Transportation Consortium at the Center for Transportation

February 14, 2014

Freight Planning for One Transportation System – Marine Highways

Kevin Schoeben
Deputy Director
Office of Planning and Programming
Illinois Department of Transportation

Presentation Highlights

- Freight Transportation System - Illinois
- Planning for One Transportation System
- Federal Maritime Freight Planning - U.S. Dept. of Transportation –Maritime Adm. Program
- Keeping Maritime Freight Mobility in Forefront
- Relevant Questions

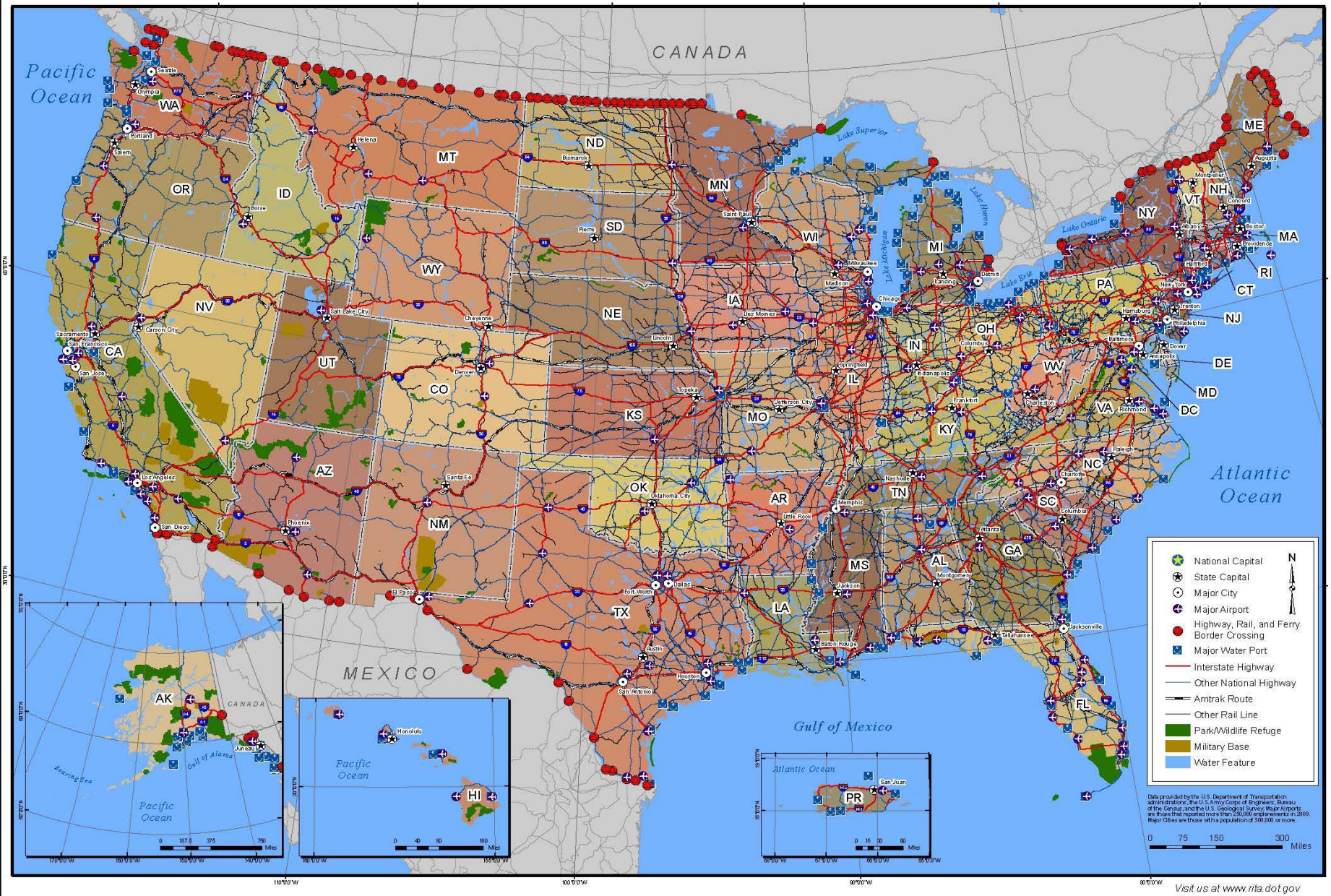
Freight Transportation System – Glance at Illinois

RITA Bureau of Transportation Statistics

Major Transportation Facilities of the United States

2011

U.S. Department of Transportation
Research and Innovative Technology Administration



Data provided by the U.S. Department of Transportation administrations, the U.S. Army Corps of Engineers, Bureau of the Census, and the U.S. Geological Survey. Major Airports are those that reported more than 250,000 enplanements in 2009. Major Cities are those with a population of 500,000 or more.

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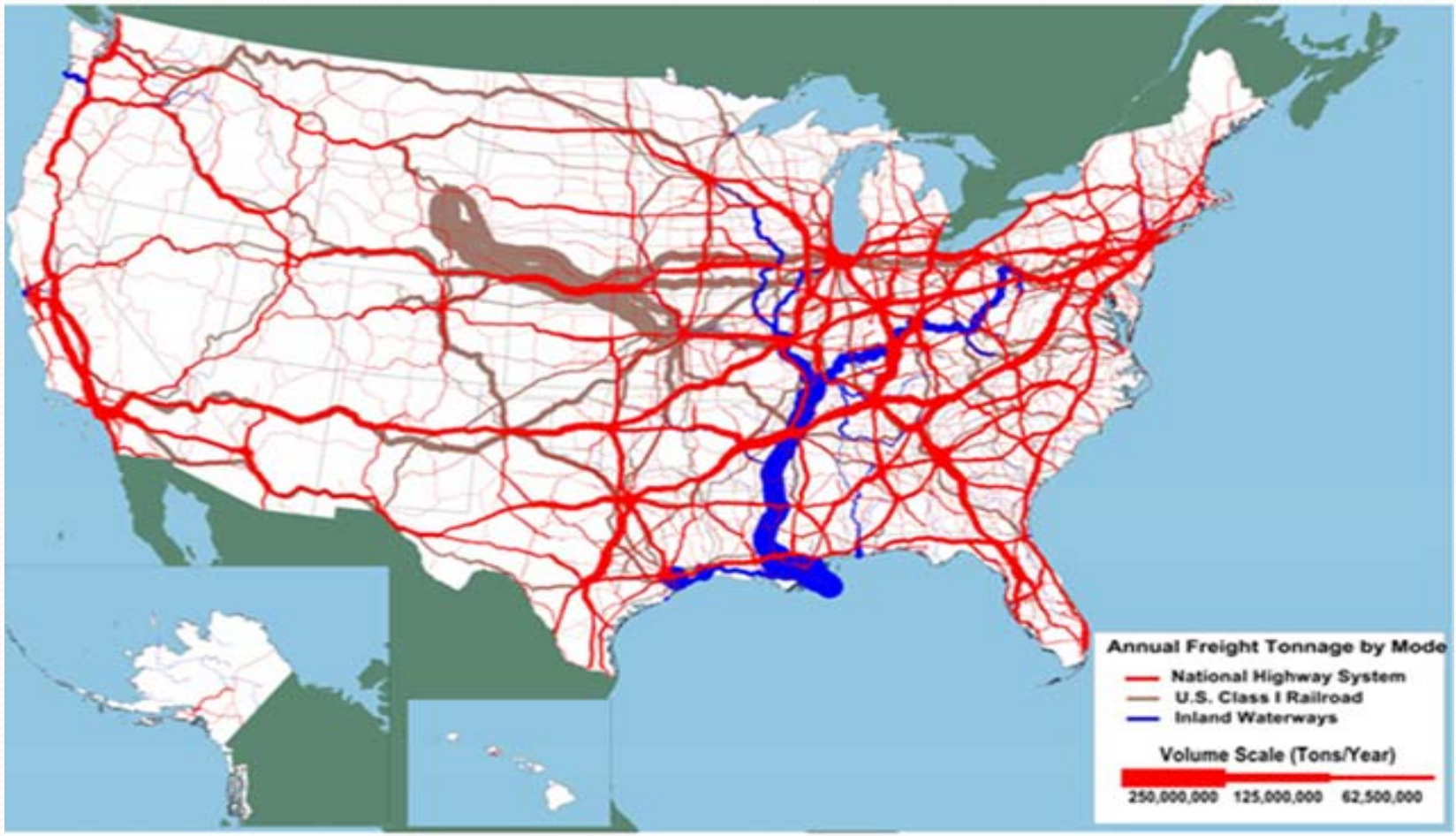
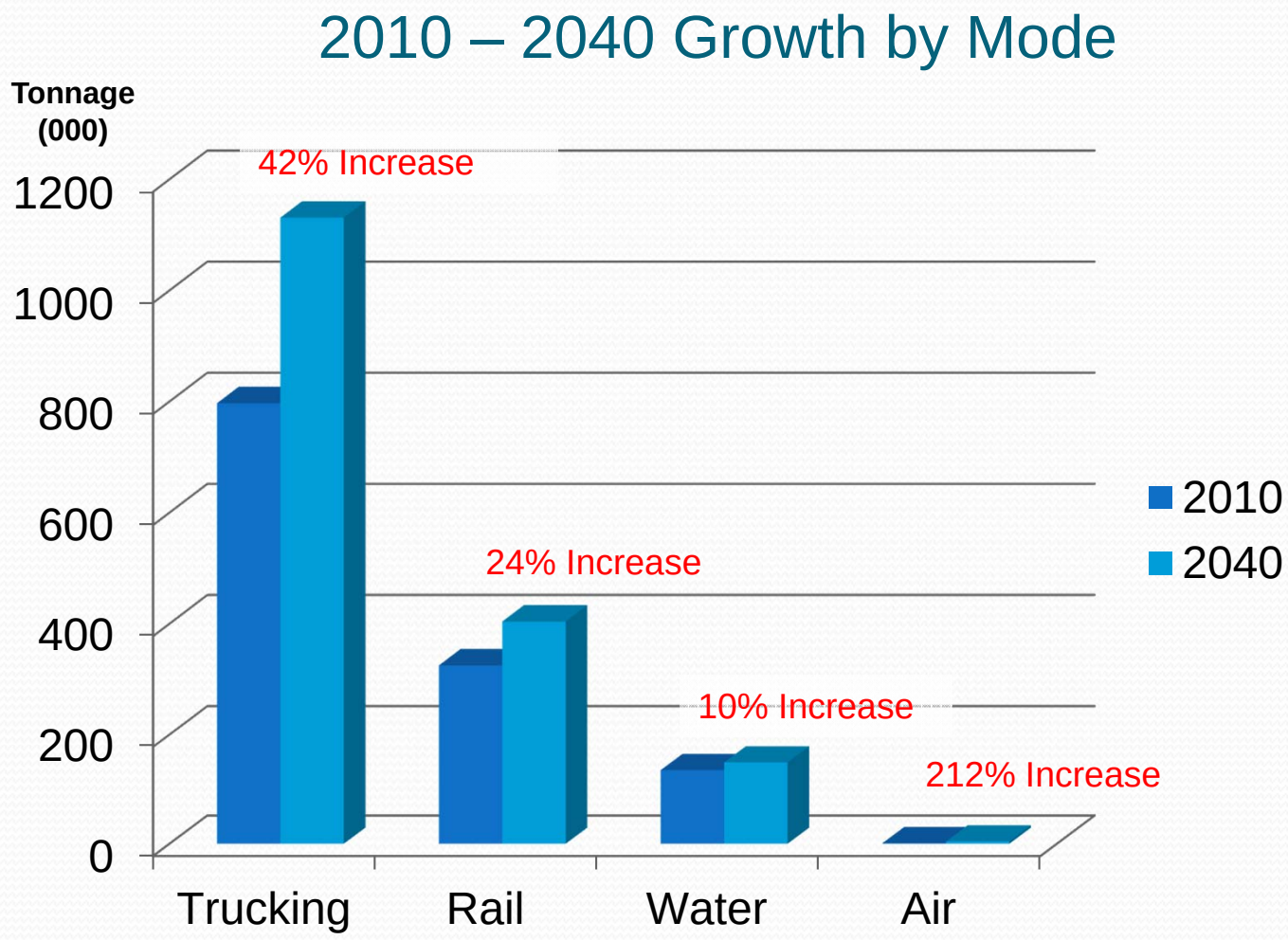
Tonnage on Highways, Railroads, and Inland Waterways: 2007 Map



