Northeast Wisconsin Intermodal Freight Facility Study

Northeast Wisconsin Intermodal Summit

May 17, 2022

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SEH

Acknowledgements

Thank you to the Steering Committee and participating consultees for their generous contributions of time and thought

East Central Wisconsin Regional Planning Commission
ECWRPC

Wisconsin Department of Transportation

Brown County Established 1818

Brown County Port of Green Bay

new north

Wisconsin Central Group
An ad hoc Rail Freight Stakeholders Coalition

Lake States Shippers Association
A Classic Co-op Shippers Association

CN

WATCO

Klimek Rail Consulting

PTI Paper Transport

MATCHBACK™ SYSTEMS

BYL

North Central Regional Planning

FOX CITIES CHAMBER

Presentation Agenda

- Project Background
- Feasibility of Intermodal Service
- Next Steps for Service Development

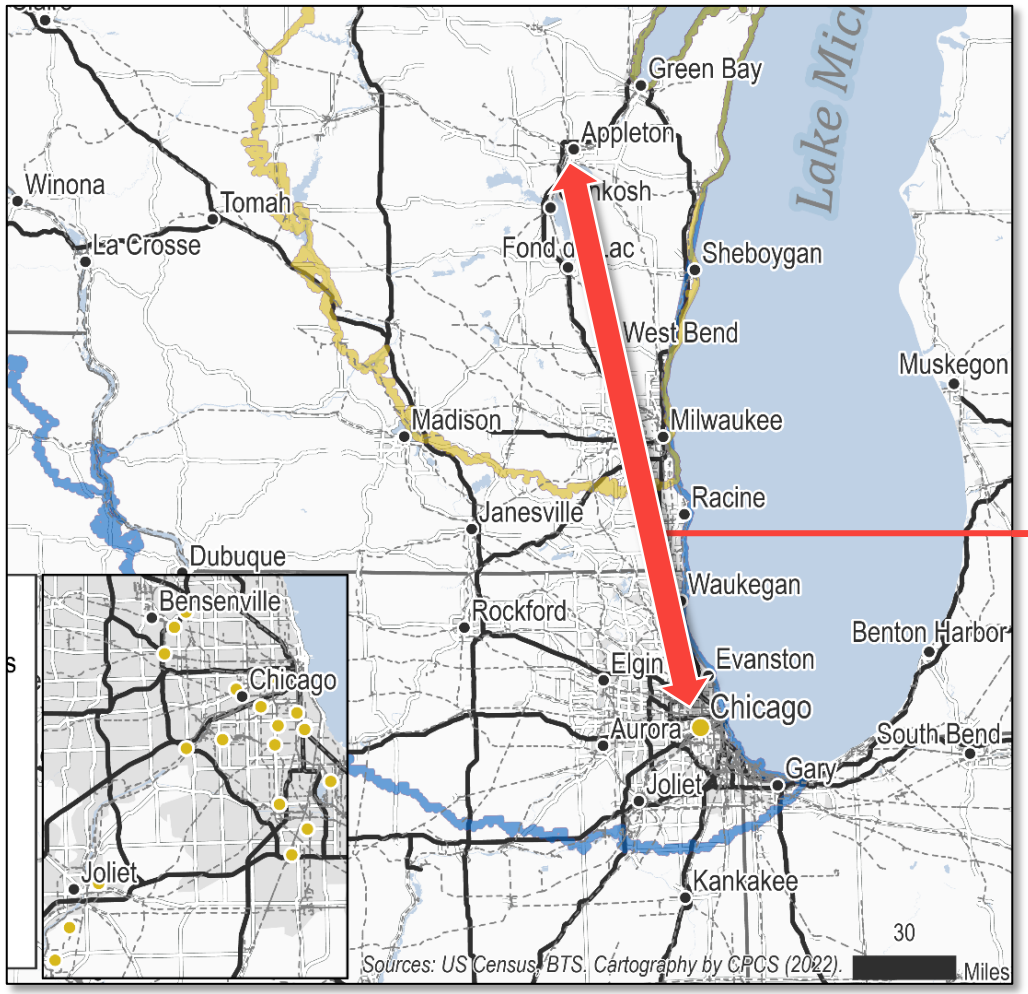
Historic Intermodal Service

Northeast Wisconsin formerly had intermodal terminals in Green Bay, and Neenah. Additional terminals existed in Stevens Point and Milwaukee.

Image: DeWitt LLP

Modern Challenges in Wisconsin

The closure of intermodal terminals in Wisconsin has led to higher shipping costs and lower service reliability for area businesses.

