



# Using SHRP2 to Support Freight-Friendly Wisconsin

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Federal Highway Administration



# Today's Presentation



- Wisconsin DOT Freight Modeling
  - Priorities and Challenges
- SHRP2 Product
  - Freight Modeling and Data Improvement
- Implementation Outcomes for Wisconsin
- SHRP2 Freight Product Benefits

# Freight Movement – Major Priority For Wisconsin



## Freight Vision

Wisconsin is a national leader in providing the **safest, most efficient, and most cost effective** transportation of materials and products.

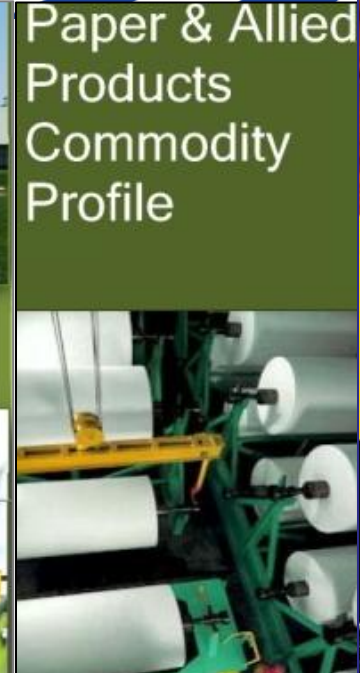
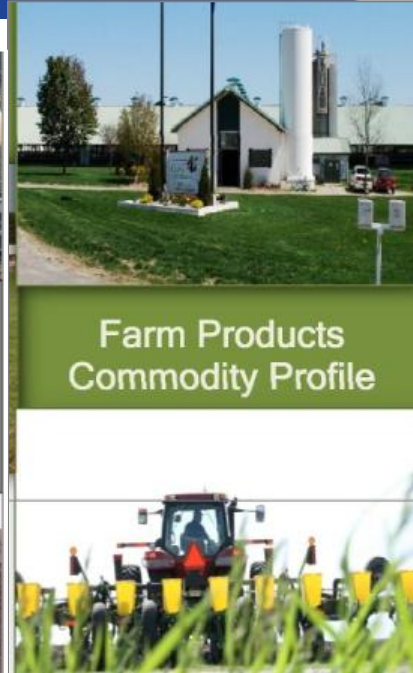
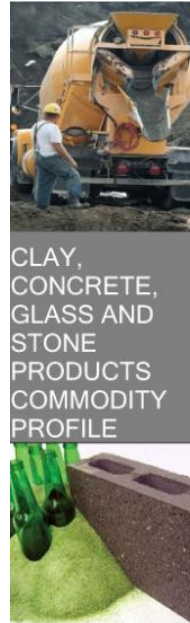
# Freight Industry Partners

- Governor's Freight Industry Summit
- Freight Mobility Action Agenda
- Transportation Finance & Policy Commission
- Connections 2030: Wisconsin's Long-Range Transportation Plan
- Stakeholder Meetings (i.e. Trucking Industry)

