finally, this report leverages the research methodologies developed by two recent regional intermodal studies and provides a statewide context for

Wisconsin businesses and transportation services to better understand the intermodal insights contained within the regional reports regarding intermodal service opportunities within the state.

Intermodal refers to the movement of cargo in shipping containers or trailers using more than one mode of transportation.[4] This concept blends multiple modes of transportation to move goods around the globe in the most efficient and cost-effective manner. In addition to cost savings, intermodal movement can be more efficient because water and rail modes can transport much higher volumes of cargo using far less fuel than diesel trucks, thereby offering a practical, cost-effective solution to multiple transportation system challenges.

For example, water and rail modes are limited geographically from taking cargo from or to the doorstep of a business. Trucking plays a vital role within the intermodal paradigm because they can easily convey goods first from the supplier's warehouse or production facility and ultimately to its destination, making the first and last miles of transport critical to the intermodal ecosystem. Long-distance trucking is also an alternative when water and rail modes are less viable. However, an overreliance on any one mode can create challenges within the transportation system. Using multiple modes to transport the cargo offers suppliers and customers more options to determine the most efficient and cost-effective way to shepherd the goods from one place to another, which benefits not only the supplier and customer, but also the consumer.

WisDOT supports the integration of intermodal transportation options within Wisconsin's supply chain ecosystem as one approach that would enhance supply chain redundancy and resiliency by utilizing and harmonizing multiple modes of transportation. This report, in combination with the recent regional reports, offers important insights into the basic factors or tenets of intermodal that must be considered, in addition to determining the appropriate stakeholders to engage, to create a solid foundation in support of intermodal success before taking steps to implement an intermodal solution. Intermodal solutions should not be approached as a "build it and they will come model;" instead, such solutions should incorporate data-driven analyses utilizing a long-term planning perspective to make informed decisions, given the constantly shifting landscape of the supply chain. By leveraging the efficiency and environmental benefits of intermodal freight movement, Wisconsin can strengthen its position in the global marketplace, improve economic development, and provide suppliers and consumers with more cost-effective and sustainable logistics solutions.

1. Data and Operational Updates

For a more in-depth look at the various components of the intermodal ecosystem, please refer to the 2019 report *Overview of Intermodal Freight in Wisconsin*, which includes detailed explanations of basic intermodal terms, equipment used, performance indicators, and entities involved in the intermodal movement of freight.

The landscape of intermodal freight transportation is increasingly shaped by both international and domestic supply chain trends and issues that reflect the complexities of global commerce. As businesses navigate the challenges of fluctuating demand, evolving consumer preferences, and regulatory changes, the interplay between domestic logistics and international trade becomes more pronounced. Key trends such as the rise of e-commerce,

the push for sustainability, and advancements in technology are transforming how goods are moved and managed across borders and within national boundaries. This section explores the current trends and pressing issues affecting supply chains and examines their implications for intermodal freight operations.

1.1. International and Domestic

1.1.1. Top International Ports

From 2019 to 2022, global container port throughput increased from approximately 801 million twenty-foot equivalent units (TEUs) to 852 million TEUs, marking a +6.4 percent total change.[5] This growth was driven by increased demand for consumer goods, particularly from East Asia, resulting from the rebounding of international economic conditions, coupled with high consumer demand being met and the trend of purchasing goods through e-commerce channels.[6]

Combined, the leading container exporters (based on global container port throughput), including China, the United States, Vietnam, the Republic of Korea, and Japan, played a significant role in global trade in 2022, accounting for nearly half of all traffic. China alone contributed 31 percent of this traffic, indicating its substantial influence on containerized trade flows.[7]

Approximately 40 percent of international containerized trade occurred on the primary East-West routes connecting Asia, Europe, and the United States. Other routes, such as the East-West routes involving South Asia-Mediterranean, made up just under 13 percent of containerized trade. In *Review of Maritime Transport 2022*, the United Nations Conference on Trade and Development (UNCTAD) also noted that South-South trade routes, like those between Sub-Saharan Africa and Latin America, and North-South routes, such as those connecting Europe and Africa, contributed to the global containerized trade landscape to a lesser extent.[8]

Moreover, port performance can be examined by the volume of TEUs the port handles. In 2023, nine of the top 25 ports were located in China, compared to three located in the United States (Los Angeles, Long Beach, and New York/New Jersey).[9]

1.1.2. Top North American Ports

Due to unforeseeable events, such as the disruptions experienced in the Suez and Panama Canals, volumes at ports can change rapidly leading to shifts in their rankings. As a result, North American port rankings (based on TEU volumes) exhibited a slight variation in 2023 compared to the above international rankings; the Journal of Commerce continued to rank Los Angeles as the leading port, while Long Beach and New York/New Jersey exchanged positions, followed by Savannah and Manzanillo.[10] Correspondingly, container port traffic (also based on TEU volumes) increased in the United States (+8.5 percent) and Mexico (+5.8 percent) from 2021 to 2022, according to the most recent data, likely indicating a sustained growth in demand for shipping services.[11]

1.1.3. Key International Trade Lanes

The global trade lanes have remained fairly consistent for the past ten years (2014-2023). Asia remains the top origin and destination for the world's trade lanes. Data from 2022 was used to benchmark the trade lanes. Statista ranked the top seven trade lanes below based on TEUs:

1. The most active trade lane in the world exists within Intra-Asia with 42.1 million TEUs being shipped within the region.
2. North America's largest trade route by far continues to be with Asia representing 27.4 million shipping containers moved between each continent, 23.8 million TEUs imported from Asia and 3.6 million TEUs back.
3. Asia and Europe hold the next largest trading route representing 20.5 million TEUs with exports to Europe at 15.6 million TEUs and 4.9 million TEUs back.
4. The Middle East and North Africa's trade route with Asia holds the next largest route at 9.3 million TEUs, with 6.7 million TEUs imported from Asia and 2.6 million TEUs back.
5. Latin America and Asia hold the next largest route at 8.2 million TEUs, with 6.7 million TEUs imported from Asia and 1.5 million TEUs back.
6. Europe and the Middle East come in next at 6.5 million TEUs, with 3.3 million TEUs exported from Europe and 3.2 million TEUs back.
7. North America and Europe is the next largest trade route with an average 6.2 million containers moved, 4.6 million TEUs imported from Europe and 1.6 million TEUs back.

The rest of the continents' trade routes with each other are much smaller in comparison to Asia's influence in the trade lanes. Also, Asia's exports far outweigh what it takes in for imports.[12]

1.1.4. Key North American Trade Lanes

The key North America trade routes continue to focus around Chicago, as noted in the 2019 Intermodal Report on pages 16 and 57-58. Rail continues to be tied through this major exchange point in moving most of the containers across the nation, especially those that end up in Wisconsin. The highest-volume corridors are lanes from Los Angeles / Long Beach to Chicago (via Burlington Northern Santa Fe [BNSF] and Union Pacific [UP]) and New York-New Jersey to inland locations, including Chicago (via CSX and Norfolk Southern [NS]). Wisconsin hosts three important corridors through the state: the Canadian National (CN) corridor from Vancouver and Prince Rupert, British Columbia to Chicago and New Orleans via Superior, Neenah, and Waukesha; Canadian Pacific-Kansas City (CPKC) between Vancouver and Chicago via Minneapolis, La Crosse, and Milwaukee); and BNSF from Seattle/Tacoma to

Figure 1: East West Trade Lanes

Source: https://transportgeography.org/contents/applications/transportation-bottlenecks/north-america-landbridge/

Chicago via Minneapolis and La Crosse (following the eastern shore of the Mississippi River through much of Wisconsin).

The East-West corridors continue to be critical for container movements - both overseas imports/exports and domestic container shipments. The preference for West Coast or East Coast terminal delivery varies by a number of factors, including pricing, port congestion, and issues carriers face shipping through the Panama Canal. While these corridors have seen fluctuations in intermodal traffic over the past few decades, surging fuel prices, labor disruptions and the available shipping container capacity levels have impacted the growth and level of use for the transcontinental "land bridge."[13]

Through a merger discussed in the Railroad Mergers & Acquisitions section, CPKC has connected North America from north to south, reaching from Canada down through Mexico. This was encouraged as the North American Free Trade Agreement (NAFTA) was replaced by the United States-Mexico-Canada Agreement (USMCA), which ties North America closer together to compete on a global basis. Nearshoring in Mexico has also greatly increased the level of trade between Mexico and the U.S. as China looks at alternative methods to avoid American import tariffs. Trade levels between China and Mexico increased 33 percent in 2023 and another 26.2 percent in 2024 while inversely imports directly from China to the U.S. have decreased from 17.7 percent to 13.5 percent since 2020, due primarily to nearshoring practices.[14]

Figure 2: Merger of CP and KCS

Source: https://investor.cpr.ca/news/press-release-details/2021/Canadian-Pacific-and-Kansas-City-Southern-Agree-to-Combine-to-Create-the-First-U.S.-Mexico-Canada-Rail-Network/default.aspx

1.1.5. Global Supply Chain Factors

In today's interconnected world, the dynamics of global supply chains play a pivotal role in shaping the landscape of intermodal freight transportation. As businesses increasingly rely on a network of suppliers and markets that span continents, the efficiency and effectiveness of intermodal logistics become critical to maintaining competitive advantage. Factors such as geopolitical tensions, trade policies, technological advancements, and environmental considerations can significantly influence the flow of goods across various modes of transport, including rail, road, and maritime. This section delves into the multifaceted ways in which these global supply chain factors impact intermodal freight operations, highlighting the challenges and opportunities that arise in this complex and evolving environment.

COVID-19 Pandemic

While international maritime trade experienced a decline of 3.8 percent in 2020, it rebounded in 2021 with a growth of 3.2 percent to 11 billion tons in total, in part due to increased consumer spending.[15] However, increasing demand for consumer products, combined with pandemic-related limitations on goods and staff, caused elevated clearance times, congestion, and volatility in supply chains. The surge in import demand was

further illustrated by the dramatic increases in container spot rates per forty-foot equivalent (FEU) from North Asia to the U.S. East Coast (+70.3 percent) and North Asia to the U.S. West Coast (+93.9 percent) between January 2021 to January 2022.[16]

By 2023, carriers faced challenges in filling their capacity as European importers dealt with inflation and elevated inventory levels. The initial efforts to reduce stock in Europe and North America shifted when businesses started to accumulate safety supplies, prompted by a resurgence of COVID-19 cases in China and growing worries about future supply and pricing stability. These developments resulted in a dramatic drop in spot rates, exemplified by an 86 percent decrease in the Asia-Europe spot rate.[17] At the same time, importers in the U.S. began to reconsider their reliance on China, seeking to reduce risks linked to pandemic-induced disruptions and escalating geopolitical tensions. This shift is reflected in containerized trade patterns, with China's share of U.S. imports declining from 42.4 percent in 2021 to 40.7 percent in 2022.[18]

As of 2024, the shipping industry has demonstrated enhanced resilience in the face of widespread disruptions experienced during the pandemic, which has equipped the industry with better tools and strategies to manage major crises. The agility displayed by carriers in swiftly rerouting vessels and adjusting port rotations in response to the Red Sea attacks exemplifies the heightened vigilance and preparedness that have emerged since the pandemic. The multiple crises caused by the COVID-19 pandemic served as a major impetus for the reevaluation of risk assessments and operational strategies, which will likely shape the future of global shipping and intermodal freight for years to come.[19]

Global Trade Disruptions

In addition to the COVID-19 pandemic, global trade faces ever-changing disruptions at key bottleneck points due to geopolitics, climate and weather, and other factors. The following are some significant global trade disruptions in recent years.

February 2022-July 2023: Rerouting to Avoid Attacks in Black Sea

In February 2022, conflict in Ukraine began to escalate, forcing oil and grain shipments into alternate trade routes to avoid the Black Sea. In March 2022, grain prices hit all-time highs, due in part to these diverted grain trade routes.[20] That July, Russia and Ukraine signed onto a ceasefire agreement called the Black Sea Grain Initiative (BSGI) to allow outbound food shipments to continue leaving from Ukraine. The United Nations and the Center for Strategic and International Studies both found that the agreement temporarily relieved food shipment shortages globally, until Russia terminated the agreement in July 2023, making grain shipment volume fall again.[21, 22]

Shortly after the termination of the BSGI, Ukraine succeeded in pushing the Russian navy out of the western Black Sea, which contributed to a rise in grain transport out of Ukraine once again and lowered global grain costs. The Black Sea is critical to the reliability of food shipping and stability of food prices, with a significant portion of global wheat (25.4 percent) coming from Russia and Ukraine in 2019 and 95 percent of Ukraine's wheat exports utilizing the Black Sea in 2020.[23] Shipments today still sail with the danger of attack and floating mines, and this uneasy shipping corridor will likely remain the status quo until any major change occurs with the conflict in Ukraine.[24] As of January 2025, the war is ongoing with no peace negotiations on the horizon.

Summer 2023-Summer 2024: Rerouting to Avoid Panama Canal Drought & Limited Capacity

In mid-2023, the water level in the Panama Canal started to drop due to the canal's primary water source, Lake Gatun, experiencing extreme drought. Canal authorities said the drought was due to insufficient rainfall caused by the El Niño weather phenomenon and climate change.[25] As a result, vessel capacity dropped drastically – by January 2024, capacity was down 40 percent year-over-year.[26]

The canal typically sees about five percent of seaborne trade and 46 percent of containerized traffic between the U.S. East Coast and Northeast Asia.[27] Shipments began to reroute to the Panama Canal Railway, which is partially owned by CPKC, to avoid waiting for canal access. The Panama Canal Railway saw a 20 percent increase in container traffic in the summer of 2023. CPKC reported new volume on the Panama Canal Railway coming mostly from shipping lines that did not use the rail line prior to the drought.[28]

Shipments were also rerouted to avoid Panama altogether – most U.S. grain vessels bound for East Asia used the Suez Canal rather than the Panama Canal in late October 2023, a reversal from the same period in 2022.[29] Crop shipments to Asia were also rerouted to leave from the Pacific Northwest to avoid Panama. According to the Bureau of Transportation Statistics (BTS), the restrictions contributed to a 10 percent decline in the port's year-over-year cargo throughput for the last quarter of fiscal year 2023.[30]

By mid-2024, restrictions began to ease and major shippers such as Maersk resumed use of the Panama Canal route.[31] Although capacity is at normal levels again, experts warn that the challenges of water for Panama and the Panama Canal remain a long-term concern.[32]

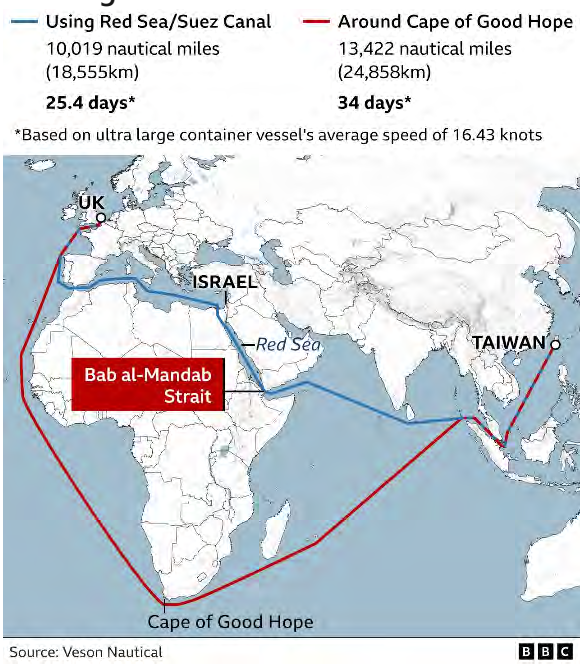
November 2023-Present: Rerouting to Avoid Attacks in Red Sea & Suez Canal

In November 2023, the Houthi rebel group of Yemen started attacking shipping vessels in the Red Sea.[33] Some of the biggest shipping companies, including Mediterranean Shipping Company and Maersk, shifted from passing through the Red Sea and Suez Canal to going around Africa's Cape of Good Hope to reach Europe.

While safety of seafarers is the number one concern, these attacks also mean increased prices for containerized trade. The Suez Canal and Bab el-Mandeb Strait, located at the northern and southern pinch points of the Red Sea, respectively, create a 'shortcut' between Europe and Asia.[34] By avoiding the Red Sea and opting for a route around the Cape of Good Hope in Southern Africa, route lengths increase by 30 percent. The BBC states that an estimated 12 percent of global trade typically passes through the Red Sea, making it one of the busiest trade lanes in the world.[35]

Major trade lanes affected include the Asia-Europe and Asia-North America East Coast connections. Trains.com reported

Figure 3: Alternative Shipping route avoiding Red Sea



that 40-foot container shipment costs rose from under $3,000 in December 2023 to over $7,100 in April 2024, plus rising insurance prices. Rerouting away from the Red Sea also has downstream financial consequences for factories in Europe and North America that depend on parts from Asia being cheap and quick to arrive.[36]

At present, shipments continue to be rerouted away from the Red Sea.[37] The attacks also mean increased carbon emissions, which could contribute to stronger regulatory pressure to convert fleets to zero-emission fuels like ammonia, methane, and hydrogen in order to meet the International Maritime Organization's target of at or near net-zero by 2050.[38] Notably, Europe's Emission Trading System will tax carriers 70 percent of their carbon emissions starting in 2025, up from 40 percent in 2024.[39]

As another Red Sea work-around, freight rail between China and Europe is on the rise in volume and price. However, according to trains.com, rail has insufficient capacity to replace container ships along this route, with average China-Europe trains fitting 80 to 100 TEU while large container ships fit over 23,000 TEU.[40]

The disruption comes a couple years after the same trade bottleneck point, when the Ever Given container ship became wedged in the channel due to strong winds. The New York Times states that the Ever Given froze almost $10 billion per day in trade value.[41]

The International Monetary Fund estimated that Suez Canal trade volume fell 50 percent year-over-year for January and February 2024, while Cape of Good Hope trade volume rose 74 percent year-over-year and Panama Canal trade volume fell 32 percent year-over-year.[42]

March-July 2024: Rerouting Due to Bridge Collapse Blocking Port of Baltimore

In March 2024, the shipping vessel *Dali* struck the Francis Scott Key bridge over the Patapsco River in Baltimore, MD. Parts of the bridge collapsed into the river, pinning the ship in place and blocking other ships from reaching the Port of Baltimore. Tragically, six people working on the bridge at the time of impact lost their lives.

In the time the bridge was closed and at limited capacity, Class I railroad CSX struggled to reroute coal shipments. Trains.com reported in its June 2024 issue that CSX was quickly shifting its coal export system from Baltimore toward its Newport News, Virginia terminal to avoid further losses. Norfolk Southern has been similarly shifting its traffic to other nearby East Coast terminals. Trains.com also stated Baltimore was not a "major player" for the two railroad companies' intermodal business.[43, 44, 45]

Canadian Railroad Work Stoppage Concerns

The potential for a longer, more drawn-out rail work stoppage remains as Canadian railroads and Teamsters continue to disagree over new contract terms, as of January 2025. The issue initially caused a four-day work stoppage for CN and CPKC in August 2024; however, the Canada Industrial Relations Board (CIRB) quickly ended the stoppage by settling the work contract disagreements and imposing binding arbitration.[46] Teamsters have challenged the CIRB ruling, saying it sets a dangerous precedent.[47] A prolonged Canadian rail work stoppage would have devastating effects on the U.S. and Wisconsin economies, which depend on CN and CPKC to import and export products to and from Canada and Canadian ports.[48]

Wisconsin agricultural imports and exports, wood products exports, and construction materials imports would be hit especially hard by any prolonged work stoppage in the future. Canada – the U.S.'s second highest trading

partner after Mexico in combined import/export value – is a major buyer of U.S. soybean oil and soybean meal, rice, and corn, and Canada supplies Wisconsin with fertilizers as well as construction inputs like lumber and oil. [49,50] A U.S. Department of Agriculture report noted that Canada was the U.S.'s number three agricultural exports destination and number two agricultural imports supplier in 2023. In 2023, 76 percent of U.S. barley exports and 44 percent of ethanol exports went to Canada. Canada is also a top customer for U.S. soybean meal, rice, and corn. Statistics Canada states that over 60 percent of the 23 billion U.S. dollars of lumber the U.S. bought from Canada in 2023 was moved by rail, according to Construct Connect. [51, 52, 53, 54]

Liner Service Alliances

Ocean carriers often enter into cooperative agreements where their pooled resources offer customers a wider range of services and efficiencies across different trade lanes. In early 2023, Maersk and MSC disbanded their 2M alliance which will be concluded by January 2025.[55] This alliance was initially introduced to ensure competitive and cost-efficient operations on the Asia-Europe, Transatlantic, and Transpacific trades. In January 2024, Maersk and Hapag-Lloyd entered an operational cooperation called the 'Gemini Cooperation', which will be implemented from February 2025.[56] With this new agreement, the Gemini Cooperation intends for customers to experience improved landside connections by taking advantage of the partners' many North American ports, depots, and hubs. Hapag-Lloyd, as a result of partnering with Maersk, is leaving THE Alliance which will rebrand as the Premier Alliance being composed of ONE, Yang Ming, and HMM[57]. It is expected that the new Premier Alliance will continue to be a close cooperation of the remaining partners of THE Alliance.'[58] MSC, the largest container shipping company in the world, has a network approach aligned with extensive port coverage to meet changing supply chains that have become more distributed across countries to increase their flexibility and reduce market risk.