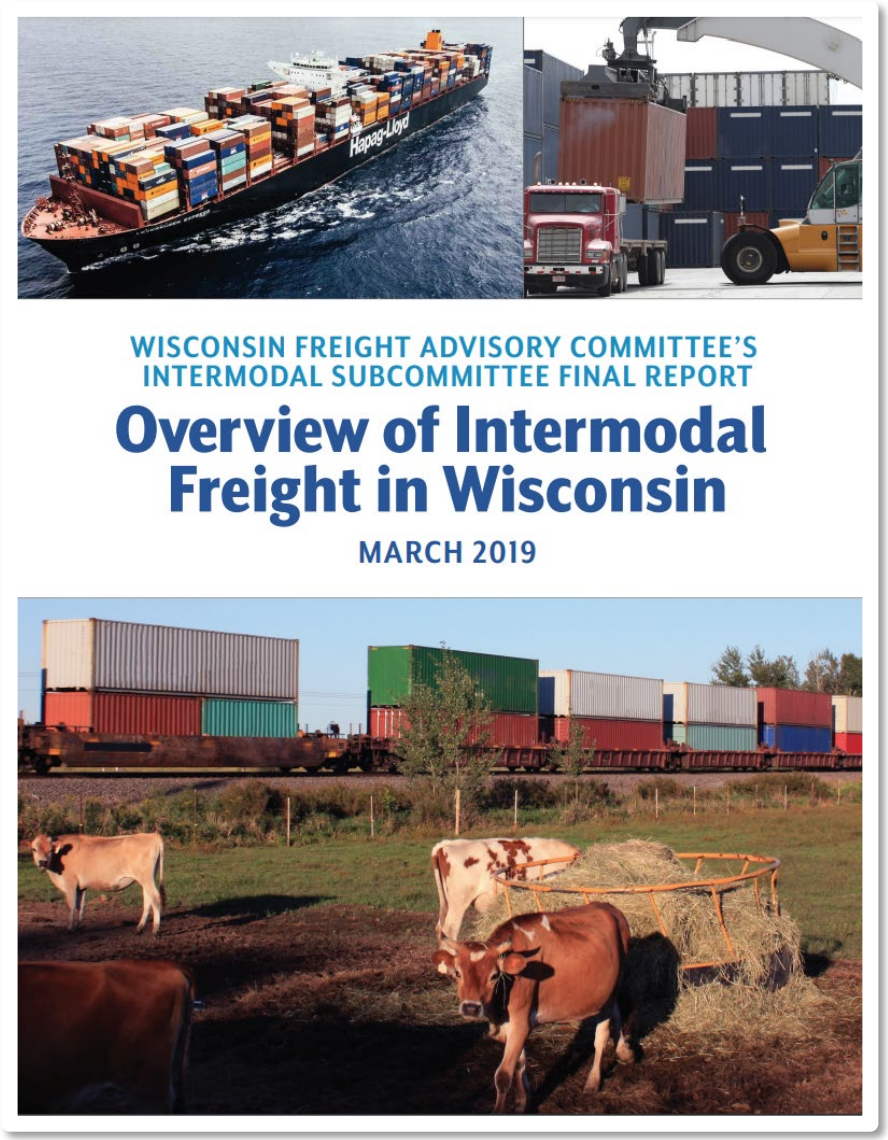


Challenges with trucking to Chicago intermodal yards:

- Long driving distance
- Increasing congestion
- Unreliable travel times
- Shortage of truck drivers

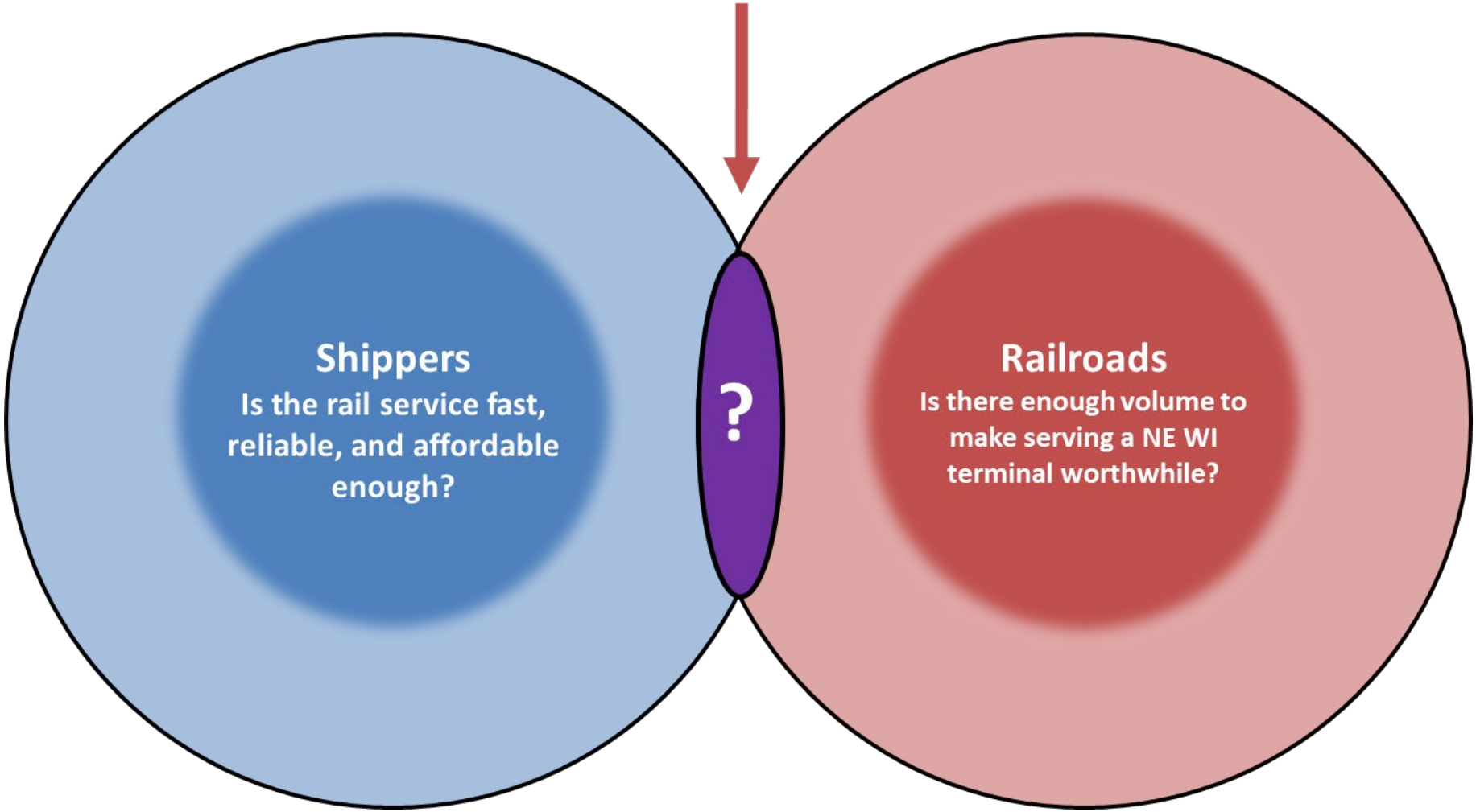
Study Background

The Wisconsin Freight Advisory Committee's intermodal report was key to the creation of this study.



Improving Information for Development

This study sought to understand feasibility for service development from multiple perspectives, and identify shared interests:



Agenda

Project Background

Feasibility of Intermodal Service

Next Steps for Service Development

Summary of Findings

Intermodal service has potential value for regional users and warrants further effort to continue development. However, there are challenges with rail service.

Market Feasibility

- A Northeast Wisconsin-based intermodal can be a competitive option for shippers from a time and cost standpoint.