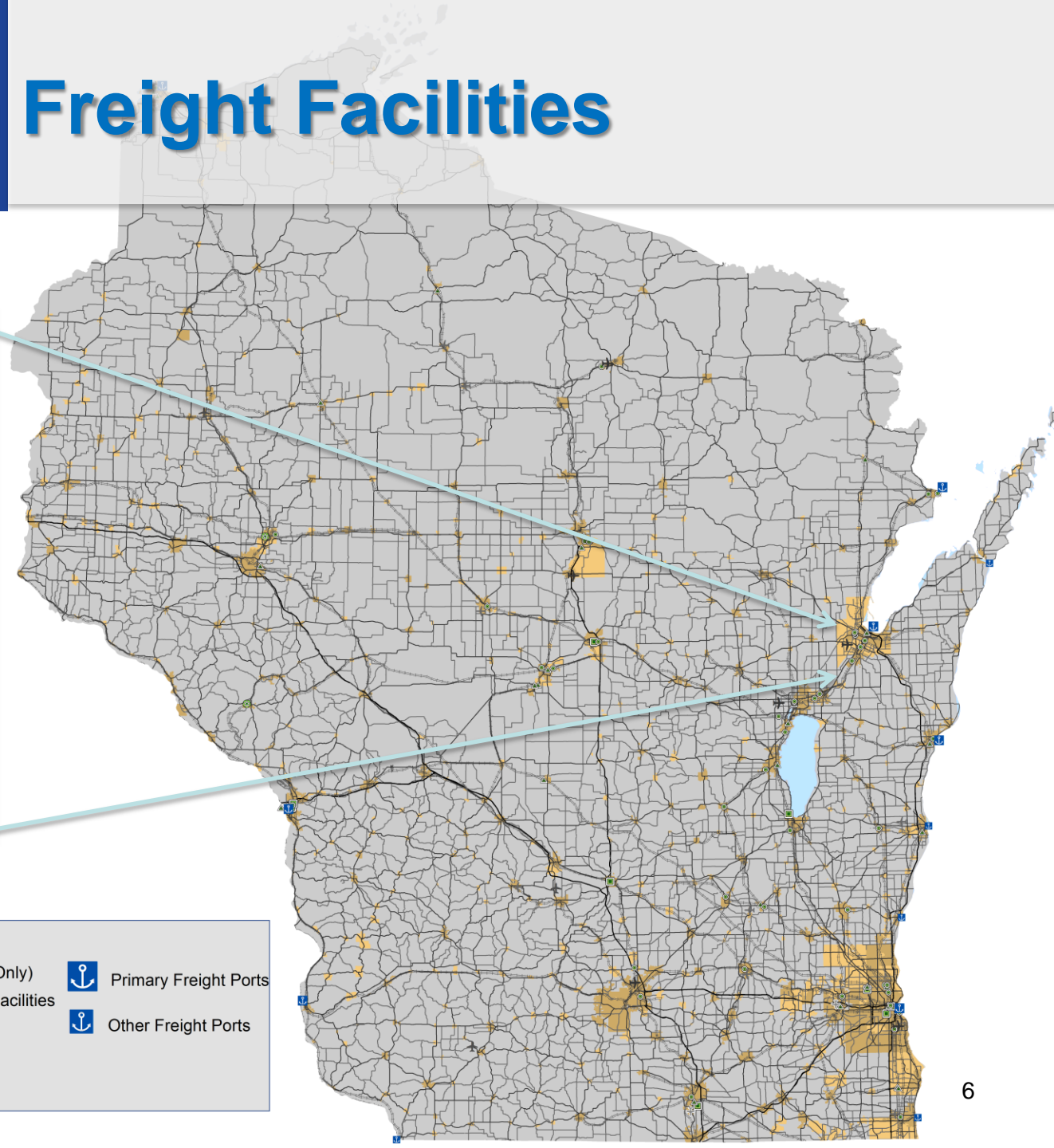
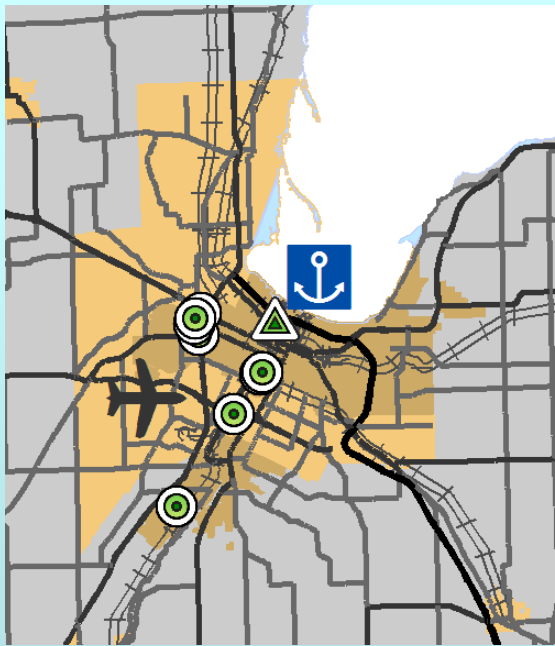


# Top Commodity Profiles - Economic Drivers

- Tonnage
- Value
- Economic Importance
- Flows
- Forecasts
  - Commodity Tons
  - Mode
- Transportation issues associated with each commodity



# Wisconsin Freight Facilities



## Multimodal Freight Facilities:

 Air Cargo - Primary	 Railroads (In Service Only)	 Primary Freight Ports
 Air Cargo - Secondary	 Intermodal Container Facilities	 Other Freight Ports
 Air Cargo - Tertiary	 Transload Facilities	
 Air Cargo Operations (no cargo tons reported)	 Major Rail Yard	
	 Rail Yard	