E-Commerce

The expansion of e-commerce continues to be a mainstay of future consumer buying habits both locally and abroad. E-commerce relies heavily on the expansion of the intermodal network to be able to distribute to warehouses throughout the world as well as provide first and last mile delivery of its products. E-commerce sites such as Amazon, Alibaba, AliExpress, Ebay, and Walmart are all examples of prolific e-commerce distribution and sales sites worldwide. The growth of e-commerce was accelerated by the COVID-19 outbreak of 2020, as consumers were drawn to this delivery model to reduce their external travel and resulting contact with other individuals. COVID-19 aside, the year-to-year growth of e-commerce has been unprecedented. While there was a reduced percentage of sales growth rate in 2024, compared to the COVID-19 years, it still remains at over seven percent growth year over year. All this growth translates into more local distribution centers being built to accommodate buyers, resulting in intermodal containers being transported to fulfill customers' orders. With the expanded diversity of products being shipped for e-commerce, intermodal plays a huge part in making this method of distribution both possible and optimal.[59] As noted in the 2019 Report on page 164, major real estate developers have promoted the value of building and operating warehouses and distribution centers in close proximity to intermodal facilities, as drayage drivers can make multiple daily turns. One report notes a "land rush" around the Joliet terminals for UP and BNSF, but that vacancies have increased. By comparison, California's Inland

Empire, New Jersey, and Pennsylvania are identified as locations with supply constraints for large distribution center operations.[60, 61]

Technology

Ship Management Systems

There are many options for Ship Management System services and software; however, it is important to note there are security issues surrounding these systems. In a December 2024 article by Lieutenant Commander (LCDR) Dan Bell, U.S. Coast Guard, LCDR Bell outlines the cybersecurity vulnerabilities of ship management systems. Ransomware attacks on ports, such as the 2023 attack on the Port of Lisbon, show how critical infrastructure can be compromised and held for ransom with issues that spread beyond data leaks to economic catastrophe. Vulnerabilities in these systems should be taken seriously not only as an inconvenience to shippers, but as threats to the economic health of States or preludes to open conflicts.[62]

Container Tracking Software

Real-time tracking of containers helps to ensure timely deliveries and optimize supply chain management strategies. Tracking software systems enable GPS tracking and automated alerts which provide valuable information for all points along the shipping supply chain. The increasing capacity of artificial intelligence models to process data gives shippers the opportunity to create even more efficiencies in allocating container resources, which potentially saves costs by avoiding detention and demurrage fees. GoComet, a leading multimodal logistics platform, states that in their tracking of $35 billion of goods moved, $69 million has been saved by the usage of their products.[63] For rail equipment, RailPulse is emerging as the preferred industry platform, with many shortlines and Class I railroads, with the exception of BNSF and CN, adopting it for real-time tracking of rail car location and condition.[64] Despite the clear advantages of the developments in container and equipment tracking, there is a corresponding increase in risk through cybersecurity. As with all technological advances, the balancing act of speed and security is important to consider.

Automation

Port automation in the United States has recently been an interesting and also contentious topic. In theory, automation should reduce operating expenses and increase productivity at the cost of capital expenditure to reconfigure ports to automate. A 2024 U.S. Government Accountability Office report stated that all 10 of the largest U.S. container ports are using some form of automation technology to process and handle cargo.[65] For example, these ports use automated gate systems and four use automated cargo handling equipment. Other kinds of equipment have received mixed reviews, as some terminal operators said automated equipment could stack containers more densely (increasing capacity) while others said that the equipment was slow, causing a reduction in performance. Additionally, observations from stakeholders have been varied as to whether jobs would be lost or simply transition workers to more comfortable and less physically demanding tasks. With growth in artificial intelligence technologies, optimization of intermodal shipping networks and processes may increase efficiency and safety by guiding ships in harbor, as has been shown by Fujitsu's Zinrai AI in 2020.[66]

Cyberattacks remain a concern for the intermodal sector, as a 2017 attack on maritime leader Maersk left the company unable to process shipping orders and freezing revenue in three business units for several weeks. The cost was estimated to be between $200 million and $300 million.[67]

1.1.6. North American Supply Chain Factors

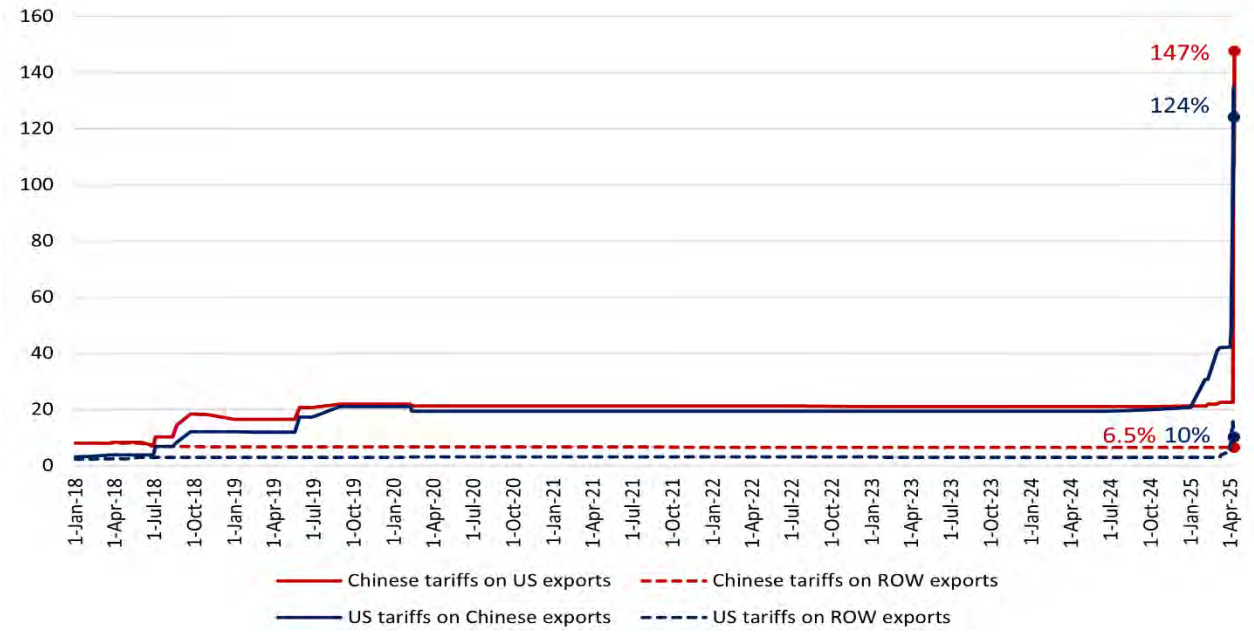
In addition to the previously discussed global factors impacting the supply chain, there are also North American factors to consider. This section discusses tariffs, trade policies, and customs and border management, highlighting the challenges and opportunities presented for the supply chain.

Federal Tariffs and Trade Policies

The United States has long-established policies against foreign-manufactured products that are being exported to the U.S. at prices at or below cost, subsidized by policies of the exporting nation. Prior to 2017, the United States identified and imposed tariffs on several products that met the thresholds for antidumping and countervailing duties on imports. Among the goods tariffed were solar panels, washing machines, steel, aluminum, and semiconductors.[68] By the end of 2024, tariffs targeting specific Chinese sectors were finalized. These sectors included electric vehicles and batteries, solar cells, critical minerals, steel, aluminum, and ship-to-shore cranes.[69]

On February 1, 2025, the federal government announced new tariffs that would affect trade with Canada, Mexico, and China.[70] Since then, subsequent announcements have revised the scope, extent, and initiation dates of tariffs across nations and commodities. Chinese imports have seen the highest rates imposed upon them, at nearly 150 percent, as of mid-April, 2025, as shown in Figure 4.[71]

Figure 4: US-China Trade War Tariffs Towards Each Other and Rest of World (ROW)



Source: https://www.piie.com/research/piie-charts/2019/us-china-trade-war-tariffs-date-chart

Customs and Border Management

With the constant movement of intermodal traffic crossing international borders, the need for and continued refinement of practical and efficient border customs continues to evolve. Several examples can be seen of this in the current environment.

The crossing between Juarez, Mexico and El Paso, Texas is currently being reconstructed and will be restricted to a noncommercial border crossing. This is intended to force the commercial traffic to the neighboring border crossings at Ysleta, Tornillo, and Santa Teresa, which have more space and resources to better absorb this type of traffic. These border crossings would be able to better focus on the continuous volume of commercial traffic. New highways, such as the Border Connector Highway outside of the Santa Teresa crossing, are also being constructed to ease local traffic concerns and ensure that the use of the border crossing is easier for the larger amounts of commercial traffic to use.[72, 73]

Another example is the future addition of the Otay Mesa East Port of Entry being built outside of San Diego, CA. The addition of this port will take pressure off other surrounding ports of entry and is designed to be a state-of-the-art border crossing. The addition of such crossings will enable a better flow of goods between the countries by allowing more points of entry and be able to engage more border staff to be able to complete inspections, thus reducing down times waiting in the queue to cross.[74]

A further example would be CPKC building a second rail bridge at Laredo to increase intermodal capacity between the countries. This will invariably allow CPKC to double the amount of rail traffic daily, increasing fluidity, capacity, security and reduce congestion over this border crossing. CPKC has also developed an inland terminal in Texas so that trains can continue to the terminal before inspections instead of having to stop directly at the border. This relieves congestion at the bridge and enables quicker crossings due to not having to switch train engineers at the crossing. It also enhances security as the yard is better protected and secure than at an unprotected border crossing. [75, 76]

Border customs continues to be a necessary part of the chain of international intermodal traffic that often causes delays, but innovations, new techniques and expansions of border crossings continue to be implemented to help in alleviating these issues.

1.1.7. Railroad Mergers & Acquisitions

In early 2023, Canadian Pacific (CP) acquired Kansas City Southern (KCS), constituting the 21st century's first major railroad merger. The two smallest of the seven Class I railroad companies joined to form CKPC. CPKC is the smallest of the now six Class I railroads, with about 20,000 miles of track, but the merger represents the first connection across North America between Canada, the United States, and Mexico.[77, 78] The two systems connect and interchange in Kansas City, Missouri.[79, 80]

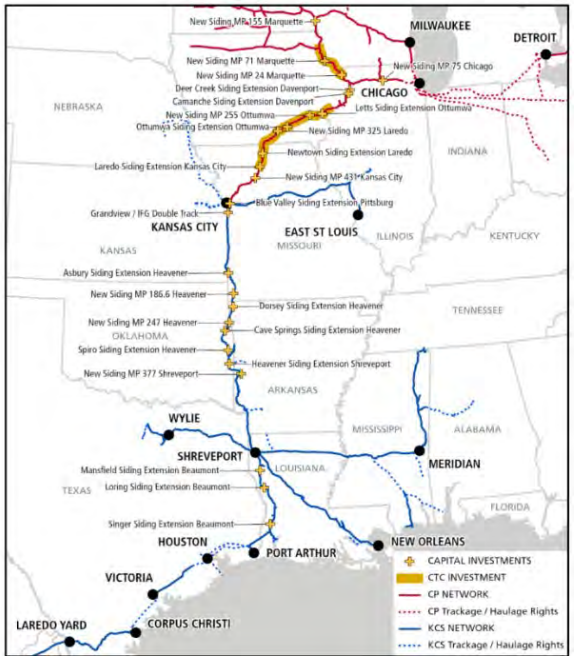
This major railroad merger underwent intense scrutiny from the Surface Transportation Board (STB). Although some stakeholders expressed concerns, the STB approved the merger. The STB wrote in its approval decision that "[The merger] will benefit U.S. shippers and receivers, given the availability of new single-line routes from the Port of Lázaro Cárdenas in Mexico to the interior of the United States, especially in times when western U.S. ports are

congested," and "There is not sufficient evidence that intermodal traffic would be adversely impacted by the transaction." [81] The 2021 merger application submitted by CP and KCS stated the company would build Mexico-U.S.-Canada transportation efficiencies and competition with key corridor capacity investments, improving North American shipping options. The application placed an emphasis on improving segments between Beaumont to Port Arthur (TX) and St. Paul to Chicago in particular.[82]

The merger application described the work needed to achieve the North-South corridor's full potential, such as extending and building new sidings to optimize train lengths, planning and coordinating control systems (Track Warrant Control (TWC) and Centralized Traffic Control (CTC)), and building double track at key terminals. According to the application, CPKC plans to invest $276 million in the first three years on new infrastructure to support new north-south rail capacity in this corridor.

- On CP lines north of Kansas City: $157.6 million
- On KCS lines between Beaumont and Kansas City: $118.8 million[83]

Figure 5: Location of Planned Capital Investments



Source: CP and KC acquisition application

CPKC intends to add nearly five additional trains per day in the first year following the merger, almost three additional trains per day in the second year, and another seven in year three, for a cumulative 14.6 additional trains per day in the CPKC system by about 2027.[84] A significant portion of growth will be between the Midwest and Mexico. According to the Journal of Commerce, CPKC expects $550 million in additional revenue in the next five years: $200 million from ocean container and dry intermodal and $150 million from temperature-controlled intermodal.[85] The application estimates CPKC will convert around 64,000 annual truckloads to rail, including intra-U.S. traffic.[86]

Despite expecting substantial growth to the intermodal terminals listed, CPKC does not expect capacity issues. [87] The company notes that Schiller Park (Chicago) can support surges during the Bensenville (Chicago) terminal's expansion, and similar opportunities exist for traffic redirection to Kendleton Intermodal Facility (Houston) if the Dallas terminal nears its capacity limit.

In October 2024, the STB approved the CPKC and CSX acquisition of Genesee & Wyoming's Meridian & Bigbee shortline.[88, 89] CPKC and CSX struck a deal for joint intermodal service from Mexico to the U.S. Southeast, a connection with growth opportunity that currently constitutes only 0.5 percent of North American intermodal service, according to the Intermodal Association of North America (IANA). Logistics firm Schneider National, based in Green Bay, Wisconsin, is involved in the new Southeast service as well. The service commenced in December

2024, connecting growing Mexico and Texas markets with major Southeast U.S. economic hubs such as Florida and Georgia.[90, 91]

Additionally, in January 2025, CN announced that the STB approved CN's acquisition of Iowa Northern Railway Company (IANR). The $230 million purchase of Iowa Northern's 175-mile rail system will allow CN to service shippers more efficiently in the region, including a significant amount of biodiesel production which complements CN's existing long-haul origins and destinations.[92, 93]

1.1.8. Railroad Partnerships

CPKC Partnerships

Soon after the CPKC merger was approved in early 2023, CPKC announced multiple deals with key North American intermodal players including Schneider National, Knight-Swift Transportation, Hapag-Lloyd, Americold Logistics, and CSX.[94, 95, 96, 97] The multi-year agreement with Schneider is seen as a potential competitor to major Mexico-Midwest service option J.B. Hunt Transport Services, offering direct single-line service for automotive shippers to Detroit. The Hapag-Lloyd deal will allow containers to come by ocean to Mexico's Pacific Coast and move by rail to the U.S., saving time versus traditional routes through the Panama Canal to Houston, TX.

CPKC also formed a co-location agreement with Americold Logistics for 1,000 new temperature-controlled intermodal containers. The agreement lets CPKC heavy-load containers, as they will not travel on public roads, and gives Americold space to operate inside CPKC's intermodal terminals. Additionally, in May 2023, CPKC launched an intermodal service from Mexico to Chicago called the Mexico Midwest Express with Schneider and Swift as CPKC's top customers. This new service is the key piece that ties together CPKC's new partnerships and growth plans.

Figure 6: Mexico Midwest Express Service

Source: https://www.trains.com/trn/news-reviews/news-wire/cpkc-touts-its-premium-cross-border-intermodal-service-linking-chicago-and-mexico/

Since 2019, new railroad partnerships have emerged that will increase competition and likely improve service options for shippers within the intermodal freight industry. Class I railroads are building partnerships with each other, with other logistics and equipment groups, and with shortline and regional railroads. The growing competition is in large part due to the CPKC merger, which opened the door for the newly merged company to achieve significant North-South corridor freight transportation efficiencies. Some of the new partnerships listed below were formed before the CPKC merger as well.

Other Operational Partnerships

In May 2023, the same month CPKC announced its Mexico Midwest Express, CN, UP, and Ferromex launched a competing Mexico-U.S.-Canada service called Falcon Premium, with interchanges in southern Texas and Chicago. Hub Group is one of Falcon Premium's top customers. A couple of months after these launches, data showed a 34 percent year-over-year rise in intermodal volume out of Mexico through July 2023. Data also showed a 25 percent rise in Mexico to U.S. Midwest volume despite a 4.5 percent drop in overall North American domestic intermodal volume.

In late 2022, CN became a partner to the UP and NS interline container service called EMP (Equipment Management Pool program).[98] EMP, now benefitting from CN's three-coast reach, offers service to and from many cities across Canada, the U.S., and Mexico. CN plans to invest in about 2,500 containers and chassis through 2025.[99]

In May 2023, logistics solutions company Crowley announced it would be launching a multimodal integrated ocean and rail service connecting Mexico, the U.S. Midwest, and Canada in partnership with CN. Crowley states that ships moving between Tuxpan and Mobile will do roundtrips weekly, carrying over 200 refrigerated containers and up to 1,000 TEU total.[100] From Mobile, containers will move from ship to rail, with access to CN's expansive inland rail system.

In September 2023, CN and NS announced they would be launching a new intermodal service connecting Canada, Kansas City, and Atlanta.[101]

In January 2024, the Eagle Pass intermodal service between Mexico, Texas, and Chicago was launched jointly by BNSF, J.B. Hunt, and GMXT. BNSF and GMXT are railroad companies while J.B. Hunt is a supply chain solutions provider. J.B. Hunt's trucking capacity drastically expands the reach of this new service.[102]

Figure 7: Falcon Premium Service

Source: https://www.up.com/customers/premium/mexico-to-canada/index.htm

Figure 8: Eagle Pass Service

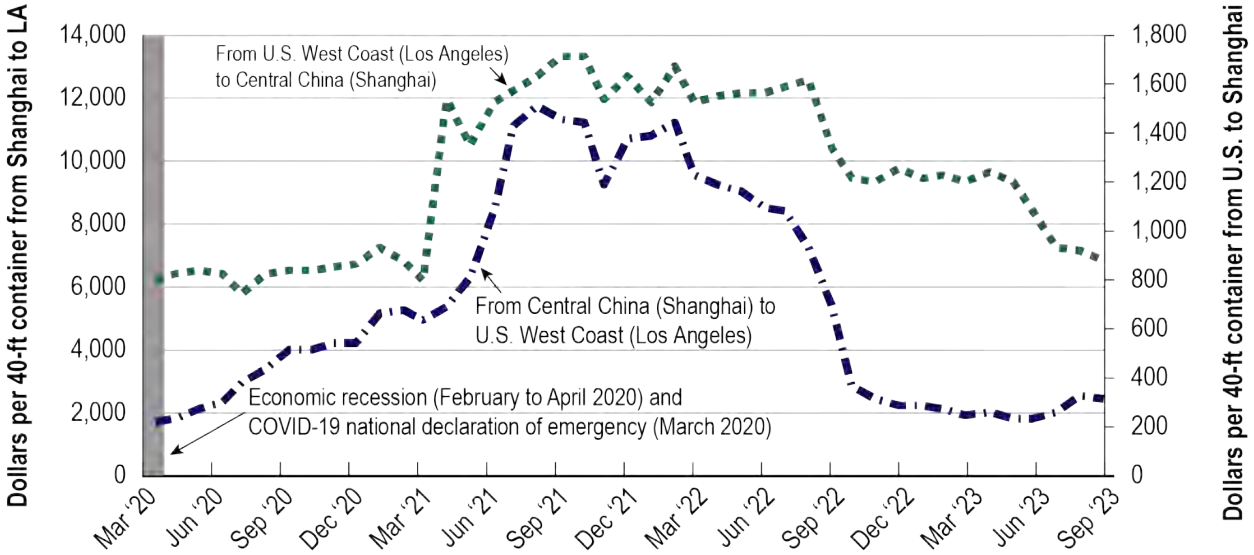
Source: https://www.bnsf.com/news-media/news-releases/newsrelease.page?relId=bnsf-gmxt-and-jb-hunt-collaborate-to-launch-new-intermodal-service-through-eagle-pass-gateway-to-and-from-mexico

1.1.9. Intermodal Container Pricing

International Intermodal Rate Changes Since 2020

The period from March 2020 (the onset of the COVID-19 declaration in the United States) through March of 2023 saw the prices of intermodal container imports from Asia soar almost six-fold, then return to pre-COVID-19 levels. Costs for container exports also rose – by more than double – and then returned to lower levels. The below figure from the BTS displays those pricing spikes in that time frame.[103]

Figure 9: Freight Rates per 40-Foot Container for Eastbound and Westbound Trans-Pacific Shipment, March 2020 – September 2023



Source: https://www.bts.gov/browse-statistical-products-and-data/info-gallery/freight-rates-40-foot-container-east-bound-and

For 2024, global container market rates were almost as dynamic over a more compressed time period. As illustrated by Figure 10 from the Drewry World Container Index, global average container prices almost tripled from December 2023 to February 2024, then saw moderate declines through April before spiking to a four-fold increase (from December 2023) by June and July of 2024. In the latter half of 2024, the index declined by almost half, but as of December 2024 it remained more than double the level of a year earlier.[104]