Location Feasibility

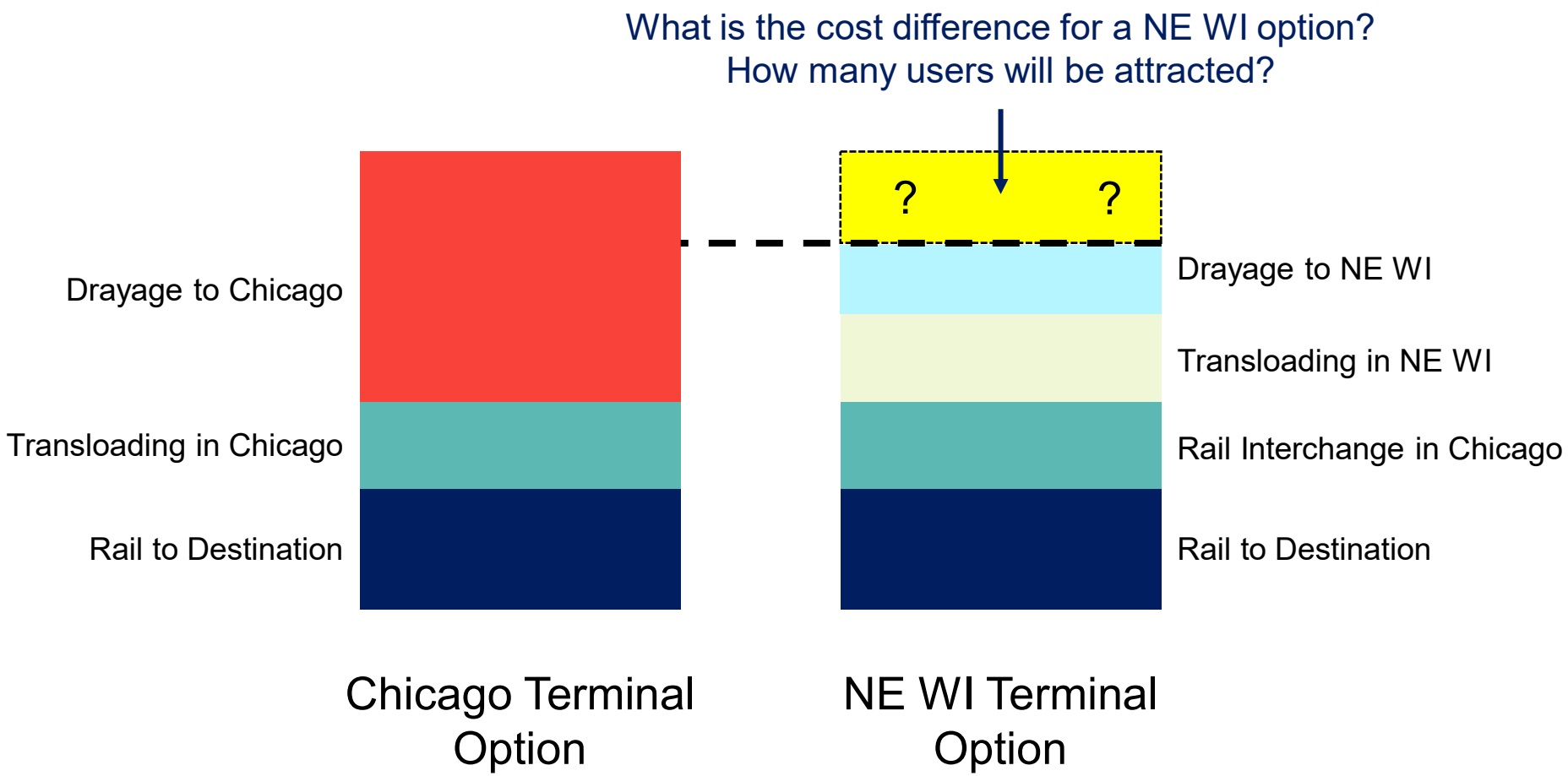
- There are adequate areas available for potential intermodal terminal development.

Rail Service Feasibility

- There are rail service challenges: load balance, connections to routes east-west, short-haul connections, and capacity constraints.

Market Feasibility: Total Logistics Cost Model

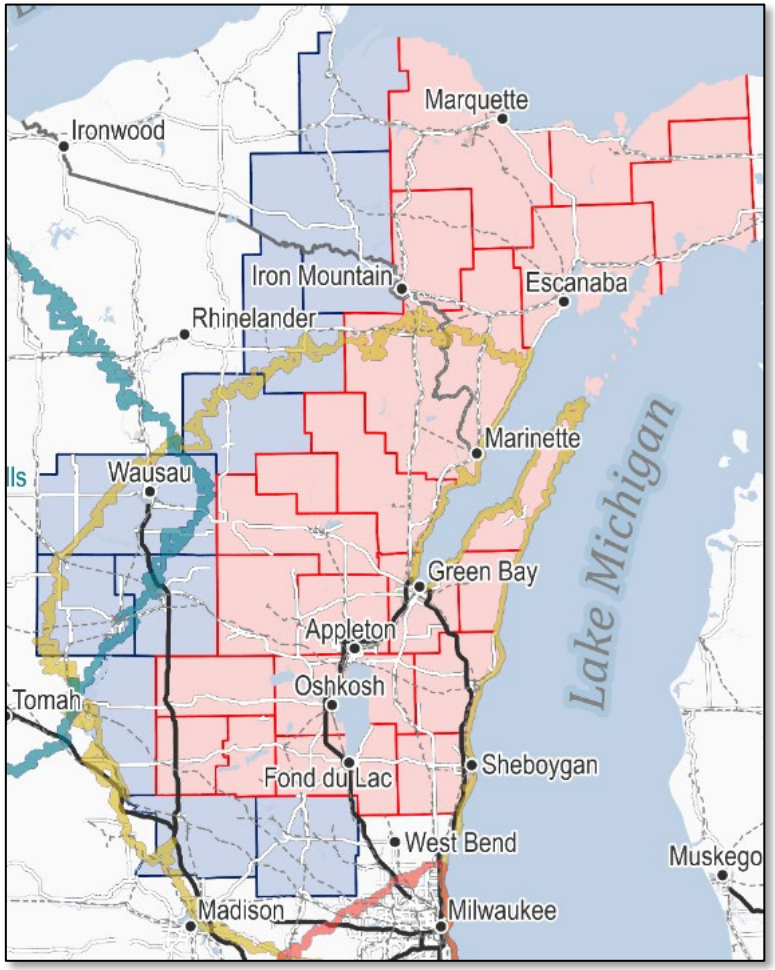
TLC model compares all-in costs of shipping through NE WI intermodal service versus drayage to Chicago or all-truck transportation.