# WisDOT Freight Modeling and Data Challenges



***“How does the thing you ordered get to you?”***

***“.... In 3-5 days?”***

# How SHRP2 Will Help

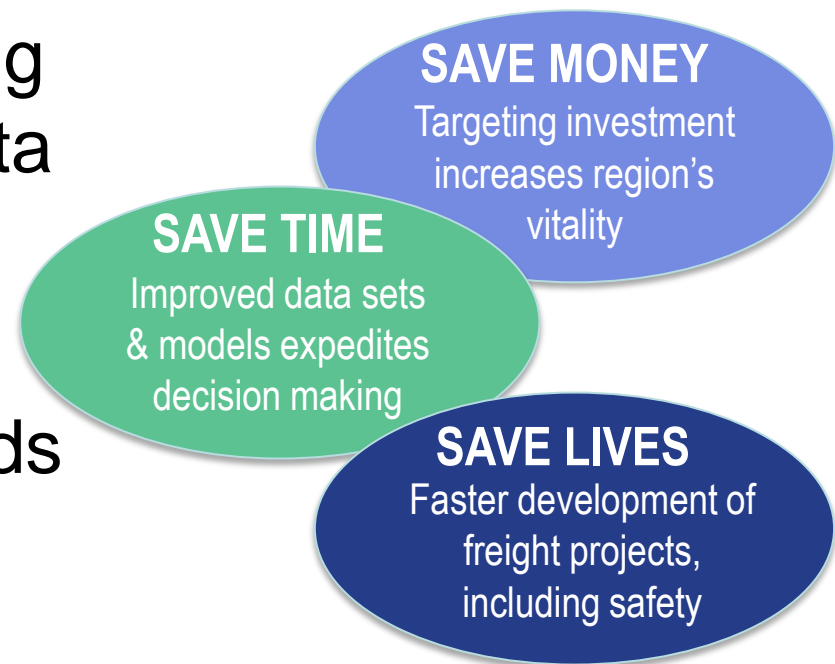
- Wisconsin received a Proof of Concept Pilot assistance grant to implement **Freight Modeling and Data Improvements**
- The SHRP2 freight product will assist in the development of a national strategic plan to expand and improve freight modeling practice, tools, and data



# Implement Improved Freight Models and Tools

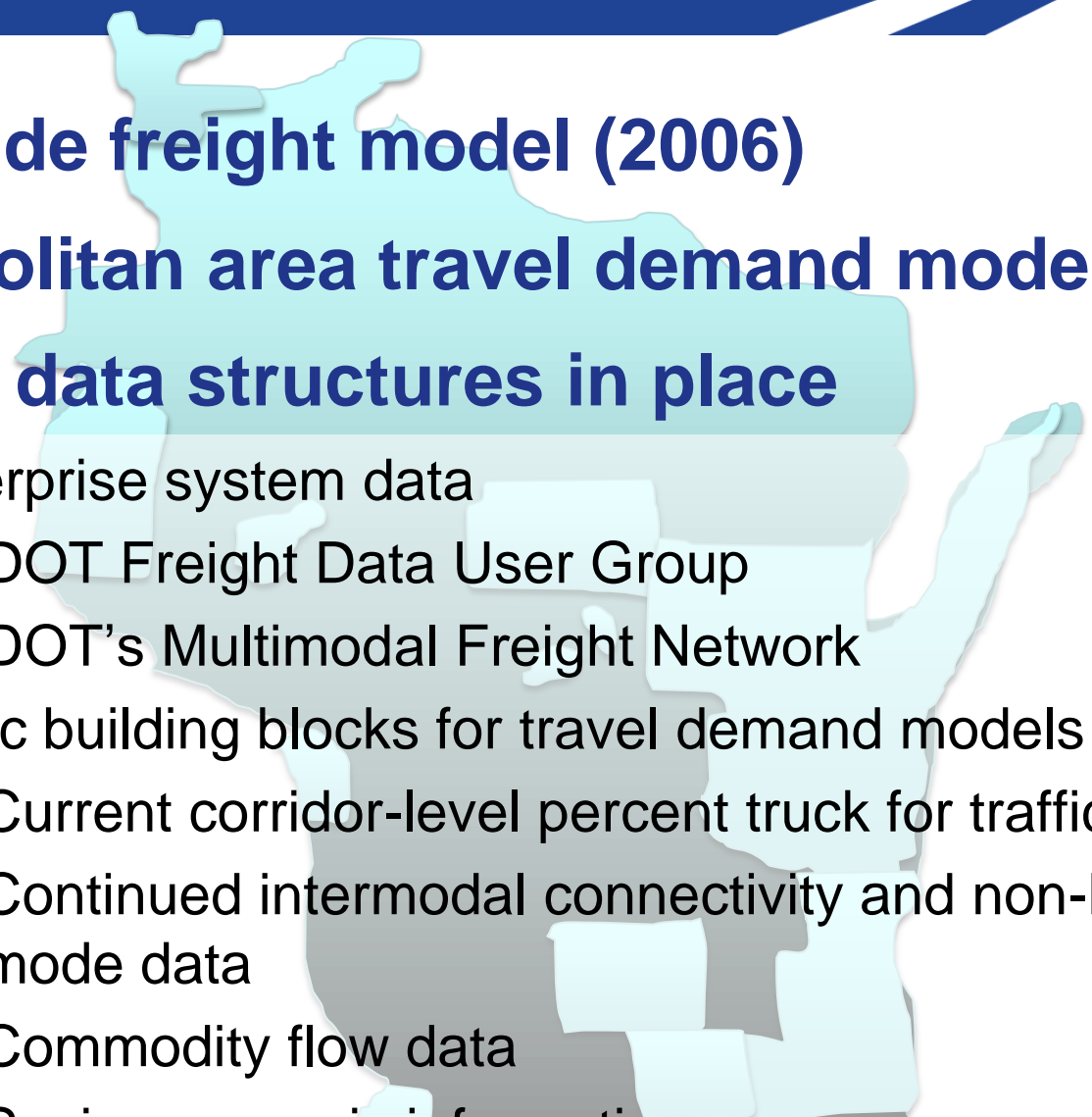
Builds on *Freight Demand Modeling and Data Improvement Strategic Plan...*

