



MARINE BOARD SPRING MEETING

Funding Marine Transportation Infrastructure

May 24, 2017 Washington, DC



American Society of Civil Engineers Infrastructure Report Card 2016

Waterways & Ports Nationally –

2016 - 2025

Total Needs = \$37 billion

Funding = \$22 billion

Funding Gap = \$15 billion

2016 - 2040

Total Needs = \$112 billion

Funding = \$ 69 billion

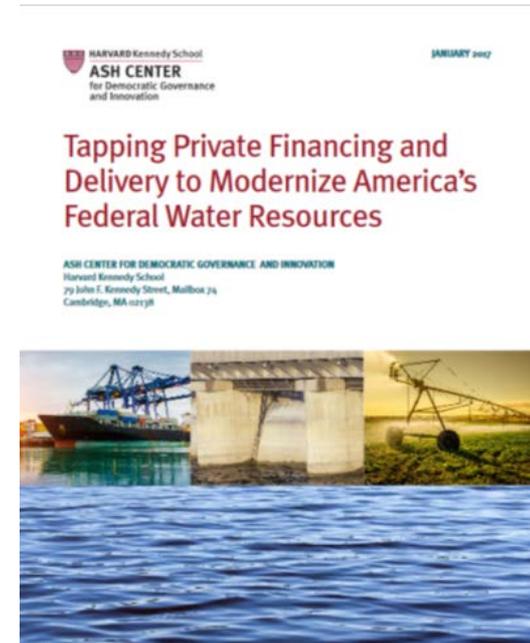
Funding Gap = \$ 43 billion



2017 Harvard Ash Center Report on Water Resources

USACE's Civil Works Spending 1962-2016

		1962	2016
As percent of GDP	- 4.0x	0.16%	0.04%
GDP (nominal)	4.82x	\$3.3 trillion	\$15.9 trillion
Foreign Trade Value	17.9x	\$207 billion	\$ 3.7 trillion
Foreign Trade Portion		6.3%	23.3%
Corps CW (in 2009 \$)	0.0x	\$5.9 billion	\$5.9 billion



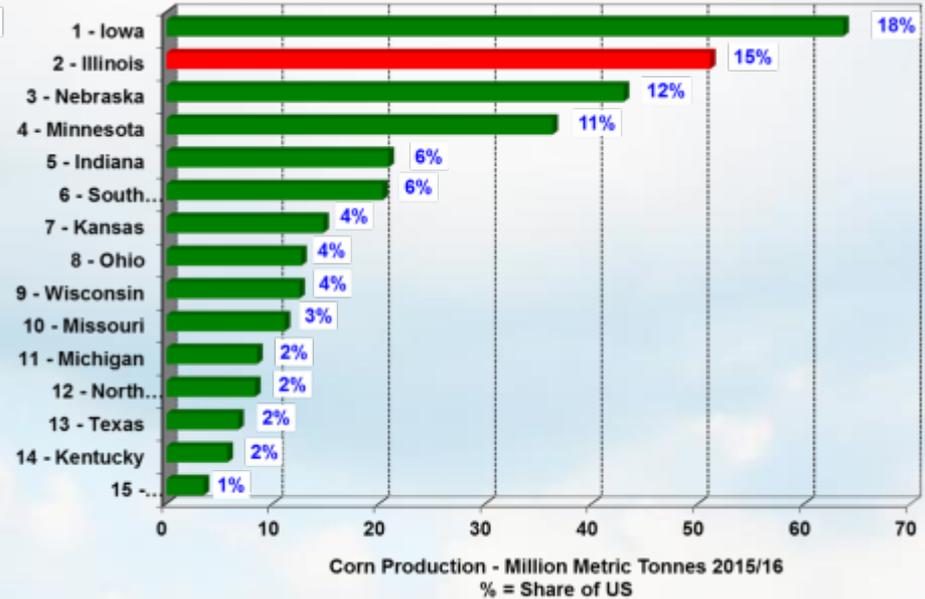
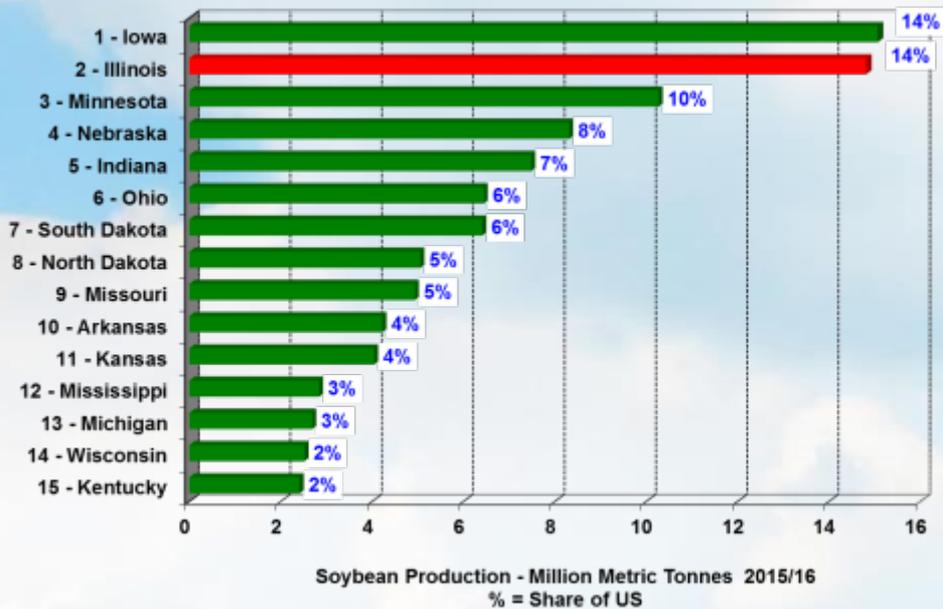
Association of Equipment Manufacturers (AEM) Survey

- 2,000 registered voters surveyed
- Half believe infrastructure has gotten worse over the past five years
- A majority said Roads & Bridges are in “extreme” need of repair.
- At least some need of repairs
 - ◇ Roads (92 percent) (Extreme)
 - ◇ Bridges (89 percent) (Extreme)
 - ◇ Water pipelines (88 percent)
 - ◇ Energy grids (80 percent)
 - ◇ Railways (80 percent)
 - ◇ Dams (76 percent)

Illinois Agriculture Production

14% of U.S. Soybeans
14,814 million tonnes

15% of U.S. Corn
(51,120 million tonnes)



USDA Modal Shares: 2013

5 year average (%)

Mode/ Year	Corn			Wheat			Soybeans			All grains		
	Exports	Domestic	All corn	Exports	Domestic	All wheat	Exports	Domestic	All soybeans	Exports	Domestic	All grains
Rail												
2013	27	17	18	49	53	51	29	14	21	35	21	24
5-yr avg	36	20	23	66	65	66	38	13	25	45	23	29
Barge												
2013	61	1	6	40	2	21	42	3	22	45	1	12
5-yr avg	54	1	9	29	2	14	49	2	23	45	1	13
Truck												
2013	12	82	76	11	45	27	29	83	57	20	78	64
5-yr avg	10	79	68	6	33	20	13	84	52	10	76	58