Market Feasibility: Model Setup

The model and analysis of demand is based on a defined market area, and common types of intermodal-eligible goods.

1. Market Area:



2. Intermodal-Eligible Commodities:

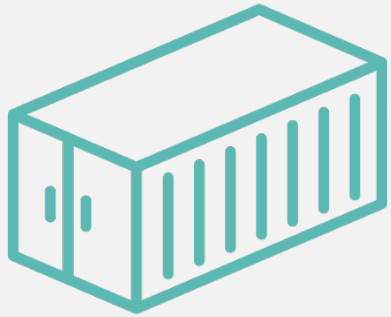
Tier 1	**Frequently containerized** -High value machinery -Consumer products
Tier 2	**Occasionally containerized** -Food and agriculture -Chemical products
Tier 3	**Rarely containerized** -Loose low value commodities
Tier 4	**Not applicable / impractical** -Live animals -Liquid fuel and oil

3. Intermodal-Eligible Lanes:

Lanes of 600 miles or longer between origin and destination

Market Feasibility: Potential Market Demand

Over 97,000 shipments to and from NE Wisconsin could be cost-effectively routed via a local intermodal facility



Units:
97,253

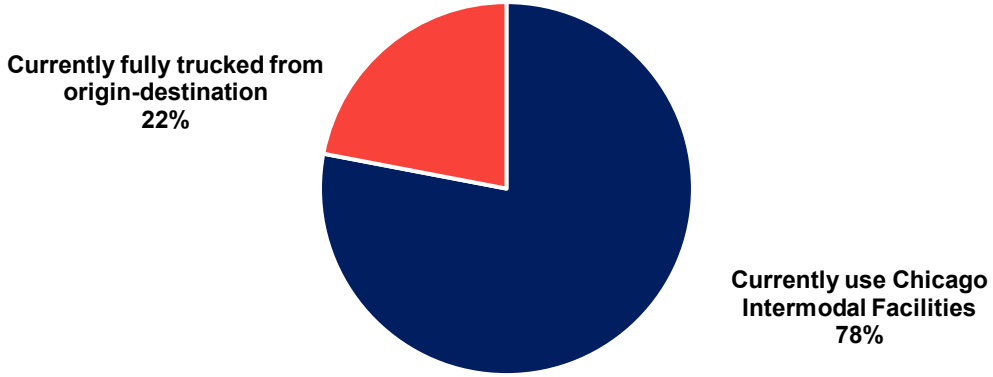
Value:
$5.8 billion

Weight:
1.5 Million Tons

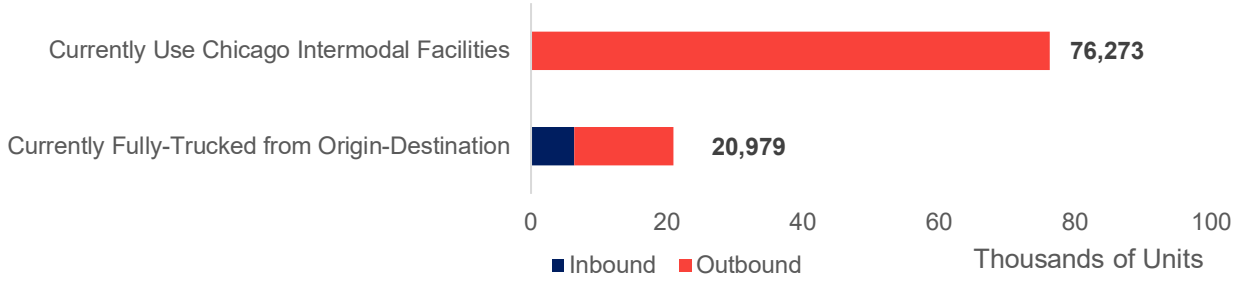
Market Feasibility: Market Demand

Most of the region's intermodal "eligible" shipments are outbound: a potential challenge is balancing loads in and out.

Current Routings of the Eligible Loads:



Direction of Shipment by Routing



Market Feasibility: Market Demand

There is sufficient market size to support establishment of a small "starter" intermodal facility handling 25 containers/day.

Major Types of Cargo:

Paper Products

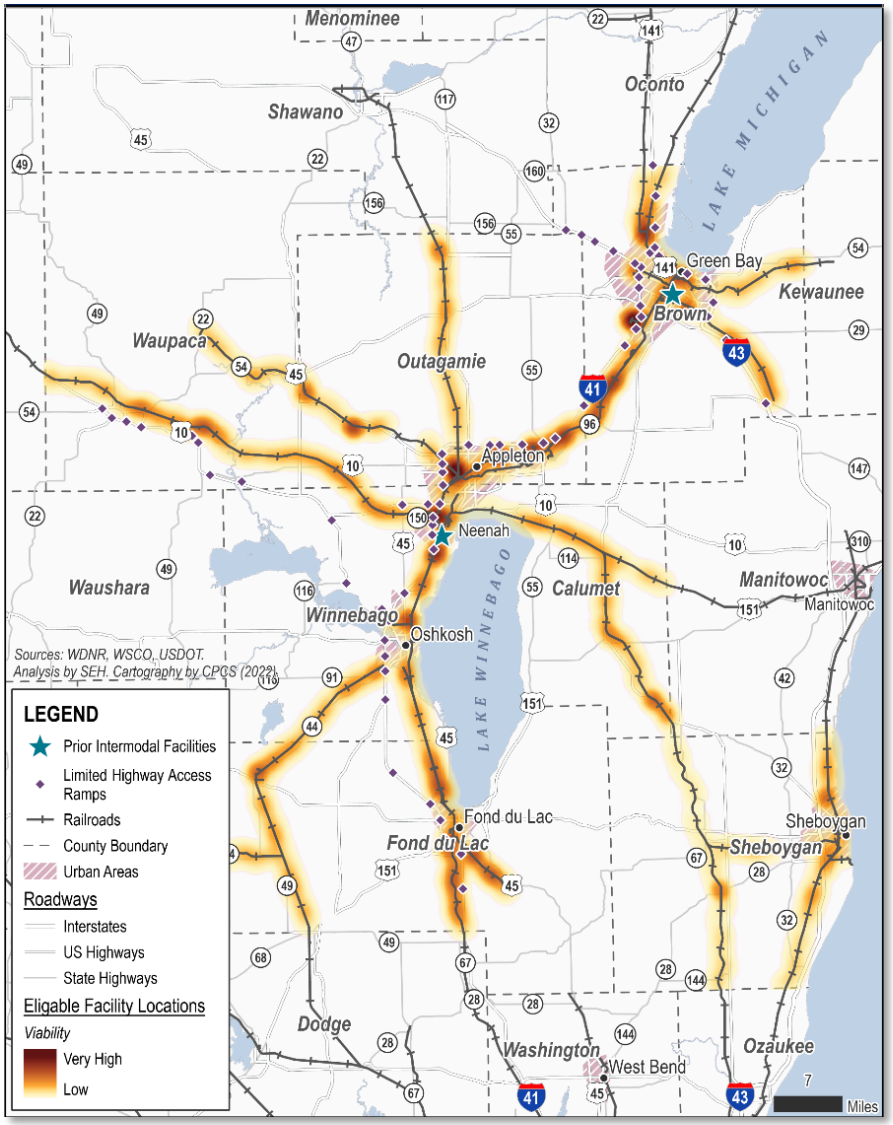
Plastic Products

Metalwork

Food Products

Location Feasibility

Multiple areas are feasible for development, and a facility is estimated to cost $3 million to construct



"Phase I" Facility
Similar to Arcadia, WI
Capacity: 25 containers per day
Estimated cost: $3.0 million*

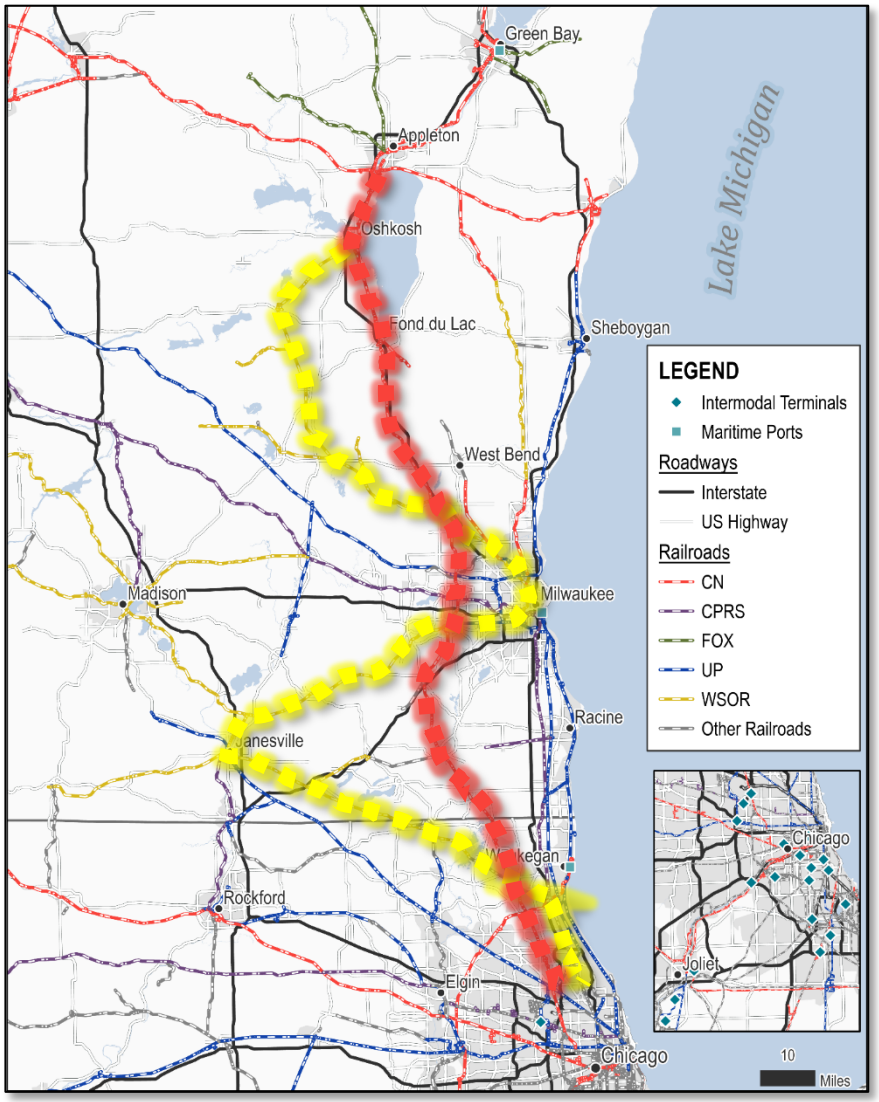
Notable Design Elements:

- 5 3-unit 53' long double-stack intermodal cars
- 950 ft of track
- 1 manual mainline turnout
- 65 ft loading/offloading space adjacent to tracks for maneuvering reach stacker
- 2 weeks of container storage (250 containers)