- Improve freight modeling practices, tools, and data
- Identify organizational approaches toward modeling and data needs
- Spur innovative ideas



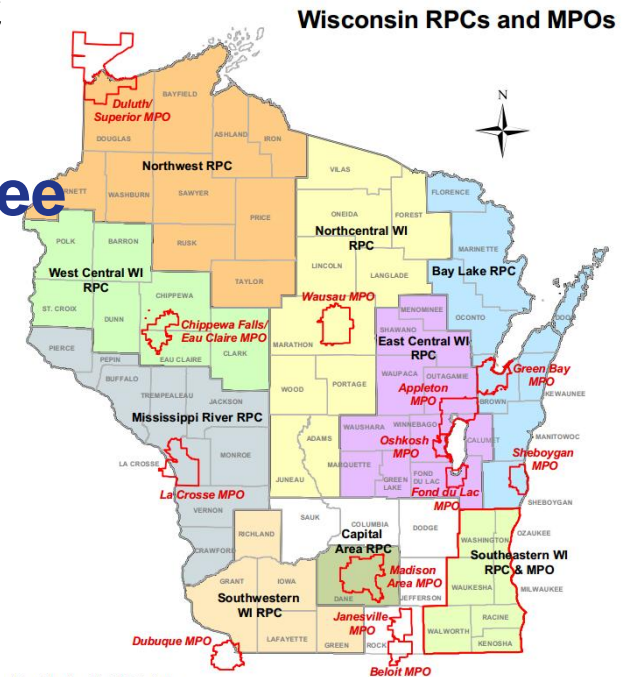
**...results in solutions for nationwide application.**