Table 1, also from Drewry, shows changes in spot rates (as opposed to contract rates) along a sample of global trade lanes in 2024. The trade lanes with the greatest increases are between Asia (Shanghai) and Europe (Genoa and Rotterdam). A great deal of these increases is directly attributable to the additional costs from rerouting vessels away from the Red Sea

Figure 10: Drewry World Container Index – $ per 40ft Container

Source: https://www.securitycargonetwork.com/drewrys-world-container-index-5th-december/

and Suez Canal. However, lanes to North America from both Asia and Europe witnessed a near-doubling of spot rates between December 2023 and December 2024.[105]

Table 1: Selected Spot Rates for Container Traffic

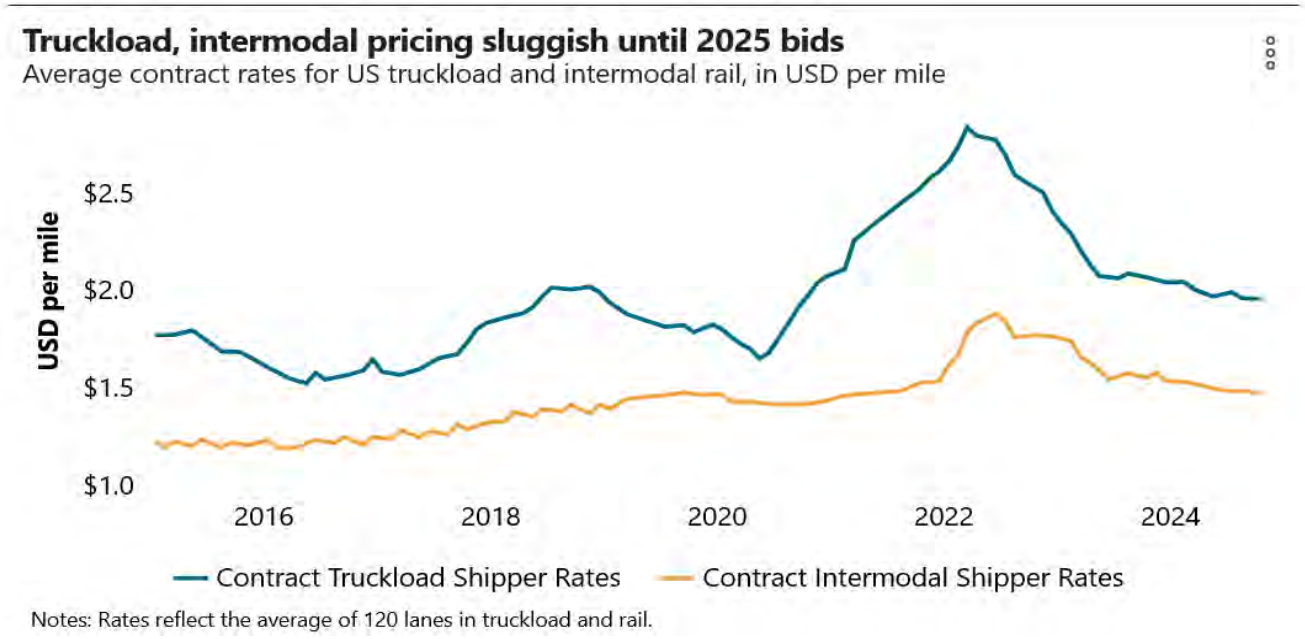
Route	Route code	21-Nov-24	28-Nov-24	05-Dec-24	Weekly change (%)	Annual change (%)
Composite Index	**WCI-COMPOSITE**	$3,413	$3,331	$3,533	6%	142%
Shanghai - Rotterdam	WCI-SHA-RTM	$4,071	$3,997	$4,775	19%	256%
Rotterdam - Shanghai	WCI-RTM-SHA	$517	$518	$514	-1%	16%
Shanghai - Genoa	WCI-SHA-GOA	$4,520	$4,490	$5,496	22%	242%
Shanghai - Los Angeles	WCI-SHA-LAX	$4,488	$4,250	$3,719	-12%	92%
Los Angeles - Shanghai	WCI-LAX-SHA	$723	$721	$721	0%	-4%
Shanghai - New York	WCI-SHA-NYC	$5,210	$5,182	$5,160	0%	88%
New York - Rotterdam	WCI-NYC-RTM	$793	$789	$807	2%	37%
Rotterdam - New York	WCI-RTM-NYC	$2,672	$2,665	$2,649	-1%	76%

Source: https://www.securitycargonetwork.com/drewrys-world-container-index-5th-december/

Domestic Intermodal Container Rates

According to InTek Freight & Logistics, at the close of 2024, domestic intermodal spot rates showed a modest one-year decline of 9.6 percent, to around $1.56 per mile. As such, 2024's rates closely matched those of 2019, the last full year prior to COVID-19. Domestic intermodal spot rates nearly doubled over the last six months of 2020, then fluctuated at high levels before peaking above $2.65 per mile in late 2021. Domestic intermodal spot rates declined by more than 25 percent in 2022, and by the end of 2023 had declined another ten percent.[106] Contract rates for domestic intermodal also saw a substantial increase in 2022 before moderation in 2023 and 2024. The Journal of Commerce, in evaluating 120 lanes of rail intermodal and truckload contract rates, establishes the continued cost advantage of contract intermodal rates versus contract truckload rates. In November 2024, the contract intermodal rate average stood at $1.47/mile, as compared with a contract rate of $1.97/mile for truckload shipments. Figure 11 shows how this margin has remained consistent, with intermodal shippers saving 25 percent to 28 percent across the United States since January of 2023.[107]

Figure 11: Comparison of Contract Truckload and Intermodal Pricing, 2015-2024



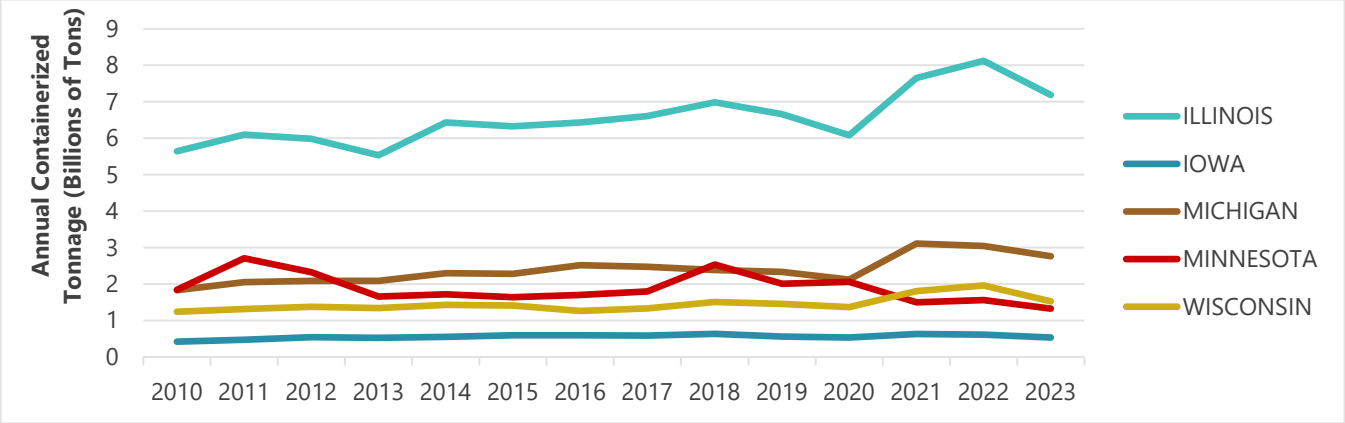
Source: Journal of Commerce: 2025 S&P Global

1.2. Midwest Region Intermodal Operations

This section provides an overview of trends and changes for intermodal facilities around Wisconsin since the 2019 report. This section is not meant to serve as a database for individual regional intermodal facilities' available services since that information was included in the original 2019 report and the information is readily available for shippers to find online via railroad company websites.

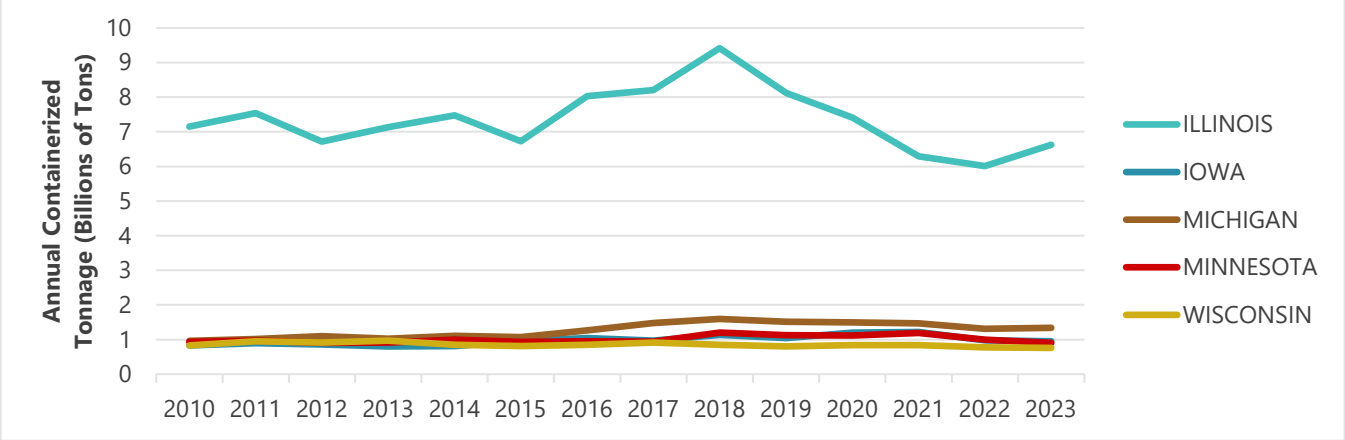
Between five states – Wisconsin, Minnesota, Iowa, Illinois, and Michigan – Illinois has imported and exported by far the most containerized volume annually over the last decade and a half (see Figure 12 and Figure 13). According to U.S. Census data, Illinois imported more than double and exported more than triple the containerized volume of the number two importer/exporter out of the five states included, Michigan. The data indicates Wisconsin came in at number three for 2023 containerized export volume and number five for imports, out of those five states.

Figure 12: Annual Containerize Import Volumes over Time by State



Source: U.S. Census

Figure 13: Annual Containerized Export Volumes over Time by State



Source: U.S. Census

1.2.1. Illinois

Note: Unless cited otherwise, the following information in this section was taken from the websites of the railroad companies or the Chicago Metropolitan Agency for Planning (CMAP).

Chicago is a major North American railroad hub. All six Class I railroads and one regional shortline railroad operate at least one intermodal terminal there. Wisconsin's position near this major railroad hub, especially Southeast Wisconsin's proximity, deeply influences the current and potential intermodal freight import and export service options and prices.

CMAP provides publicly available intermodal freight volume (lift) estimate data by terminal.

Table 2 summarizes the Chicago area intermodal facility data provided by CMAP. The years were chosen due to available data.

Table 2: Chicago Area Intermodal Terminal Traffic

Railroad	Facility	Percent Change in Volume 2020-23 vs 2015-16	Average Volume 2020-23 (Thousands of TEUs)	Average Volume 2015-16 (Thousands of TEUs)	Change in Chicago Area Market Share from 2015-16 to 2020-23 (percentage points)
CSX	Bedford Park	-3%	898	923	0.3 percentage points
BNSF	Corwith	4%	836	805	1.0 percentage points
BNSF	Logistics Park	-20%	772	963	-1.9 percentage points
UP	Joliet Intermodal Terminal	36%	671	495	2.7 percentage points
BNSF	Willow Springs	-4%	564	589	0.1 percentage points
CN	Gateway (Markham)	-4%	542	562	0.1 percentage points
NS	47th	-9%	530	581	-0.3 percentage points
BNSF	Cicero	13%	441	389	1.0 percentage points
UP	Global II	46%	409	281	1.9 percentage points
NS	Landers	-18%	358	436	-0.8 percentage points
NS	63rd Street	-3%	309	320	0.1 percentage points
CSX	59th Street	-11%	285	319	-0.2 percentage points
NS	Calumet	49%	252	170	1.2 percentage points
UP	Bensenville	-32%	153	224	-0.8 percentage points
CP	Global I	-58%	139	330	-2.4 percentage points
UP	Yard Center	-39%	129	211	-1.0 percentage points
CP	Schiller Park	N/A	63	0	0.8 percentage points
CN	Joliet	-9%	41	45	0.0 percentage points
IAIS	Blue Island	-54%	14	31	-0.2 percentage points
UP	Global III	-94%	7	112	-1.3 percentage points
UP	Canal Street	-100%	0	14	-0.2 percentage points
	Total	-5%	7,414	7,799	

Source: CMAP

Column 3 in the table lists the percent change in volume at each intermodal terminal from its 2015-16 average to its 2020-23 average. In other words, has the terminal's traffic grown, shrunk, or stayed the same in the last decade.

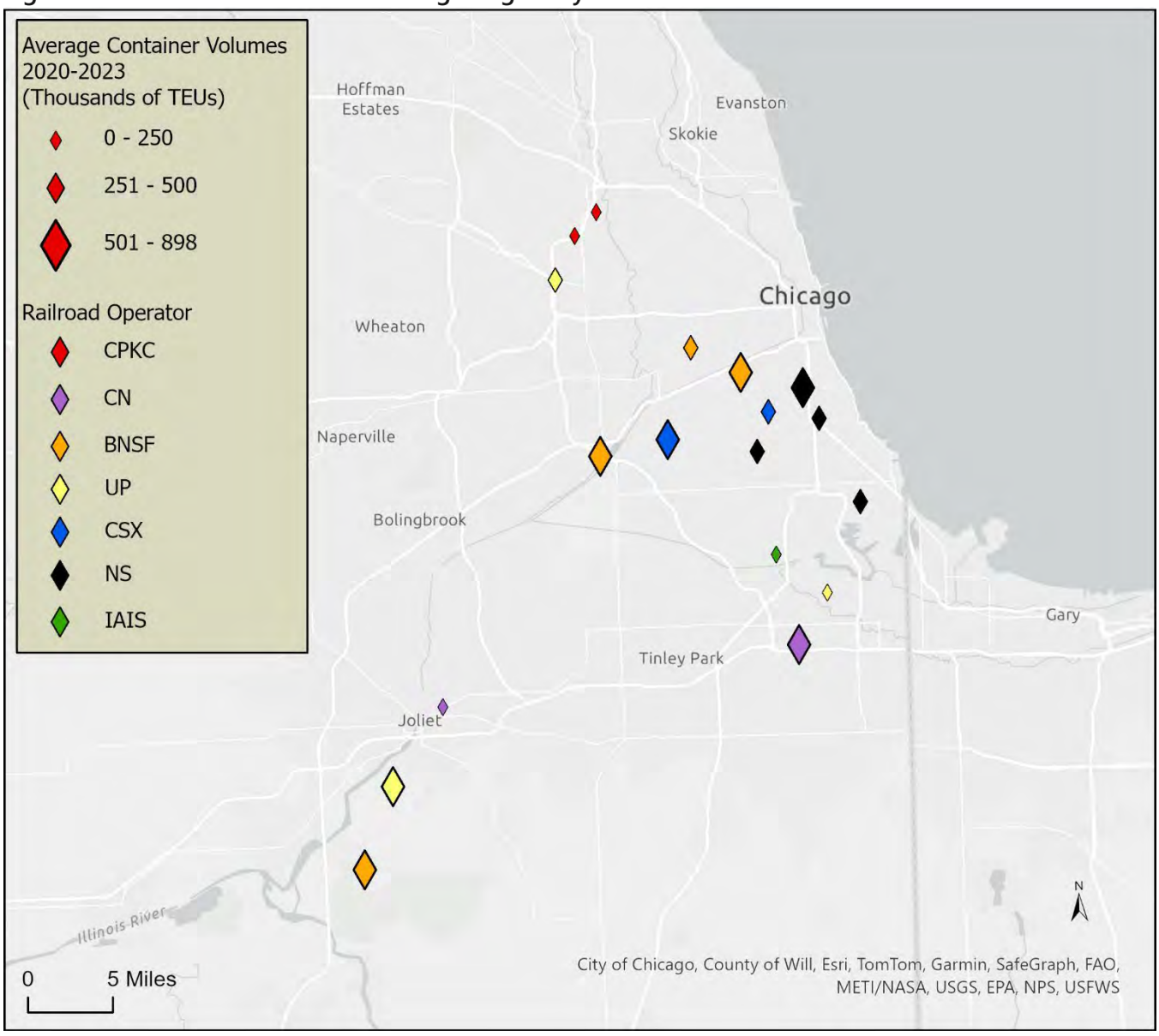
Column 4 lists annual containerized traffic by terminal, averaged over 2020-23, from most to least. CSX's Bedford Park facility moved an average of nearly 900,000 TEUs from 2020 to 2023. For the year 2023 alone, the CSX Bedford Park facility held the number one spot for intermodal lift volume, while three of the top five highest volume facilities were operated by BNSF (Not shown in table; See Appendix C).

Column 5 is the same as Column 4 but averaged over 2015-16.

Column 6 lists the change in percentage points of each facility's share of total Chicago area intermodal lift volume from 2015-16 (average) to 2020-23 (average). In other words, it describes the trend of each terminal's market share over the last decade. Facility shares appear relatively stable over the past 10 years – the largest change was the growing importance of UP's Joliet Intermodal Terminal, which grew in share of total volume by 2.7 percentage points (and 36 percent raw volume growth). The largest decline was UP's Global I facility, whose share of total volume decreased by an estimated 2.4 percentage points (and 58 percent raw volume decline).

Note that UP's Global I, Global III, and Canal Street facilities are inactive, but the facilities are listed in the table because data is averaged out for the 2020-2023 period. Also, CP's Schiller Park reopened, although its volume is still below what it was prior to closing around 2015 (Chicago Intermodal Facility Lift Counts & Regional TEU Estimate).

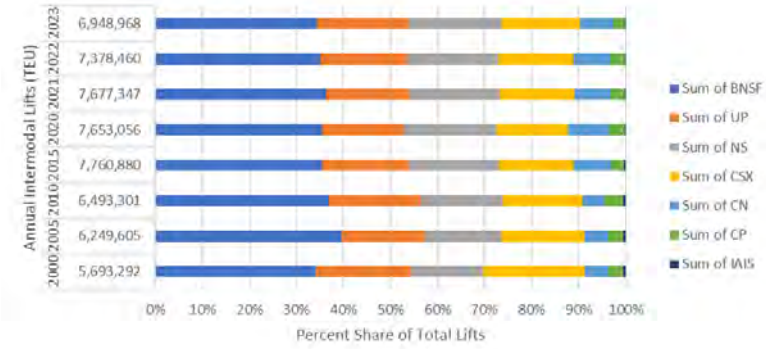
Figure 14: Intermodal Facilities in Chicago Region by Traffic Volume



Source: Wisconsin Department of Transportation; CMAP

The Chicago area's intermodal activity and active terminals have remained relatively stable over time. There are 15 active intermodal facilities in the immediate Chicago area. In addition, three other facilities are situated southwest of Chicago, in or near Joliet, for a total of 18 active facilities (see Figure 14). The figure also includes data for three terminals that are closed, for a total of 21 terminals in the table (UP Global I, UP Global III, and UP Canal Street).

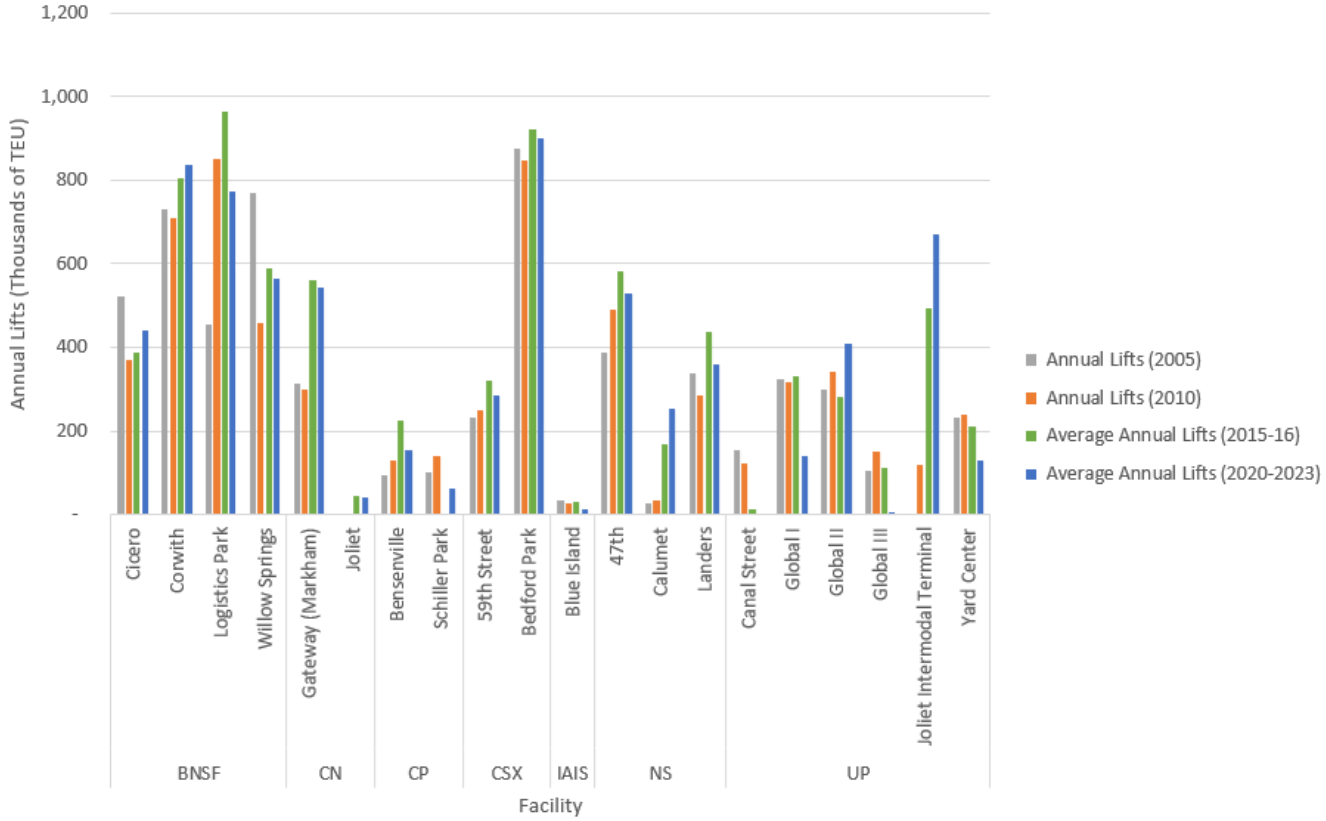
Figure 15: Share of Intermodal Lifts in Illinois over time by Railroad (2000-2023)



Source: Wisconsin Department of Transportation; CMAP

The share of Chicago area intermodal lifts by railroad company (facility operator) has remained relatively stable for much of the 21st century so far: BNSF has the highest intermodal volume, followed by UP, NS, and CSX with comparable volumes, then followed by CN and CP, and finally Iowa Interstate Railroad (IAIS). IAIS, as a shortline railroad company, consistently had the lowest number of intermodal lifts in the Chicago area by far (see Figure 15).