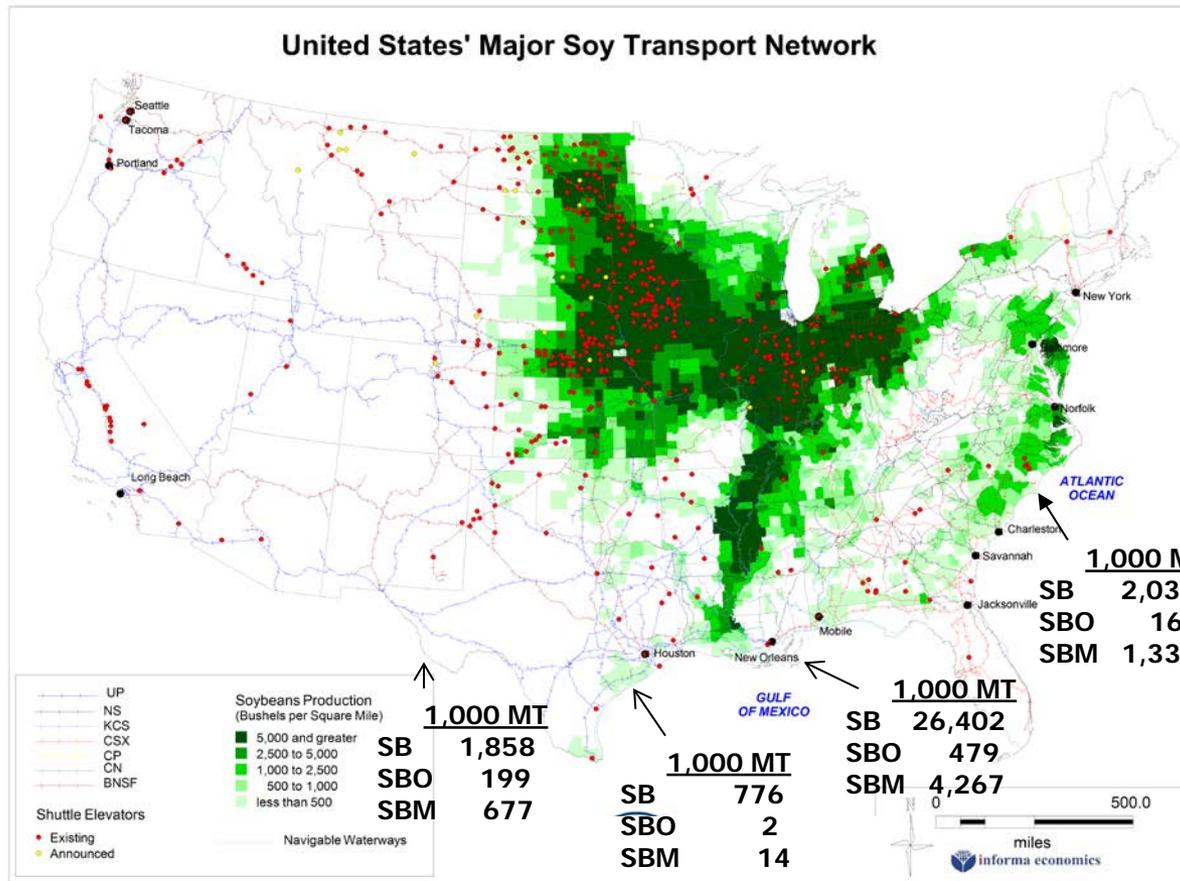
Source: USDA

<http://www.ams.usda.gov/sites/default/files/media/ModalJune2015.pdf>

US Soybean, Soybean Oil & Soybean Meal Exports

1,000 MT
 SB 11,117
 SBO 2
 SBM 278

1,000 MT
 SB 1,473
 SBO 5
 SBM 205



1,000 MT
 SB 1,858
 SBO 199
 SBM 677

1,000 MT
 SB 776
 SBO 2
 SBM 14

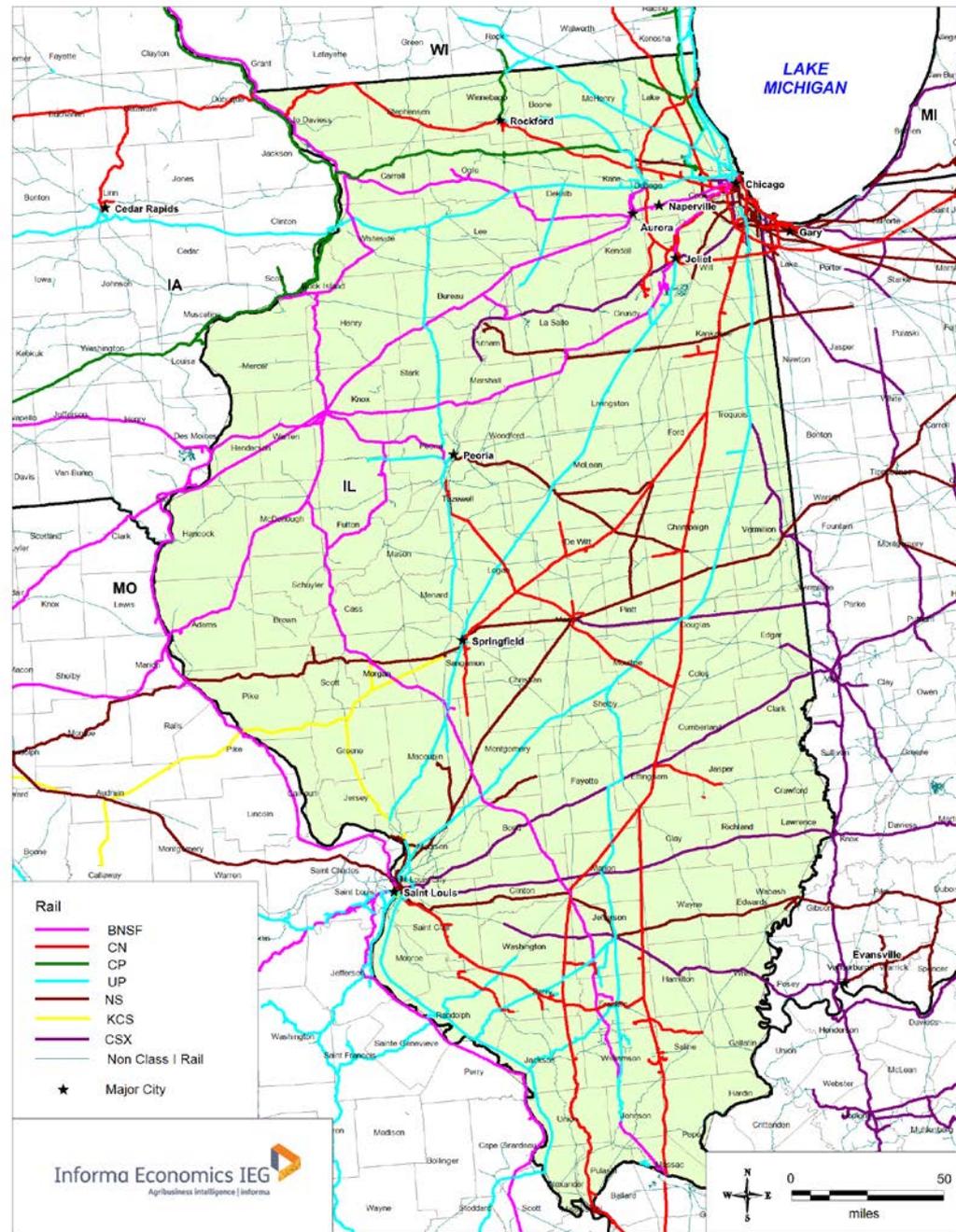