# Current Wisconsin Freight Models and Tools

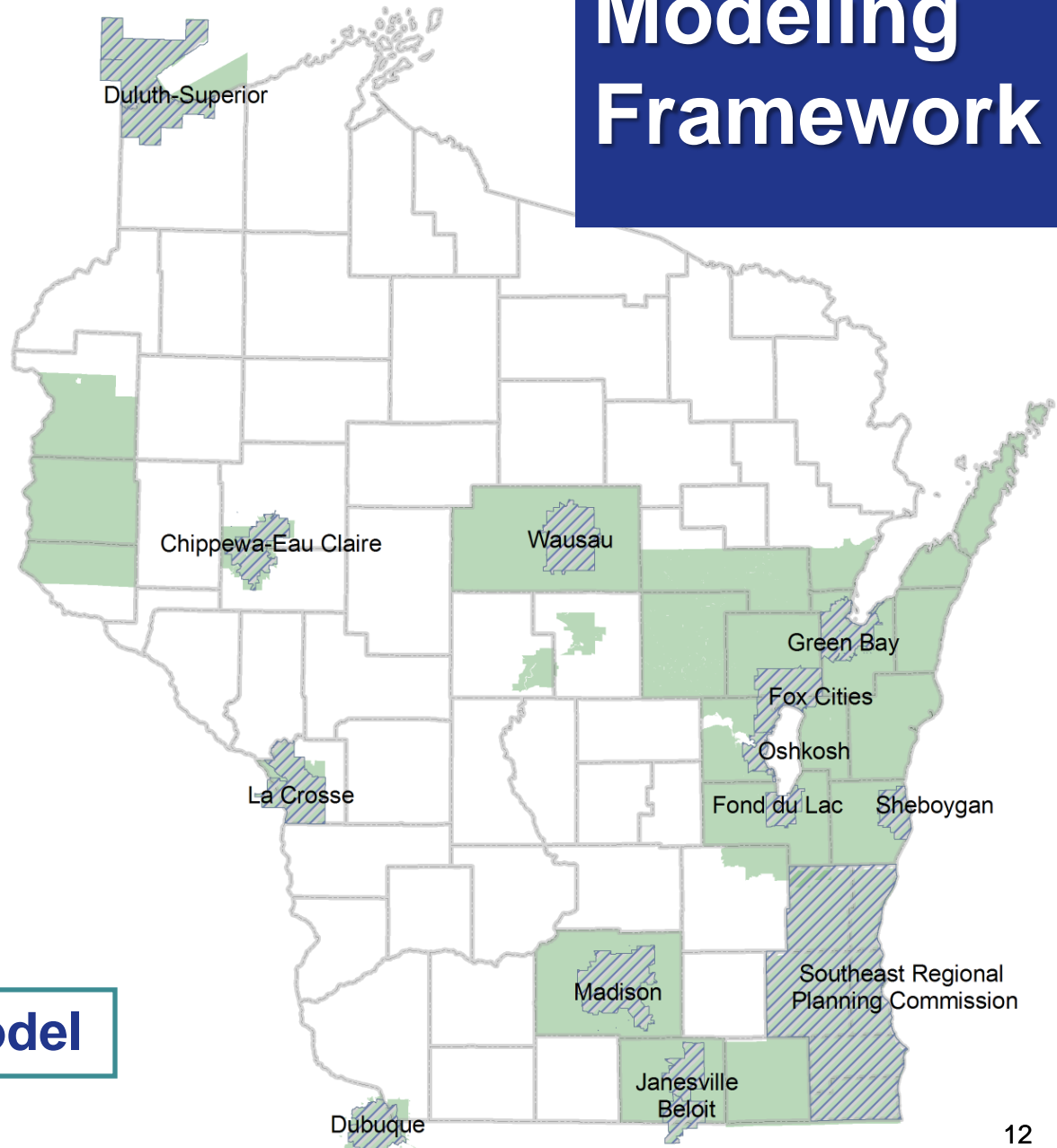
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- **Statewide freight model (2006)**
  - **Metropolitan area travel demand models (2013)**
  - **Freight data structures in place**
    - Enterprise system data
    - WisDOT Freight Data User Group
    - WisDOT's Multimodal Freight Network
    - Basic building blocks for travel demand models
      - Current corridor-level percent truck for traffic forecasts
      - Continued intermodal connectivity and non-highway mode data
      - Commodity flow data
      - Socio-economic information

# WisDOT's SHRP2 Freight Product and Program Approach

- Develop a **supply chain and a tour-based freight model framework**
- Cooperation with state's 14 MPOs and RPCs
- Develop **ongoing outreach** between private-sector stakeholders, WisDOT, MPOs, RPC public agencies
- Creation of **Freight Study Committee**
  - Membership from WI freight-interested public-sector agencies and the private-sector freight community.
  - Ongoing forum to facilitate information exchange