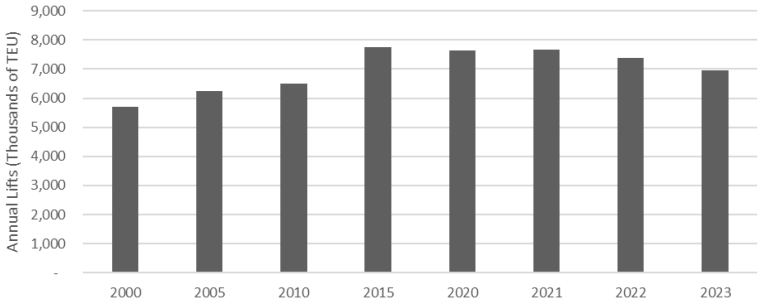
Figure 16: Chicago Area Intermodal Facility Annual Lifts over Time (2010 - 2023) by Facility



Source: Wisconsin Department of Transportation; CMAP

Figure 16 shows the total annual Chicago area intermodal volumes over time. Note the data is limited to certain years so the intervals between bars are not all equal. The left-most bar for each facility is 2005 volume, followed by 2010, 2015-16 average, and finally 2020-2023 average. Time periods were selected due to data availability. Figure 16 and Figure 17 both indicate that Chicago's intermodal market grew from 2000 until around 2020, after which it declined slightly but stayed above 2010 levels.

Figure 17: Total Annual Chicago Area Intermodal Lifts (2000-2023)

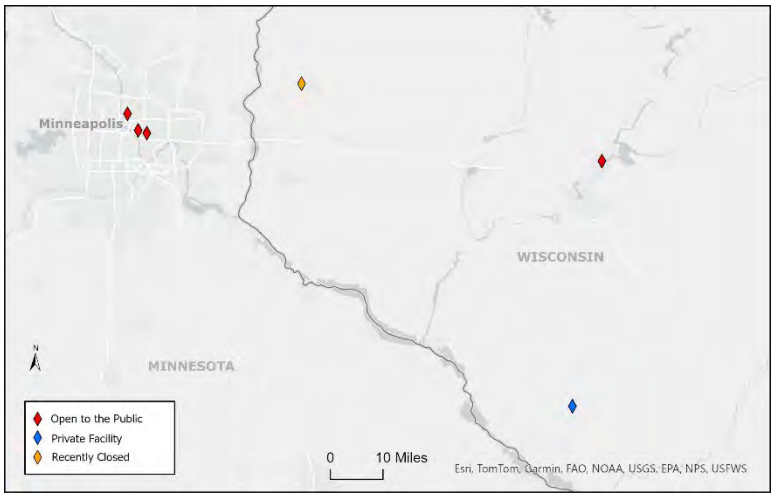


Source: Wisconsin Department of Transportation; CMAP

1.2.2. Minnesota

Minnesota's intermodal role continues to grow slowly, with one new facility, UP – Twin Cities Intermodal Terminal (TCIT), coming into operation since 2019, which is listed as only providing domestic service to the west coast.[108] BNSF-Midway and CPKC-Shoreham continue to cover the Twin Cities area and Duluth Cargo Connect. Among Minnesota's intermodal facilities, BNSF has addressed its immediate capacity challenges by utilizing remote yards for container and trailer storage, while CPKC's Shoreham Yard has yet to reach capacity. The Duluth terminal has the benefit of being adjacent to the main CN corridor between the Canadian West Coast ports at Vancouver and Prince Rupert and Chicago (with additional connectivity to New Orleans, Montreal, and Halifax). It is also the closest maritime terminal to Wisconsin.[109]

Figure 18: Intermodal Facilities in Southeast Minnesota and Western Wisconsin (2024)



Source: Wisconsin Department of Transportation

1.2.3. Wisconsin

Active Facilities

This section examines the key freight terminals in Wisconsin, highlighting their operational capabilities, infrastructure investments, and contributions to the state's economy. By understanding the significance of these terminals, stakeholders can better appreciate their role in optimizing intermodal freight movement and addressing the challenges posed by an evolving transportation landscape.

Arcadia

The Arcadia intermodal facility, at One Ashley Way, was opened in 1994 by Wisconsin Central. The facility, now privately-operated, is dedicated to shipments to and from Ashley Furniture's large assembly plant. CN serves the facility. The ramp handles approximately 300 40' containers per week along a 3,050-foot-long spur. Ashley performs approximately 30,000 lifts annually, with all trucking done by Ashley Distribution Services. No other trucking companies are allowed in the terminal.[110]

According to the TRANSEARCH database for 2019 and 2021, inbound containerized freight volumes for the Arcadia facility came primarily from British Columbia, whereas outbound containerized freight volumes headed primarily to Ontario, Canada. Tonnages of both inbound and outbound containerized freight at this facility have decreased. Outbound containerized freight from the Arcadia facility experienced a 50 percent decrease between 2017 and 2019 (166,548 to 82,960 tons), and a 77 percent decrease between 2019 and 2021 (82,960 to 19,360 tons). Inbound containerized freight between 2017 and 2019 experienced a 56 percent decrease (308,378 to 135,640 tons), and a 35 percent decrease between 2019 and 2021 (135,640 to 87,600 tons). Correspondingly, Ashley dropped from the fourth to seventh largest importer into the United States in 2022, with 224,000 TEUs.[111]

Chippewa Falls

CN opened its facility in Chippewa Falls at 1160 W. River Street on February 3, 2012. Community leaders had first proposed this location in 2006, after CN closed its regular freight rail yard there. The community envisioned containerized freight could be brought in for Menards through an intermodal terminal in Prince Rupert, British Columbia that opened in 2007. Although Chippewa Falls was off CN's main line (branching off at Owen, WI), this service gained viability when paired with an intermodal stop in Minneapolis.

Service initially occurred twice weekly but has since increased to three times a week. Cargo contents are largely inbound consumer products, destined for Menards stores; outbound loads included grain and manufactured goods. Chippewa Falls had a small footprint relative to other intermodal facilities, with a size of 8.5 acres, primarily along a 2,500-foot-long loading and unloading track.

According to the TRANSEARCH database for 2019 and 2021, inbound containerized freight volumes for the Chippewa Falls facility came primarily from British Columbia and Illinois, whereas outbound containerized freight volumes headed primarily to Ontario, Canada. Tonnages of both inbound and outbound containerized freight at this facility have decreased. Outbound containerized freight from the Chippewa Falls facility experienced a 54 percent decrease between 2017 and 2019 (408,181 to 187,640 tons), and another 37 percent decrease between 2019 and 2021 (187,640 to 118,240 tons). Inbound containerized freight between 2017 and 2019 experienced a 64 percent decrease (279,623 to 99,880 tons), and a 48 percent decrease between 2019 and 2021 (99,880 to 51,520 tons).

Closed Facilities

As written in WisDOT's *Overview of Intermodal Freight in Wisconsin* (2019), the bankruptcy of the Milwaukee Road led to the sale of many of its assets to the Soo Line. Following that acquisition in 1985, the Soo formed the Lake States Transportation Division which included most of its old system east of Minneapolis (plus parts of other low-density lines). This division would be sold off in 1987 to become a regional railroad, the Wisconsin Central, Limited (WCL).[112]

The intermodal operations that WCL conducted in Green Bay, Neenah, and Stevens Point during the 1990s and early 2000s are still viewed by many shippers as the standard of service to customers in northeastern Wisconsin. While Green Bay had ample traffic, Stevens Point was unable to build a sustainable cargo base, and Neenah suffered from proximity to options in Green Bay, Milwaukee, and Chicago. WCL faced challenges with Class I interchanges in Chicago, delaying shipments for customers and removing many incentives to use intermodal. An affected trade balance (with more outbound loads than inbound loads) and limited access to rail cars further reduced the efficiency and potential of WCL's intermodal operations. CN's purchase of WCL in 2001 placed greater focus on the long-distance international market and contributed to that company's decision to close all of WCL's public terminals.

Additionally, Port Milwaukee, once the largest intermodal facility in the state, ceased its intermodal services in 2012. The terminal, which spanned 10 acres, previously facilitated shipments from Europe and the Pacific, receiving daily trains of European containers from Montreal and serving as a direct stop on Canadian Pacific Railway's Vancouver-to-Chicago route. It also managed import and export cargo to and from the Far East. In its final operational year (2011), the terminal handled over 12,000 containers, supported by equipment such as a 70-ton gantry crane and a 200-ton stiff leg derrick.

Finally, in 2021, CN opened an intermodal terminal in New Richmond as a collaborative effort between the State of Wisconsin, local government, and area export shippers. It was intended to be a substantial development in the region's transportation infrastructure. Situated on a 58-acre site along a branch line that connects to CN's primary line in Owen, Wisconsin, approximately 115 miles away, this facility was designed to handle ocean containers. Additionally, given its asphalt surface, the New Richmond terminal was well-equipped to manage the logistics of various industries. These included agricultural products such as soybeans and grain, as well as finished automobiles, finished consumer goods, and forest products. The terminal experienced annual container volumes under 30,000 in 2021, according to the report *Intermodal Terminal Opportunities for Wisconsin and Eastern Minnesota*.[113]

As of February 2025, CN officials informed WisDOT "due to low intermodal demand and the space needed for [CN's] growing automotive business in New Richmond, the decision was made to cease intermodal operations."

1.2.4. Inland Maritime Intermodal Container Operations

Inland maritime service for intermodal containers first entered the Midwest in 2014 at Cleveland, Ohio. Since then, one other location has opened, while others are in the process of finalizing the investments needed to establish service.

Great Lakes

Entry into the Great Lakes is limited by the 15 locks on the Great Lakes and St. Lawrence Seaway System. Vessel dimensions are limited to around 750 feet in length, 75 feet in width, and 27 to 28 feet of depth. However, multiple ports currently operate containerized shipping using vessels capable of navigating these limits, and more are in the process of approval. The advantages offered by Great Lakes port operators include avoiding gridlock at larger ports and using waterborne freight for longer distances that bring imports closer to their destination or exports closer to their departure point.[114]

Cleveland

As noted in the 2019 Intermodal Report, limited container service has been established on the Great Lakes. Beginning in 2014, the Port of Cleveland has hosted the Cleveland-Europe Express (CEE) service, operated by Spliethoff. In 2022, the Port set a goal of between 50,000 and 75,000 containers on an annual basis. The CEE handles containers as well as bulk and project cargo on a route between Cleveland and Antwerp, Belgium. Service has grown from one multi-purpose vessel to multiple vessels, include one all-container vessel, the Peyton Lynn C, able to handle over 600 TEUs. Total volumes were just under 10,000 TEUs in 2022; that did reflect a doubling of volumes from 2021.[115] Exporters from as far away as Houston have sent containers to Cleveland for waterborne export to Europe, citing the inability to get space on a ship in or around Houston.[116]

In early 2024, the Port's governing board approved allocation of $32.1 million in federal and state grants to modernize a warehouse and upgrade electrical infrastructure. Since 2015, Cleveland's port has received $93.8 million in investment, with more than 75 percent covered by state and federal grants. Included in that is a $27.2 million grant under the Port Improvement Development Program, and $4.9 million from the Ohio DOT's Maritime Assistance Program.[117]

Duluth - Superior

In October 2021, the Port of Duluth-Superior received approval to receive international ocean containers, following an expansion project at a container examination facility. The initial approvals were for ad hoc service, using Seawaymax vessels with a maximum capacity of 800 to 1,000 TEUs. The container terminal expansion was part of $36 million in port investments between 2015 and 2021.[118] The Clure Public Marine Terminal is the location of the Duluth-Superior maritime intermodal operations, which features a cooperative arrangement with Lake Superior Warehousing under the Duluth Cargo Connect brand. The first containerized export operation from the port occurred in 2022, with 200 containers of kidney beans packed in super sacks.[119]

The Clure Terminal features five general cargo berths extending for over 2600' of dock wall at Seaway depth, and four tracks along the dock wall for direct cargo transfer between vessel, rail, and truck. The Clure Terminal also includes rail intermodal via CN, also in cooperation with Duluth Cargo Connect. Three other rail companies –

BNSF, CP, and UP – also have direct access to the dock. One of the key features at Duluth-Superior is Foreign Trade Zone 51, which may allow importers duty-free storage and staging.[120]

Monroe, Michigan

Monroe, Michigan made its first exploratory container move in 2016, intending to move 25 containers, each containing four Ford Mustangs. However, that aspiration was thwarted by affected available Customs and Border Protection (CBP) inspectors. Following designation of the M-90 Maine Highway Route in 2016 and a University of Michigan study on the CBP impacts, the Port of Monroe landed a $770,000 grant from the Department of Homeland Security for a Radiation Portal Monitor in 2021. In 2022-23, the City of Monroe contributed $1.7 million, and the state of Michigan added $5 million in its budget to fund the entire project to comply with the Security and Accountability for Every Port Act and CBP, estimated at $6 million.[121] These funds were in addition to $11 million in Port Infrastructure Development Program grants awarded by MARAD in 2022. In April 2023, the Port of Monroe expected all necessary infrastructure projects would be completed by spring 2024.[122] However, as of July 2024, a report stated Monroe was still in pursuit of CBP approval.[123]

Burns Harbor, Indiana

In July 2024, the Port of Indiana – Burns Harbor received approval from CBP to establish an international sea cargo container terminal, positioning it to be the first container terminal on Lake Michigan. The Port's proximity to Chicago is expected to be an advantage in attracting potential customers, including specialized operations such as refrigerated cargo and green supply chains. As of that approval, plans were being developed to construct needed screening and office facilities, with an anticipated completion date as early as 2026.[124]

Beyond the American ports noted above, Canadian ports have been experimenting with moving products by container. Hamilton, Ontario has transported containerized scrap to Montreal.[125] Another Canadian port, Johnstown, Ontario, is also developing container transfer facilities. Some sector analysts envision use of existing border crossing customs facilities to clear import containers brought into the Great Lakes.[126]

Operators on the Great Lakes system noted that the full potential for inland container movement would not be reached without year-round service. That potential could be as high as 100,000 containers, but with a break of two to three months, beneficial cargo owners won't commit. The vision for a more active system could include a shuttle service bringing containers from Montreal or Halifax to inland ports on smaller vessels. These shuttles could also help redistribute containers around the Great Lakes and St. Lawrence Seaway System.[127] Two investments that are likely to help extend the shipping season include a $350 million earmark for a new Great Lakes heavy icebreaker (in the 2022 National Defense spending bill) and the expansion of the Soo Locks.[128] Warmer winters are also reducing ice coverage and allowing for longer shipping seasons.[129]

Mississippi River

Herculaneum, Missouri

Herculaneum is located 35 minutes south of St. Louis. It has direct rail access, Interstate highway access via I-55, and is located below the lock-and-dam system of the Upper Mississippi. In September 2024, the Jefferson County (Missouri) Port Authority (JCPA) acquired an 18-acre riverfront site at the Riverview Commerce Park for $20 million,

including the river port land and operations along the Mississippi River. This purchase was aided by $25 million from the State of Missouri to support port development.

In 2021, the JCPA announced a project with American Patriot Holdings (APH) for a container-on-vessel project that would use the Mississippi River to shuttle containers off-loaded at New Orleans. Reports in September 2024 noted that APH had recently received $500 million to develop facilities at New Orleans (Port of Plaquemines) and had also made progress on facilities at Memphis. The vessels APH plans to use would operate at speeds three times faster than conventional barges.[130] The Herculaneum Port is adjacent to an EPA Superfund Site, which could be incorporated as a larger cargo terminal.[131]

Dating to the previous Intermodal Report, APH has been stating its intent to develop a Mississippi River shuttle service for intermodal containers, using a specially designed vessel instead of barges. As of early 2022, the aspiration was a three-phase effort for business development: first, secure long-term contracts that balance inbound and outbound cargo volumes; second, using those contracts to identify the beneficial cargo owners contracted to the greatest volumes over time, and from that data, identify the optimal terminal locations. At that time, St. Louis, Arkansas, and Joliet (IL) were identified as the most promising. Phases three and four would cover network expansion, if demand warranted.

At present, barges are currently providing limited container service along the Lower Mississippi. As of 2023, the Port of New Orleans (Port NOLA) recorded 20,500 container movements by barge. This volume was the highest since the service began in 2016. The service operator, Ingram Marine Group, began operation upon acquisition of Seacor Holdings' inland transportation operations, and as of 2024 was moving nearly 30,000 TEUs per year, with operations based at the Port's Napoleon Avenue Container Terminal.[132] Terminals along the Ingram service route include the Port of Greater Baton Rouge, Memphis, and St. Louis.[133]

Meanwhile, construction is expected to begin in 2025 on a much larger container transfer facility in Violet, Louisiana. Named the Louisiana International Terminal, this facility will have dedicated berthing space for container-on-barge operations. Total project cost is anticipated to be $1.8 billion, with $226 million from an Infrastructure for Rebuilding America (INFRA) grant, and $74 million from the U.S. DOT's MEGA grant program. Completion and the start of operations is targeted for 2028.[134]

Of concern on the Mississippi River is the variability of water levels. 2024 marked the third straight year of dry conditions, even as spring flooding along the river impeded shipping in spring 2024. Those low water levels reduce volumes in barges and increase rates. As of September 2024, southbound rates from St. Louis were 15 percent higher than 2023 rates and 53 percent above the three-year average.[135]

1.3. Wisconsin Cargo Volumes, Origins, Destinations, & Rates

North America continues to see more imports than exports for all goods shipped by intermodal containers. While the COVID-19 years saw dramatic double digit percentage growth of imports, the market has slowed down ever since resulting in a six percent drop from 2022 to 2023. Table 4 in Appendix D, shows the top U.S. import and export commodity groups. While COVID-19 had vast impacts on the supply and demand chain of containerized imports and exports, the markets have mainly normalized to pre-COVID-19 levels again. The glut of inventory and

rising inflation and interest rates has slowed the import market since then and has caused issues with companies trying to reduce inventory levels to manageable levels due to the slowdown of purchasing.[136]

Wisconsin industries connect with just about every country in the world as trade partners in the import and export markets. The largest trade partners for Wisconsin are Canada, Mexico, and China, in that order. In 2023 these three countries made up almost half (47 percent or just over $18 billion) of the imported goods that Wisconsin received from outside the United States. On the export side the three largest partners were again Canada, Mexico, and China, in that order. Again, these three countries encompassed almost half (46 percent or just under $16 billion) of the receivers of exported goods from Wisconsin. The Wisconsin numbers indicate that Wisconsin is importing more than it is exporting. It is also noteworthy that Mexico is almost tied with Canada for exporting to Wisconsin but is a distant second to Canada on receiving exports from Wisconsin. Table 5 and Table 6 in Appendix D, show the top 10 import and export countries that are directly tied to Wisconsin's economy from utilizing the Harmonized System Classification process that the U.S. Census Bureau collects.

Wisconsin's import and export models closely mimics the national import and export model. The top three trade partners remain the same for both import and export and the main classification again centers around machinery, electrical and tools as well as transportation. Table 7 and Table 8 in Appendix D show the top 10 import and export countries that are directly tied to the U.S. economy from utilizing the Harmonized System Classification process that the U.S. Census Bureau collects. Depending upon the scale and duration of tariffs established by the federal government, cross-border trade could be significantly impacted (*See Section 1.1.6* for additional information).

1.3.1. 2024 Wisconsin Container Rates

Freight forwarder M.E. Dey, based in Milwaukee, has tracked a selected group of intermodal prices through 2024. These include drayage rates to Waukesha and Green Bay from the Chicago ramps, the average monthly fuel surcharges on those rates, and container pricing for 40' container imports into Chicago from Shanghai and Rotterdam via both coasts.