*Cost estimate does not include land

Rail Service Options

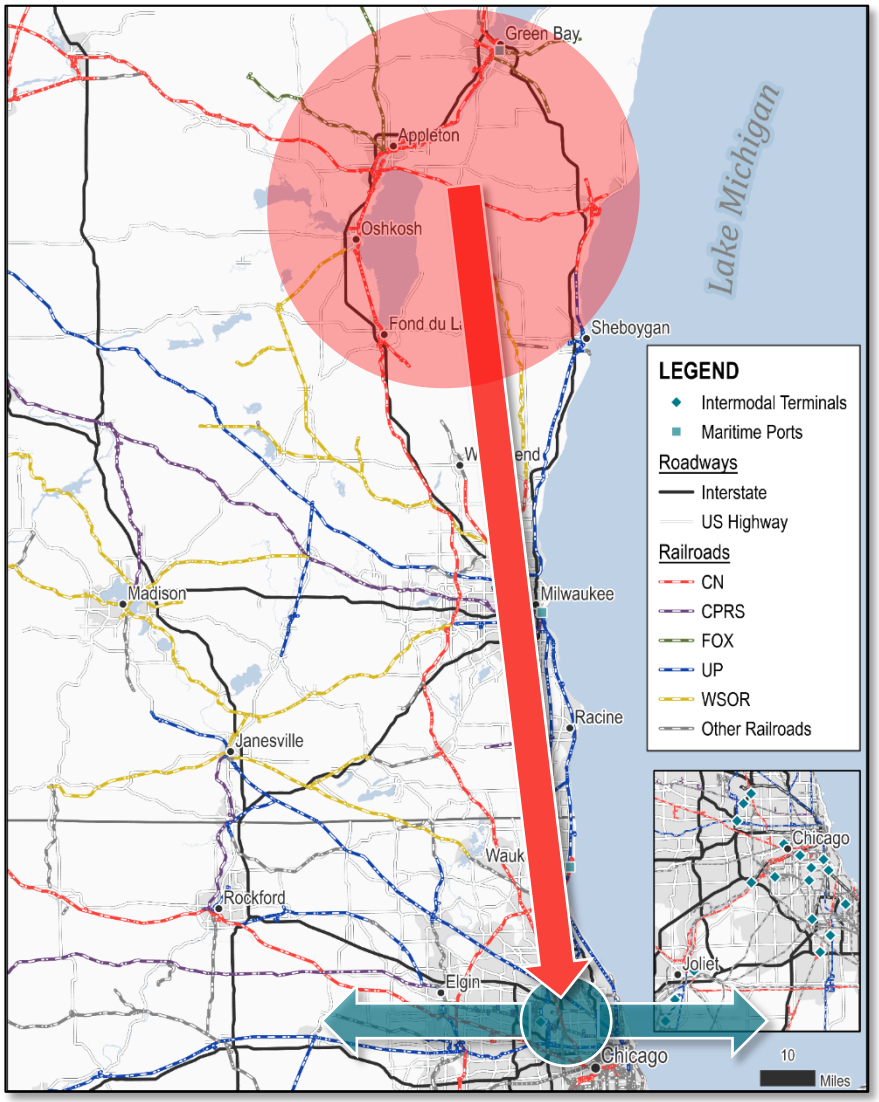
CN and Watco provide the most-significant connections out of the region, and would be key stakeholders for service development



- Railroads with connections to the rest of the US:
  - Canadian National (CN)
  - Watco (Wisconsin and Southern)
  - Union Pacific Shoreline subdivision
- Partnership with other major railroads is a key factor for development:
  - Need to move goods east-west
  - CN and Watco do not have east-west lines
  - Short-haul truck drayage between Chicago terminals is expensive, unreliable
  - Conclusion: need “steel wheel” interchange with other RRs

Rail Service Challenges

Securing railroad support for intermodal service may be difficult due to multiple rail-related challenges



- Challenges with rail service:
  - Imbalanced loads in and out
  - Proximity to Chicago's terminal cluster
  - Short-haul movements on long-haul RRs
  - Capacity limitations on lines to Chicago
    - Existing traffic volume, track agreements
    - Infrastructure limitations
- Future opportunities for development:
  - Sustainability case for intermodal
  - "Just in Case" inventory management
  - Railroad "pivot to growth"

Feasibility Recap

Locally-based intermodal service has the potential to be successful in Northeast Wisconsin, but needs to overcome challenges associated with rail service

Source: DeWitt LLP

Agenda

Project Background

Feasibility of Intermodal Service

Next Steps for Service Development

Building a Business Case for Service

This study is just the start: development is a sustained process that needs to be driven by trusted local partners

Identifying Project Champions

A local champion needs to continue building a business case for intermodal service

- Project champions are *trusted* public and private partners who can continue building a business case to engage railroads. Examples:
  - Anchor tenants: large manufacturing firms
  - Aggregators: third-party logistics firms, other service providers
  - Marketers: regional economic development agencies, third-party development firms

- **Trust is key**: project champion will need to hold and aggregate confidential data and manage relationships with multiple companies

Source: DeWitt LLP

Examples of Prior Development

Case studies from this study provide guidance for future work

- Examples of project champions for other developments:
  - Anchor Tenants: Chippewa Falls (Menards) and Arcadia (Ashley Furniture)
  - Aggregator: Duluth Cargo Connect
  - Marketer: Shell Rock, IA (intermodal marketing and development firm + anchor)

- Lessons learned from other developments:
  - Don't assume "build it and they will come" – service needs to have sound business case
  - Development is a multi-year process – sustained engagement needed
  - Public funding is common for facilities' infrastructure investments

Source: Duluth Cargo Connect

Securing Shipper Commitments

The TLC model shows demand for service, but firmer, specific commitments are needed to engage railroads

- This project sought real-world data through consultations, but confidentiality requirements and limited responses constrained the application of the data
- Needed information:
  - Expected volumes and frequency of service
  - Preferred pricing and travel times
  - Specific lanes need to be identified, for engagement with other Class I railroads

Source: DeWitt LLP

Soliciting Railroad Commitments

NE Wisconsin will require a new model to develop rail intermodal service, with short haul considerations

- Rail service is a significant challenge for intermodal development – current geographic position and demand character does not align well with existing Class I business models

- Partnership is needed with Class I railroads elsewhere in WI, IL

- Potential routes or partnerships for further exploration:
  - CN-operated short-haul to Chicago
  - Watco-supported terminal with CN service to Chicago
  - Watco terminal and Watco trains on CN track to Chicago
  - WSOR service via Milwaukee, Janesville, Metra tracks
  - LINCS – Local Intermodal Connections concept

Next Steps

Successful development will require the sustained engagement of a community of regional stakeholders like you.

Today's summit is an opportunity to build that community!

Why are you interested in intermodal service?

- Cost improvements?
- Reliability improvements?
- New business opportunities?

What do you see as your role in supporting development?

- Building and organizing the intermodal community?
- Sharing information to build a business case?

Thank You!