1,000 MT
 SB 26,402
 SBO 479
 SBM 4,267

1,000 MT
 SB 2,035
 SBO 165
 SBM 1,338

SB PORTS	%
ATL	4
GULF	58
TEXAS	2
MEX	4
PSW	3
PNW	24
Other	5

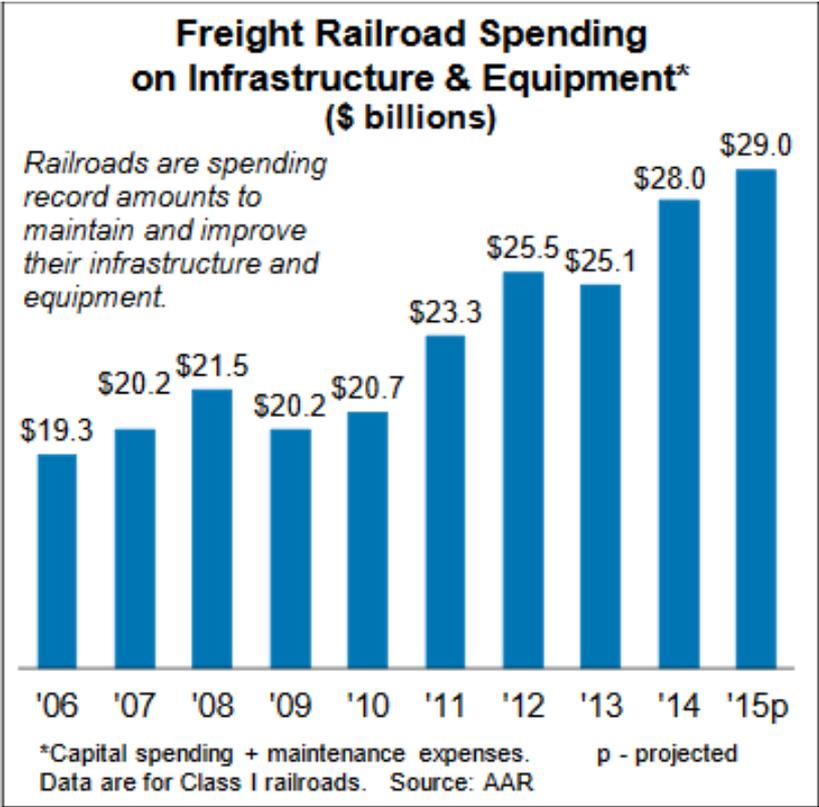
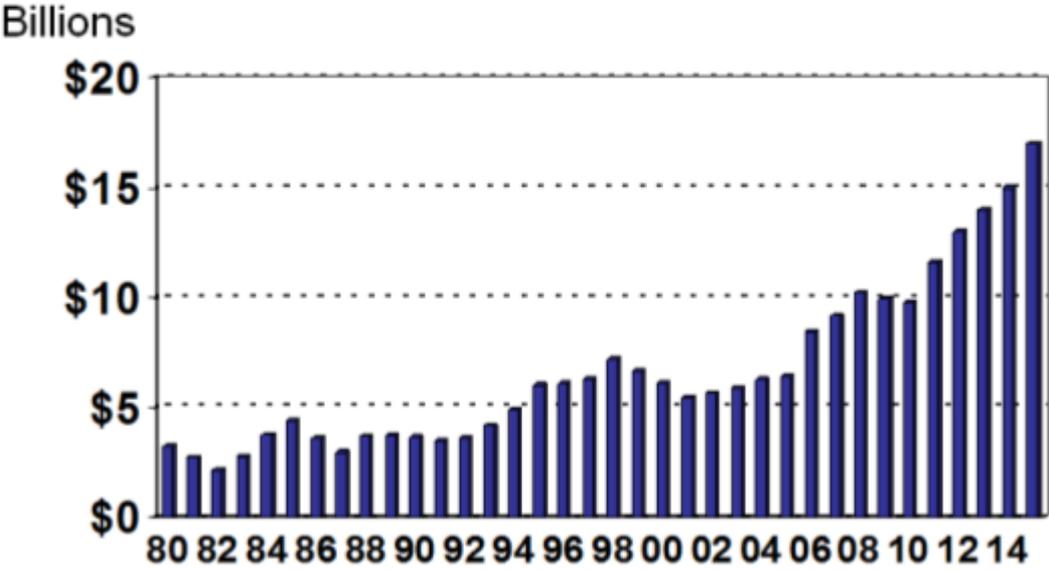
3-year average 2013-2015

Illinois Rail Network



Railroad Capital Expenditures

Class I Railroads



CLASS I Rail Industry Investments ('15)

