

# ISFAC

06/19/17

## ***SAVE THE DATE***

**WHAT:** Illinois State Freight Advisory Council

**WHERE:** Illinois Department of Transportation  
Hanley Auditorium – Lower Level  
2300 S. Dirksen Parkway  
Springfield, IL 62764

**WHEN:** June 19, 2017  
1:00pm – 3:00pm



# Illinois State Freight Advisory Council

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## Agenda

June 19, 2017

1:00 PM

IDOT – Hanley Building – Auditorium

2300 S Dirksen Pkwy

Springfield, IL 62703

Conference Call Line: 888-494-4032/Access Code: 792 960 5249

- |   |  |
|---|--|
| <b>I. Introductions</b>   | <b>All/5 Mins</b>                                    |
| <b>II. State/Federal Freight Planning Update</b><br>IDOT and USDOT will provide updates on a number of ongoing freight planning initiatives.  | <b>IDOT/10 Mins</b>                                  |
| <b>III. Other Freight Planning Initiatives/Project Updates</b><br>ISFAC members and attendees can provide updates on freight related planning and capital projects.   | <b>All/15 Mins</b>                                   |
| <b>IV. IDOT Long Range Transportation Plan</b><br>The 2017 Long Range Transportation Plan is presently underway. An update on the plan status and next steps will be given.   | <b>IDOT/10 Mins</b>                                  |
| <b>V. Critical Urban/Rural Freight Corridor Update</b><br>The council will receive a status update on the identification of critical urban and critical rural freight corridors.  | <b>IDOT/10 Mins</b>                                  |
| <b>VI. IDOT Freight Plan Update</b><br>Staff will provide an overview on current work being completed for the freight plan. That includes freight commodity flows, trends, and bottleneck analyses.   | <b>IDOT/30 Mins</b>                                  |
| <b>VII. IDOT Freight Plan – Project Prioritization Discussion</b><br>Staff will provide information on the recently developed Performance Based Project Selection tool and discuss the role of ISFAC in providing input into the prioritization of freight capital projects for inclusion in the Illinois State Freight Plan. | <b>IDOT/30 Mins</b>                                  |
| <b>VIII. Upcoming ISFAC Meetings</b><br>September 18, 2017<br>January 25, 2018  | <b>All/5 Mins</b><br>April 23, 2018<br>July 26, 2018 |
| <b>IX. Other Business</b>   | <b>All/5 Mins</b>                                    |



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**Overview**

- ☐ Why does Illinois need a Statewide Plan?
- ☐ 2012 State Plan: Transforming Transportation For Tomorrow 2017 Plan Update
- ☐ Performance Measures
- ☐ Modal Strategies
- ☐ Outreach
- ☐ Next Steps



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**Why does the state need a Long Range Transportation Plan (LRTP)?**

"We want our Long Range Transportation Plan to drive how we operate as an agency and how we are making investment decisions. By working together with members of the public and our industry partners, we are confident we can develop a solid vision for how we are going to invest in transportation in Illinois over the next 10 to 20 years."


-Illinois Transportation Secretary Randy Blakenhorn

**Federal Requirements**


- ☐ 23 USC 135(f) and 49 USC 5304(f)
- ☐ 23 CFR 450.210

**State Requirements**

- ☐ Public Act 097-0032



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### 2012 Transforming Transportation for Tomorrow

- ❑ IDOT considered eight policy factors in development of the 2012 Plan
- ❑ 184 action items were established, examples include:
  - Establish a statewide advisory committee for freight
  - Develop a Climate Change Adaptation Plan
- ❑ 135 are complete or in process as of today
- ❑ The 2017 Plan Update will continue to build on these action items with updated objectives & strategies

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
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### 2017 LRTP Goals

- ❑ **Economic Growth:** Improve Illinois' economy by providing transportation infrastructure that allow for the efficient movement of people and goods.
- ❑ **Livability:** Enhance quality of life across the state by ensuring that transportation investments advance local goals, provide multimodal options and preserve the environment.
- ❑ **Access:** Support all modes of transportation to improve accessibility and safety by improving connections between all modes of transportation.
- ❑ **Resilience:** Proactively plan and invest in the state's transportation system to ensure that our infrastructure is prepared for extreme weather events.
- ❑ **Stewardship:** Safeguard existing funding and increase revenues to support system maintenance, modernization, and strategic growth of Illinois' transportation system.
- ❑ **Safety:** Ensure the highest standards in safety across the state's transportation system.