# Modeling Framework



**Trip Assignment Model**

# Modeling Framework

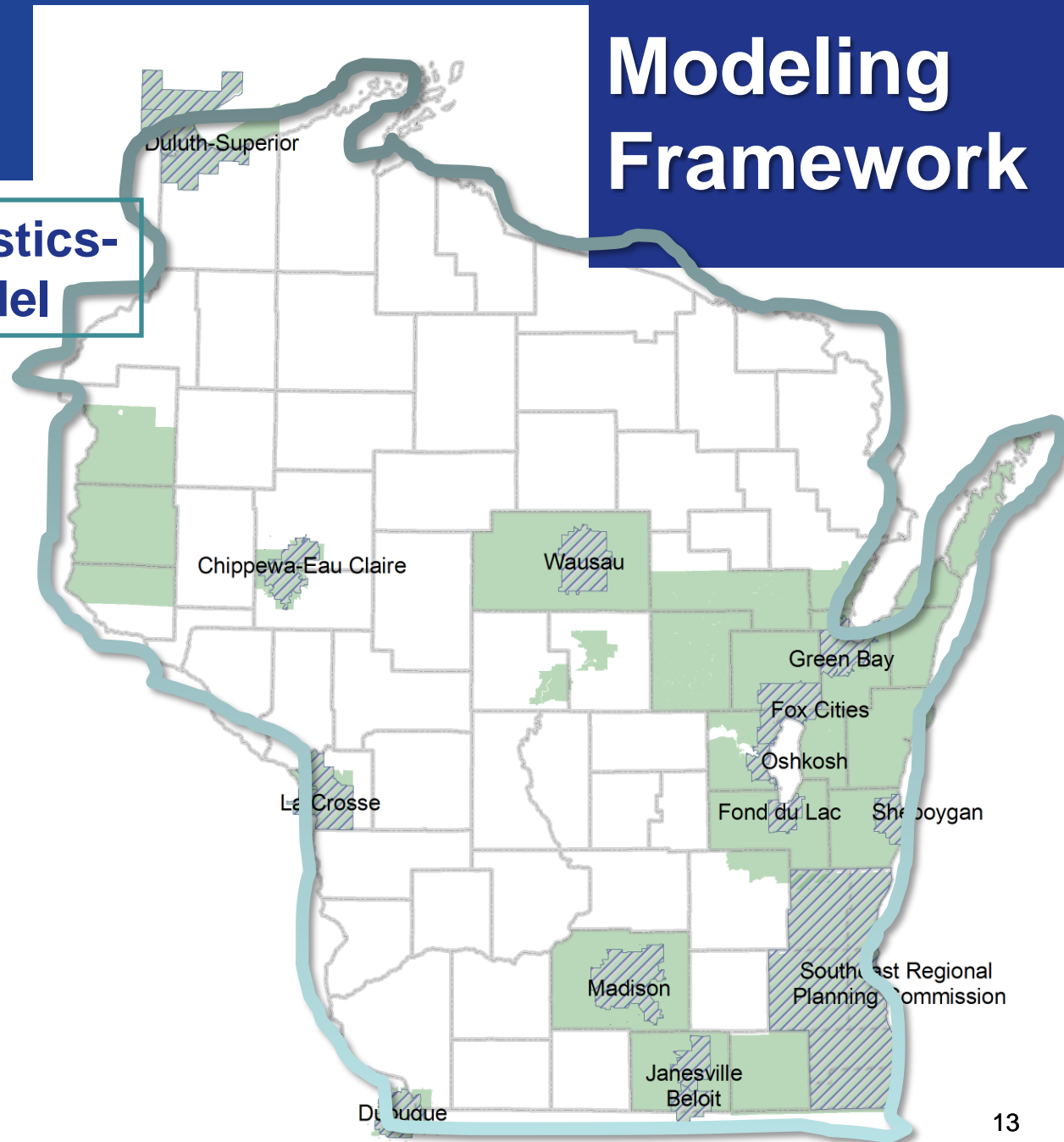
## Supply Chain & Logistics-based Freight Model

Trucks  
(freight)