Illinois Based Freight Tonnage



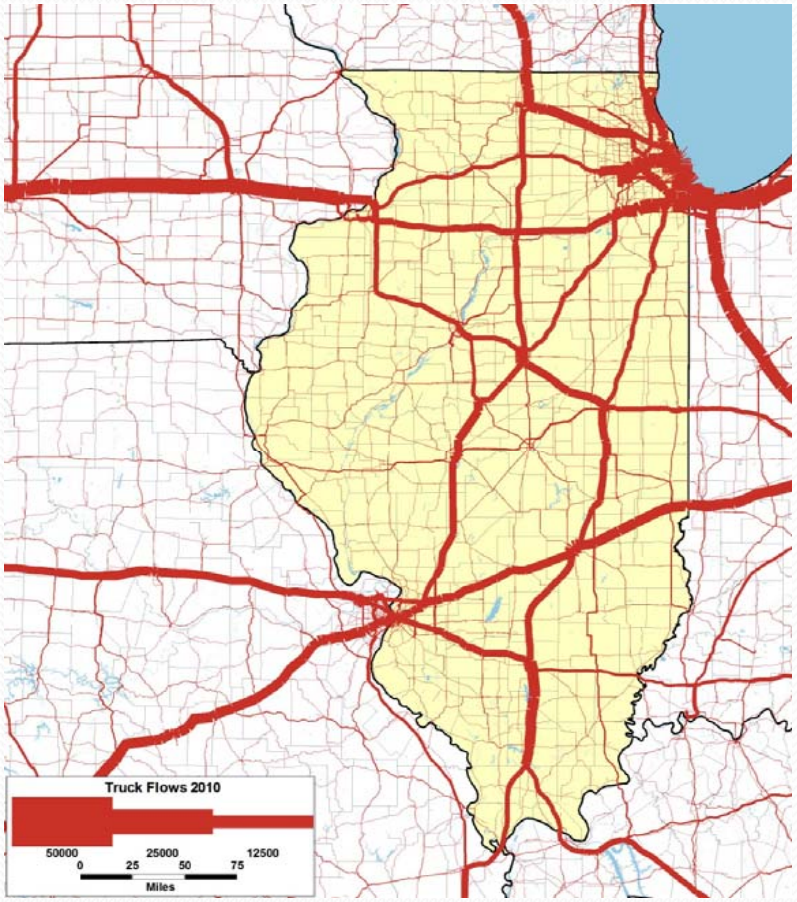
Source: Illinois Freight Mobility Plan (2012)

Illinois Freight Mobility Plan – 2010/2040

- In 2010 - 1.26 Billion tons of goods moved *(30% Outbound, 28% Inbound & 42% Interstate)*
- In 2010 - 63% trucks; 26% rail; 11% waterways; and a tenth of 1% by air.
- 2040 - 34% increase to 1.7 Billion tons
- 2040 - 67% trucks; 24% rail; 9% waterways; and two tenths of 1% by air

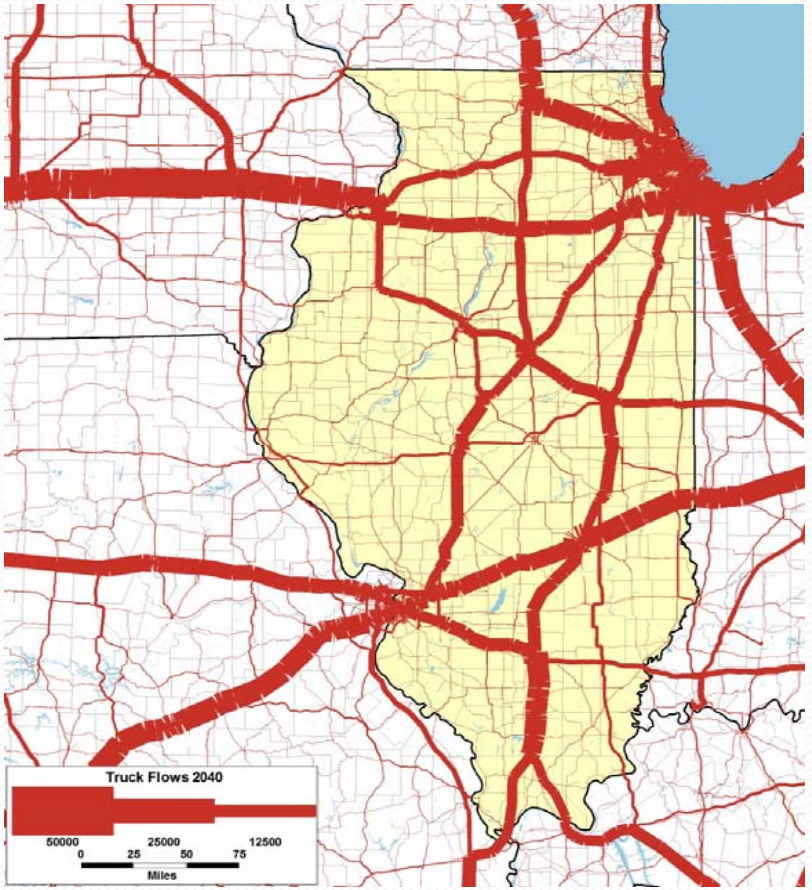
2010 Truck Flows - Third in the nation for Trucking Volume

- 140,745 miles of roadway
- 26,000 bridges
- 2,182 interstate miles, 3rd in nation
- Warehousing-distribution facilities are now along all major Interstates throughout the state
- Home to 7,200 trucking establishments



2040 Truck Flows

- Primary Freight Network
- Zero Backlog for the Interstate Highway System
- Human Capital Plan: Enough Truckers to meet demand?

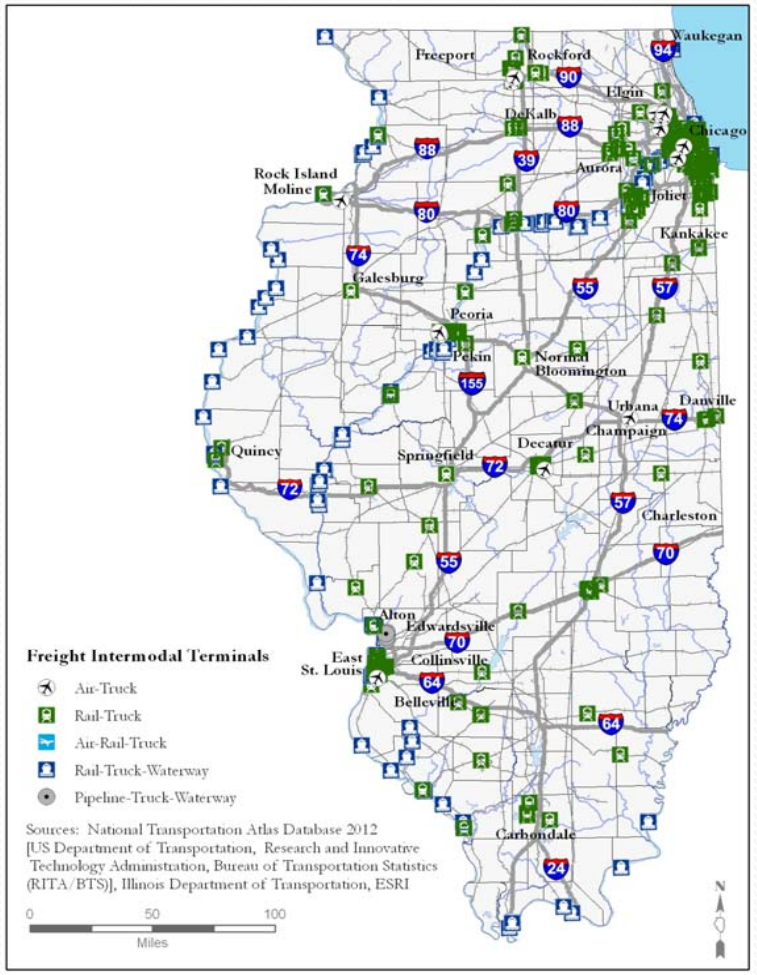


Average Daily Long-Haul Traffic – 2040

Note: Long-haul freight trucks typically serve locations at least 50 miles apart, excluding trucks that are used in movements by multiple modes and mail.
Source: U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, Freight Analysis Framework, version 3.4, 2012.

Illinois Freight Intermodal Terminals

- 2nd in Nation in Rail Intermodal Traffic
- Chicago has 19 Intermodal Terminals supporting six Class I RRs
- CenterPoint Intermodal Center - 6,000 acres, Container/Eq. Yards, 30 million sq/ft. Facilities
- Illinois DOT should strive to give private enterprise maximum flexibility and access to all modes to enhance global competiveness.



Illinois Inland Ports – Next Generation of Intermodal Terminals

- Class I Rail Multi-modal Center capable of handling 1 million lifts

- Components:
  1) International Container Activities
  2) Access to High Density Corridor
  3) Multiple Logistics Support Services