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
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### Making Progress...

- ❑ Measuring LRTP Implementation
- ❑ Project Selection
- ❑ Federally Required Performance Management

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## Measuring LRTP Implementation

Sample objective:

Goal	Mode	Objective	Strategy	Implementer(s)	Proposed Measure	Data
Livability	Highways	Ensure highway projects achieve local goals	When developing the purpose and need of a project, consult the goals of the State, surrounding community, and fiscal realities	IDOT - project development	Increase in project accomplishment, decrease in environmental impacts, reduced congestion, decrease in incidents and incident severity	# of projects accomplished, environmental impacts, traffic flow, incident data



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## Project Prioritization

IDOT utilized a Performance Based Project Selection Process to evaluate and help prioritize major expansion projects within the FY2018-2023 Proposed Highway Improvement Program.

The measures developed based on the LRTP goals:

- ☐ Traffic Operations/Congestion
- ☐ Safety, Economic Development
- ☐ Accessibility /Multimodalism
- ☐ Livability / Environmental Impacts
- ☐ Regional Ranking



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## Federal Performance Measures

### National Goals

- ☐ **Safety** - To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
- ☐ **Infrastructure Condition** - To maintain the highway infrastructure asset system in a state of good repair
- ☐ **Congestion Reduction** - To achieve a significant reduction in congestion on the National Highway System
- ☐ **System Reliability** - To improve the efficiency of the surface transportation system
- ☐ **Freight Movement and Economic Vitality** - To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.
- ☐ **Environmental Sustainability** - To enhance the performance of the transportation system while protecting and enhancing the natural environment.
- ☐ **Reduced Project Delivery Delays** - To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

[23USC §150(b)]



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# Coordinated Plans

Long Range Transportation Plan

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# Freight Plan

□ The FAST Act provides freight formula funds to states with an FHWA approved freight plan

□ The Freight Plan will:

- Identify trends, needs, bottlenecks, goals, and performance measures, and develop strategies for improving freight movement in Illinois.
- Projects slated to use these funds, and how we are identifying & measuring projects.
- This plan will contribute to the national freight goals established under the FAST Act and align with the goals of the 2017 LRTP.
- Designate Illinois critical urban & rural freight corridors with input from the MPOs

□ Slated for release in November 2017



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# Rail Plan

□ The Illinois State Rail Plan will present a vision for the role of passenger rail and freight services in Illinois and illustrate what these services will look like in the future

□ The Rail Plan will:

- Present existing and future passenger and freight rail services, conditions, and needs in Illinois
- provide a framework to implement rail initiatives in Illinois and guide future rail investments

□ The Rail Plan will be included in the December LRTP



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## Asset Management Plan

- Federal transportation requires all states to develop an Asset Management Plan .
- The Plan will include:
  - Description and condition of pavements and bridges on the National Highway System
  - Asset Management objectives and measures
  - Summary of gaps between targeted and actual performance
  - Life-cycle cost and risk management analysis
  - Financial plan that addresses performance gaps
  - Investment strategies and anticipated performance
- Interim Transportation Asset Management Plan is due on April 30<sup>th</sup> 2018, with the final plan slated for FHWA review on or before June 30<sup>th</sup> 2019.