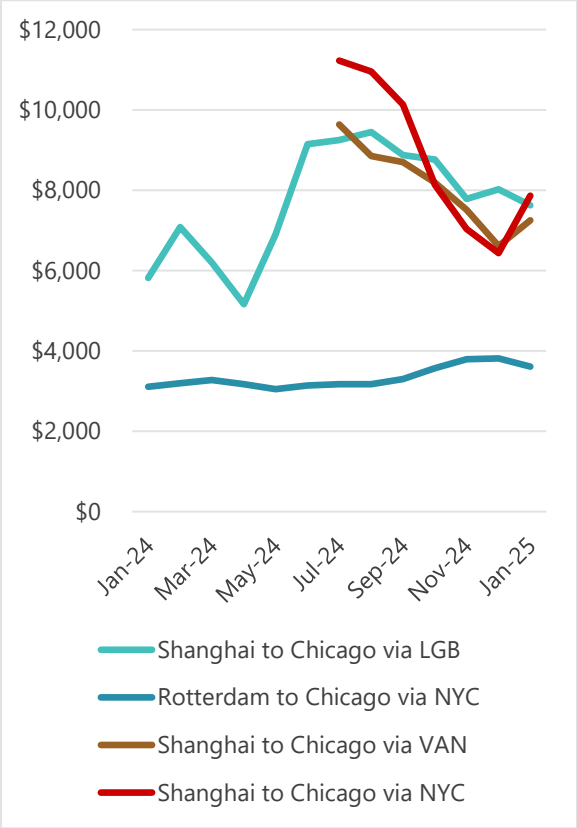
The data provided by M.E. Dey clearly shows that after a brief decline in rates along Asia – North America lanes in March and April of 2024, there was a significant spike in spring 2024. On the Shanghai – Chicago lane via Long Beach, rates soared in May ($1,733 / 33.6 percent) and again in June ($2,252 / 32.6 percent) before peaking in August at almost $10,000 per container. As of October, rates on the Shanghai – Chicago route via Long Beach fell by 10 percent. By January 2025, the rates through Long Beach declined an additional 13 percent. Meanwhile, the Europe (Rotterdam) – Chicago via New York lane saw increases in the latter half of 2024, rising by more than 18 percent from May to January 2025.

While full year data for 2024 is unavailable for Shanghai - Chicago routings via Vancouver and New York, both lanes saw substantial rate declines in the latter half of 2024. The Vancouver lane pricing declined by 25 percent from July through January, while the New York lane was down by 30 percent. This data is consistent with the data from the Drewry Index.

Drayage rates quoted to M.E. Dey held steady, but total costs fell slightly due to declines in average fuel surcharge costs (from 30 percent to around 25 percent).

One important observation from these quotes is the delivered cost of a container to Chicago from Shanghai is lower when routed via Vancouver than via Long Beach, and that pricing has recently become competitive (or even favorable at times) when routed via New York – New Jersey. As the next section will show, this price differential is important in identifying the partner railroads used by Wisconsin cargo owners and shippers for global trade. The data for Figure 19 is found in Table 9, within Appendix D.

Figure 19: Sample Container Shipping Costs (2024-2025)



Source: Freight Forwarder M.E.Day

1.3.2. 2024 Wisconsin Drayage Rates and Customer Locations (per Drayage Directory)

The online Drayage Directory posts a searchable database of quotes/bids sought for intermodal container drayage, to and from terminals. The website features a clickable map that displays up to 2,000 entries per search. Beneficial cargo owners (BCOs) request drayage quotes to or from a given ZIP code; frequently, the requests for quotes will specify a specific railroad or terminal (as opposed to just "Chicago Rail") and will often identify the container size for drayage (20', 40', or 45').

The value of this database is that it shows the frequency of drayage bids for given ZIP codes in Wisconsin (a potential indication of total traffic), the bid cost per mile of drayage (including fuel surcharges), the cost of other accessorial items (chassis rental, storage, detention, tolls, etc.), and the potential degree of traffic to specific rail yards. This directory covers the Chicago / Joliet terminals, as well as the Minneapolis / St. Paul terminals (including the CN New Richmond terminal), with robust data. The directory also includes limited quotes for the terminals in Duluth and Chippewa Falls.

Although this resource offers valuable information, there are a number of caveats and limitations. First, the Drayage Directory itself notes these are bids by draymen, and that the final negotiated price is likely to be different for the shipper / BCOs. These rates are also spot rates, which have greater variability than long-term contract rates that many larger cargo shippers negotiate. Further, other than the frequency of requests posted to the directory, there is no means of knowing if the requested bid is for one container, ten containers, or more. In the data, the per-mile price calculations are based on round-trip mileage (even though the database states the one-way mileage). Bid rates represent a mix of lower initial rates with fuel surcharges and higher initial rates with no fuel surcharges.

In general, the drayage quotes for 2024 are slightly lower than those for 2023. This is likely due in part to higher fuel surcharges in 2023. Also, several 2023 requests were in the early part of the year, when capacity was still experiencing constraints. In general, there were about twice as many requests for quotes on 40' containers than

on 20' containers. Some bid requests were for both (or no size was specified); a very small number of quotes were for 45' containers.

Imports to Wisconsin through Chicago

Over the previous year, potential Wisconsin customers received 1,760 bids from draymen for import containers leaving the Chicago terminals.[137] The average quote (including fuel surcharges) was $3.35 per mile; the median quote (half higher; half lower) was $3.15 per mile. Quotes ranged from $1.41/mile to $21.43/mile. The one-way mileage of requests ranged between 65 miles (to Kenosha) and 406 miles (to Cumberland). More than half the quotes (52.7 percent) were for one-way moves in the 100- to 200-mile range. Just over a third (35.5 percent) of the quotes were for one-way moves in excess of 200 miles.

Where railroad partner was specified, the most frequent railroad was BNSF (481 bids), followed by CSX (380 bids), CN (209 bids), and NS (148 bids). The yards most specified were BNSF's Logistics Park (296 bids), CSX's 59th Street (276 bids), BNSF's Cicero (163 bids), and CN's Harvey (151 bids). For Wisconsin destinations, 39 different cities received at least 15 quotes over the past year; 21 different cities received at least 25 quotes over that time. The cities with the greatest number of quotes include Milwaukee (198 quotes), Green Bay (106), Eau Claire (84), Waukesha, La Crosse, and Oak Creek (63 each), City of Madison (55), Reedsburg (54) Oshkosh (53), and Sun Prairie (52).

Exports from Wisconsin through Chicago

Over the previous year, potential Wisconsin customers received 811 bids from draymen for export containers leaving Wisconsin for export through Chicago yards. The average quote (including fuel surcharges) was $3.42 per mile; the median quote was $3.14 per mile. Quotes ranged from $1.13/mile to $9.38/mile. The one-way mileage of requests ranged between 68 miles (from Pleasant Prairie) and 397 miles (from Mellen). 36.6 percent of the quotes were for one-way moves in the 100- to 200-mile range, while 42.8 percent of the quotes were for one-way moves in excess of 200 miles.

Where rail partners were identified, CSX was the railroad of greatest frequency (73 quotes), followed by NS (50 quotes) and BNSF (37 quotes). Of note, 82 quotes requested "Port of Chicago;" it is unclear if these quotes were intended to be to a general Chicago location or if the container move would be sent by water through the actual Port of Chicago. For exports from Wisconsin, 17 cities received more than 15 quotes over the past year; 12 cities received more than 25 quotes. The cities receiving the greatest number of quotes for exports include Appleton (45 quotes), Beloit (43), Berlin and Green Bay (42 each), Neenah (41), Milwaukee and Sturtevant (37 each), and Janesville (36).

In comparing the quotes for imports versus exports, quotes for drayage into Wisconsin are more than twice as frequent as quotes for drayage from Wisconsin. What is unclear is whether this directly reflects an imbalance of drayed imports versus exports, if import drayage is more often negotiated through spot rates than export drayage, or if the export quotes are for larger volumes of containers per bid. However, these quotes show one important attribute: that the eastern railroads (CSX and NS) are used for a significant volume of intermodal freight moving into (and likely out of) Wisconsin. These volumes substantiate the favorable rates quoted to M.E. Dey for container

shipping to New York (as opposed to Long Beach), indicating that total delivered costs for intermodal freight to southeastern Wisconsin are competitive or even favorable via the use of East Coast ports.

Imports to Wisconsin through the Twin Cities

Over the previous year, potential Wisconsin customers received 438 bids from draymen for imported containers leaving the Twin Cities for Wisconsin destinations. The average quote (including fuel surcharges) was $3.75 per mile; the median quote (half higher; half lower) was $3.32 per mile. Quotes ranged from $2.13/mile to $22.21/mile. The one-way mileage of requests ranged between 18 miles (to Osceola) and 306 miles (to Allenton). 72.8 percent of the quotes were for one-way moves of under 100 miles. 10.4 percent of quotes were for moves in the 100- to 200-mile range, while 17.0 percent of the quotes were for one-way moves in excess of 200 miles.

Where rail partners were identified, CP (now CPKC) was the railroad of greatest frequency (198 quotes), followed by BNSF (159 quotes). CN's New Richmond terminal saw only 16 quotes, while UP's terminal saw only seven quotes. Some of the highest per-mile drayage costs were connected with the New Richmond terminal. Almost half (49.5 percent) of quotes for imports listed Eau Claire as the destination. Many of the notes in the quotes listed specific terms for Menards loads. Other destination cities receiving quotes for imports through the Twin Cities include Pardeeville (33 quotes), Cameron and Wausau (17 each).

Exports from Wisconsin through the Twin Cities

By contrast with imports, only 33 bids for exports from Wisconsin through the Twin Cities were received in the past year, according to the Drayage Directory. Per-mile drayage rates averaged $3.21/mile, with the median rate as $2.99/mile. The rates ranged from $2.18/mile to $5.04/mile. One-way drayage distances ranged from 57 miles (from Clear Lake) to 253 miles (from Darlington). Where a specific railroad destination was noted, most of the export container quotes were for BNSF (nine quotes); the CP and UP yards each received two quotes. Only one Wisconsin location – Superior – received 10 quotes. Turtle Lake received four quotes.

In comparing the import and export quotes via the Twin Cities, the dominance of Menards as a customer is clear. Several quotes mention Menards specifically on drayage conditions regarding drop charges, hazmat fees, double drays, and maximum cargo weights for container loads. The operational conditions seem to indicate that when loaded containers are dropped off at Menards, drayage operators collect an emptied container and chassis to take back to the appropriate Twin Cities terminal. This would greatly limit the availability of empty containers for exporters in northwestern Wisconsin; the small volume of drayage quotes for export through the Twin Cities would substantiate this assessment.

2. Statewide Context of Intermodal in Wisconsin

Following WisDOT's 2019 Intermodal Report, two regions within the state conducted in-depth intermodal studies to explore intermodal options and opportunities for Wisconsin businesses. The first study was the *Northeast Wisconsin Intermodal Freight Facility Study*, which explored developing a new facility in Northeast Wisconsin to reintroduce rail intermodal service within the region. This study was prepared for the East Central Wisconsin Regional Planning Commission (ECWRPC). The second study, *Intermodal Terminal Opportunities for Wisconsin and Eastern Minnesota*, began as a North Central-specific regional investigation, but ultimately developed a statewide applicable data-driven methodology to determine the economic viability, operational feasibility, and potential location for a rail-truck intermodal service in Wisconsin. It was prepared for the North Central Wisconsin Regional Planning Commission (NCWRPC). This section includes a high-level overview of both studies, and offers an overarching statewide context on these regional initiatives.

2.1. Study Methodology: Northeast Region Intermodal Study

According to the *Northeast Wisconsin Intermodal Freight Facility Study*,[138] (hereafter, "NE Study") shippers in this region face challenges to secure affordable and reliable intermodal transportation service, mostly due to the long drive and traffic congestion between Northeast Wisconsin and major intermodal terminals in Chicago. In addition, given the uncertainty of congestion and its impact on drivers' schedules and availability, the NE Study cites that Chicago and Milwaukee drayage companies charge a premium to serve customers in Northeast Wisconsin, causing their transportation costs to increase beyond the already inflated costs. In some instances, Chicago and Milwaukee drayage companies may even be unwilling to service the Northeast region due to the distance. Rail service is of particular importance in this region, although Northeast Wisconsin has been without direct intermodal service since the closure of Wisconsin Central's intermodal facilities in 2001. Lane balance is also a challenge for the region, as the NE Study showed far more outbound movements than inbound, which creates a shortage of available empty containers for the outbound movements.

To help frame the regional context, the NE Study investigated the market demand and feasibility of rail-eligible commodities and explored the reality of operational feasibility, which requires rail carrier participation in the conversation. To estimate the potential demand for intermodal shipping services in Northeast Wisconsin, the NE Study utilized a total logistics cost (TLC) model, synthesizing a variety of information to estimate the travel time and total cost of various shipping routes and modes. According to the NE Study, the TLC model incorporates multiple transportation options to ultimately reflect the transportation decision-making process used by businesses, and also assumes that shippers favor the transportation option that minimizes TLC for their operations.

For in-depth details on the study's methodology, please refer to Appendix F within the full NE Study, available here.

2.2. Study Methodology: North Central Region Intermodal Study

As previously stated, the *Intermodal Terminal Opportunities for Wisconsin and Eastern Minnesota*[139] (hereafter, "NC Study") began as a North Central-specific regional investigation. However, as the team developed the methodology, the scope was expanded to offer a data-driven methodology that is applicable statewide to determine the economic viability, operational feasibility, and potential location for a rail-truck intermodal service in the Wisconsin/Minnesota region.

The NC Study evaluated the intermodal terminal potential for 18 sites in Wisconsin and Eastern Minnesota based on seven key criteria identified by the study: rail connectivity, land availability, highway accessibility, drayage capacity, catchment area, keystone customers, and terminal support. Each terminal was awarded a certain number of points from 1-5 for each criterion based on how well it would achieve that criterion (e.g., for "Highway Access", potential sites close to a high-capacity highway and within 15 miles of the interstate system scored five points, while sites near a low-capacity highway and 30+ miles from the interstate system scored one point). The NC Study states that the goal of giving points to the potential sites was to assess whether any sites could support intermodal development – not to promote any one site.[140]

Table 3: Terminal Sites Evaluated in Wisconsin

18 Possible Terminal Locations and Rail Service	Criteria 1 Class I Access	Criteria 2 Suitable Land	Criteria 3 Highway Access	Criteria 4 Drayage Distance	Criteria 5 Catchment Area	Criteria 6 Keystone Customer	Criteria 7 Terminal Support	Total
Milwaukee, WI - UP Butler	1	5	5	5	5	5	3	29
Milwaukee, WI - UP Jackson	1	5	5	5	5	5	3	29
Milwaukee, WI - CPKC - Muskego	4	4	5	5	5	5	5	33
Milwaukee, WI - CPKC - Port	3	4	5	5	5	5	5	32
Sussex, WI - CN	3	3	4	4	5	5	4	28
Neenah, WI - CN	5	2	4	5	4	5	4	28
Oshkosh, WI - CN	3	1	2	3	4	5	2	20
Oshkosh, WI - WSOR	1	2	4	4	4	5	5	25
Fond Du Lac, WI - CN	5	5	4	5	4	5	4	32
Sheboygan, WI - UP	1	4	4	4	4	4	3	24
Stevens Point, WI - CN	5	3	4	3	4	3	4	26
Wausau, WI - FOXY	3	3	4	3	2	3	3	21
Adams, WI - UP	1	4	3	3	2	3	2	18
Tomah, WI - CPKC	4	4	5	5	2	3	4	27
Necedah, WI - UP	1	3	3	3	2	3	2	17
Altoona, WI - UP	1	4	4	2	3	3	3	20
La Crosse, WI - BNSF	5	5	5	4	3	3	4	29
Winona, MN - CPKC	4	2	3	2	2	2	3	18

Source: North Central Region Intermodal Study
For in-depth details on the study's evaluations for each location, please refer to the full NC Study.

2.3. Statewide Context: Intermodal Factors to Consider

2.3.1. Stakeholder Coordination

Intermodal services are predominantly driven by the private sector. The NE Study explains that shipping choices are made by private businesses, and intermodal facility development and operations are primarily conducted by private businesses. While intermodal solutions offer more options for businesses to consider, they are also a complex topic, requiring extensive communication and coordination between many stakeholders. Intermodal stakeholders include, but are not limited to, railroads, local units of government, state agencies, Metropolitan Planning Organizations, Regional Planning Commissions, anticipated anchor businesses/BCOs, property owner(s), ocean carriers, and freight logistics firms.

Of the above examples, railroads, local/regional units of government, shippers, and state agencies emerge as the primary stakeholders. Railroads are key to include in discussions as they must be willing to provide services for any new terminal/facility, while BCOs need to provide the railroads with sufficient and sustainable volumes to initiate discussions of potential service. Additionally, local and regional units of government play a key role in identifying transportation needs on local systems, as they maintain and have jurisdiction over local roadways and must plan local road projects. Finally, state agencies such as WisDOT, the Wisconsin Economic Development Corporation (WEDC), and the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP), may contribute funding options available for both state and possibly local roads, as well as the development of brownfields. Brownfields refer to industrial or commercial areas that may have environmental contamination from the previous use, but are currently abandoned, idle, or underused. Grants for brownfields assist with assessment and remediation and help convert contaminated sites into productive properties that are attractive and ready for redevelopment. State agencies may also provide statewide data, when available.

It is important to note that there is no "one size fits all" or singular approach to the discussion of intermodal. However, the following sections examine basic factors or tenants of intermodal that must be included in the discussion, in addition to engaging the appropriate stakeholders, to create a more solid foundation in support of intermodal success.

2.3.2. Sufficient Volume of Containerized Freight

One of the key overarching points that both of the recent studies emphasized is that in order for intermodal development to occur in Wisconsin, private businesses would need to provide sufficient volume. This would allow a potential intermodal operator to build long trains of containerized freight traveling long distances to achieve economies of scale, which is key to intermodal development in Wisconsin.

The NE Study estimates that to make a new intermodal terminal in Wisconsin financially viable, it would need to operate at about 25 lifts per day five days per week (25 lifts/day x 5 days/week x 52 weeks/year = 6,500 lifts/year).[141] To achieve 6,500 lifts per year, the report estimates that the new terminal would have to capture about seven percent of the Total Addressable Market (TAM), which for a potential intermodal terminal based in Northeast Wisconsin is estimated to be 97,253 lifts per year, based on available data (6,500 is about seven percent of 97,253). In this case, the TAM is the volume of non-containerized (bulk; non-intermodal) cargo currently moving in and out of Wisconsin by truck that could be converted to intermodal. 78 percent of said volume currently

moves origin to destination to and from Northeast Wisconsin, and the rest is drayed to and from Chicago intermodal terminals.[142]

By comparison, seven percent market capture is notable because even business startups generally expect to capture only one to five percent of the TAM as a guideline, although this percentage may vary by industry and other economic factors.

The need for sufficient volumes goes hand in hand with trade lane balance, as "balance" is achieved by similar volumes of inbound and outbound movements. The NE Study methodology may prove extremely beneficial to identify potential intermodal customers and increase freight volumes to the needed level.

2.3.3. Trade Lane Balance

In partnership with building sufficient overall freight volume is the idea of lane balance – when both imports and exports move a similar number of containers. Railroad service providers emphasize balanced inbound and outbound loads as criteria for serving an intermodal facility. However, Wisconsin exports more products than it imports, which may create conflict with the international intermodal system. For example, lane imbalance was a contributing factor to the closure of CP's intermodal terminal in Milwaukee.[143] According to the NC Study, ocean carriers do not want their containers waiting inland and will take them back to sea empty to keep them ready for importing more cargo to the U.S. from other countries since imports tend to generate higher revenue. Therefore, at this time Wisconsin's ability to compile goods into a large train of containerized rail cars carrying the volume and value required for a Class I railroad to make an 'intermodal stop' is limited by its lane imbalance. If Wisconsin were to grow its import demand, more containers would then be available for exporting goods (rather than via bulk rail, truck, etc.) and Wisconsin's ability to compile an intermodal-worthy stop would grow.

Volume and value of goods are not the only consideration Class I railroads take into account. The NC Study points out that location and how an intermodal terminal fits into a railroad company's rail system (branch line or primary/main line, proximity to straight-line long-haul routes, etc.) are also important factors since they impact delivery efficiency, speed, and reliability.

From a statewide perspective, the NE Study approach of analyzing intermodal from the business angle of market demand and feasibility carries a strong message. The need for trade lane balance is emphasized by stakeholders in the intermodal ecosystem, such as railroads and carriers. While markets and operational models differ between domestic intermodal and overseas/maritime intermodal, lane balances are crucial for both so that equipment utilization can be maximized. The challenge for Wisconsin is that the Midwest (including Wisconsin) brings in far more loaded overseas containers than it fills for outbound loads. Conversely, the potential market for domestic intermodal tallies far greater outbound volumes than inbound loads. Therefore, trucking is seen as offering Wisconsin's companies greater flexibility for volumes, destinations, and demand fluctuations. The NE Study represents a considerable knowledge gain for the region to better understand what commodities are currently using intermodal and what other commodities could potentially make a modal shift. Ultimately, the NE Study offers a powerful solution to identify potential inbound shippers to promote and achieve lane balance, creating a more data-driven foundation on which to consider intermodal opportunities.