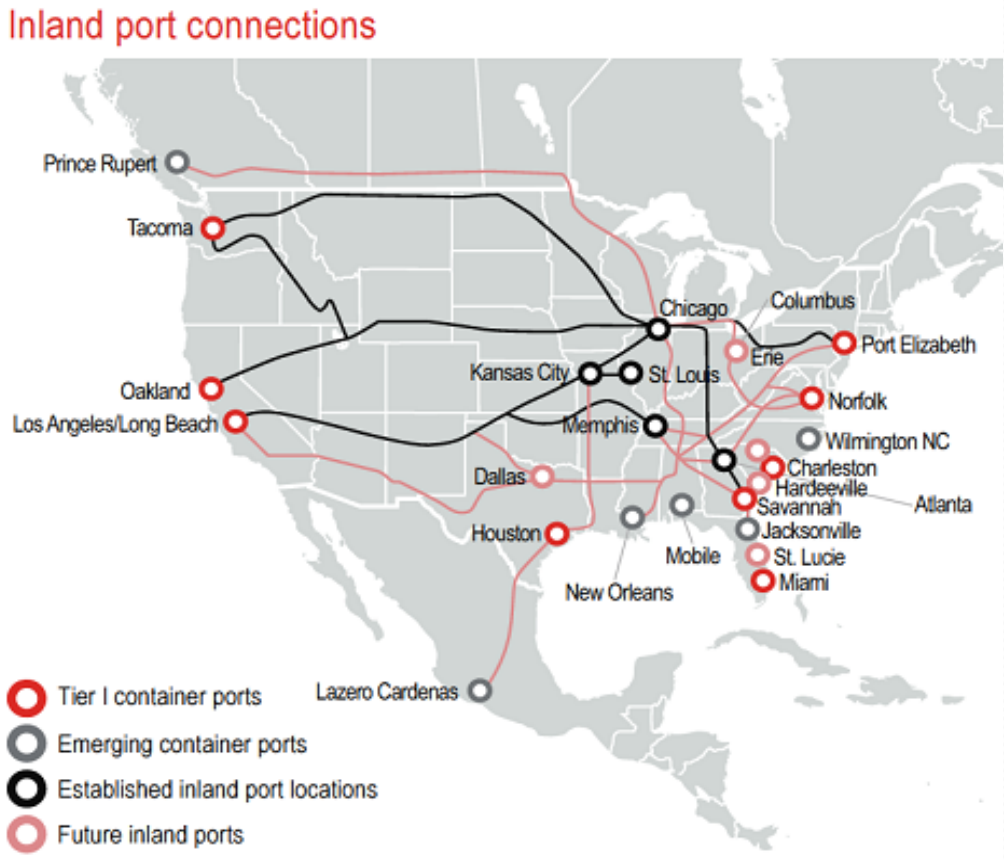


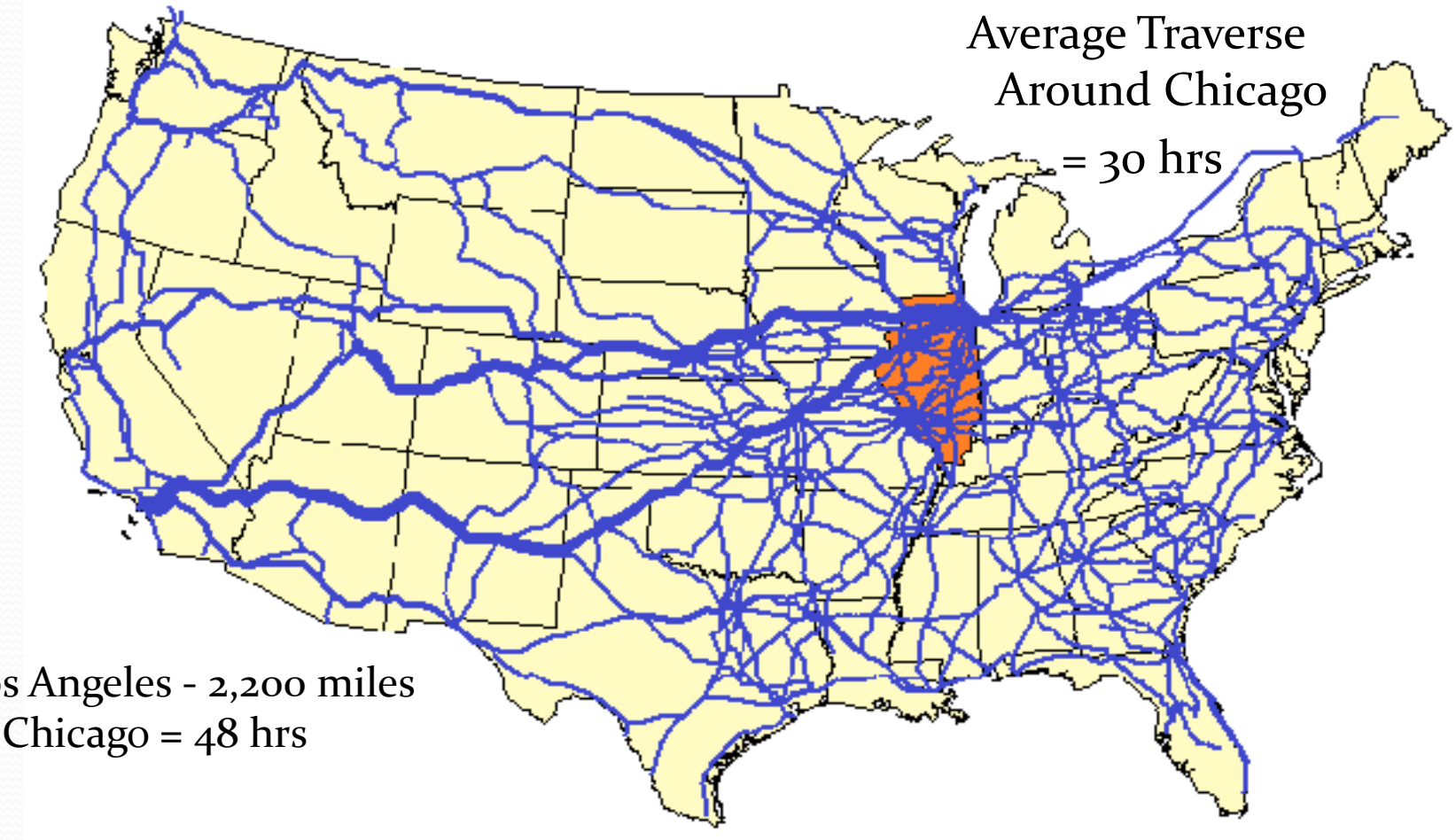
Exhibit 6-21: Inland Ports in United States

Illinois Freight Railroads – 9,400 Miles

- 7 Class I Railroads
- 3 Regional RRs
- 26 Short Line RRs
- 9 Terminal Carriers
- 3rd in Rail Volume
- 7,821 Public RR Grade Crossings

Rail Density – Illinois' Central Position

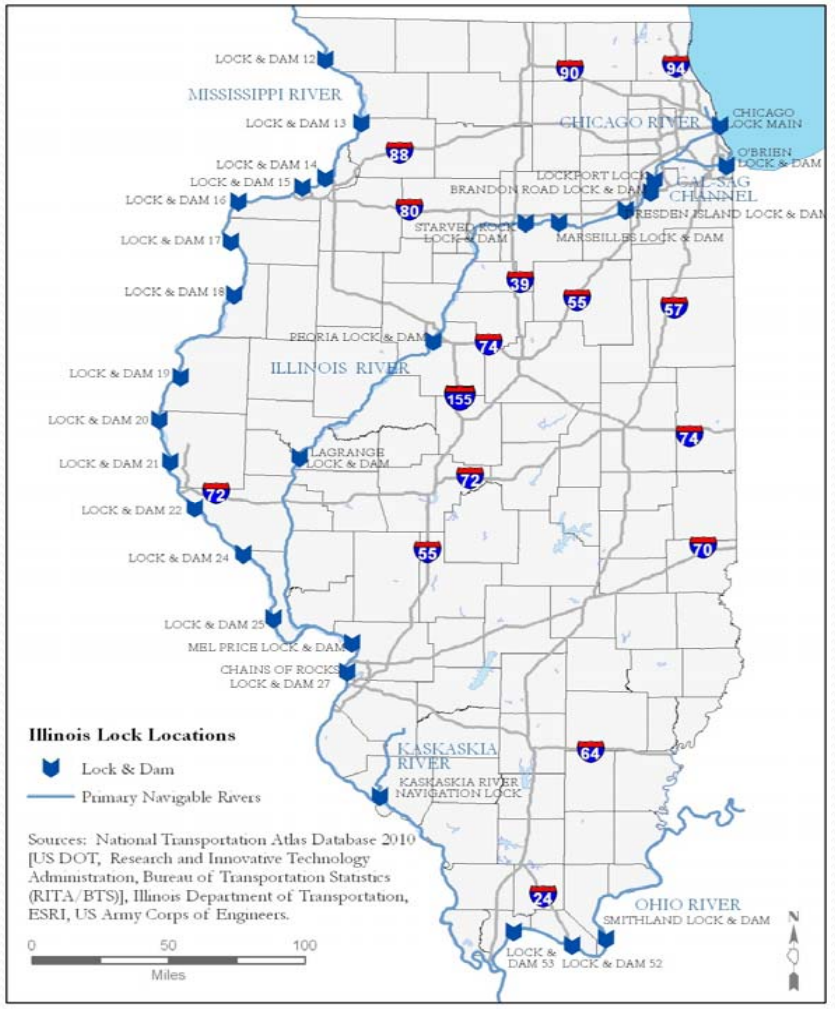
- 1,300 Daily Trains through NE Region



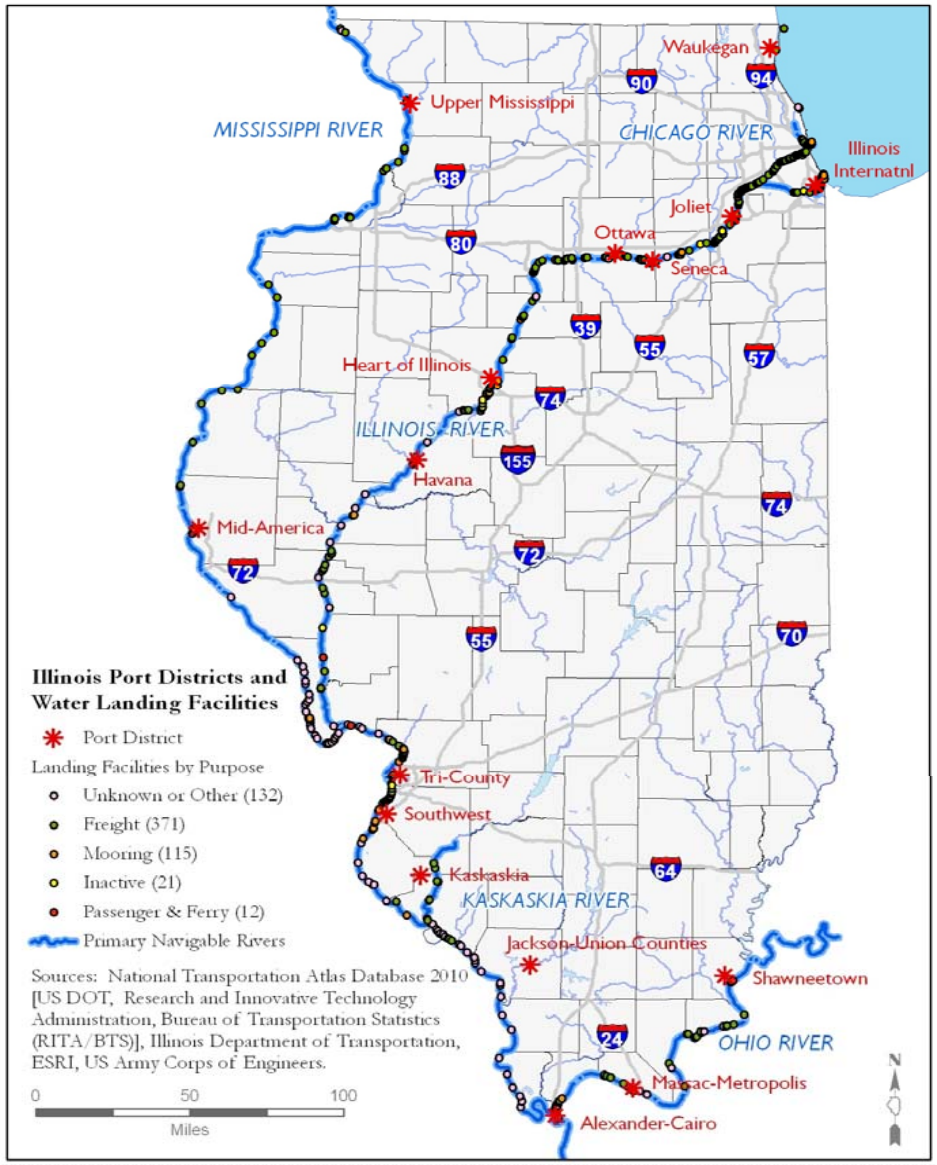
Lock & Dams

Illinois between two great national assets – Great Lakes & Mississippi River

5 Locks on Mississippi River & two on Illinois River approved but not funded by Congress



Illinois Port Districts and Water Landing Facilities- 1,095 Miles of Navigable Waterways