\$64.9 BILLION



RUN

58%



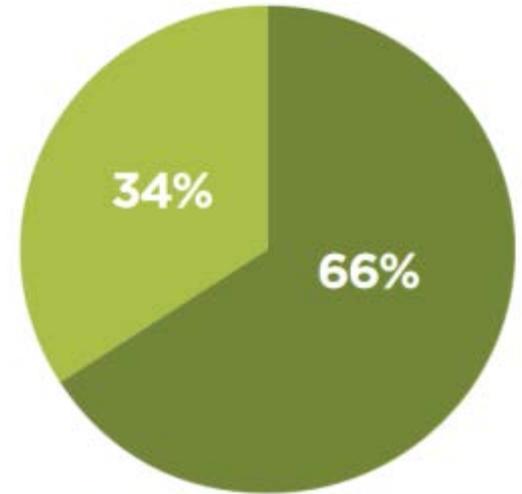
MAINTAIN

15%



GROW

27%



TRACK AND PROPERTY
\$7.5 billion

66%

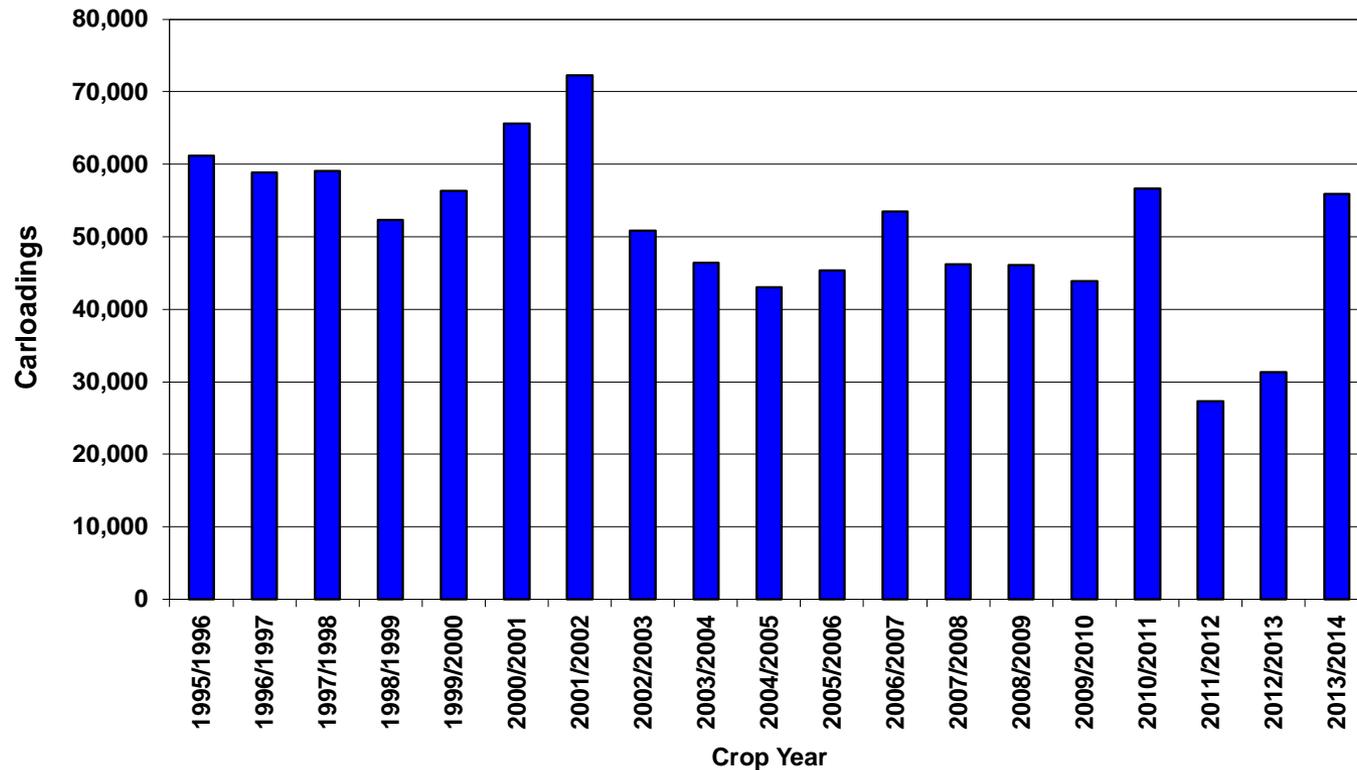
EQUIPMENT
\$3.9 billion

34%

Total Soybean Carloadings in and around Illinois

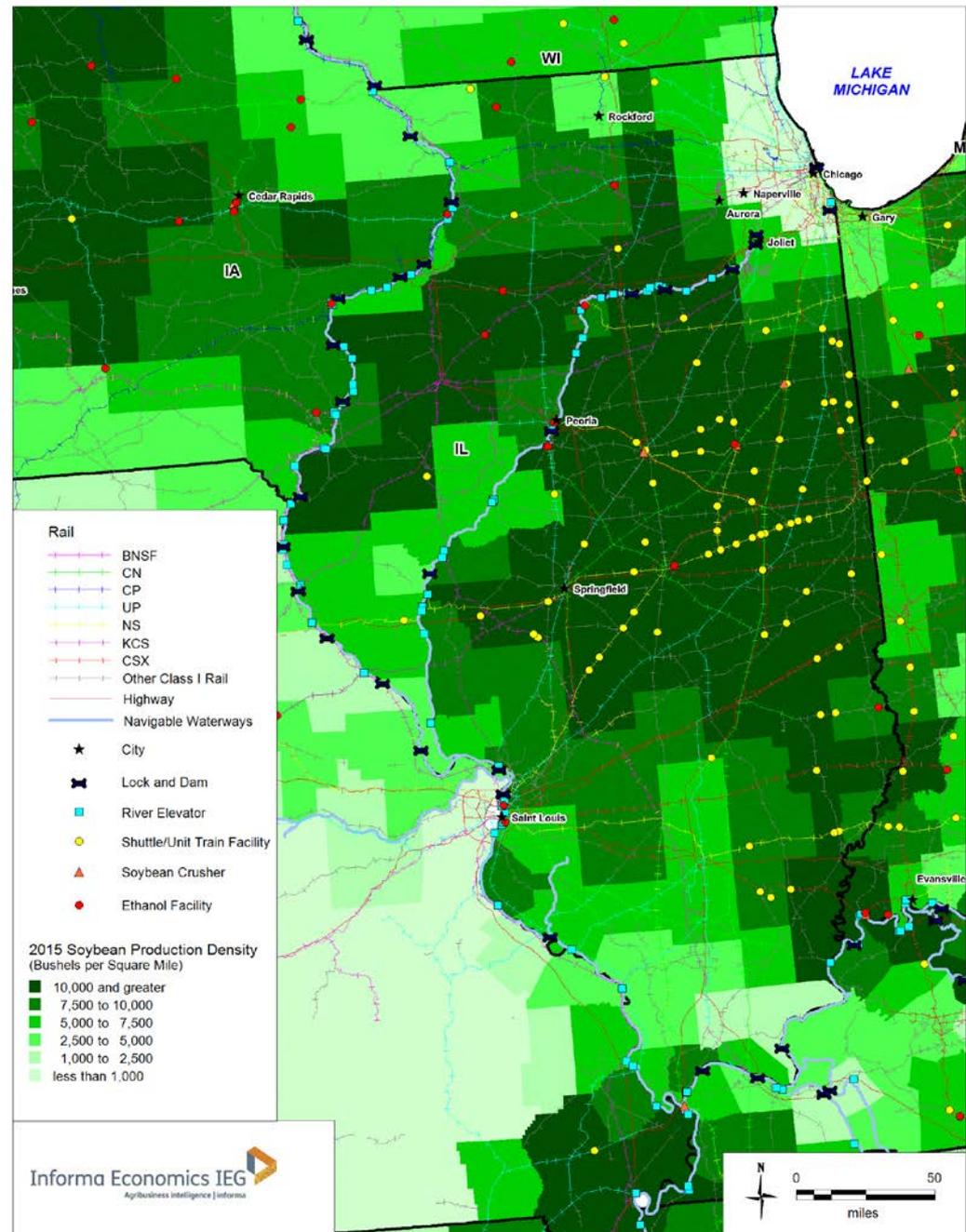
Carloadings fairly constant as larger railcars being used, allowing same or larger volume with fewer railcars; lower Carloadings in 2011/12 and 2012/13 reflect smaller crops.