2.3.4. Domestic and International Container Availability

The operational practice of transloading the contents of international containers to domestic containers (or semi-trailers) near coastal ports has grown in popularity in recent years, especially during the COVID-19 shipping spike. The cargoes are typically processed through a warehouse, where 40′ or 20′ container loads are transferred into 53′ containers or semi-trailers. From those locations, the reloaded cargoes can either be trucked to their destination or hauled by rail to an inland terminal, where the final move by drayage originates.

This practice addresses limitations that have been imposed by ocean carriers, including reducing or discontinuing inland service to avoid repositioning costs for container returns. Other identified advantages include consolidation of multiple 40′ or 20′ loads into fewer 53′ containers, as the general rule is that the contents of three 40′ containers can fit into two 53′ containers. Transloading also allows imported products going to multiple distribution centers to be separated and reloaded. Overweight loads can also be emptied for legal highway hauling. Transloading also offers the choice of moving cargo by truck or a rail/truck combination, depending on the needs of the customer.[144]

According to one source, around 30 percent of import containers received at North American West Coast ports are transloaded into domestic containers for inland rail movement.[145]

While transloading of overseas containers offers potential advantages for importers, the practice means fewer international containers arrive in the Midwest. This creates a dearth of empty international containers for exporters in Wisconsin and much of the central U.S. to use for their outbound cargoes.

2.3.5. Proximity to Competing Terminals

The Chicago area's intermodal hub is just far enough away to keep Wisconsin trucking prices high but just close enough to question bringing new intermodal facilities to Eastern Wisconsin. The same could be said about Duluth and Twin Cities intermodal facilities. "Railroads usually but not always avoid opening internally competing terminals (within 250 miles of each other). Terminals are frequently coupled with locomotive refueling and or crew change points."[146] The NC Study interviewed four Class I railroads that service the region, and all agreed that a minimum line haul of 700 miles and terminals spaced at least 250 miles apart would provide the best network optimization for freight.

However, when considering this particular distance, it is worth recommending that the 250-mile rule be applied to driving distance, rather than the actual 250-mile radius around a fixed point as the crow flies. The NE Study analyzed the market area based on the number of turns (roundtrips) per day that could be accomplished by a truck. Using such a market-based approach tied to actual driving time creates a much clearer and more accurate picture of what type of freight is moving and where it is going to make a more informed decision.

Railroads make exceptions to the 250-mile rule when it makes sense for their business and provides a sufficient return on investment. For example, as of recently, CN operates four intermodal terminals within a 150-mile radius which move different types of freight: New Richmond, WI moves vehicles (intermodal operations ceased as of February 2025); Arcadia, WI is a private terminal for international imports; Chippewa Falls, WI brings imports for

Menards with export agriculture as a backhaul with limited service; and Duluth, MN is general purpose with a container freight station.[147]

Wisconsin businesses would need to work into the existing national intermodal network and add value to carriers without compromising competitive schedules to merit and support an additional intermodal terminal. According to the NC Study, one way Wisconsin could conceivably overcome the '250-mile' rule for space between intermodal facilities could be a hub-and-spoke short haul service that would assemble freight from all over the state to any of the Class I railroads that go west. The hub-and-spoke model was used by Wisconsin Central when it operated intermodal terminals in Neenah, Green Bay, and Stevens Point.[148] Pages 17-19 of the NC Study describe the different intermodal lane options

Although being situated next to the major intermodal freight hub of Chicago is a challenge for intermodal growth in Wisconsin, the state's geography might also open doors to development. Chicago has its own downsides for Wisconsin shippers, including drayage traffic and growing intermodal terminal congestion, uncertainty of container availability, and limited drayage company and driver availability. Additionally, the seemingly close proximity is sometimes extended significantly due to system availability and connectivity. For example, according to the NC Study, some Wisconsin freight traveling via CN has to travel 'through' Chicago to the CN south Chicago location, rather than going to a closer facility (see Figure 14).

2.4. Statewide Context: Intermodal Service Dynamics

2.4.1. Growing Intermodal Service Options

As previously discussed in this report, tariffs will play a critical role in shaping the growth of not only intermodal, but the national economy. Competing intermodal services and partnerships along the North-South corridor have sprung up in response to the movement at CPKC, further building the U.S.-Mexico intermodal market's potential for coming years. Despite border issues from late 2023 to early 2024 and ongoing threats of a Canada-wide rail strike, executives remain optimistic for the market's growth potential.[149]

The Journal of Commerce stated in August 2023 that Schneider and Hub Group hoped for U.S.-Mexico intermodal to grow from two to three percent to as much as five percent of domestic intermodal share by 2029 (East-West transcontinental U.S. intermodal largely dominates the North American intermodal market).[150] Also, experts note how the new and potential upcoming interline intermodal services may play a part in converting more truckloads to rail, since existing intermodal services are typically more limited in their origin-destination options than trucking.[151]

As a result of the CPKC merger and subsequent launch of competing services, the growth along the North-South corridor can be expected to improve transportation efficiency and fuel economy while simultaneously improving the North American intermodal market's utilization of the USMCA trade agreement and providing competitive shipping options for key North American businesses and industries. Additionally, geopolitical and environmental factors slowing down global maritime trade at various chokepoints make the shift toward North-South business all the more likely.

Reshoring and nearshoring manufacturing to Mexico in the last few years is another reason that North-South corridor growth will be a key factor in North American freight system reliability, and ultimately, in Wisconsin's business growth and prosperity as well.

As intermodal services options develop and as CPKC moves ahead with its North-South corridor plans, it will be important to keep in mind that intermodal service trends do not exist in a vacuum.[152] Upcoming intermodal trends and patterns may be the result of not only the CPKC merger but also the COVID-19 pandemic, a crew shortage recovery period, and adoption of Precision Scheduling Railroading.

2.4.2. Data Availability and Limitations

Due to data availability, we can say more about Chicago area intermodal facilities than those across the rest of the Midwest. As a 'system', the Chicago area intermodal facilities have remained relatively stable over time. Since the 2019 Intermodal Report, one of 20 facilities has closed (UP – Global III), none have opened, and total containerized volume movement has shrunk the last few years but remains above six and a half million annual TEUs – higher than 2010 levels, but lower than 2015 and 2020 levels. The economic change is attributed to the consumer spending shift from goods to services after the end of the COVID-19 pandemic and stay-at-home trends. Additionally, each Chicago area facility appears to be contributing a consistent share of the containerized volume movement to the region's total each year. What this means for Wisconsin and the rest of the Midwest is that the nearby intermodal hub will continue to be a dependable resource to build new intermodal systems around – or shift business away from – as needed.

Priorities and strategies for other Midwestern states near Illinois will likely also revolve around what is and is not possible due to the proximity to Chicago. A first step could be encouraging local planning organizations or other entities to gather and publish lift data, similar to the Chicago area's CMAP data, along with urging railroad companies to cooperate with these local authorities in sharing any necessary information. Additional collaborations may also be identified among the regions and intermodal stakeholders once the data is compiled.

The BTS' *Transportation Statistics Annual Report 2024* cites several other gaps in intermodal data. Shipment routing data typically only collects origins and destinations of shipments – yet many shipments use multiple modes, such as truck–rail intermodal containerized shipments, which requires moving vehicles from truck to train. Similarly, less-than-truckload terminals may also transfer goods between trucks or between trains, and existing data does not track the movement of these goods. Comprehensive port data is also lacking to capture port activity such as vessel wait time, truck turn time, and truck queue time. These particular performance metrics would yield a windfall of information to better understand the cause of delays and help reduce emissions, as well as how to best deploy resources during unforeseen disruptions.[153]

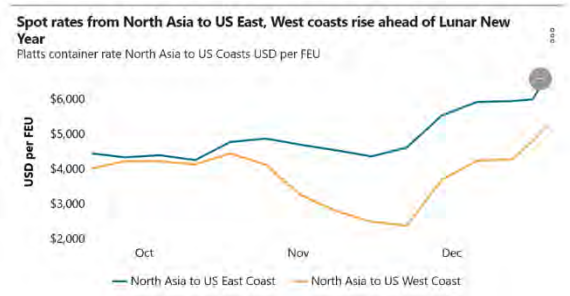
In particular, this gap limits the ability of stakeholders to evaluate the impacts of potential facility disruptions and assess overall freight system performance.

Generally, tracking shipments more closely would give freight operators beneficial insights into their operational improvements, and allow them to understand impacts of these facilities on system resilience – which, in turn, would inform state agencies how they can best support the industries in their respective states. However, as discussed in previous sections, it's important to note the reality of cybersecurity concerns.

2.4.3. 2025 Rate Expectations

As of early January 2025, container rates were again experiencing volatile increases, especially on Asia – North America cross-Pacific traffic. The last week of 2024 saw spot rates for forty-foot containers from Shanghai to Los Angeles rise by seven percent (week-to-week), and Shanghai to New York rise by six percent (week-to-week). Several factors were cited for the reasons behind these increases. First, there is a seasonal increase that typically precedes the Chinese New Year. Second, ocean carriers have been quoting General Rate Increases for January and beyond. Further, there has been record traffic at Long Beach and Los Angeles in November as shippers seek to avoid potential East Coast work stoppages in January 2025 by the International Longshoreman's Association, and to avoid potential changes in tariffs.[154] Figure 20, from S&P Global / Journal of Commerce, shows the increases in 40-foot container rates destined for U.S. ports from mid-November 2024 into December 2024.[155]

Figure 20: Spot rates from North Asia to U.S. East



Source: Journal of Commerce; 2025 S&P Global

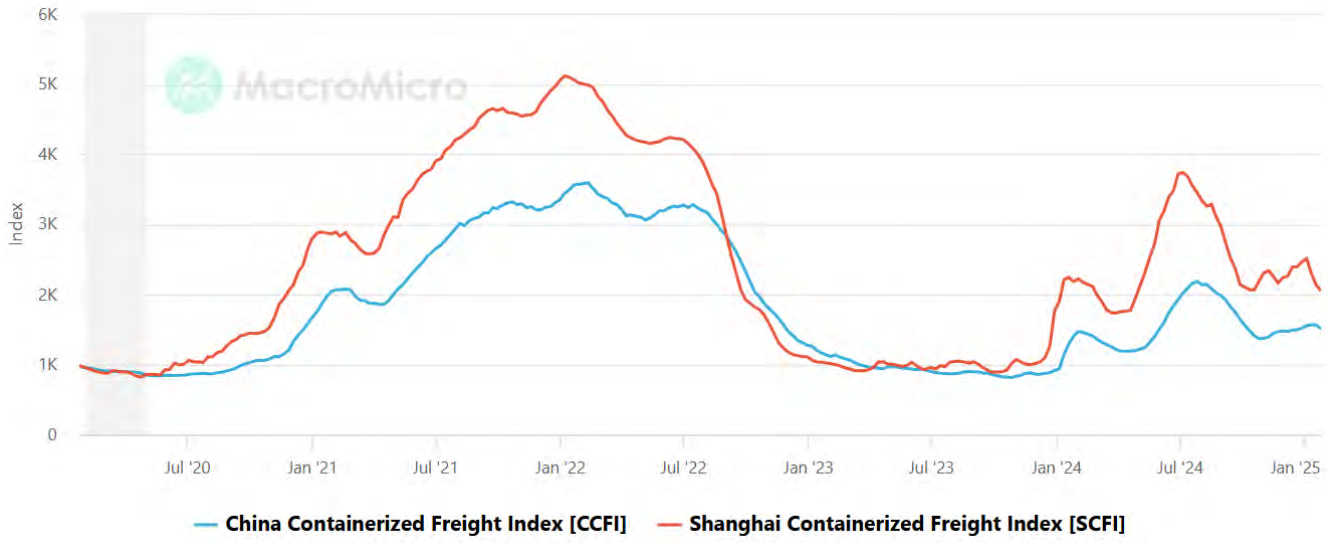
The expectations of the market are clouded by the uncertainties of ILA contracts, potential tariffs, and continued disruptions to the Suez Canal route. However, as of late 2024, forecasts noted an expected eight percent increase in vessel capacity in 2025, paired with a three percent increase in demand. These forecasts anticipated continued volatility, especially during peak periods of demand. Another factor in shaping rates for 2025 will be the reshuffling of ocean carrier alliances, including the exiting of MSC from an alliance. However, MSC is expected to participate in vessel-sharing agreements with the new Premier Alliance and ZIM.[156] Many of the forecasts from established shipping companies and sector analysts concur that there will be "turbulence" while the new alliances are being phased in, but that increased efficiencies and added capacity will eventually lead to a more stable market sector, barring any new disruptions.[157] At least one carrier expects to be negotiating for higher contract 2025 rates after March or April, based on anticipated trans-Pacific traffic.[158]

2.4.4. Intermodal System Resiliency

The details of COVID-19's impact on Midwest intermodal businesses are still revealing themselves as more data is revealed each year. Based on information in this section, it appears Wisconsin still holds a relatively weak position in the Midwest for leveraging intermodal services and systems to lower shipping prices. The state moved less intermodal volume than most surrounding states, and, based on anecdotal comments, shipping/draying in or out of Wisconsin is more expensive than almost anywhere else in the Midwest. and cost-inhibitive for local business owners.

Since 2019, in addition to COVID-19, the global trade system has encountered numerous disruptions, geopolitical and otherwise as discussed in Section 1.1.5. Subsequent shipment rerouting causes longer wait times, higher prices, and less reliability. The impact from a cost perspective is visible in Figure 21.[159]

Figure 21: China – Global & Shanghai Export Containerized Freight Index 2020 - 2025

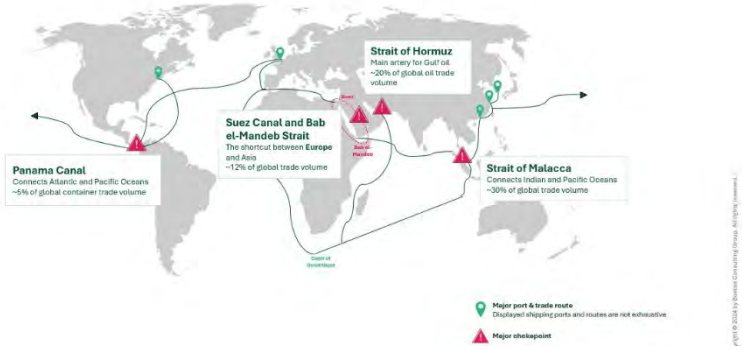


Source: https://en.macromicro.me/charts/947/commodity-ccfi-scfi

Global trade disruptions that slow intermodal movement cause negative consequences for Wisconsin shippers, especially for agriculture and wood products exporters. Wisconsin's economy and businesses depend on reliable service to move goods to and from Wisconsin by various routes and modes. It is worth noting that despite the recent global trade disruptions discussed in this section, the sum of all their effects on global container shipping prices was still less than that of the COVID-19 pandemic.

However, given the frequent trade disruptions and the lack of foreseeable change in the Red Sea and Black Sea, it will be crucial for Wisconsin intermodal players to identify and anticipate other potential global trade bottlenecks. Over 50 percent of global trade volume passes through at least one of the four "chokepoints" in Figure 22. In addition to the importance of the Panama Canal and Suez Canal discussed above, the Strait of Hormuz is a critical passageway for oil, while the Strait of Malacca sees 30 percent of global trade, acting as the fastest East Asia-Middle East shortcut.[160] In response to the demonstrated fragility of the global intermodal system in the last half-decade, we might expect to see Wisconsin and the U.S. economy shift trade dependence from overseas transport to North-South intermodal services between Mexico, U.S., and Canada. U.S.-Mexico intermodal as a share of the domestic intermodal market is expected to grow in coming years with new services and investments following the CPKC merger.[161, 162] As previously discussed, Mexico has also emerged

Figure 22: Four Chokepoints Accounting for More Than Half of Global Trade



Sources: IMF Portwatch; Politico; BCG analysis

as a leader in manufacturing job reshoring in the past few years, and there are efficiencies with North American cross-border trade due to the USMCA.[163]

3. Conclusion

As exemplified by the three recent intermodal reports published in Wisconsin, along with a current second phase underway of the Northeast Region's study, intermodal services are currently at the forefront of many Wisconsin businesses' and communities' minds. Given the cost-effectiveness and environmental benefits that can be realized from such services, it's logical for Wisconsinites to be curious how intermodal could potentially provide more cost-effective shipping options and thereby bolster the state's economy.

The recent regional studies highlight how collaboration across industries as well as government agencies is paramount to the success of any intermodal expansion in Wisconsin. They also explain that sufficient volume of freight must be evaluated in conjunction with the balance of trade lanes to optimize the likelihood of success of a new terminal. As previously stated, the NE Study offers a potential data-driven approach to more accurately evaluate freight volumes and trade lanes within the state. Additionally, because both studies focused on unique aspects of the intermodal ecosystem, it's likely that if combined, the NE Study data along with the NC Study criteria used to evaluate the intermodal service potential for 18 sites in Wisconsin and Eastern Minnesota could more easily highlight successful potential locations to leverage a new intermodal terminal. While the 250-mile "rule" must be considered, this can likely be overcome using the data informed by the regional reports to show the railroad there is sufficient volume and balance to support the new location, notwithstanding the shipment data gaps/limitations that currently exist.

WisDOT supports the integration of intermodal transportation options within Wisconsin's supply chain ecosystem as one approach that would likely enhance supply chain redundancy and resiliency, while also improving the state's economy. In furtherance of the policies articulated in the *2023 State Freight Plan*, WisDOT has continued and will continue to support intermodal efforts in the state by coordinating with stakeholders, facilitating and participating in discussions, and providing technical assistance and funding information. From a long-term planning standpoint, due diligence is critical as intermodal is a complex topic, requiring extensive research, data, coordination, and collaboration in order to discern a potential viable intermodal solution in the state. Ultimately, any intermodal solution should be well-planned to ensure maximum probability of success.

Appendix A: Acronyms

APH	American Patriot Holdings
BCOs	Beneficial Cargo Owners
BNSF	Burlington Northern Santa Fe
BSGI	Black Sea Grain Initiative
BTS	Bureau of Transportation Statistics
BUILD	Better Utilizing Investments to Leverage Development (grant)
CAGR	Compound annual growth rates
CBP	Customs and Border Protection
CDBG	Community Development Block Grants
CEE	Cleveland-Europe Express
CIRB	Canada Industrial Relations Board
CMAP	Chicago Metropolitan Agency for Planning
CN	Canadian National Railway
COVID-19	Coronavirus disease
CPKC	Canadian Pacific-Kansas City Southern Railroad
CRISI	Consolidated Rail Infrastructure and Safety Improvements (grant program)
CSX	Corporate name
DOT	Department of Transportation
ECWRPC	East Central Wisconsin Regional Planning Commission
FAST Act	Fixing America's Surface Transportation
FASTLANE	Fostering Advancements in Shipping and Transportation for the Long-term Achievement of National Efficiencies (grant program)
FEU	Forty-foot Equivalent Units
FRA	Federal Railroad Agency
FRIIP	(Wisconsin) Freight Railroad Infrastructure Improvement Program
GMXT	Groupo Mexico Transportes
GPS	Global Positioning System
GTAS	Global Trade Analytics Suites
IAIS	Iowa Interstate Railroads
IANA	Intermodal Association of North America
IANR	Iowa Northern Railway Company
IHS Markit	Corporate name

ILA	International Longshoremen's Association
ISO	International Organization for Standardization, the organization that established the standards for overseas / maritime containers
INFRA	Infrastructure for Rebuilding America (grant program)
MPDG	Multimodal Project Discretionary Grant
MSC	Corporate name; company previously Mediterranean Shipping Company
NAFTA	North American Free Trade Agreement
NCWRPC	North Central Wisconsin Regional Planning Commission
NS	Norfolk Southern (Railroad)
PHMSA	Pipeline and Hazardous Materials Safety Administration
RAISE	Rebuilding American Infrastructure with sustainability and Equity (grant)
ROUTES	Rural Opportunities to Use Transportation for Economic Success
RRIF	Railroad Rehabilitation and Improvement Financing
STB	Surface Transportation Board
TAM	Total Addressable Market
TEU	Twenty-foot equivalent units
TIFIA	Transportation Infrastructure Finance and Innovation Act
TIF	Tax Increment Financing
TLC	Total Logistics Costs
UNCTAD	United Nations Conference on Trade and Development
UP	Union Pacific Railroad
USMCA	United States – Mexico- Canada Agreement
WCL	Wisconsin Central, Limited
WEDC	Wisconsin Economic Development Corporation
WisDOT	Wisconsin Department of Transportation
ZIM	Corporate name (vessel company)

Appendix B: Definitions

Beneficial Cargo Owner	The owner of the cargo being transported and delivered.
Drayage	The transportation of goods by truck over a short distance as part of a longer voyage.
Chassis	The skeletal frame and wheels used as a platform for drayage of intermodal containers.
Intermodal Spot Rates	The current market prices (quote) for transporting goods using intermodal services. Generally spot rates are dynamic and frequently fluctuate in price.
Lane Balance	The management of containers (both domestic and overseas containers) so that there are enough shipments in both directions to avoid empty return trips.
Lifts	Operations that transfer containers from one mode to another. Typically used as a metric for container volumes moved through a terminal.
Nearshoring	A business strategy where a company relocates its operations or services to a nearby country.
Reshoring	A business strategy where a company will relocate its operations or services back to its home country.
TRANSEARCH	Database tool for analyzing and forecasting freight transportation in North America.
Twenty-foot equivalent units (TEU)	Freight container capacity based on 20-foot-long standard shipping container.