Outbound -2010

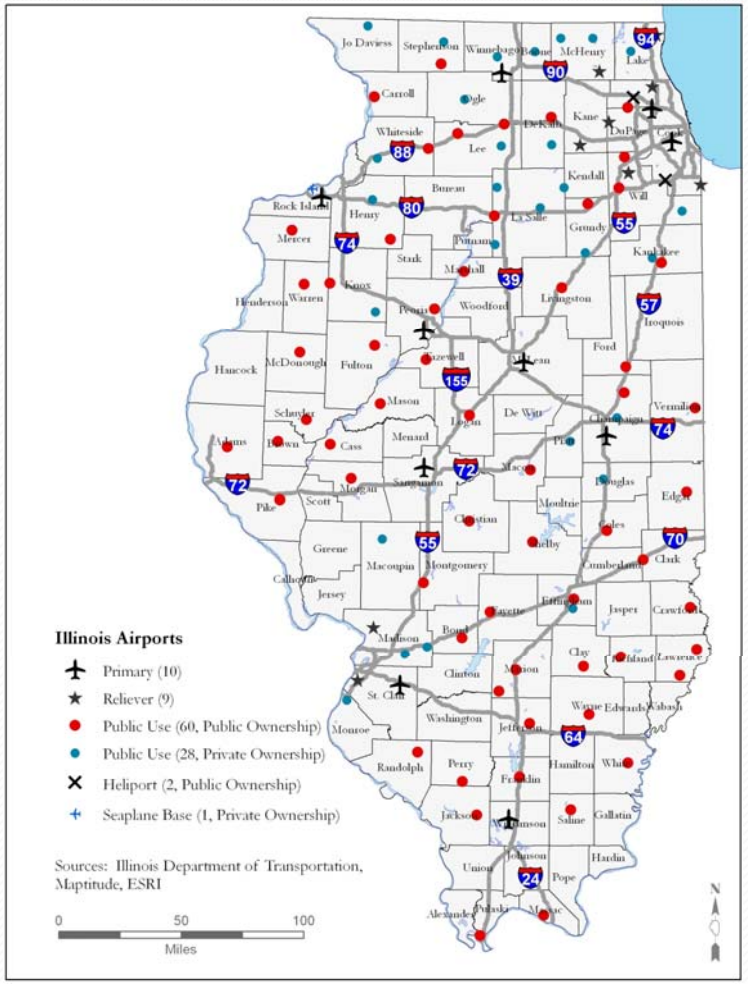
COMMODITY	%	TONNAGE (in millions)
Coal	56	58.4
Agriculture	25	26.2
Petro/Gas	11	11.8
Other	8	7.8
TOTAL	**100**	**104.2**

Inbound -2010

COMMODITY	%	TONNAGE (in millions)
Stone/Ore	36	6.3
Ferilizer/Chem	20	3.5
Metal Products	14	2.5
Other	30	5.2
TOTAL	**100**	**17.5**

Illinois Airports

- 110 Public-Use Aviation Landing Facilities
- O'Hare is 6th in the nation in cargo activity
- Rockford Airport has the second largest FedEx hub in North America



Freight Moving via Pipelines

Planning for One Transportation System

Vision – Prepare for Future

Illinois DOT Secretary Schneider

- "IDOT must prepare and plan for one transportation system for the next 5, 10, 20, 40 years by integrating multi-modal planning and programming to support our economy and our way of life."

2010 – 2040 Population Growth Projection - Illinois

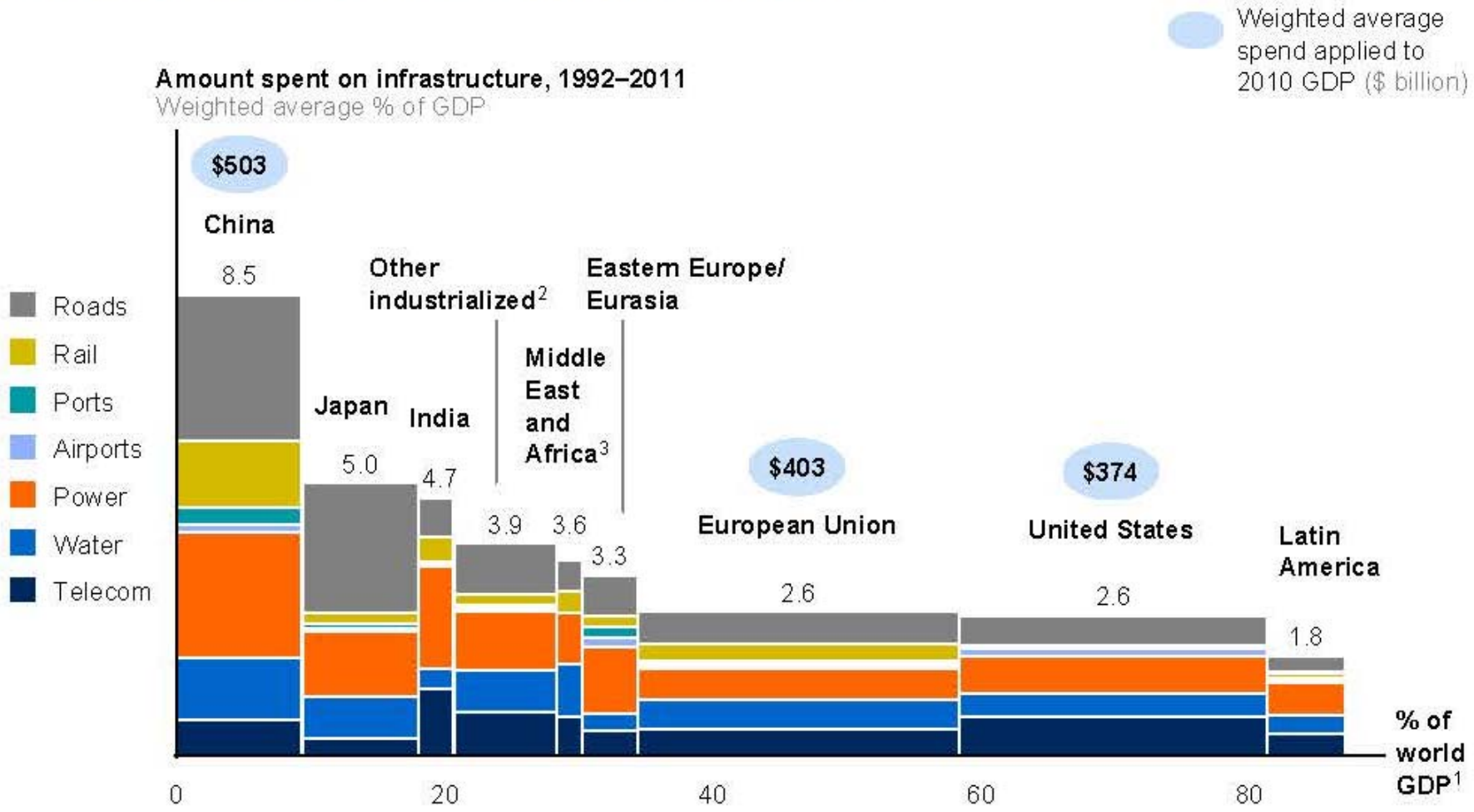
Population	2010	2020	2030	2040	Change	Growth
United States	309,349,689	341,069,539	373,924,268	406,416,632	97,066,943	31.4%
Illinois	12,843,166	13,847,964	14,957,995	15,841,534	2,998,368	23.3%
Percentage of Growth from Previous Decade		7.8%	8.0%	5.9%		
Percent, Illinois of U.S.	4.15%	4.1%	4.0%	3.9%		

Source: ACG Revised Projection, 2012

U.S.DOT Deputy Secretary John Porcari – June 25, 2013

"By 2050, America will be home to more than 100 million additional people –requiring us to move more than 8 billion extra tons of goods per year. That means our freight system – which is already the strongest in the world – will need to become even stronger."

China has overtaken the United States and the European Union to become the world's largest investor in infrastructure



1 Percentage of 2010 world GDP generated by the 86 countries in our analysis.

2 Australia, Canada, Croatia, Iceland, Lichtenstein, New Zealand, Norway, Singapore, South Korea, Switzerland, Taiwan (Chinese Taipei), and the United Arab Emirates.

3 Excludes unusually high port and rail data for Nigeria; including these data brings the total weighted average to 5.7 percent.

SOURCE: IHS Global Insight; GWI; IEA; ITF; McKinsey Global Institute analysis

Illinois Freight Mobility Plan

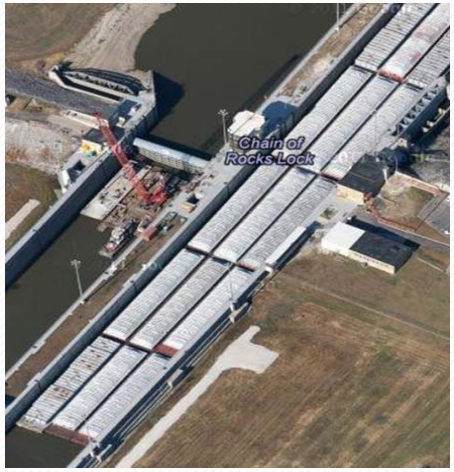
- LRTP, Freight & Rail Plans provide strategic direction for IDOT's vision, ***Transforming Transportation for Tomorrow***

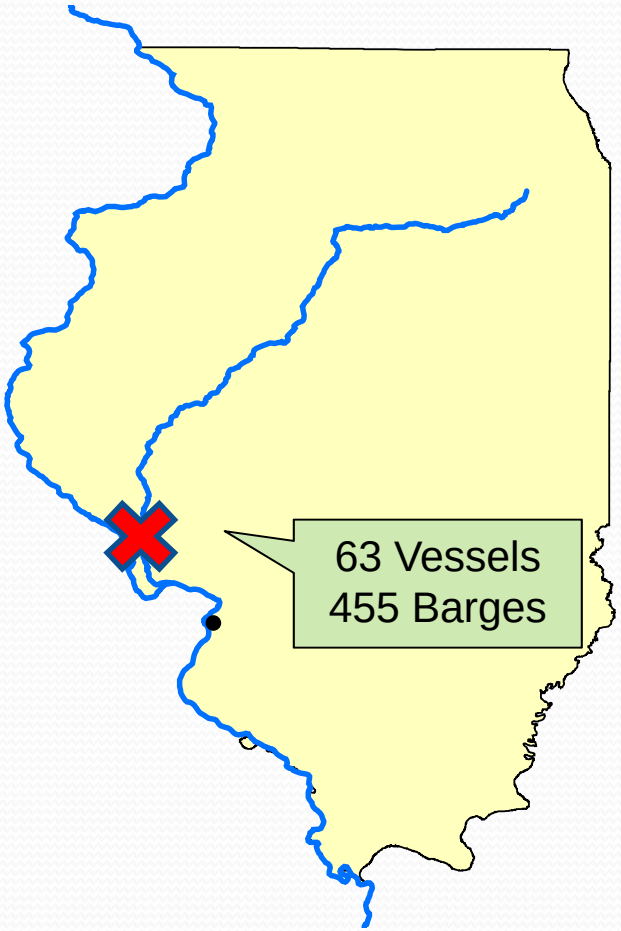
- View freight mobility through a **multi-modal** lens that promotes **sustainable** practices and **intermodal** connections for more **efficient**, **seamless**, **resilient**, **economical**, **safe** and **reliable** transportation system

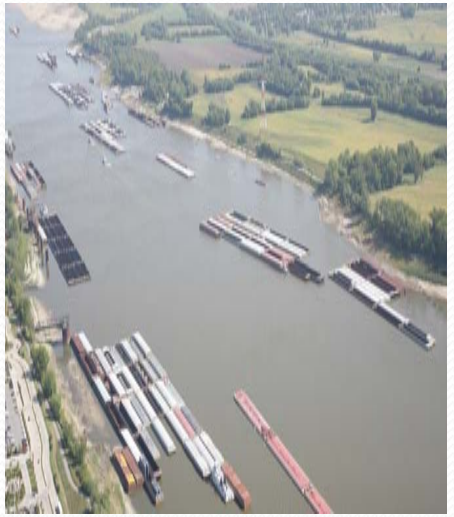
Vision – Prepare for ONE Transportation System – Illinois DOT Secretary Schneider

A system-based approach, viewing it as **ONE** transportation system, could better identify choke points, or even failures, in the network where planning and investments could target **improving interaction among the modes**.