Total Soybean Carloadings



Source: Public Use Waybill and Informa Economics

Illinois Soybean Infrastructure



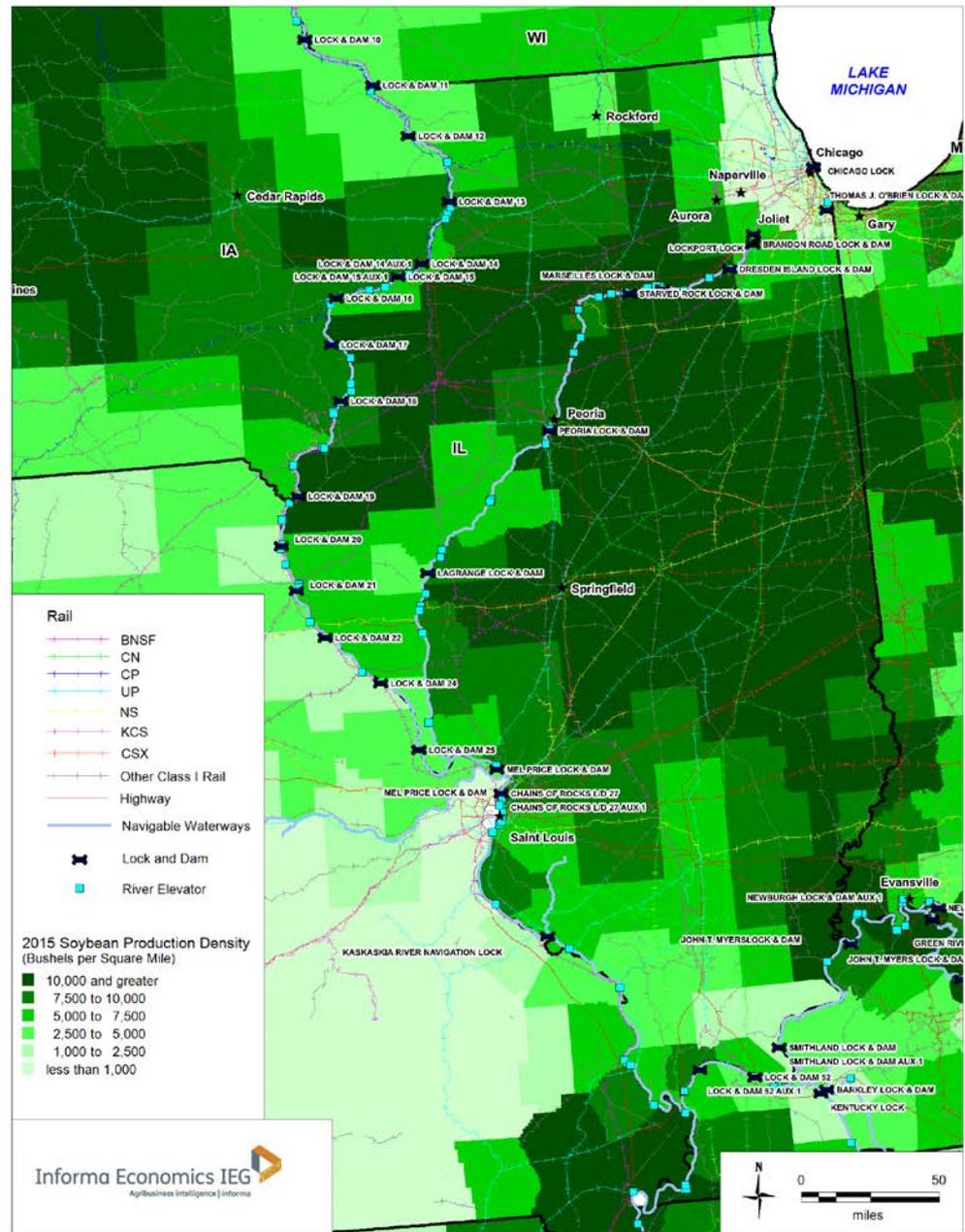
Illinois River Network

29 Locks and Dams

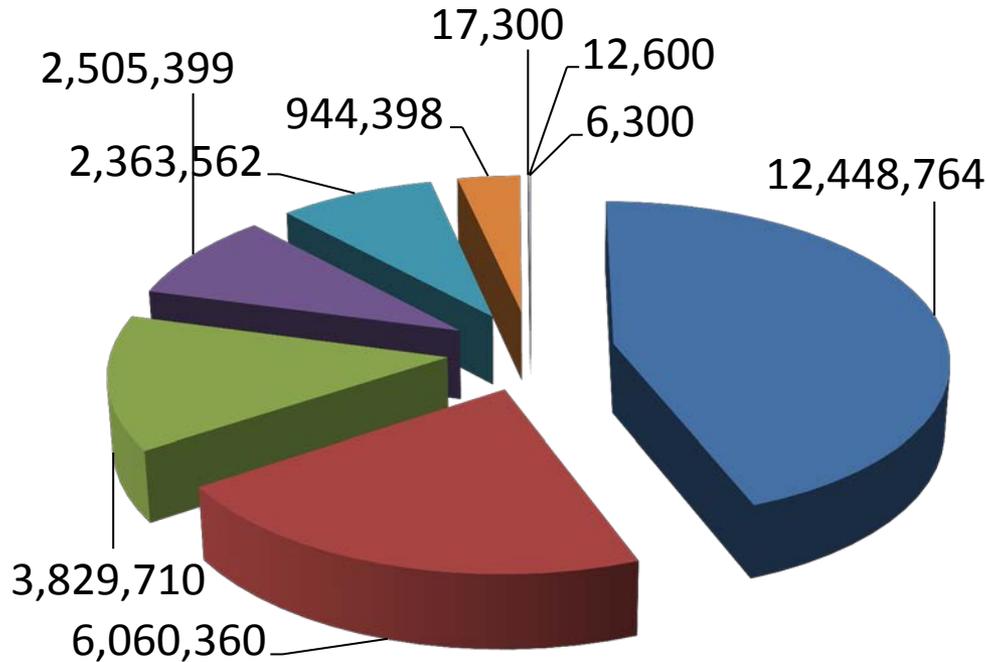
- Mississippi
- Ohio
- Kaskaskia

➤ Illinois Waterway

➤ 65 River Grain Terminals



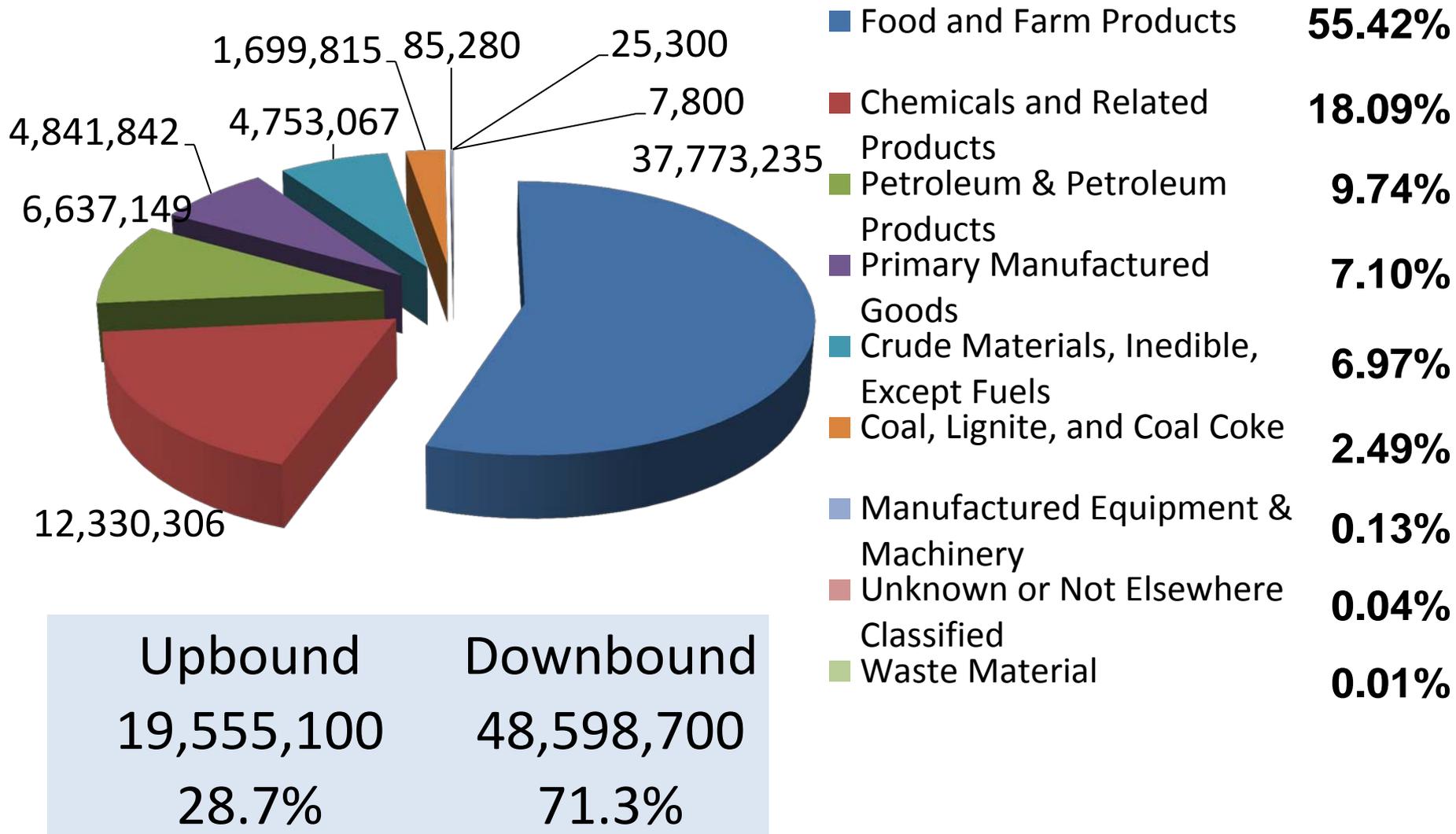
La Grange Tonnage (2016)