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## Outreach

- Outreach for the L RTP started in the summer of 2015 with communication amongst key internal and external stakeholders.
- In the summer of 2016, IDOT produced a Draft Goals survey and promoted the survey through social media and at the 2016 Illinois State Fair. This survey was available online and received over 700 responses were received.
- In early 2017, IDOT enlisted the help of UIC to conduct 2 rounds of outreach pertaining to objectives for the goals.
  - February, saw the release of the interactive outreach site [AllOurIdeas.org/IDOTIdeas](http://AllOurIdeas.org/IDOTIdeas). We received 541 visitors, provided 36,353 votes on individual objectives.
  - May, IDOT solicited feedback on budgeting prioritization six goals, continued refinement of the objectives
  - June/July MPO Presentations, Transport Chicago
  - July IDOT will hold 3 stakeholder workshops:
    - Chicago
    - Springfield
    - Metro East



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## Current Status

- Working with consultant to draft Chapters:
  - System Update
  - Integrate Modal Plans
  - Identify Priorities
  - Financial Plan
  - Appendixes & detailed research, requirements



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### Next Steps

- June/July**
  - MPO/Stakeholder outreach
  - Statewide workshops
  - Internal staff meetings
- August**
  - Public comment period on draft chapters
- Sept/Nov**
  - Revisions made to plan based on public comments
- December**
  - Final plan released

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### Questions?

Updates on the IDOT LRTP can be found at:  
<https://goo.gl/1QH6LG>

Specific questions about the plan can be emailed directly to  
[Christopher.Schmidt@illinois.gov](mailto:Christopher.Schmidt@illinois.gov)

Connect with us!

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## ILLINOIS STATE FREIGHT PLAN 2017

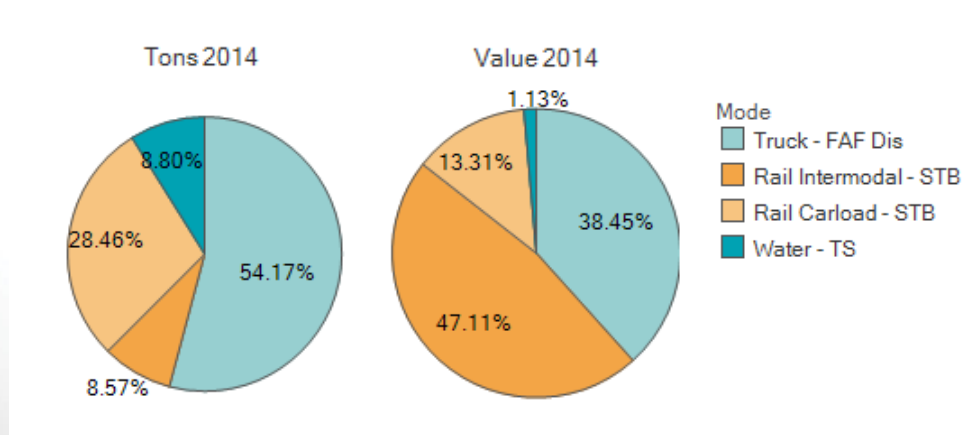
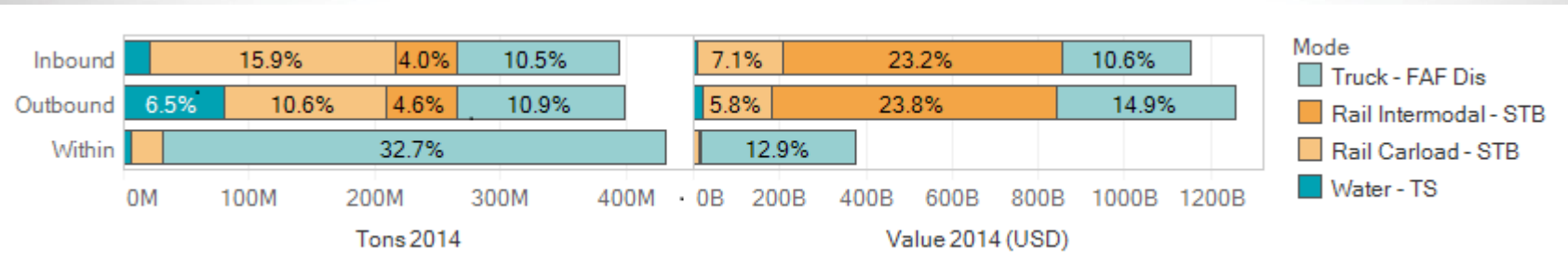
# Agenda