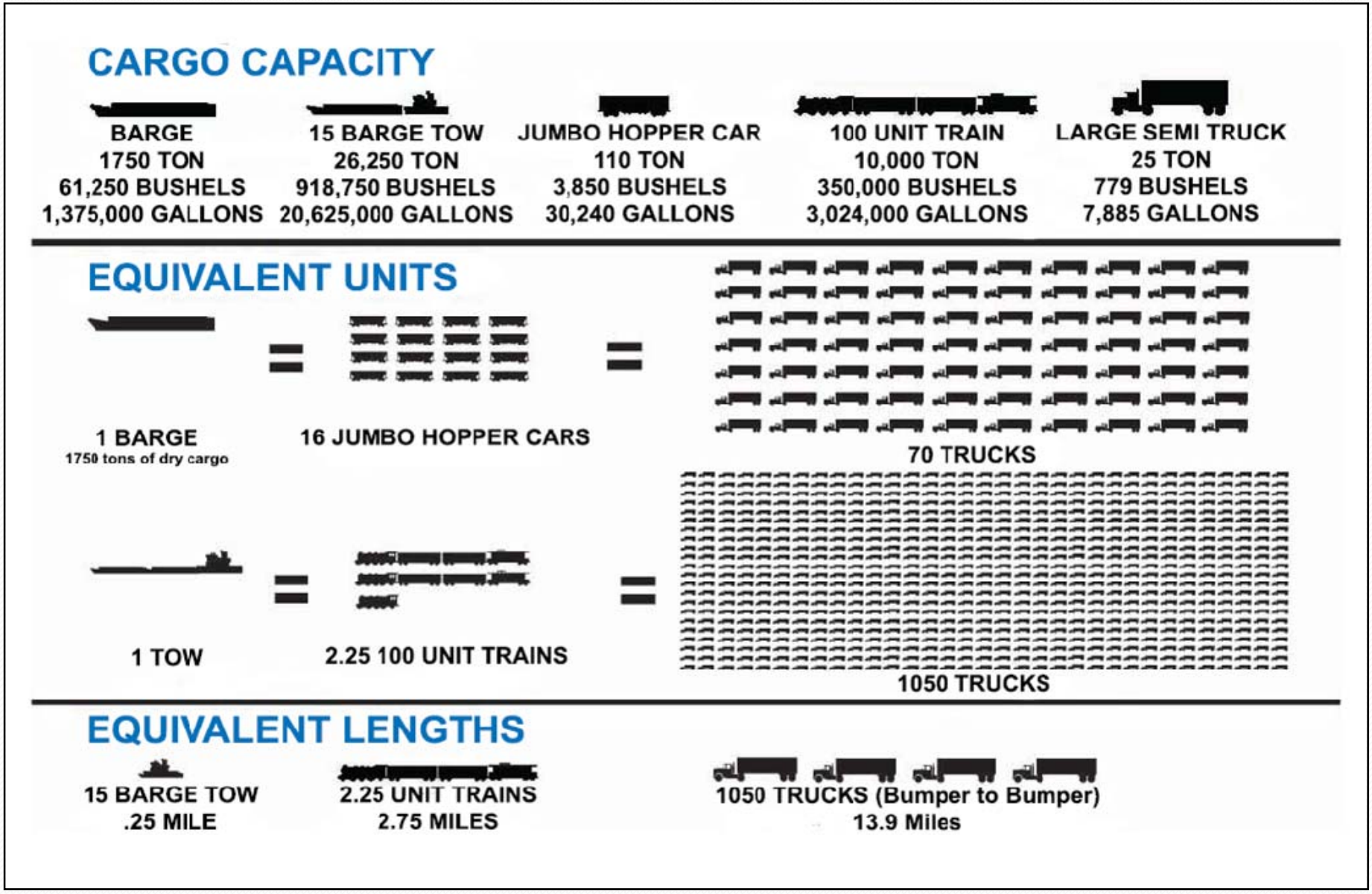
Example of Need for Multimodal Approach… September, 2012 – Lock 27 (5-Day Closure)



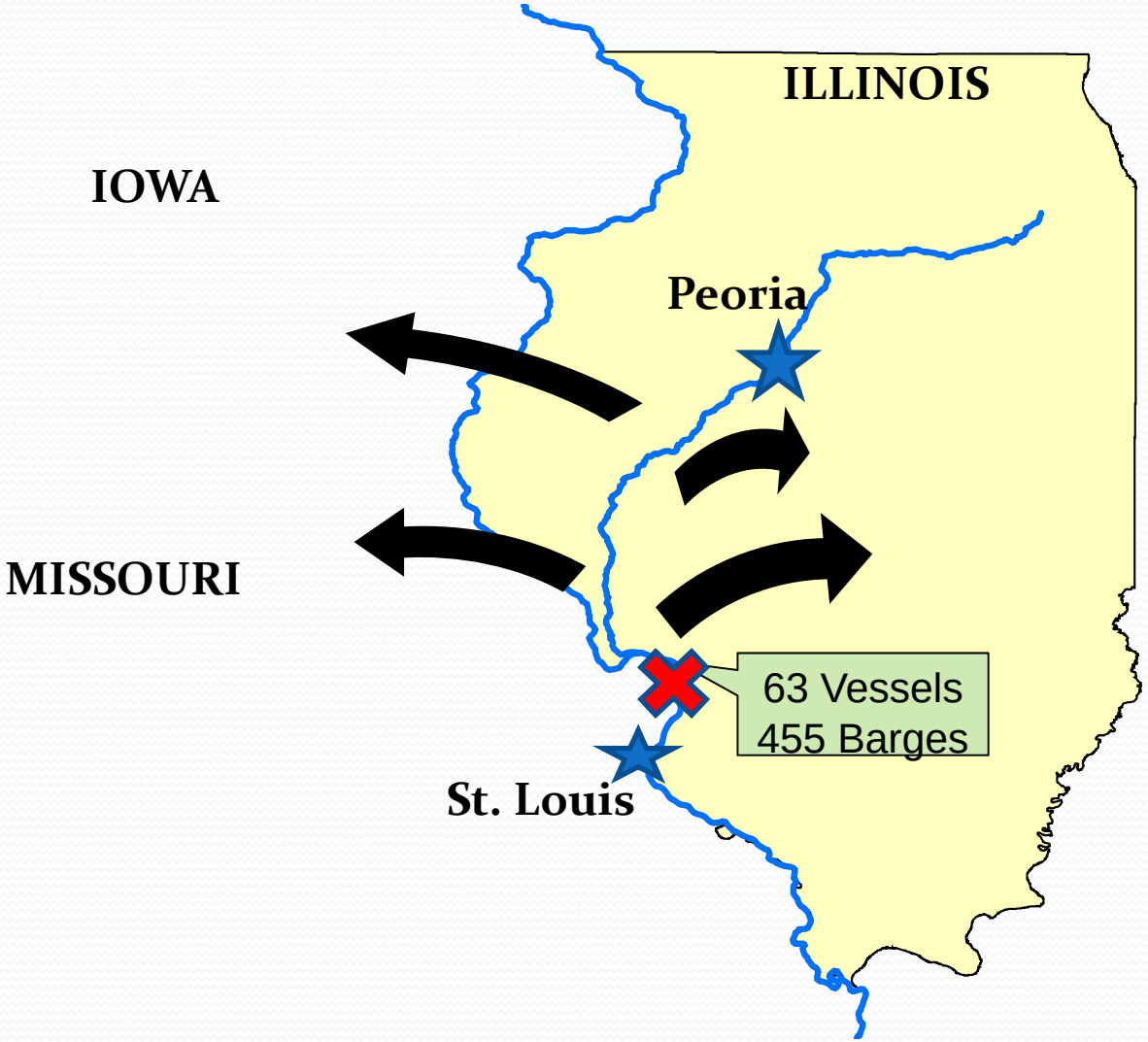




Comparison of Cargo Capacity

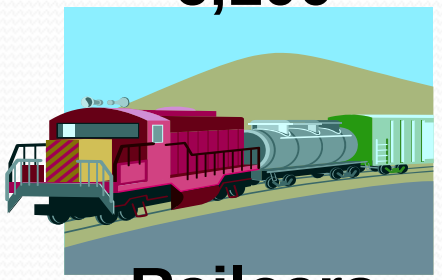


Tonnage Displacement on Rail & Highways



Impact to Industry:
- $15-20 million

6,100



Railcars

26,400

Trucks

Illinois Freight Mobility Plan for One Transportation System

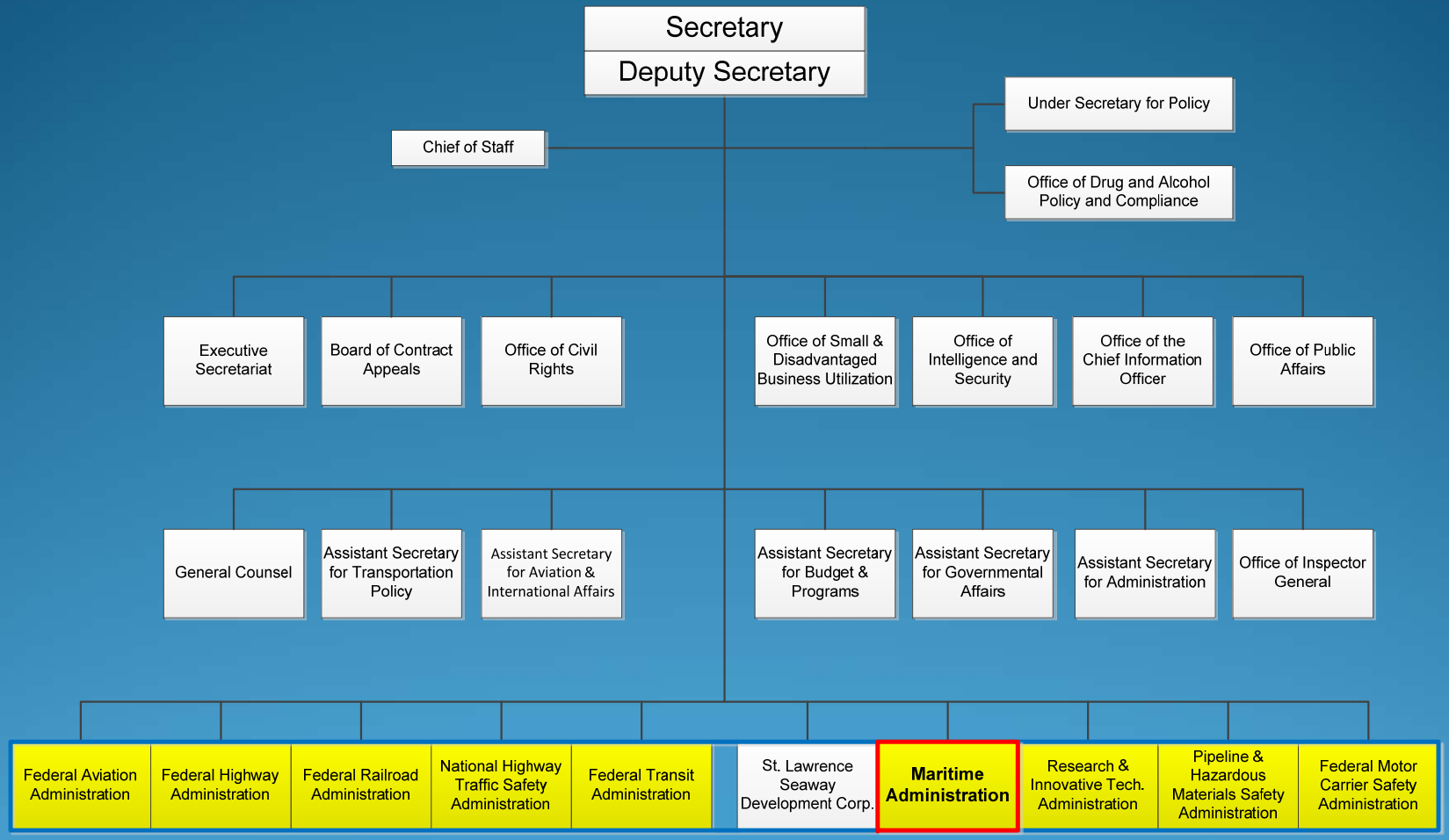
- IDOT has a role in promoting more sustainable, effective and efficient connections in order to maximize private sector logistics options.
- Illinois DOT supports ALL modes.
- It is essential for strategic freight planning to use a multi-modal lens to tie intermodal connections across all freight modes.