- Food and Farm Products **44.16%**
- Chemicals and Related Products **21.50%**
- Petroleum and Petroleum Products **13.59%**
- Crude Materials, Inedible, Except Fuels **8.89%**
- Primary Manufactured Goods **8.38%**
- Coal, Lignite, and Coal Coke **3.35%**
- Manufactured Equipment & Machinery **0.06%**
- Unknown or Not Elsewhere Classified **0.04%**
- Waste Material **0.02%**

Upbound	Downbound
9,303,700	18,884,700
33.1%	66.9%

Chain of Rocks Channel – Lock 27 (2016)



The Illinois Waterway

- U.S. Army Corps of Engineers
- Illinois River
 - ◇ 273 miles long, 9 locks
 - ◇ State of Illinois - DNR, DOT, EPA
 - ◇ Drainage basin
 - 28,756.6 sq. miles
 - ◇ 23,200 ft³/s (656.95 m³/s)
 - ~12' x 10' x 200' wall of water
- Critical Connectivity
 - ◇ Des Plaines River
 - ◇ Mississippi River
 - ◇ Calumet River
 - ◇ Chicago River
 - ◇ 303 Terminal Facilities per USACE Navigation Charts
 - Many with Rail and/or Truck access



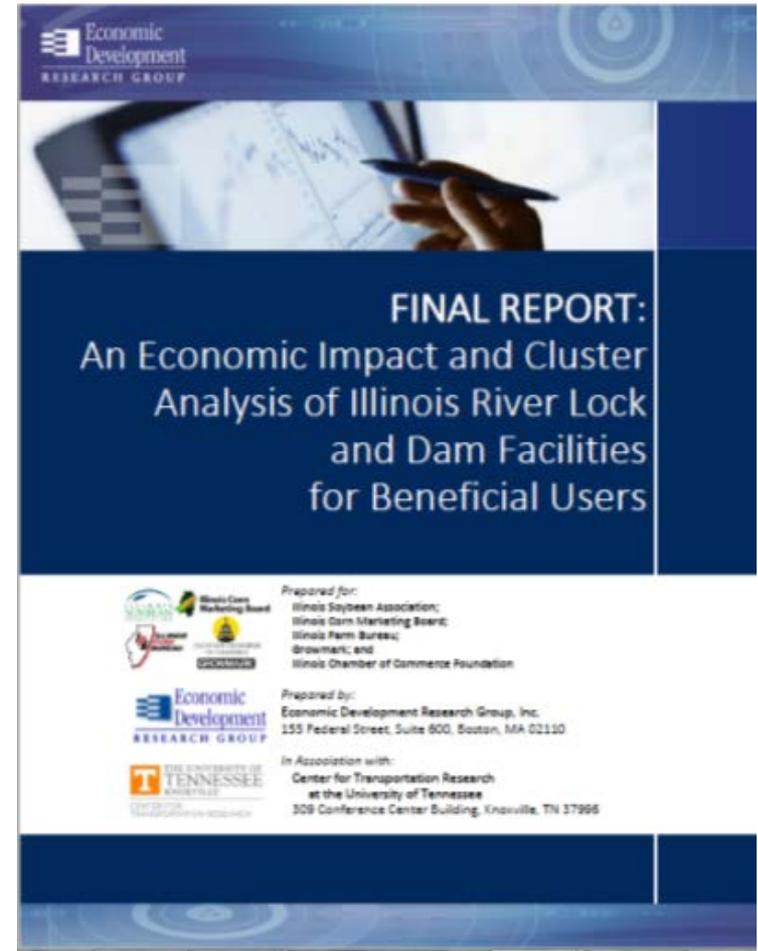
To Whom Does The Illinois Waterway Matter?

Sector	Value	Quantification
Freight Shippers	Value of the goods	\$10-13 Billion
Barge Carriers	Barges Locked (93,838)	11-yr Low Cargo (62,361)
Municipal Water	Clean available water	e.g., Peoria >8B gals.
Industrial Water	Clean available water	USACE Pool Storage
Recreational Boating	Boating, fishing	275,386 registered in IL
Irrigation	Clean available water	Surface Water Volume (USGS)
Real Estate Property	View, Access, Assets	Incremental appreciation (\$/ft.)
Sewerage Assimilation	Dilution	Processed and natural water returned to river
Community Congestion	Quality of Living	Relieves Inefficient transit times
Hydropower	Energy generation	Electricity production (¢/kWh)
Air Quality	Community Health	Carbon-load advantages (\$ & ¢ / ton-mile by mode)

Illinois Waterway Economic Impact Study Published August 2016

O&M for 7 of 9 Waterway L&D's

- 22 counties; All Illinois & 4 other states
- 47% of all employment in the study area
- 24 million tons of cargo annually
- 8.3 million tons of grain
- 1.7 million jobs at over 110,000 firms
- **\$102.5 Billion in Wages annually**
- **Annual economic Output = \$24.4 mm**
- **Value Add = \$9.8 million annually**
- **Income Effect = \$6.0 million**
- **Jobs effect = 98 annually**