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Project Manager

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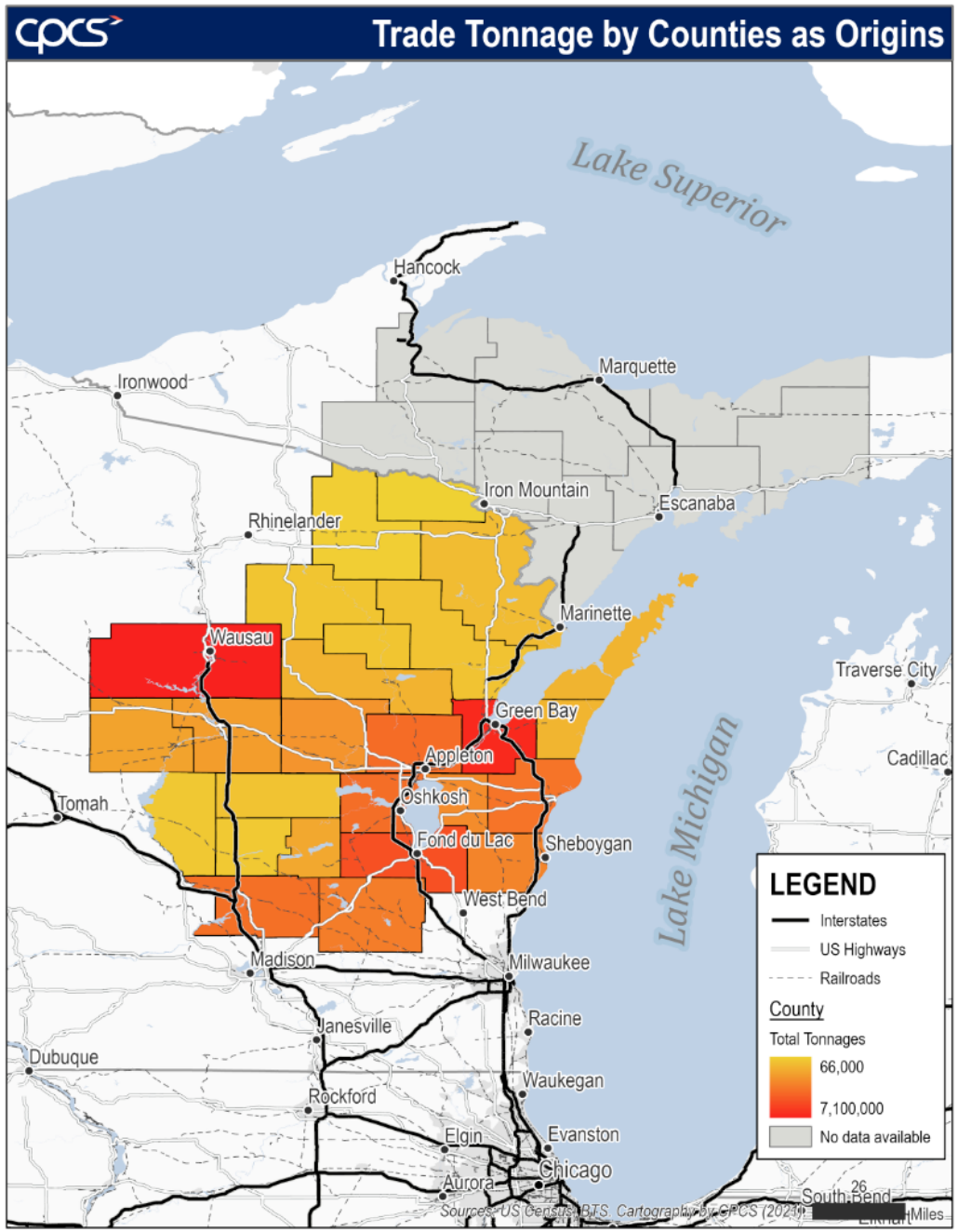
Case Study Results

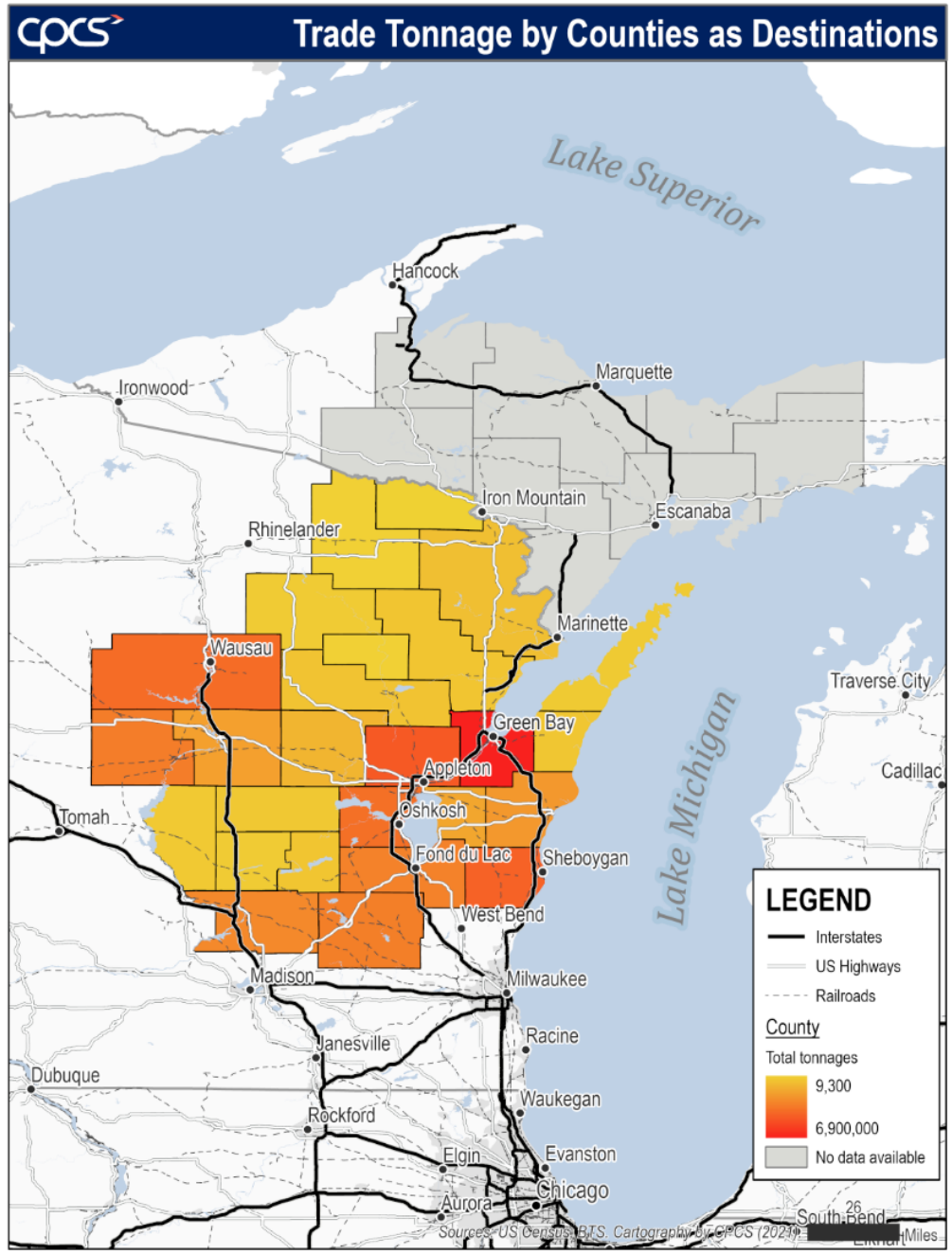
Common Attributes of Prior Intermodal Facilities