Appendix C: Chicago Intermodal Facility Lift Counts & Regional TEU Estimate

C.1. Lift Counts Through 2023

Figure 23: Lift Counts through 2023

Chicago Intermodal Facility Lift Counts and Regional TEU Estimate (through 2023)

Railroad	Facility	Annual Lifts (1995 Selected Yards)	Annual Lifts (2000)	Annual Lifts (2005)	Annual Lifts (2010)	Annual Lifts (2015)	Annual Lifts (2020)	Annual Lifts (2022)	Annual Lifts (2023)
BNSF	Corwith	500,000	751,154	729,664	708,125	811,417	860,785	823,497	816,172
	WillowSprings	324,616	697,303	769,939	457,458	594,313	592,701	558,275	524,539
	Cicero	436,621	446,036	521,931	370,216	376,347	457,878	445,210	393,602
	Western Ave.	Unknown	50,853	N/A	closed	closed	closed	closed	closed
	Logistics Park	N/A	N/A	454,178	848,808	962,067	789,919	755,933	653,770
UP	Global I	320,000	335,286	322,978	317,492	346,273	228,500	133,695	60,226
	Global II	171,000	304,174	299,806	343,186	288,086	340,573	417,939	450,435
	IMX	Unknown	113,182	N/A	closed	closed	closed	closed	closed
	Canal Street	Unknown	134,646	153,209	120,937	0	-	-	closed
	Yard Center	219,000	263,914	231,049	240,668	218,525	124,424	126,646	135,689
	GlobalIII	N/A	N/A	103,768	150,181	112,875	4,066	1,640	closed
	Joliet Intermodal Terminal	N/A	N/A	N/A	118,461	490,023	624,769	685,131	708,262
CSX	Bedford Park	284,700	612,986	875,225	846,185	914,768	886,662	880,104	916,984
	63rd Street (was CSX)	Unknown	262,502	N/A	N/A	N/A	N/A	N/A	N/A
	59th Street	Unknown	355,226	233,480	249,932	319,448	276,204	303,894	254,594
NS	47th	Unknown	440,491	385,843	488,685	550,901	585,691	525,080	489,290
	63rd Street	Unknown	15,701	260,299	318,952	333,509	342,091	297,242	264,120
	Hanjin	Unknown	64,140	N/A	closed	closed	closed	closed	closed
	Calumet	Unknown	29,369	26,526	33,257	136,310	220,516	264,200	287,450
	Landers	260,000	320,820	337,795	286,548	447,920	374,996	346,127	327,744
CN	Gateway (Markham)	194,180	285,756	313,559	300,000	564,000	620,000	538,636	459,614
	Joliet		N/A	N/A	N/A	49,000	60,000	34,382	24,297
CP	Bensenville	Unknown	86,198	94,672	128,040	226,710	183,806	150,051	122,027
	Schiller Park	Unknown	91,671	100,684	139,476	closed	65,097	76,400	45,775
IAIS	Blue Island	Unknown	31,884	35,000	26,694	18,388	14,378	14,378	14,378
	Total		5,693,292	6,249,605	6,493,301	7,760,880	7,653,056	7,378,460	6,948,968

CMAP estimates are shaded red.

Source: CMAP, Railroad Companies

Estimate of Greater Chicago Region TEU Equivalents, 2023

Lifts	6,948,968	Source: Railroads, CMAP
TEUs per Container/ Trailer	2.2724	Source: CMAP analysis of Intermodal Association of North America, Intermodal Market Trends, 2023, Midwest Region
TEUs	15,790,835	Chicago Region Intermodal TEU equivalents, 2023

Source: CMAP, Railroad Companies, IANA. Note: Includes empty containers.

Prepared by the Chicago Metropolitan Agency for Planning, June, 2024

Source: Chicago Metropolitan Agency for Planning

C.2. Lift Counts Through 2022

Figure 24: Lift Counts through 2022

Chicago Intermodal Facility Lift Counts and Regional TEU Estimate (through 2022)

Railroad	Facility	Annual Lifts (1995 Selected Yards)	Annual Lifts (2000)	Annual Lifts (2005)	Annual Lifts (2010)	Annual Lifts (2015)	Annual Lifts (2020)	Annual Lifts (2021)	Annual Lifts (2022)
BNSF	Corwith	500,000	751,154	729,664	708,125	811,417	860,785	844,271	823,497
	Willow Springs	324,616	697,303	769,939	457,458	594,313	592,701	582,121	558,275
	Cicero	436,621	446,036	521,931	370,216	376,347	457,878	465,932	445,210
	Western Ave.	Unknown	50,853	N/A	closed	closed	closed	closed	closed
	Logistics Park	N/A	N/A	454,178	848,808	962,067	789,919	888,883	755,933
UP	Global I	320,000	335,286	322,978	317,492	346,273	228,500	133,119	133,695
	Global II	171,000	304,174	299,806	343,186	288,086	340,573	428,882	417,939
	IMX	Unknown	113,182	N/A	closed	closed	closed	closed	closed
	Canal Street	Unknown	134,646	153,209	120,937	0	-	-	-
	Yard Center	219,000	263,914	231,049	240,668	218,525	124,424	130,628	126,646
	Global III	N/A	N/A	103,768	150,181	112,875	4,066	14,831	1,640
	Joliet Intermodal Terminal	N/A	N/A	N/A	118,461	490,023	624,769	667,504	685,131
CSX	Bedford Park	284,700	612,986	875,225	846,185	914,768	886,662	909,437	880,104
	63rd Street (was CSX)	Unknown	262,502	N/A	N/A	N/A	N/A	N/A	N/A
	59th Street	Unknown	355,226	233,480	249,932	319,448	276,204	305,527	303,894
NS	47th	Unknown	440,491	385,843	488,685	550,901	585,691	521,223	525,080
	63rd Street	Unknown	15,701	260,299	318,952	333,509	342,091	332,412	297,242
	Hanjin	Unknown	64,140	N/A	closed	closed	closed	closed	closed
	Calumet	Unknown	29,369	26,526	33,257	136,310	220,516	237,028	264,200
	Landers	260,000	320,820	337,795	286,548	447,920	374,996	382,329	346,127
CN	Gateway (Markham)	194,180	285,756	313,559	300,000	564,000	620,000	550,895	538,636
	Joliet		N/A	N/A	N/A	49,000	60,000	45,905	34,382
CP	Bensenville	Unknown	86,198	94,672	128,040	226,710	183,806	157,751	150,051
	Schiller Park	Unknown	91,671	100,684	139,476	closed	65,097	64,291	76,400
IAIS	Blue Island	Unknown	31,884	35,000	26,694	18,388	14,378	14,378	14,378
	Total		5,693,292	6,249,605	6,493,301	7,760,880	7,653,056	7,677,347	7,378,460

CMAP estimates are shaded red.

Source: CMAP, Railroad Companies

Estimate of Greater Chicago Region TEU Equivalents, 2022

Lifts	7,378,460	Source: Railroads, CMAP
TEUs per Container/ Trailer	2.2466	Source: CMAP analysis of Intermodal Association of North America, Intermodal Market Trends, 2022, Midwest Region
TEUs	16,576,448	Chicago Region Intermodal TEU equivalents, 2022

Source: CMAP, Railroad Companies, IANA. Note: Includes empty containers.

Prepared by the Chicago Metropolitan Agency for Planning, April 2023

Source: Chicago Metropolitan Agency for Planning

C.3. Lift Counts Through 2016

Figure 25: Lifts Counts through 2016

Chicago Intermodal Facility Lift Counts and Regional TEU Estimate (May, 2017)

Railroad	Facility	Annual Lifts (2000)	Annual Lifts (2005)	Annual Lifts (2010)	Annual Lifts (2015)	Annual Lifts (2016)
BNSF	Corwith	751,154	729,664	708,125	811,417	797,916
	Willow Springs	697,303	769,939	457,458	594,313	584,544
	Cicero	446,036	521,931	370,216	376,347	400,911
	Western Ave.	50,853	N/A	closed	closed	closed
	Logistics Park	N/A	454,178	848,808	962,067	964,492
UP	Global I	335,286	322,978	317,492	346,273	313,773
	Global II	304,174	299,806	343,186	288,086	273,139
	IMX	113,182	N/A	closed	closed	closed
	Canal Street	134,646	153,209	120,937	0	27,973
	Yard Center	263,914	231,049	240,668	218,525	203,014
	Global III	N/A	103,768	150,181	112,875	111,464
	Joliet Intermodal Terminal	N/A	N/A	118,461	490,023	499,306
CSX	Bedford Park	612,986	875,225	846,185	914,768	930,720
	63rd Street (was CSX)	262,502	N/A	N/A	N/A	N/A
	59th Street	355,226	233,480	249,932	319,448	318,646
NS	47th	440,491	385,843	488,685	550,901	610,481
	63rd Street	15,701	260,299	318,952	333,509	306,765
	Hanjin	64,140	N/A	closed	closed	closed
	Calumet	29,369	26,526	33,257	136,310	203,330
	Landers	320,820	337,795	286,548	447,920	424,017
CN	Gateway (Markham)	285,756	313,559	300,000	564,000	560,000
	Joliet	N/A	N/A	N/A	49,000	41,000
CP	Bensenville	86,198	94,672	128,040	226,710	221,405
	Schiller Park	91,671	100,684	139,476	closed	closed
	Total	N.A.	N.A.	N/A	N/A	N/A
IAIS	Blue Island	31,884	35,000	34,800	44,087	44,374
	Total	5,693,292	6,249,605	6,501,407	7,786,579	7,837,270

CMAP estimates are shaded red.

Source: CMAP, Railroad Companies

Calculation of Greater Chicago Region Lift-TEU Equivalents, 2016

	US Railroads	Canadian Railroads	Total	
Lifts	6,946,869	839,710	7,786,579	
TEUs per Container	2.34	1.84821800		Source: US: CMAP Container Count by Container Size, average of CSXT 59th Street Yard, BNSF Cicero Yard, UP Global I, and NS 47th. Bing Maps, Bird's Eye View. Http://www.bing.com/maps. Accessed June and November, 2010, December 2011, December 2016. Canada: Used estimate of distribution of containers by container size, CN representatives, August 2011. CP: Observation of container size using Bing Bird's eye view, June 2014
Gross TEUs	16,221,215	1,551,967	17,773,182	
Laden Container Factor			91.6%	Source: CMAP analysis of STB Public Waybill Sample, 2014 (the most recent available). Selecting containers and trailers on flat cars originating or terminating in Bureau of Economic Analysis Area 64 (Chicago), the laden container factor is the proportion of containers in the selected records that are not empty containers or trailers (in 42xx Standard Transportation Commodity Codes [STCC]).
Net TEUs			**16,272,721**	Chicago Region Intermodal TEU equivalents, 2016

Source (2000-2016): CMAP, Railroad Companies, STB

Note: This estimate uses 2014 STB waybill data for the laden container factor; it is the latest data available.

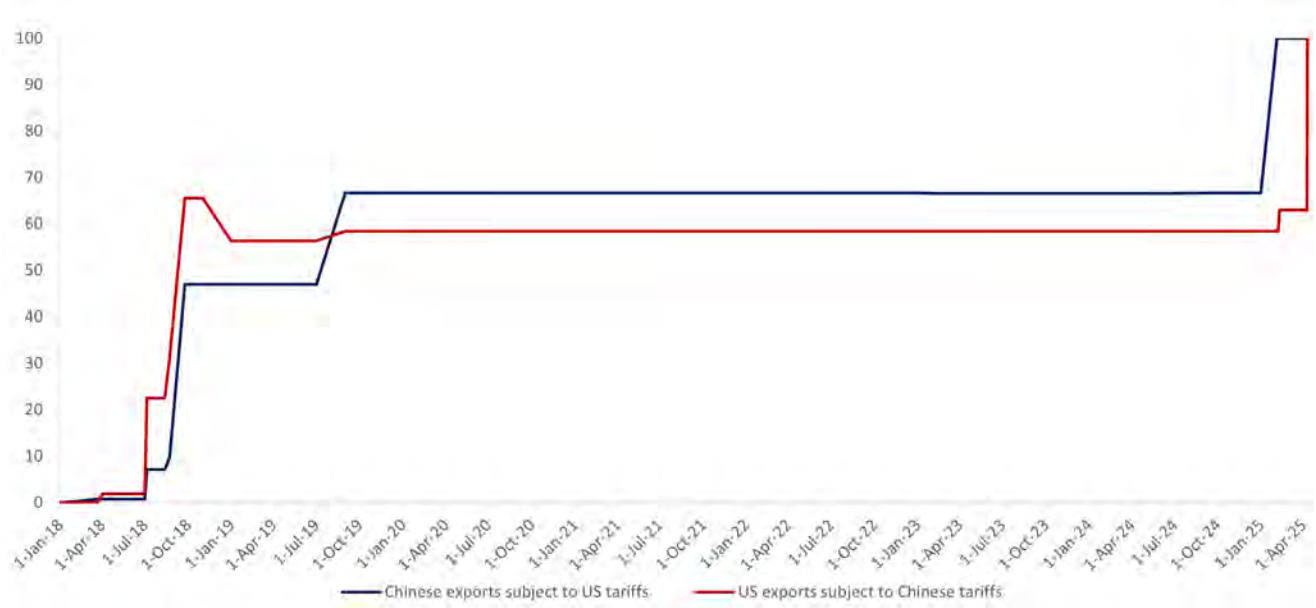
Prepared by the Chicago Metropolitan Agency for Planning, May, 2017

Source: Chicago Metropolitan Agency for Planning

Appendix D: Figures & Tables

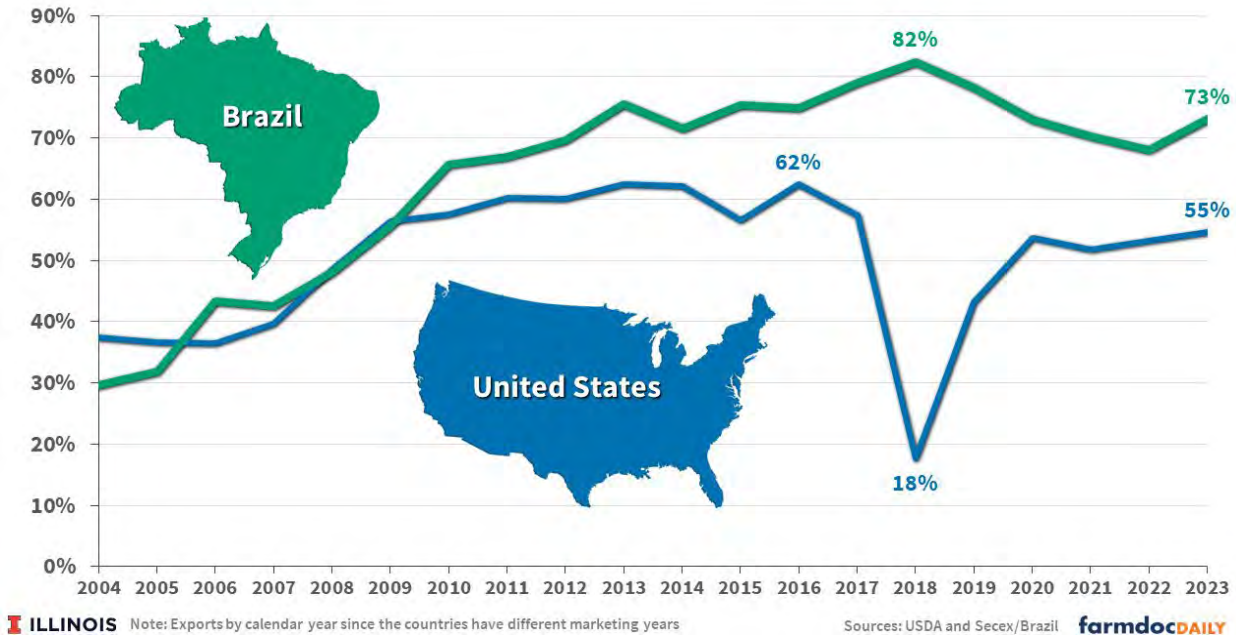
D.1. Tariffs and Policy

Figure 26: Percent of U.S.-China trade subject to trade war tariffs



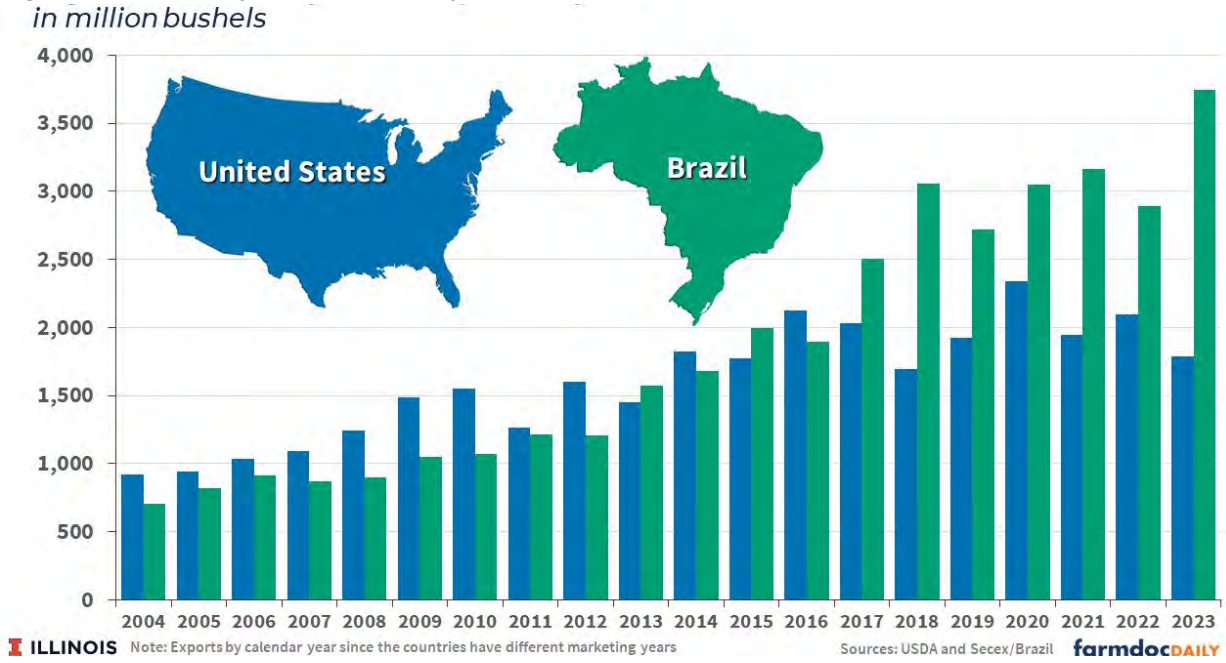
Source: https://www.piie.com/research/piie-charts/2019/us-china-trade-war-tariffs-date-chart

Figure 27: China's Share of United States and Brazil Soybean Exports



Source: https://farmdocdaily.illinois.edu/2024/02/the-united-states-brazil-and-china-soybean-triangle-a-20-year-analysis.html

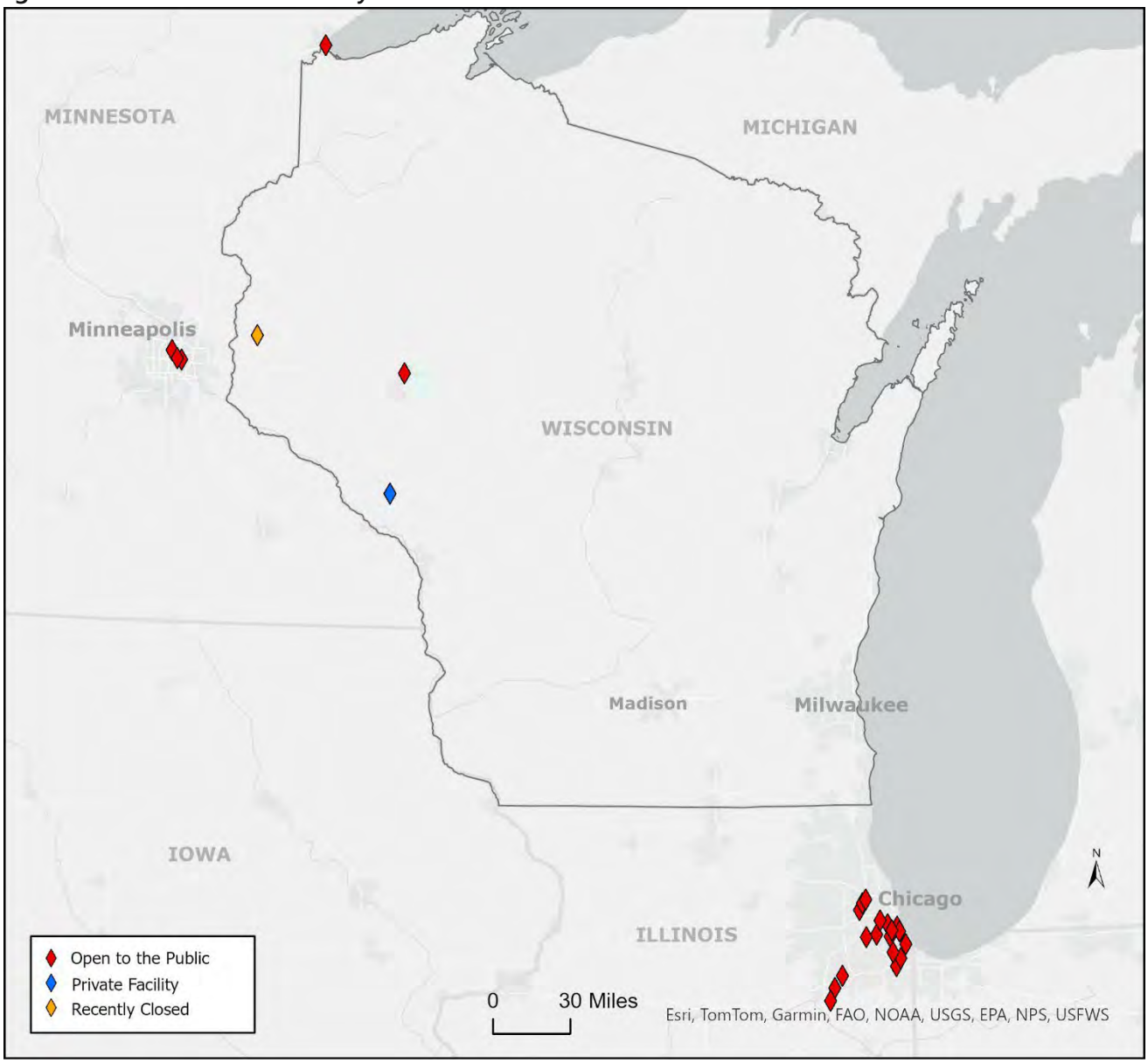
Figure 28: Total Soybean Exports by the United States and Brazil