Maritime Freight Planning - U.S. Department of Transportation – Maritime Administration (MARAD) Program

Multi-Modal Approach

Emphasize importance at State and Federal levels of government where transportation governance is siloed.

U.S. Department of Transportation




Federal Transit Administration
St. Lawrence Seaway Development Corp.
Maritime Administration
Research & Innovative Tech. Administration
Pipeline & Hazardous Materials Safety Administration

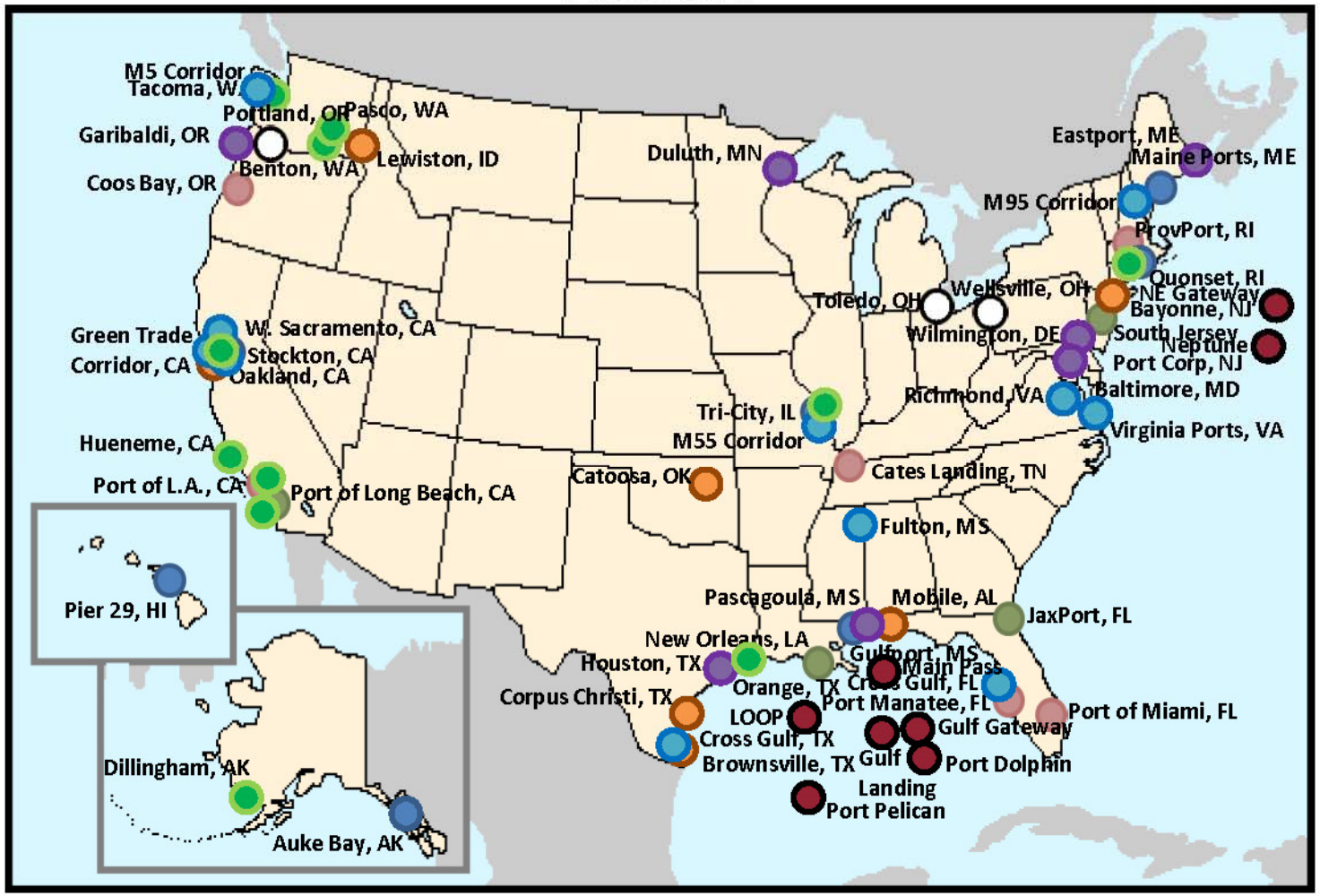
America's Marine Highways: From Concept to Reality!

- U.S. DOT Maritime Administration (MARAD)
- Authorized in 2007
- Grant program created and $7M awarded in 2010
- Four new services funded
- Three market studies funded
- New vessel designs funded

Maritime Backlog

- America Society of Civil Engineers reports that in order for US to remain competitive on a global scale, ports and waterways will require an investment beyond the $14.4 billion, but rather $15.8 million more.

MARITIME ADMINISTRATION
PROJECTS



U.S. Department of Transportation

MARAD ADMINISTERED PORT RELATED PROJECTS

NAME-YEAR	NUMBER OF PROJECTS	VALUE
ARRA	3	$25 million
TIGER FY2009	7	$128 million
TIGER FY2010	6	$87 million
TIGER FY2011	4	$62 million
TIGER FY2012	7	$68 million
TIGER FY2013	7	$61 million
MARINE HIGHWAY	3	$7 million
PORT CONVEYANCE	10	(depends on land value)
TOTAL DOLLAR VALUE		$438 million

StrongPorts Program Framework

Category I
Planning & Engagement

All Ports

Low Federal Oversight
No Market Interference

Category II
Financing

Limited No. of Ports

Moderate Federal Oversight
Minimal Market Interference

Category III
Project Management

Very Few Ports

High Federal Oversight
Minimal Market Interference

A. Guidelines & Data:

Sector advocate through analysis & showcasing opportunities/consequences regarding port role/investment

Possibilities Include:

- Port Investment Plan Guidelines (With Stakeholders)
- Strategic Asset Management Guidelines (With Stakeholders)
- Port/Terminal Ops Guidelines for AMH (With Stakeholders)
- National/Regional Studies and Maritime Impact Analysis
- Condition & Performance Tracking & Measures

B. Assistance:

Direct support to individual ports (upon request)

- Investment Plan Devel. Support (Possible Planning Grants)
- Strategic Asset Management
- Memo of Agreement (MOA) Development
- Delivery of Federal Services (Gateway Offices & HQ)

Financing:

Direct funding support via existing/future programs

- TIGER I-IV Grants
- Marine Highway Grants
- Other Future Grant Programs
- Loans/Loan Guarantees
- Possible Cargo Facility Fee Program
- Eligible for Port Infra Devel. Fund
- Eligible for MARAD Lead Fed Agency Support
- Eligible for Project Delivery Initiative

Project Mgt:

Increased Federal project assistance where unique Federal interest exists

MARAD Co-Manages Project w/Port

- Design Development
- Eligible For PID Fund
- Eligible for Lead Fed. Agency Supp.
- Elig. For Project Delivery Initiative

- Strict Sel. Criteria
- Investment Plan Req'd
- Project Clearly Defined

Authority: 46 USC, Section 50302

USDOT – Maritime Administration MARAD

USDOT – Maritime Administration MARAD

New Corridor Designation M- 35 Upper Mississippi River

M-35 Co-Sponsors

"Waterway of the Saints"

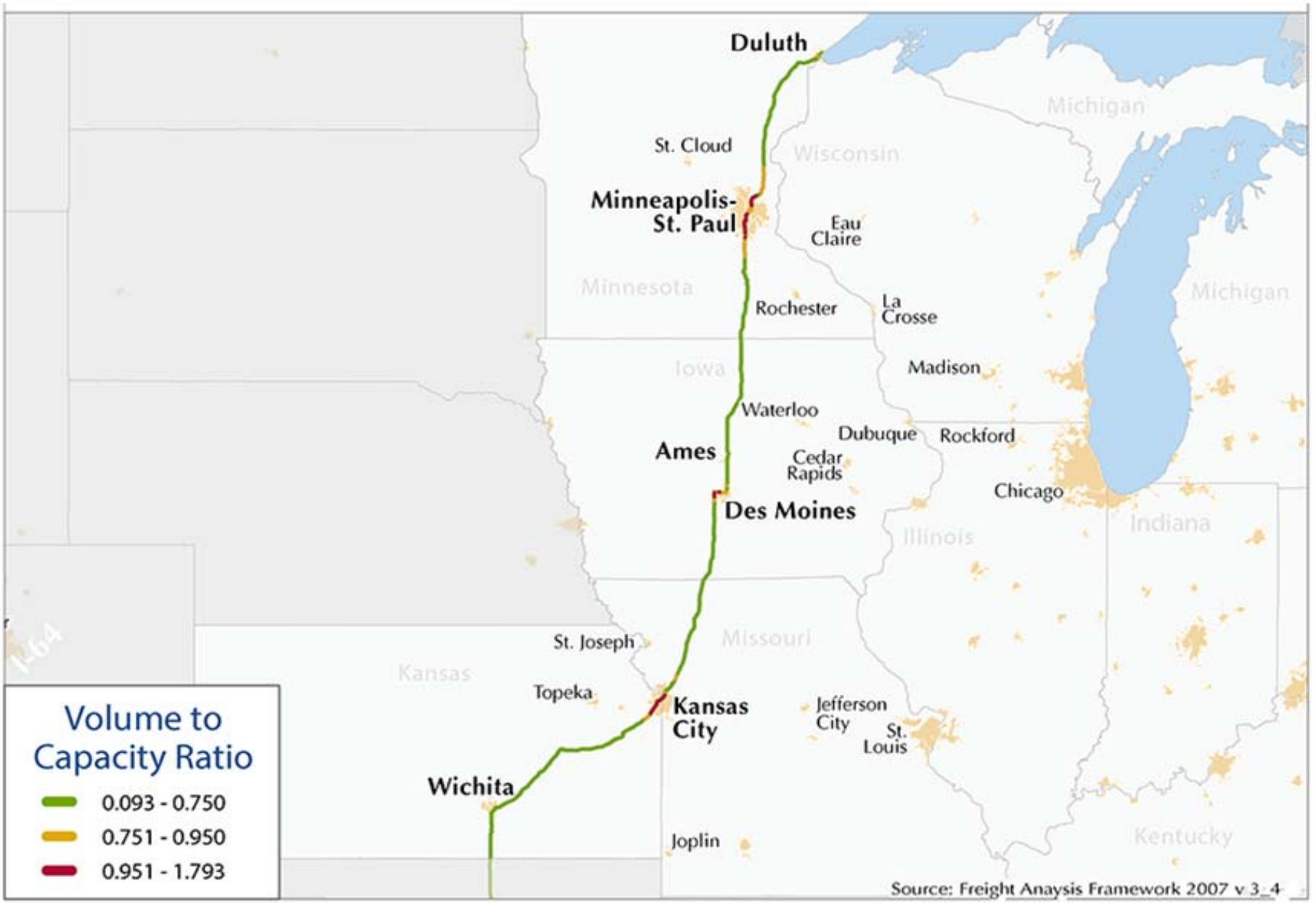
Illinois Department of Transportation

Iowa Department of Transportation

Minnesota Department of Transportation

Missouri Department of Transportation

Wisconsin Department of Transportation



Interstate – 35 Corridor Congestion (Mid-America Freight Coalition)

M-35 Marine Highway Benefits Data

State	Cargo tons total - CY 2011	Miss. River Waterway Mileage	Roadway mileage (est.) - Route parallel to Miss. River		Modal Cargo Capacity		State of Good Repair - Maintenance Costs *(10.0 cents per VMT for rural road segments)*	Emissions Avoided	Value of Annual costs of CO2
			Description	Miles	# of Truckload equivalents	# of Barge equivalents	If cargo is hauled by trucks…	*(Difference btwn truck and barge emissions)*	*(social costs of emissions….estimate of climate change damage…)*
Minnesota	43,109,000	190	I-35 from IA - MN state line to Minneapolis	114	1,724,360	1,642.2	$ 19,657,704.00	189,603	$ 5,676,713.82
Iowa	9,740,000	312	I-35 from IA - MN state line to SR 27 to IA - MO state line	278	389,600	371.0	$ 10,830,880.00	133,712	$ 4,003,337.28
Illinois	109,663,000	580	Davenport, IA to Springfield to St. Louis via I-74 to I-55	266	4,386,520	4,177.6	$ 116,681,432.00	828,047	$ 24,791,727.18
Wisconsin	32,042,000	231	Hudson, WI to WI - IA state line (near Dubuque) via I-94 to US 61	259	1,281,680	1,220.6	$ 33,195,512.00	447,755	$ 13,405,784.70
Missouri	33,111,000	361	SR 27 @ IA - MO state line to U.S. 61 to St. Louis/Miss. River	185	1,324,440	1,261.4	$ 24,502,140.00	201,728	$ 6,039,736.32

DISCLAIMER: The numbers in the table are calculated estimates using data from the sources listed below. For an actual valuation, more in-depth research would be needed. However, this methodology is sufficient for providing general estimations for a marine highway corridor designation application.