1. Strong base of inbound imports as a starting point
2. Balanced Flows – agricultural products as backhaul
3. Anchor tenants or logistics firms to drive project forward
4. Support and partnership with a Class I railroad
5. Co-location of value-added logistics services

Domestic containerized shipping often developed later as an add-on

Market Demand: Hotspots





Market Demand: TLC Routes

Logistics costs were modeled for 3 routes:

Truck-Only Freight Movement

- Total value, tons, and units by commodity and origin/destination
- Truck transportation costs between origin/destination

Use of Chicago Intermodal Facility

- Total value, tons, and units by commodity and origin/destination
- Rail transportation cost
- Truck transportation costs to/from Chicago intermodal facility
- Rail transloading costs

Use of Northeast Wisconsin Intermodal Facility

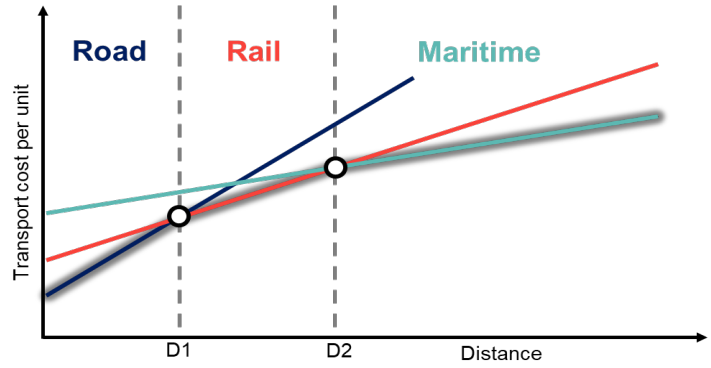
- Total value, tons, and units by commodity and origin/destination
- Rail transportation cost
- Rail transloading costs
- Chicago drayage costs

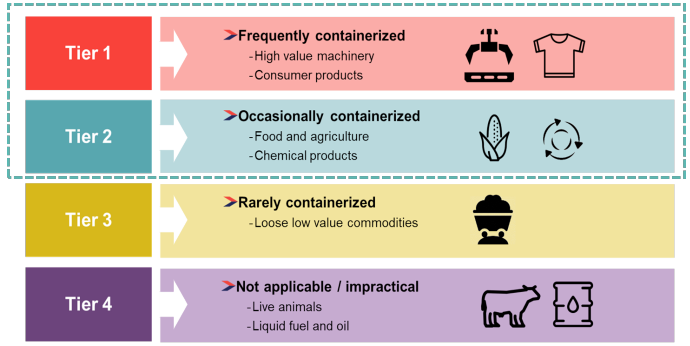
Calculate Total Logistics Costs and Determine Cost-Competitive Options

Market Demand Estimates

Total Logistics Cost Model Steps:

- Applied intermodal-eligible trade lanes.
- Applied commodities eligible for containerization.
- Determined freight costs for all NE WI trade lanes.
- Modeled truck and rail travel times for all NE WI trade lanes.
- Filtered commodity flows based on freight costs.
- Filtered commodity flows based on truck and rail travel times.
- Estimating potential market size and capture rates.





Source: CPCS Analysis, Holguin-Veras et al. 2021

Cost Components for Three Scenarios:

Component	Scenario 1: Fully Truck from Origin-Destination Cost	Scenario 2: Use of Chicago IMX Facility Cost	Scenario 3: Use of Northeast Wisconsin IMX Facility Cost
Northeast Wisconsin-Chicago Cost	Drayage to Chicago: Inbound or Outbound Dry van rate x mileage	Drayage to Chicago: Inbound or Outbound Dry van rate x mileage	IMX Rail to Chicago: Inbound or Outbound Intermodal rate x mileage
Rail Fees	N/A	Chicago Intermodal Fees: International or Domestic Container Handling / Transloading Costs	Northeast Wisconsin Intermodal Fees and Chicago Drayage Fee: International or Domestic Container Handling / Transloading Costs + Local Chicago Drayage Fee
Chicago-Origin/Destination Cost	Drayage to Origin/Destination: Inbound or Outbound Dry van rate x mileage	IMX Rail to Origin/Destination: Inbound or Outbound Intermodal rate x mileage	IMX Rail to Origin/Destination: Inbound or Outbound Intermodal rate x mileage

Market Demand: TLC Model

Total Logistics Cost model reflects transportation decision-making process.

Multiple variables influence transportation costs:

Variable	Description
Commodity	The commodity shipped
Origin	The origin of the commodity shipped
Origin Mode	The mode of transportation at the origin of the shipment
Destination Mode	The mode of transportation at the destination of the shipment
Destination	The destination of the commodity shipped
Unit	The units for the specific shipment
Value	The value for the specific shipment
Tonnage	The weight for the specific shipment
Dry Van Rate	The cost of shipment per mile between the origin and destination by dry van
Intermodal Rail Rate	The cost of shipment per mile between the origin and destination by intermodal rail
Truck Mileage	The distance by truck directly between the origin and destination
Intermodal/Transloading Cost	The commodity-specific cost of handling/transloading material between modes
Drayage Cost	The cost of draying material between one facility and another
Shipment Time	The average number of days between origin and destination by mode