Rail

Water

Air

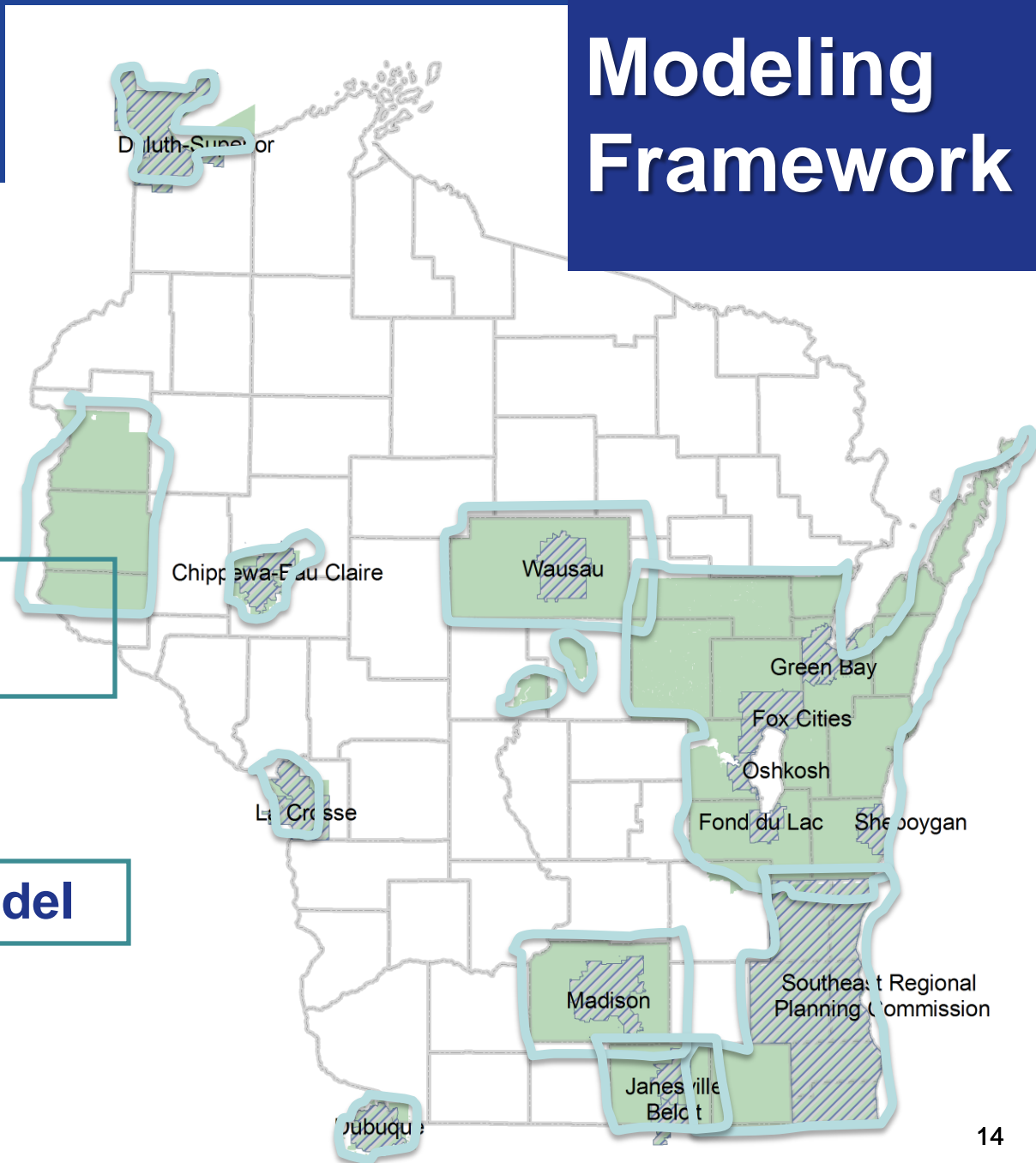


# Modeling Framework

**Tour-based  
Truck Model**

Trucks (non-freight)