National Economic Impact Study Spring 2017



Annual Shipper Savings

From O&M at 7 L&D sites =

\$57,271,167

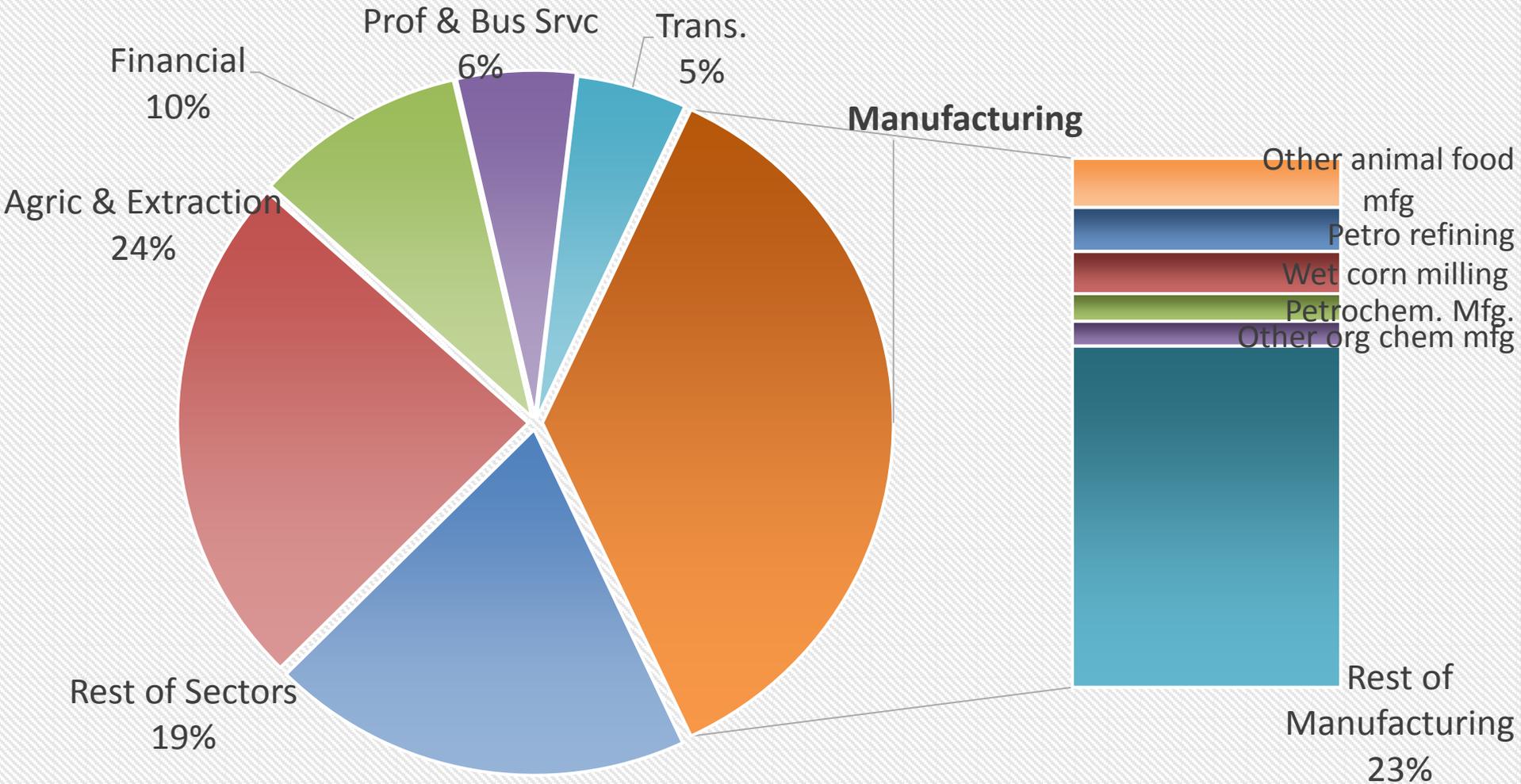
Aggregates	All Other	Chemicals	Coal & Coke	Grains	Iron & Steel	Petroleum Fuels
\$9,760,670	\$6,323,630	\$7,541,777	\$8,712,020	\$12,988,440	\$1,067,175	\$7,877,455

State of Illinois

Annual Economic Impact from \$512.4 mm

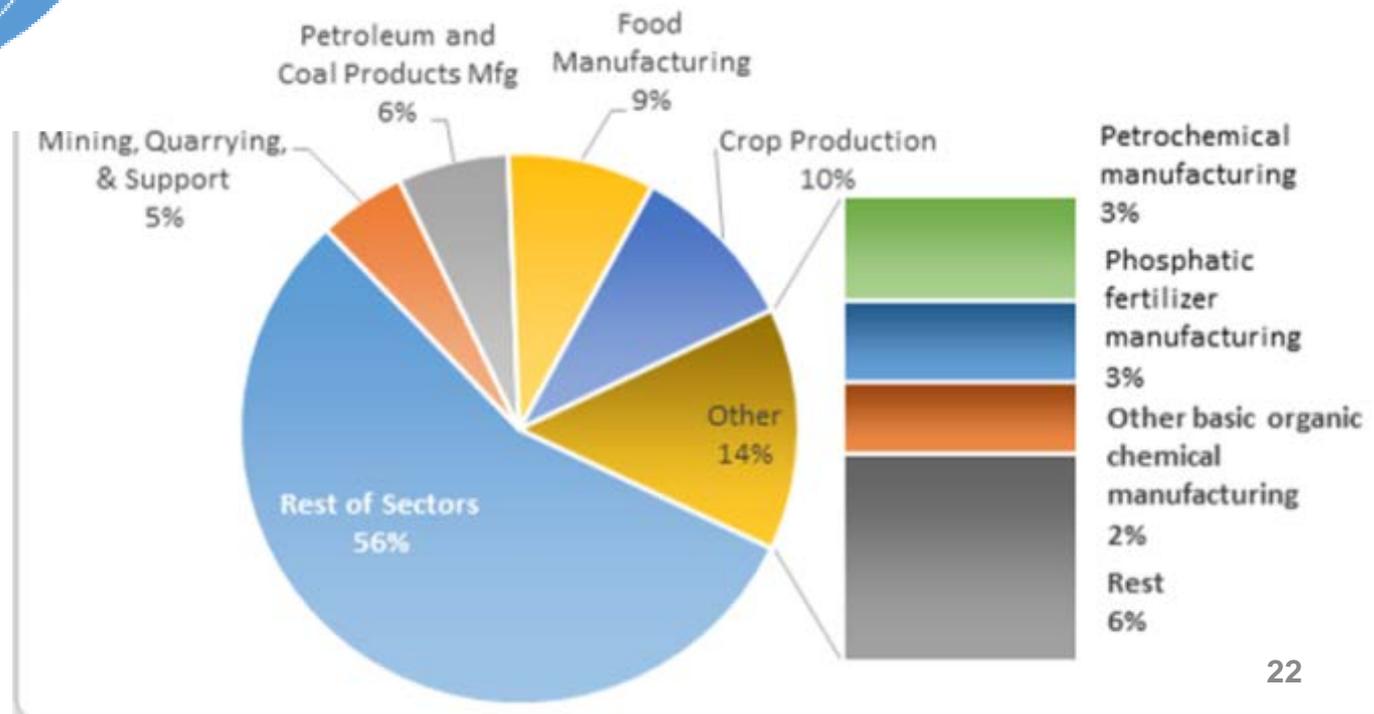
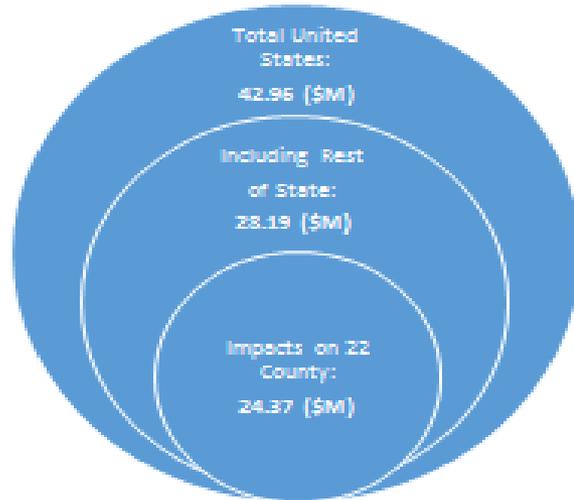
Output	Value Add	Income	Employment
Illinois (millions of \$)			
\$ 28.20	\$ 11.00	\$ 6.50	107.8
Rest of U.S.			
\$ 14.77	\$ 6.87	\$ 3.58	60
U.S. Additional Impact relative to Illinois			
52.38%	62.45%	55.08%	55.66%