Source: https://farmdocdaily.illinois.edu/2024/02/the-united-states-brazil-and-china-soybean-triangle-a-20-year-analysis.html

D.2. Wisconsin and Nearby Intermodal Facilities Map

Figure 29: Wisconsin and Nearby Intermodal Facilities



Source: Wisconsin Department of Transportation

D.3. Cargo Volumes, Values, Origins, Destinations, & Rates

Table 4: Import and Export Commodity Groups for United States 2022

Import Commodity Group	2022 U.S. Container Volume
Retail Products	3,580,275
Auto Parts and Automobiles	716,035
Foodstuffs	664,547
Conglomerates	656,870
Furniture	358,802
Clothing	342,665
Electronics	207,588
Household Goods	163,781
Alcoholic Beverages	96,843
Paper, Forest Products	57,540
Toys	40,192
Storage	24,975
Metals	20,132
Cotton, Spices, Vegetables	15,903

Export Commodity Group	2022 U.S. Container Volume
Paper and Recyclables	1,160,804
Agricultural Goods	810,946
Chemicals, fibers and Plastics	586,806
Foodstuffs	366,634
Conglomerate	310,346
Metals and Recyclables	183,778
Auto Parts and Automobiles	130,139
Retail	111,122
Membership Warehouse Club	35,697
Heavy Machinery	31,140

Source: U.S. Census

Table 5: Wisconsin Imports (in Millions) 2023

Commodity	Canada	Mexico	China	Ireland	Germany	Vietnam	Italy	Belgium	All Other	Total	
Machinery, Electricals, Tools	$902	$2002	$2938	$35	$1347	$1275	$789	$276	$443	$10008	26%
Minerals	$841	$8	$221	$3461	$387	$	$83	$692	$269	$5962	15%
Transportation	$493	$853	$171	$	$20	$14	$138	$8	$4201	$5898	15%
Instruments & Parts	$58	$1951	$428	$27	$457	$69	$23	$12	$840	$3866	10%
Furniture	$110	$63	$300	$	$6	$229	$7	$	$936	$1651	4%
Wood & Wood Products	$1226	$46	$102	$	$8	$11	$15	$1	$58	$1467	4%
Plastics & Rubbers	$620	$180	$249	$1	$105	$26	$24	$18	$230	$1453	4%
Footwear & Headgear	$1	$2	$211	$	$	$13	$4	$	$1160	$1390	4%
Toys, Sports, Miscellaneous	$381	$166	$486	$8	$50	$29	$14	$109	$118	$1360	4%
Metals	$586	$172	$231	$1	$134	$22	$41	$30	$78	$1295	3%
Chemicals	$124	$52	$61	$71	$64	$	$26	$2	$893	$1294	3%
Textiles	$25	$72	$318	$3	$8	$524	$6	$1	$146	$1105	3%
Vegetable & Foodstuffs	$669	$171	$14	$9	$19	$3	$19	$3	$23	$930	2%
All Others	$218	$283	$111	$1	$26	$10	$7	$	$158	$814	2%
Total	$6254	$6021	$5843	$3618	$2631	$2226	$1196	$1152	$9553	$38493	
	16%	16%	15%	9%	7%	6%	3%	3%	25%		

Source: U.S. Census

Table 6: Wisconsin Exports (in Millions) 2023

Commodity	Canada	Mexico	China	Germany	UK	Belgium	Australia	Netherlands	All Other	Total	
Machinery, Electricals, Tools	$2804	$1901	$442	$287	$314	$511	$405	$442	$6079	$13186	39%
Transportation	$904	$418	$20	$69	$260	$202	$150	$53	$1745	$3821	11%
Instruments & Parts	$207	$258	$368	$133	$65	$29	$53	$46	$2437	$3594	11%
Vegetable & Foodstuffs	$1132	$353	$86	$12	$36	$8	$46	$45	$1081	$2799	8%
Plastics & Rubbers	$619	$466	$81	$94	$34	$21	$26	$17	$608	$1965	6%
Chemicals	$401	$163	$90	$167	$45	$5	$25	$55	$865	$1816	5%
Minerals	$462	$44	$80	$102	$53	$108	$44	$14	$740	$1649	5%
Wood & Wood Products	$985	$135	$87	$13	$24	$3	$18	$18	$321	$1605	5%
All Others	$510	$163	$68	$54	$26	$2	$17	$38	$501	$1379	4%
Animals & Animal Byproducts	$123	$62	$135	$11	$19	$	$16	$5	$810	$1181	3%
Metals	$333	$364	$35	$17	$23	$6	$12	$7	$374	$1171	3%
Total	$8480	$4326	$1493	$959	$898	$895	$812	$741	$15563	$34168	
	25%	13%	4%	3%	3%	3%	2%	2%	46%		

Source: U.S. Census

Table 7: United States Imports (in Billions) 2023

Commodity	Mexico	China	Canada	Germany	Japan	S Korea	Vietnam	Taiwan	All Other	Total	
Machinery, Electricals, Tools	$170	$214	$43	$47	$55	$41	$59	$63	$237	$930	30%
Minerals	$27	$16	$142	$24	$9	$10	$	$2	$298	$529	17%
Transportation	$132	$17	$65	$38	$51	$38	$1	$4	$67	$412	13%
Metals	$20	$17	$45	$8	$5	$8	$2	$5	$114	$225	7%
Toys, Sports, Miscellaneous	$13	$46	$21	$11	$5	$2	$4	$4	$78	$184	6%
Vegetable & Foodstuffs	$42	$5	$34	$2	$1	$1	$3	$1	$84	$172	6%
Instruments & Parts	$22	$12	$5	$13	$8	$2	$1	$3	$63	$129	4%
All Others	$10	$23	$12	$2	$2	$1	$11	$1	$51	$111	4%
Textiles	$5	$27	$2	$1	$1	$1	$15	$1	$57	$109	4%
Plastics & Rubbers	$12	$21	$16	$5	$5	$5	$4	$3	$29	$101	3%
Furniture	$13	$18	$6	$1	$	$	$11	$1	$13	$64	2%
Chemicals	$4	$5	$8	$5	$5	$5	$1	$1	$28	$63	2%
Wood & Wood Products	$3	$7	$20	$2	$	$1	$2	$	$16	$50	2%
Total	$475	$427	$419	$159	$147	$116	$114	$88	$1135	$3080	
	15%	14%	14%	5%	5%	4%	4%	3%	37%		

Source: U.S. Census

Table 8: United States Exports (in Billions) 2023

Commodity	Canada	Mexico	China	Netherlands	Japan	Germany	U K	S Korea	All Other	Total	
Minerals	$44	$58	$27	$40	$21	$15	$20	$22	$218	$466	28%
Machinery, Electricals, Tools	$57	$52	$20	$7	$8	$11	$9	$11	$118	$293	17%
Transportation	$64	$31	$14	$3	$6	$18	$8	$7	$105	$254	15%
Vegetable & Foodstuffs	$25	$21	$22	$3	$8	$3	$2	$4	$46	$133	8%
Metals	$23	$20	$5	$1	$3	$3	$10	$2	$41	$108	6%
Instruments & Parts	$7	$6	$9	$9	$6	$7	$2	$4	$35	$86	5%
Plastics & Rubbers	$18	$22	$8	$2	$2	$2	$2	$2	$29	$85	5%
Toys, Sports, Miscellaneous	$14	$11	$2	$2	$2	$4	$5	$2	$34	$76	4%
Chemicals	$15	$10	$6	$3	$3	$3	$2	$2	$28	$72	4%
All Others	$11	$7	$4	$1	$1	$2	$1	$1	$17	$45	3%
Wood & Wood Products	$10	$6	$4	$1	$2	$1	$2	$1	$10	$36	2%
Animals & Animal Byproducts	$4	$7	$5	$1	$4	$	$	$4	$11	$35	2%
Total	$290	$252	$126	$71	$67	$67	$62	$61	$692	$1689	
	17%	15%	7%	4%	4%	4%	4%	4%	41%		

Source: U.S. Census

Table 9: Sample Container Shipping Costs (2024 - 2025)

	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25
Chicago North Rail Ramps to Waukesha	$705	$705	$705	$705	$705	$705	$705	$705	$705	$705	$705	$705	$705
Chicago South Rail Ramps to Waukesha	$795	$795	$795	$795	$795	$795	$795	$795	$795	$795	$795	$795	$795
Chicago North Rail Ramps to Green Bay	$972	$972	$972	$972	$972	$972	$972	$972	$972	$972	$972	$972	$972
Chicago South Rail Ramps to Green Bay	$1,265	$1,265	$1,265	$1,265	$1,265	$1,265	$1,265	$1,265	$1,265	$1,265	$1,265	$1,265	$1,265
Monthly Fuel Surcharge Average	29%	30%	30%	29%	27%	26%	27%	27%	25%	25%	24%	24%	24%
Shanghai to Chicago via Long Beach (40')	$5,817	$7,084	$6,203	$5,165	$6,898	$9,150	$9,250	$9,450	$8,879	$8,762	$7,785	$8,028	$7,629
Rotterdam to Chicago via NYC (40')	$3,110	$3,200	$3,275	$3,175	$3,050	$3,145	$3,175	$3,175	$3,303	$3,570	$3,795	$3,815	$3,615
Shanghai to Chicago via Vancouver (40')	n/a	n/a	n/a	n/a	n/a	n/a	$9,639	$8,854	$8,699	$8,190	$7,511	$6,614	$7,254
Shanghai to Chicago via NYC (40')	n/a	n/a	n/a	n/a	n/a	n/a	$11,228	$10,958	$10,113	$8133	$7,037	$6,437	$7,868

Source: M.E. Day

Appendix E: Potential Funding Opportunities

Enhancing and sustaining the efficient transport of freight across the nation's transportation network is vital for the local and regional economies of Wisconsin. The ability to facilitate intermodal freight transfers is especially crucial for linking Wisconsin businesses to global economic markets. Given the extensive advantages of improving intermodal freight facilities, funding for these initiatives typically comes from a mix of local, state, federal, and private sources. Due to the range of funding choices, this Appendix aims to provide an overview of the most common current funding programs and financial tools available for potential intermodal projects in Wisconsin, and is not intended to be an exhaustive list; information is current as of January 2025.

The intermodal funding options are categorized based on their sources into federal, state, local, and other categories. These options encompass discretionary grants, state allocations of federal funds (e.g., Infrastructure Investment and Jobs Act [IIJA]), state-managed programs, project financing tools, financial incentives, and public-private partnerships.[164]

E.1. FEDERAL

E.1.1. Build America Bureau for Innovative Project Financing

The Build America Bureau is tasked with facilitating the development of transportation infrastructure projects across the United States. The Bureau enhances access to credit opportunities and grants, ensuring a more efficient and transparent process. It also offers technical assistance and promotes innovative best practices in project planning, financing, delivery, and monitoring. To realize this vision, the Bureau leverages the comprehensive resources of the U.S. Department of Transportation (DOT), utilizing the expertise of all transportation modes while fostering a culture of innovation and customer service.[165]

Roads

The Build America Bureau has collaborated with numerous State Departments of Transportation (DOTs) and other project sponsors to develop new infrastructure and enhance roads, highways, bridges, and tunnels.

Airports

With the IIJA, the Build America Bureau is now able to evaluate Transportation Infrastructure Finance and Innovation Act (TIFIA) loans for airport-related projects. Furthermore, the Bureau can also consider TIFIA or Railroad Rehabilitation and Improvement Financing (RRIF) loans to support surface transportation projects at airports, including consolidated rental car facilities and intermodal facilities, under additional eligibility criteria.

Rail

The Build America Bureau has partnered with various railroads, State Departments of Transportation (DOTs), and other project sponsors to develop new infrastructure and enhance freight and passenger rail systems nationwide.

Ports

The Build America Bureau has collaborated with numerous port authorities, rail operators, and other project sponsors to develop new infrastructure and enhance port-related facilities throughout the country.

Program Funding

The TIFIA federal program offers credit support for transportation projects that hold regional or national importance. The specific terms of assistance are negotiated individually with project stakeholders, but the funding is capped at a maximum of 33 percent of the total estimated project costs. Eligible projects encompass intermodal freight transfer facilities and initiatives that enhance access to these facilities. Additionally, the Railroad Rehabilitation and Improvement Financing (RRIF) program authorizes the Federal Railroad Administration to provide direct loans and loan guarantees to finance the development of railroad infrastructure. This includes the development of new intermodal railroad facilities.[166]

Private Activity Bonds

This federal program empowers the U.S. Secretary of Transportation to allocate up to $15 billion in tax-exempt bonds for projects, such as highways and freight transfer facilities. The purpose of these bonds is to stimulate private sector participation and investment by substantially reducing the cost of capital.[167]

E.1.2. Federal Railroad Administration (FRA) Grants and Loans

These grants and loans were designed to enhance safety and promote the expansion and upgrading of passenger and freight rail infrastructure and services, the Federal Railroad Administration (FRA) supports the nation's rail network through a range of competitive and dedicated grant programs.[168]

E.1.3. Multimodal Project Discretionary Grant (MPDG) Opportunities

The MPDG program has three components: the Mega, INFRA, and Rural Surface Transportation programs.

The Mega program, which was allocated $1.7 billion across FFY25 and FFY26, focuses on investing in large, complex projects that are challenging to finance through other avenues and are expected to provide significant national or regional economic, mobility, or safety benefits. Eligible projects encompass highway, bridge, freight, port, passenger rail, and public transportation initiatives of national or regional importance. According to the law, 50 percent of the funds are designated for projects with total costs exceeding $500 million, while the remaining 50 percent are allocated for projects with total costs ranging from $100 million to $500 million.

The INFRA program, formerly known as the FASTLANE Program, was allocated $2.7 billion across FFY25 and FFY26, and is intended for the construction or rehabilitation of America's transportation infrastructure. In contrast to the

FASTLANE Program, INFRA grants place a stronger emphasis on innovation, private sector involvement, and enhancing economic vitality and competitiveness. These elements are expected to make freight and intermodal projects strong candidates for funding. The INFRA program provides competitive grants for multimodal freight and highway projects of national or regional significance, aimed at improving the safety, accessibility, efficiency, and reliability of freight and passenger movement in both rural and urban areas. Eligible projects are expected to enhance safety, generate economic benefits, reduce congestion, increase resiliency, and effectively address supply chain bottlenecks while improving critical freight movements.

Although smaller communities benefit from various grant programs, including Mega and INFRA, the Rural Surface Transportation (Rural) grant program, which was allocated $780 million, is specifically focused on projects in rural areas. Eligible projects for Rural grants encompass highway, bridge, and tunnel initiatives that enhance freight movement, improve safety, and provide or increase access to agricultural, commercial, energy, or transportation facilities that bolster the economy of rural communities.[169]

E.1.4. Port Infrastructure Development Program

U.S. maritime ports are essential links in both domestic and international trade supply chains. They function as hubs of commerce where freight and commodities are transferred among cargo ships, barges, trucks, trains, and pipelines. The Port Infrastructure Development Program facilitates the efficient movement of commerce that underpins our economy by providing discretionary grant funding aimed at strengthening, modernizing, and enhancing the nation's maritime systems and gateway ports. Grants are awarded competitively and contribute to the long-term economic vitality of the country. Port Infrastructure Development grants offer support for planning, operational and capital financing, and project management assistance to enhance port capacity and operations.[170]

E.1.5. Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grants

The RAISE program provides support to a wide range of communities with projects that hold local and regional significance. Funding is allocated equally between urban and rural areas, with a significant portion of grants directed toward regions identified as historically disadvantaged or experiencing persistent poverty. The eligibility criteria for RAISE enable project sponsors—including state and local governments, counties, Tribal governments, transit agencies, and port authorities—to pursue multi-modal and multi-jurisdictional projects that may be challenging to fund through other grant programs. RAISE discretionary grants invest in essential freight and passenger transportation infrastructure projects that would not receive the necessary funding without the IIJA.[171]

E.1.6. Consolidated Rail Infrastructure and Safety Improvements (CRISI) Grants

This federal program, which was authorized by the Fixing America's Surface Transportation (FAST) Act, aimed at enhancing the safety and efficiency of both freight and passenger rail systems. Although the primary emphasis is on safety, the program also includes eligible project categories that focus on improving multimodal connections and facilitating the integration of rail services with other transportation modes. The FY 2023-2024 notice of

funding opportunity (NOFO) highlights freight intermodal terminal connections as a specific example of eligible projects.[172]

E.1.7. America's Marine Highway Program (AMHP) – Marine Highway Grants

The aim of this federal program is to offer funding to support the development and expansion of vessels, as well as port and landside infrastructure. To qualify for this program, projects must have previously designated as Marine Highway Projects. In Wisconsin, there is only one such project: the proposed Great Lakes Shuttle Service along the M-90 Marine Highway Route, which operates on Lake Michigan between Port Milwaukee and the Port of Muskegon.[173]

E.2. STATE

E.2.1. Wisconsin Freight Railroad Infrastructure Improvement Program (FRIIP)

This state loan program allows Wisconsin to encourage a broad array of improvements to the rail system and provides loan assistance for rail improvements such as construction of trackage and trackside storage facilities. Terms are typically 10 years at a two percent interest rate.[174]

E.2.2. Wisconsin Freight Rail Preservation Program (FRPP)

This state program provides funding for up to 80 percent of the cost for projects that rehabilitate rail facilities such as tracks and bridges on Wisconsin mainlines railroad corridors.[175]

E.2.3. Brownfields Grant Program

This state program, offered by the WEDC, promotes community and economic development by providing assistance for costs related to the acquisition of brownfield sites, as well as expenses for site clearance, demolition, building renovations, and infrastructure enhancements.[176]

E.2.4. Transportation Economic Assistance (TEA) Program

This WisDOT program offers grants covering up to 50 percent of the costs for road, rail, harbor, and airport projects designed to attract employers to Wisconsin or to support the retention and expansion of existing businesses and industries within the state.[177]

E.2.5. Wisconsin Harbor Assistance Program

This state program was established to support Wisconsin communities situated along the Mississippi River and the Great Lakes by enhancing and maintaining freight infrastructure for waterways. To qualify, projects must facilitate cargo transfer and be included in an up-to-date Three-Year Harbor Development Plan.[178]

E.2.6. Wisconsin State Infrastructure Bank

This WisDOT program offers loan and credit alternatives for transportation projects. It was established with a total initial funding of $1,875,000, sourced from both federal and state funds, and can be used for transportation infrastructure improvements that help preserve, promote and encourage economic development and/or promote transportation efficiency, safety and mobility.[179]

E.2.7. Community Development Block Grants (CDBG) – Economic Development

This program, administered by the Wisconsin Department of Administration, provides funding to municipalities, enabling them to offer loans to local businesses aimed at promoting economic development and creating or retaining jobs. Funding is granted through a continuous application process. To qualify, projects must align with at least one goal of the state CDBG program, such as supporting regional economic development initiatives or encouraging the establishment of new businesses that lead to job creation.[180]

E.3. LOCAL

E.3.1. Tax Increment Financing (TIF)

These programs designate a specific geographic area that would benefit from a transportation project. Within this 'TIF district,' property taxes are increased in proportion to the added value generated by the project. The resulting incremental tax revenue is then utilized to repay bonds and loans taken out to finance the construction of the project.[181]

E.3.2. Tax Credits

Municipalities and counties can offer tax credits or incentives to promote the growth of particular businesses or industries. These strategies can be employed to enhance intermodal development or to alleviate the financial burden on private stakeholders. Although this option falls under local funding sources, tax credits or incentives available at the state level also represent a viable funding opportunity.

E.4. OTHER

E.4.1. Public-Private Partnerships (PPP)

This category encompasses contractual arrangements between public agencies and private entities. The FHWA promotes these agreements because the private sector can contribute innovative solutions, enhance efficiency, and provide additional capital to tackle transportation challenges. However, in Wisconsin, such contractual arrangements may require legislative action.

E.4.2. Venture Capital

This category refers to private funds that generally invest in projects or industries poised for rapid growth. Many of these private equity funds are specifically established to focus on transportation infrastructure, including airports, railroads, and seaports.

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