Marine Highway Studies

Three Routes Studied (M-5, M-55, & M-95)

- Market Analysis
- Operation/Infrastructure Analysis
- Business Case

Major Findings

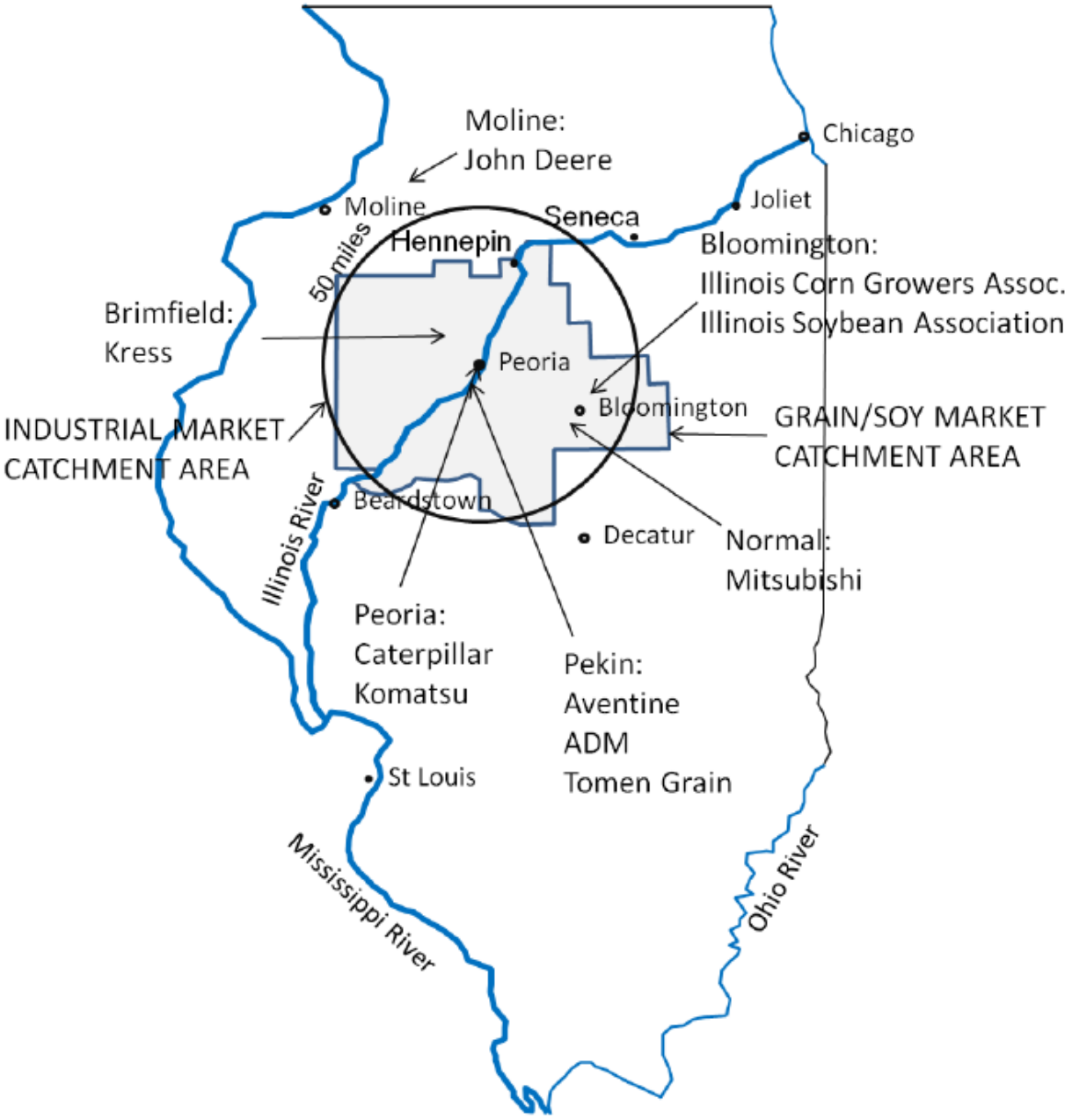
- Where the geography and market were favorable, services could work
- Infrastructure gaps and modal connectivity need to be addressed
- Handling costs and vessel operations continue to be the major cost drivers
- Must be part of a total supply chain package

Heartland of America, M-55 Study

M55 – Study Findings

- Viable for RORO and study is starting point for starting service
- Building block for containerized cargo
- Containerized products in study focused on identity preserved grains and soy

Figure 1: Map of the Study Area



21 Key COB Findings

- Containerized grain is a core market opportunity
- Repositioning of container empties is key factor
- Inland port's market is optimally 50 mile radius
- Greatest success COB is with regular schedule to gateway port
- Modal integration needed
- COB concentrated on international trade
- Northbound backhaul is critical
- Mismatch in viability for COB cargo must be solved