**Service Sector Model**



# *Fusion* Modeling Framework

## Supply Chain & Logistics-based Freight Model

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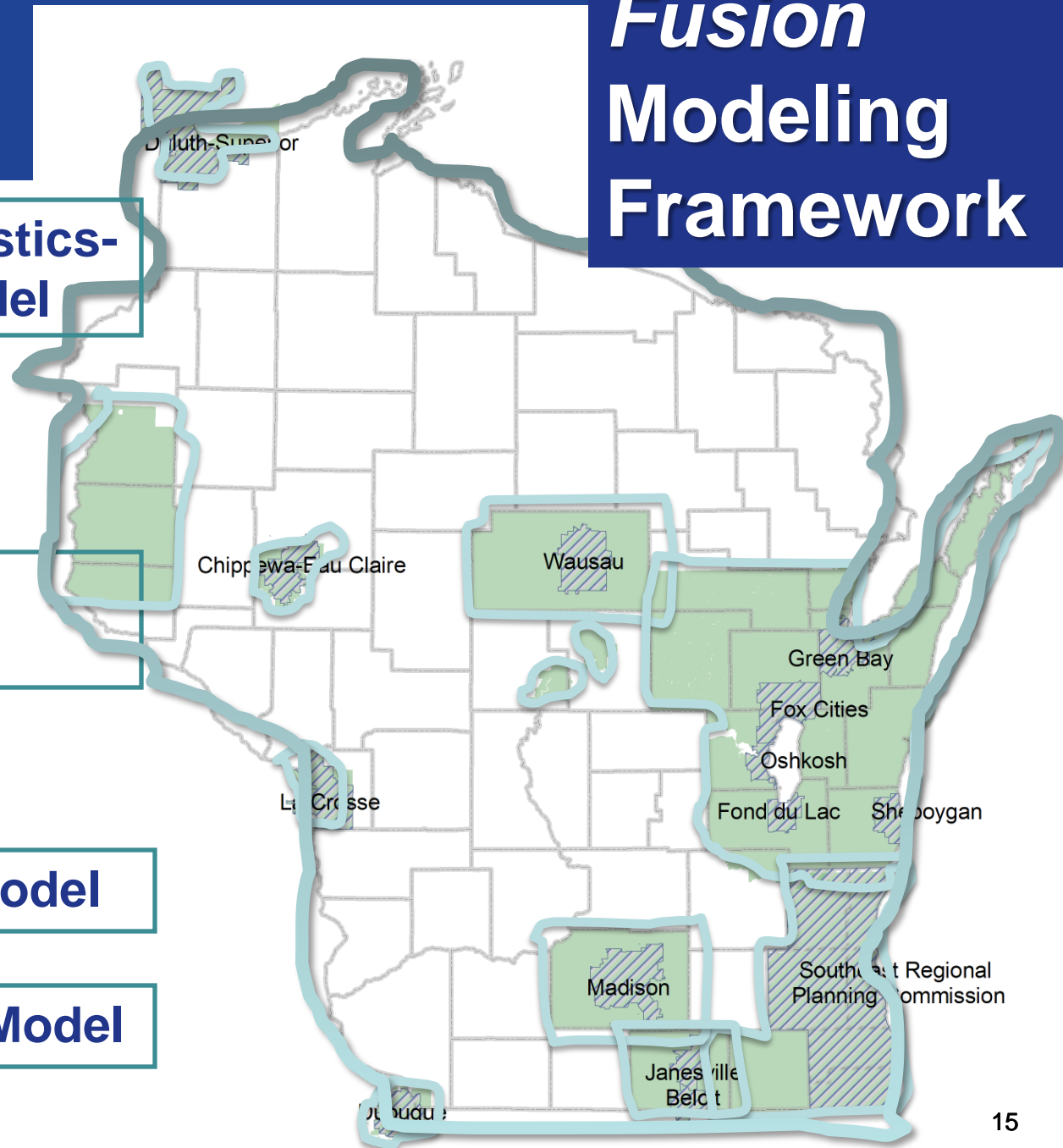
Air

## Tour-based Truck Model

Trucks (non-freight)

## Service Sector Model

## Trip Assignment Model



# Implementation Outcomes – Evaluation & Scenario Planning

- **First and last mile connections**
- **Economics of moving freight**
- **Business production locations**
- **Business product types**
- **General business development timeframes**
- **Impacts of intermodal transfer facilities**



Freight demand analysis tools can be utilized to assist in responding to changing economic conditions

# Implementation Outcomes – Products Moving Forward

- Supply-chain freight model statewide
- Tour-based truck model in metro areas
- Data collection inventory
- Location-based business inventory
- First and last mile inventory
- Information for freight performance measures and planning processes



# SHRP2 Freight Product Value and Expected Benefits

## *Implementing Freight Modeling and Data Improvements will*

- Foster new ideas & approaches
- Improve & expand the knowledge base
- Maximize the use of new freight analytical tools
- Develop and refine modeling practices
- Improve forecasts
- Continue the freight community outreach/dialog



# SHRP2 Supports a Freight-Friendly Mission



# Questions and Contacts

## Contacts:

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