- Freight Traffic & Forecast
- Roadway Freight Bottlenecks

# IL-Based Freight Volume 2014

## 1.2 billion tons, \$2.8 trillion product value



# Air Cargo: 1.8 Million Tons (2013, different data type)



Inbound 2013	Belly		Freighter		Grand Total	
	Tons	% Tons	Tons	% Tons	Tons	% Tons
ORD - Chicago	217,085	93.8%	645,078	88.9%	862,163	90.1%
RFD - Rockford	44	0.0%	58,544	8.1%	58,588	6.1%
PIA - Peoria	3	0.0%	14,648	2.0%	14,650	1.5%
MDW - Chicago	14,249	6.2%			14,249	1.5%
CHI - Chicago			6,972	1.0%	6,972	0.7%
BLV - Belleville	0	0.0%	56	0.0%	56	0.0%
CMI - Champaign	6	0.0%	0	0.0%	6	0.0%
DPA - West Chicago			4	0.0%	4	0.0%
MLI - Moline	3	0.0%			3	0.0%
BMI - Bloomington	2	0.0%	0	0.0%	2	0.0%
SPI - Springfield	1	0.0%			1	0.0%
Grand Total	231,391	100.0%	725,302	100.0%	956,694	100.0%

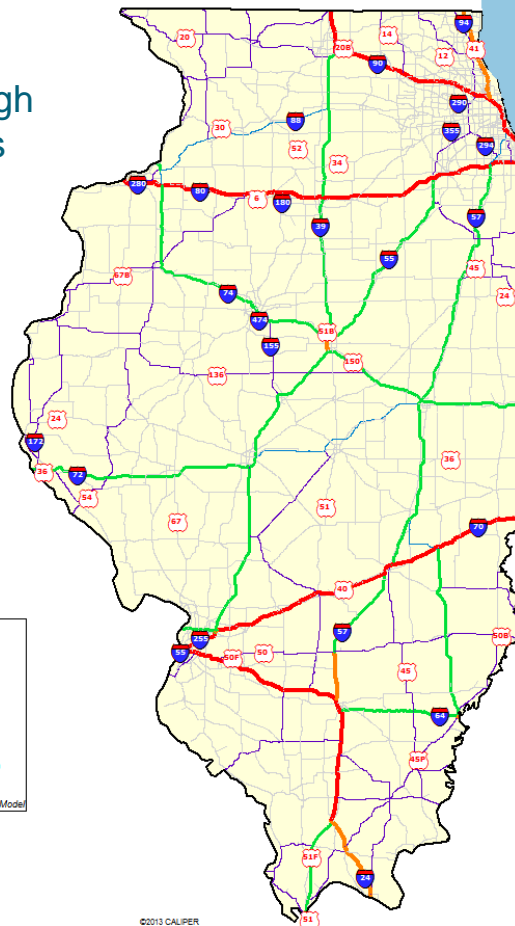
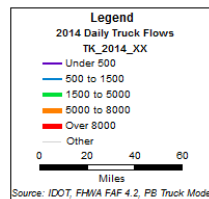
Outbound 2013	Belly		Freighter		Grand Total	
	Tons	% Tons	Tons	% Tons	Tons	% Tons
ORD - Chicago	183,469	92.4%	522,981	84.9%	706,450	86.7%
RFD - Rockford	78	0.0%	72,149	11.7%	72,227	8.9%
MDW - Chicago	14,934	7.5%			14,934	1.8%
PIA - Peoria	1	0.0%	14,703	2.4%	14,705	1.8%
CHI - Chicago			6,401	1.0%	6,401	0.8%
DPA - West Chicago			57	0.0%	57	0.0%
CMI - Champaign	3	0.0%	5	0.0%	8	0.0%
BMI - Bloomington	1	0.0%	4	0.0%	4	0.0%
MLI - Moline	3	0.0%			3	0.0%
Grand Total	198,489	100.0%	616,300	100.0%	814,790	100.0%

- One-quarter international belly cargo, virtually all Chicago
- Three-quarters freighter cargo, largely domestic
- ➔ Southern IL within trucking distance of domestic hubs