Breakout of Aggregated Economic Impact by Sector:



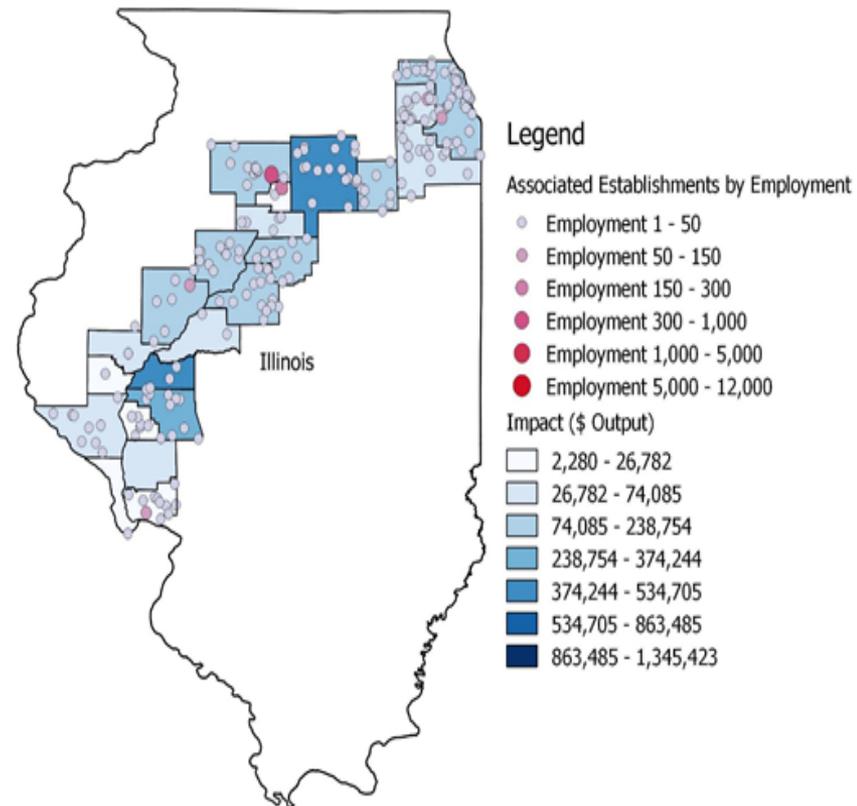
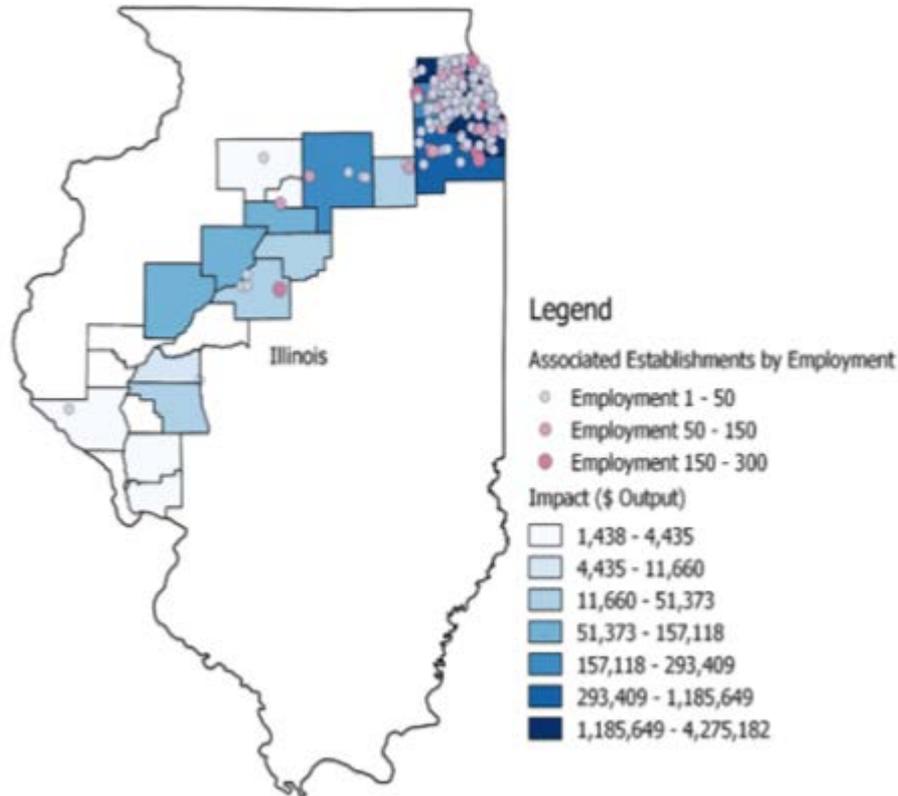
Source: Report pg. 28

Lock Rehabilitation Impacts



Chemical Industry

Crop Production



Allocating Additional Funding Prioritization Criteria – A Systems Approach

- 1. Ability to complete ongoing work maintaining authorized depths and widths of harbors, shipping channels, including where contaminated sediments are present;**
- 2. Ability to address critical maintenance backlog;**
- 3. Presence of U.S. Coast Guard;**
- 4. Extent that work will enhance national, regional, or local economic development, including domestic manufacturing capacity;**
- 5. Extent to which the work will promote job growth or international competitiveness;**
- 6. Number of jobs created directly by the funded activity;**

Allocating Additional Funding Prioritization Criteria – A Systems Approach (Continued)

- 7. Ability to obligate funds allocated within a calendar year;**
- 8. Ability to complete project, separable element, project phase, or useful increment of work given funds allocated;**
- 9. Risk of imminent failure or closure of the facility;**
- 10. Harbor maintenance activities, based upon:**
 - a. Total tonnage handled;**
 - b. Total exports;**
 - c. Total imports;**
 - d. Dollar value of cargo handled;**
 - e. Energy infrastructure and national security needs served;**
 - f. Designation as strategic seaports;**
 - g. Lack of alternative means of freight movement;**
 - h. Savings over alternative means of freight movement; and**
- 11. For other authorized project purposes, authorized activities related to flood and drought monitoring.**

Alternative Approach to Necessary Resources

Money Doesn't Grow on Trees



Thank You!



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