Service Requirements Key

Figure 2: Strategies for Meeting Service Requirements

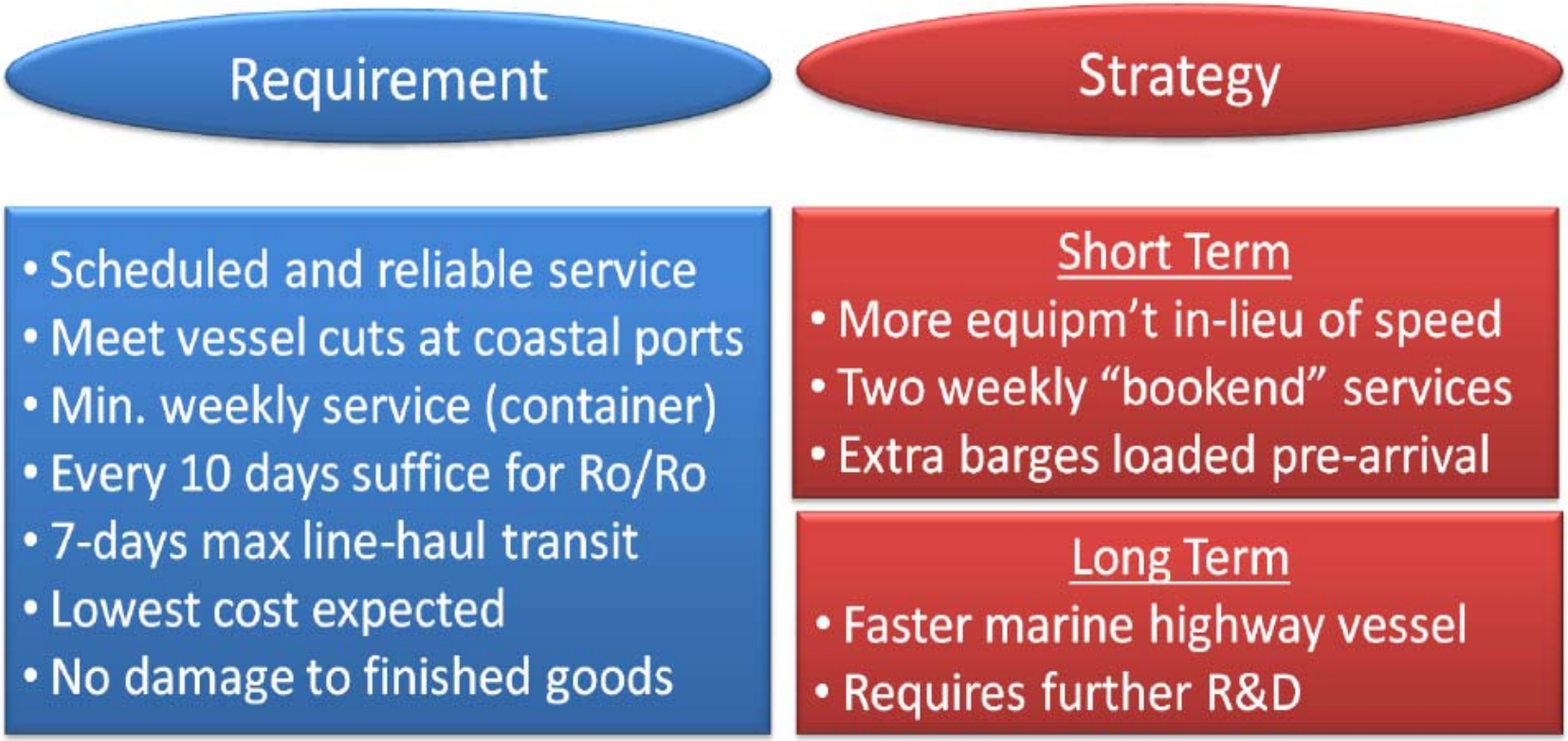


Figure 1: Market Development Phasing

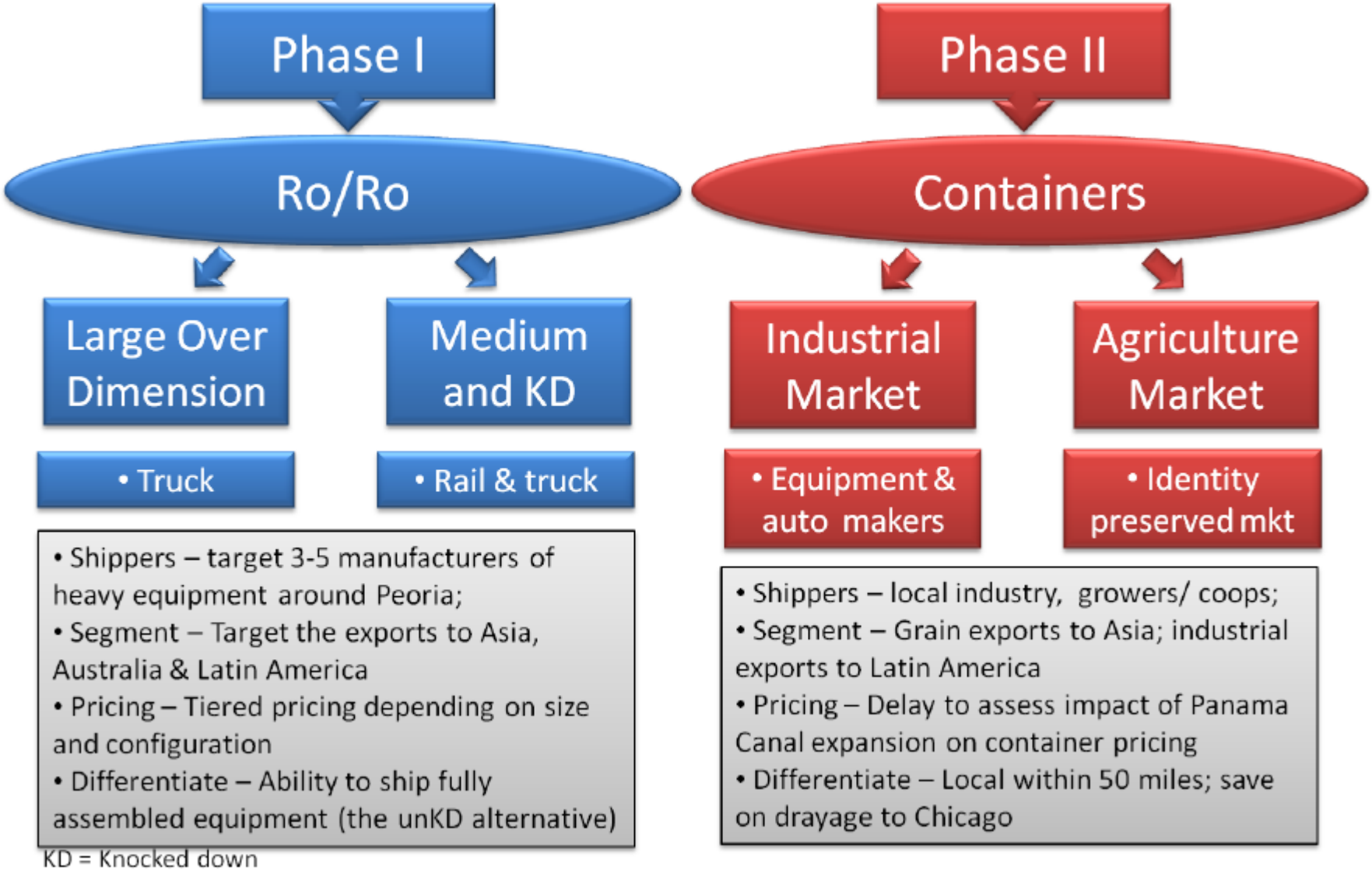


Figure 3: The Three Recommended Routes

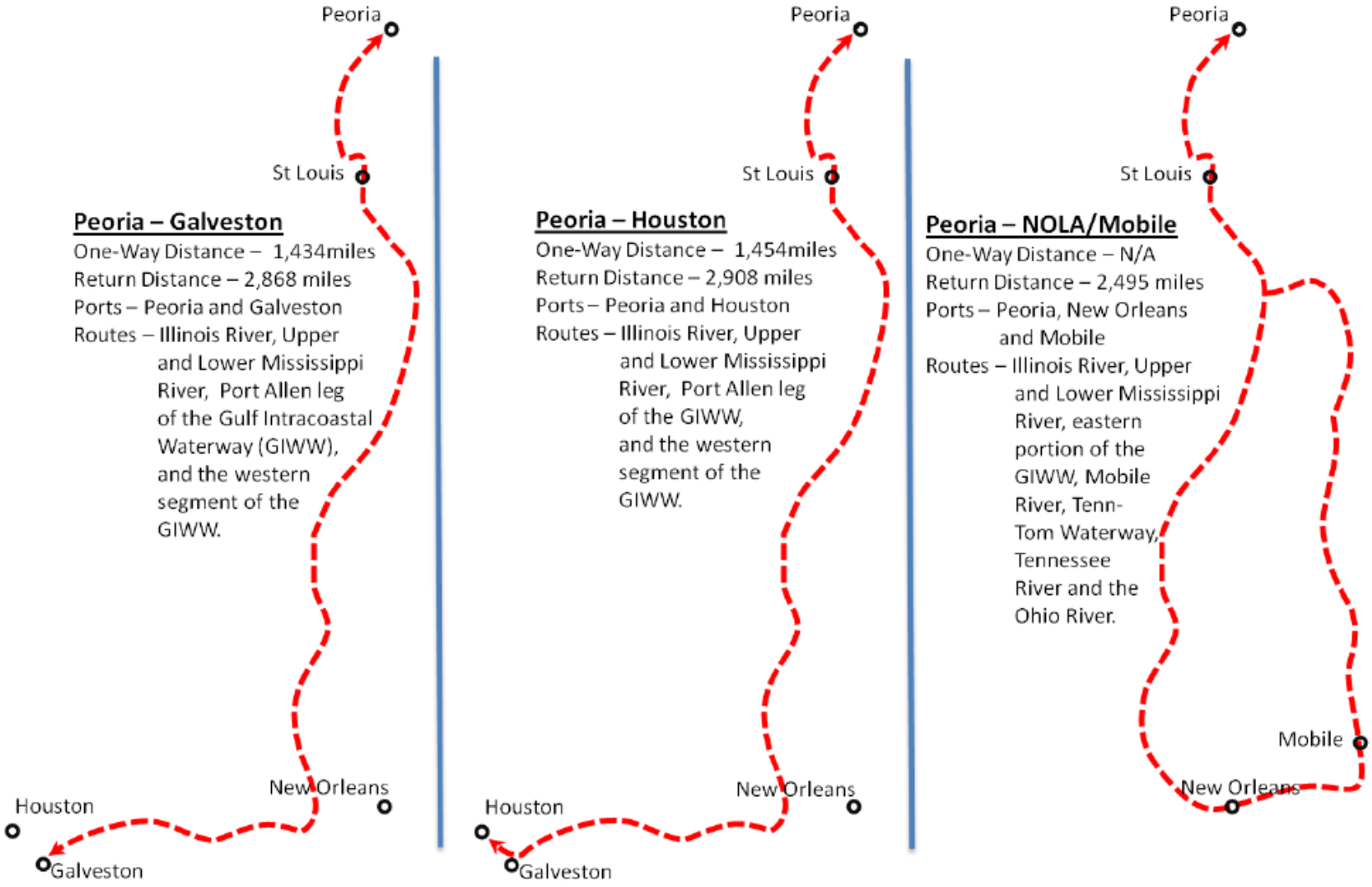
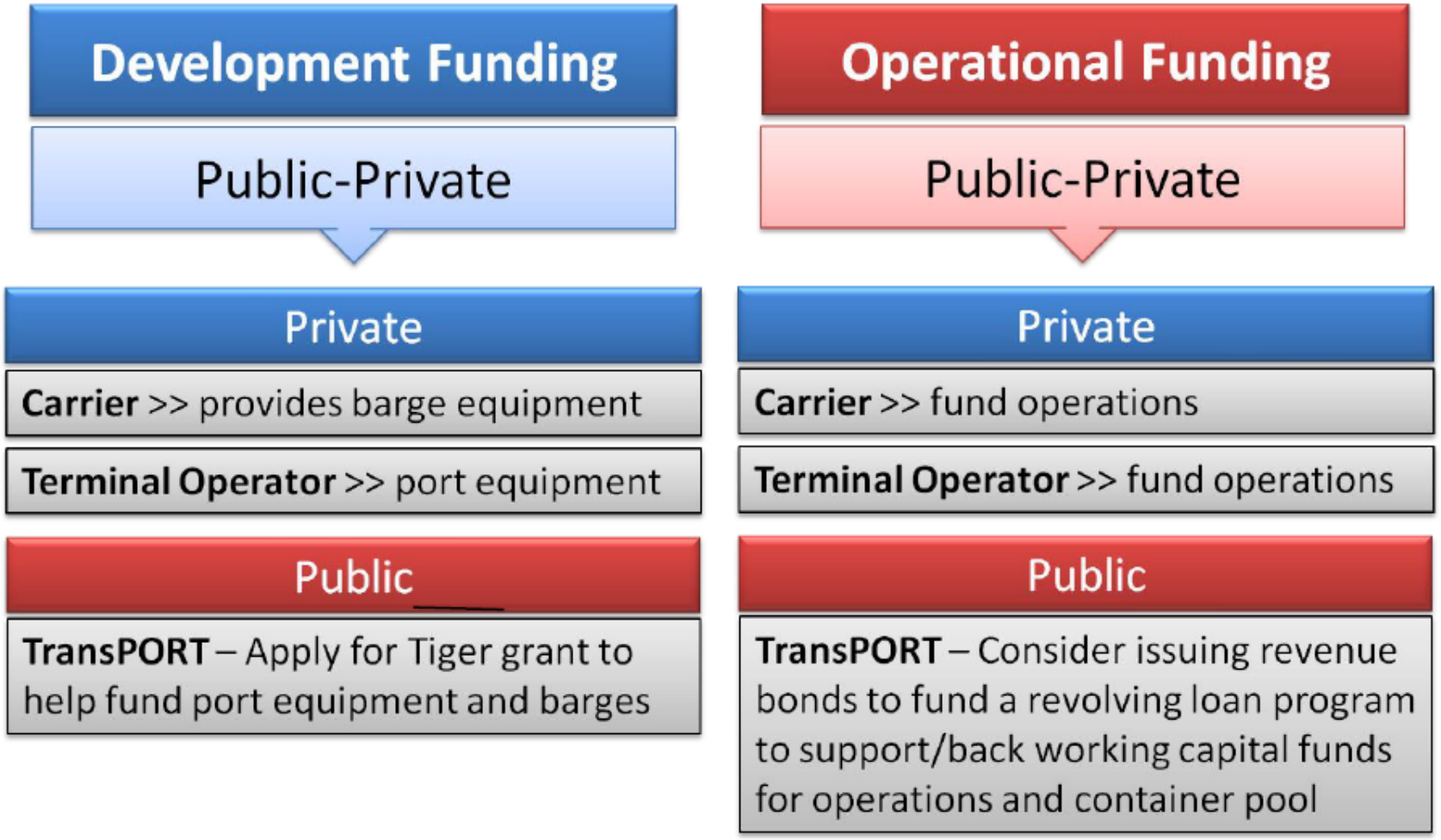


Figure 7: Shared Funding Role for Public and Private Sector



M-55 Corridor Benefit

1. Allows IDOT & MoDOT to pull in other stakeholder agencies for Maritime freight opportunities and development
2. Present Study along the entire M-55 Corridor, *(ie. St. Louis Port Working Group)*
3. Study helps establish baseline for future port studies for COB opportunities and overall awareness for maritime freight

Keeping Maritime Freight Mobility in Forefront

MAP – 21 Basic Requirements – Strategic Planning

1. Strategic Plan how DOTs to meet national freight goals & overview of trends, needs, and issues
2. **Freight policies & strategies aimed to guide freight-related decisions and enhance freight mobility & regional collaboration**
3. Condition & performance of state freight system including measurements to be used to guide investment decision-making.

MARITIME COLLABORATION

- USDOT–MARAD, State DOTs, USACE
- Inland Rivers, Ports & Terminals Assn.
- Upper Mississippi Rivers Basin Assn.
- Upper Mississippi,Illinois & Missouri Rivers Assn.
- Big River Coalition & Louisiana Maritime Assn.
- Waterways Council, Inc.
- Mississippi River Cities & Towns Initiative
- Council of Great Lakes of Governors – Maritime Taskforce

Illinois State Freight Advisory Council (ISFAC)

- Standing Forum
- Public and Private Sector Interests
- Governor's Export Advisory Council Assistance
- http://www.dot.il.gov/freightcouncil/index.html
- Focus on Connectivity Across All Modes
- Advise IDOT on Establishing Regional Corridors to be a part of National Freight Network

Relevant Freight Questions

- How will the Panama Canal Expansion effect freight pricing on waterways and rail networks?
- What direction will Congress take in Freight planning and programming?
- Will U.S. DOT and Congress continue to emphasize the importance of Maritime navigation on inland waterways and at seaports?
- How will state DOTs and Metropolitan Planning Organizations integrate maritime movement in freight plans?

LRTP, Freight & State Rail Plan - 2012

- Long Range Transportation Plan (LRTP)
- Illinois Freight Mobility Plan
- Illinois State Rail Plan
- M-55 Study

You may access these reports by:
http://www.illinoistransportationplan.org/info_center/reports.aspx
http://www.dot.il.gov/ilrailplan/Info.html
http://www.dot.il.gov/freightcouncil/documents.html

Questions?

Kevin Schoeben
Deputy Director
Office of Planning and Programming
Illinois Department of Transportation
2300 South Dirksen Parkway, Rm 300
Springfield, Illinois 62764
217.557.5434

Kevin.Schoeben@illinois.gov

Original layout and slides were prepared by our MoDot friend:

Cheryl Ball
Waterways and Freight Administrator
Missouri Department of Transportation
105 W. Capitol
Jefferson City, Missouri 65102
573-526-5578

Cheryl.Ball@Modot.mo.gov