# Freight Passing Through IL

- Total truck VMT was 28 million vehicle miles in 2014
- 38% was from pass-through trucks
- Pass-through rail adds 44% to tonnage

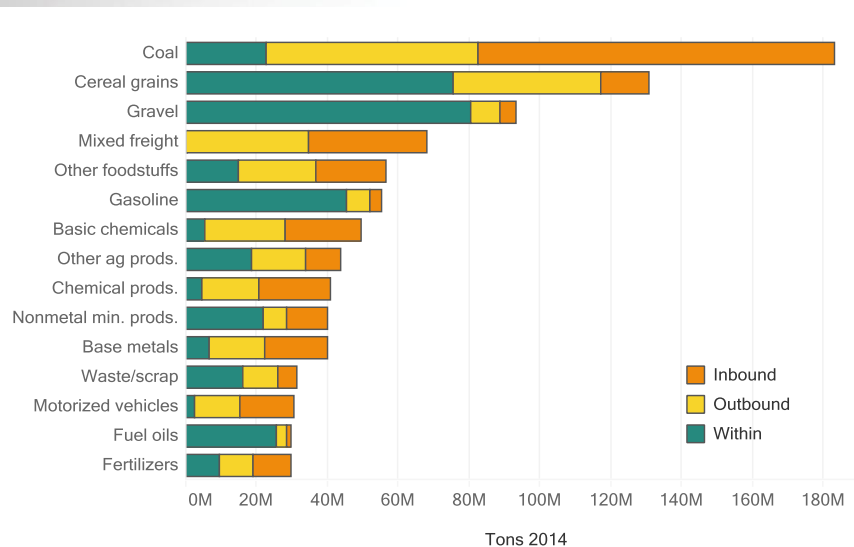
## Through Trucks 2014



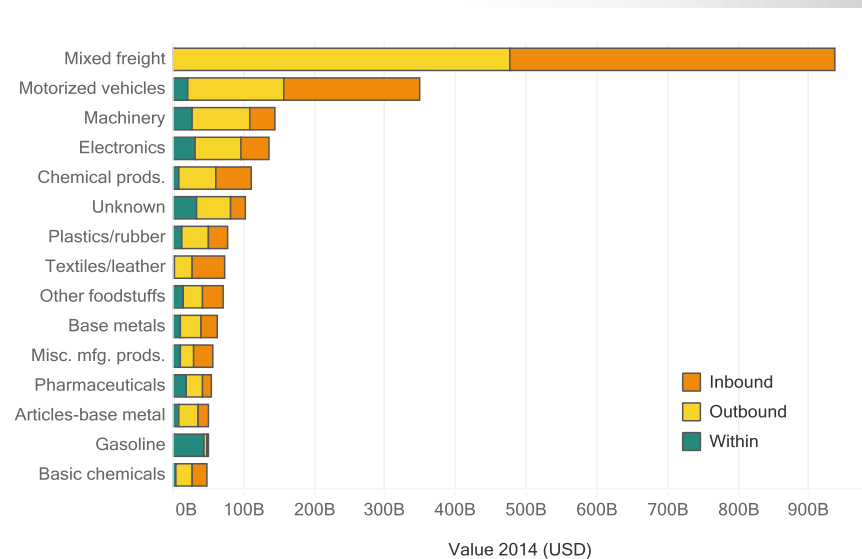
# Top 15 IL-Based Commodities: Detail by Direction



Tons:



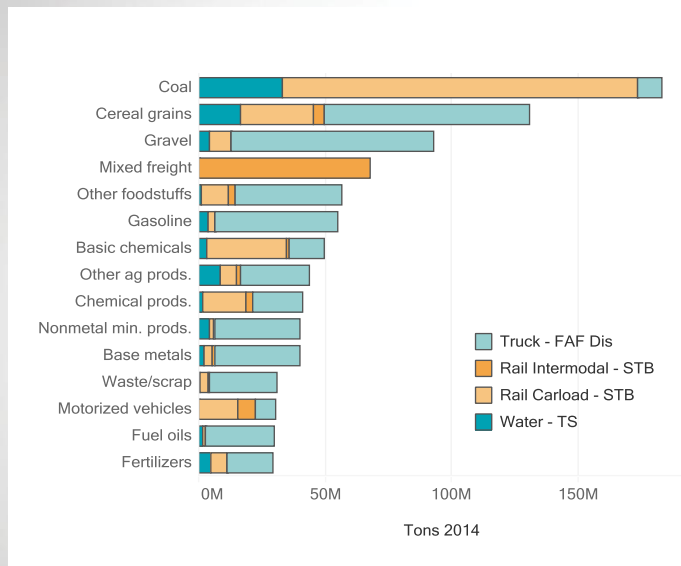
Value:



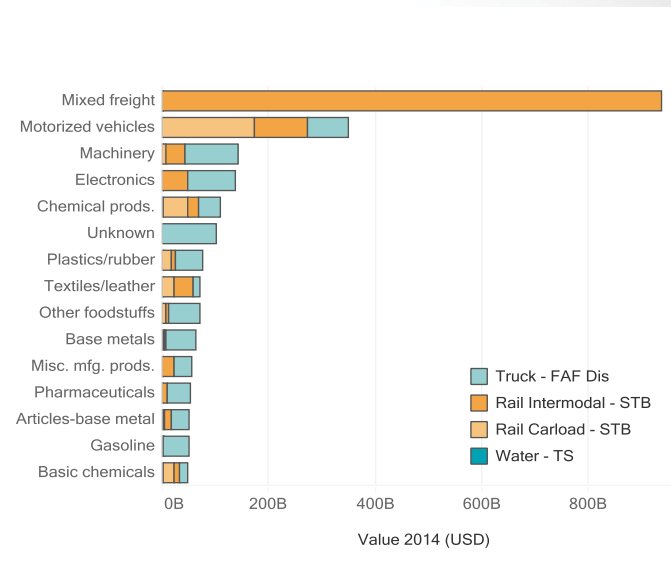
- 75% of Tons, 83% of Value
- ➡ But *different* commodities

# Top 15 IL-Based Commodities: Detail by Mode

Tons:



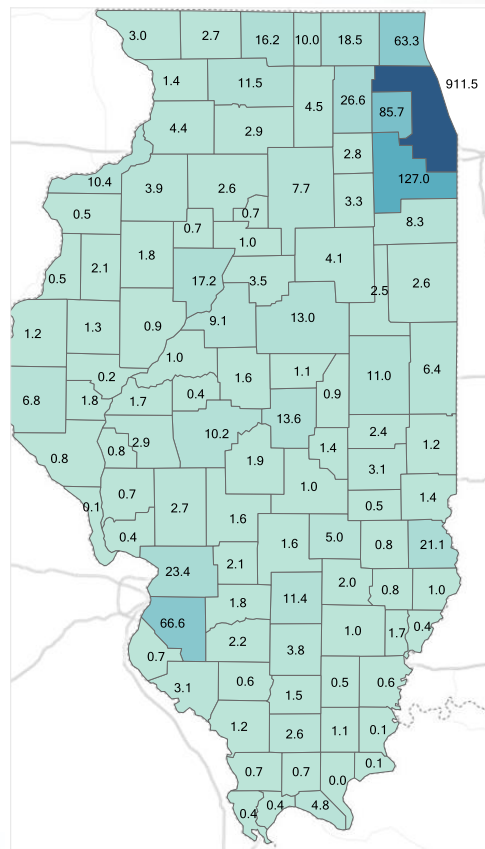
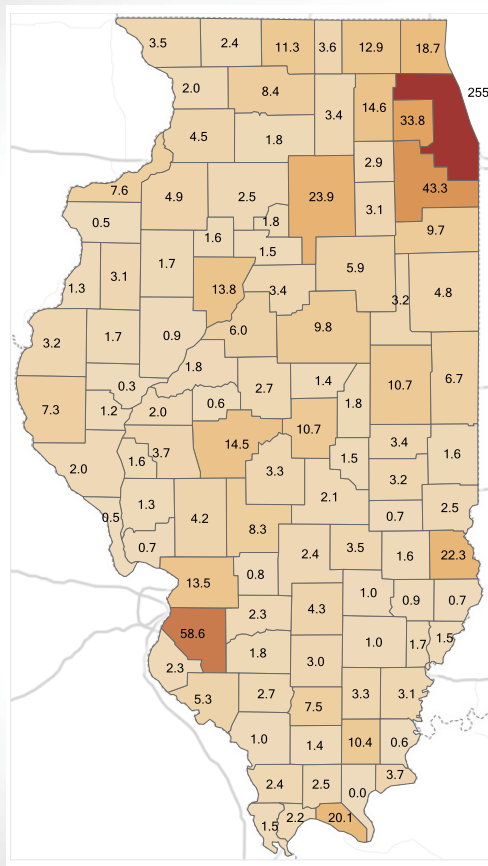
Value:



- Rail coal leads Tons, Rail intermodal leads Value
- Truck tons led by bulks, value by machinery & electronics



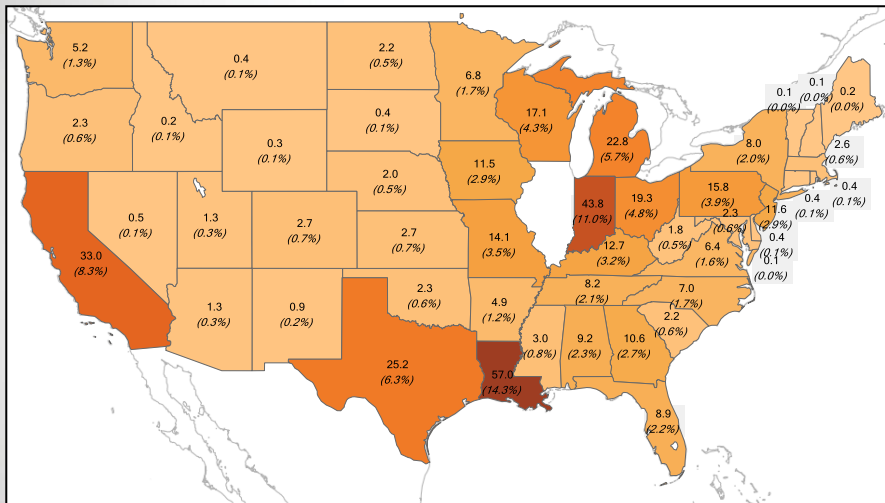
## wsp



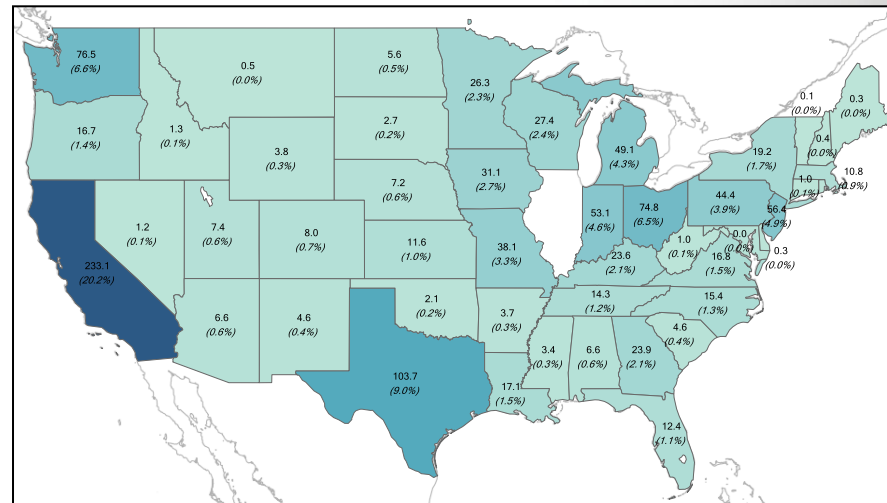


# IL Markets: Outbound Trading Partners

## Tonnage



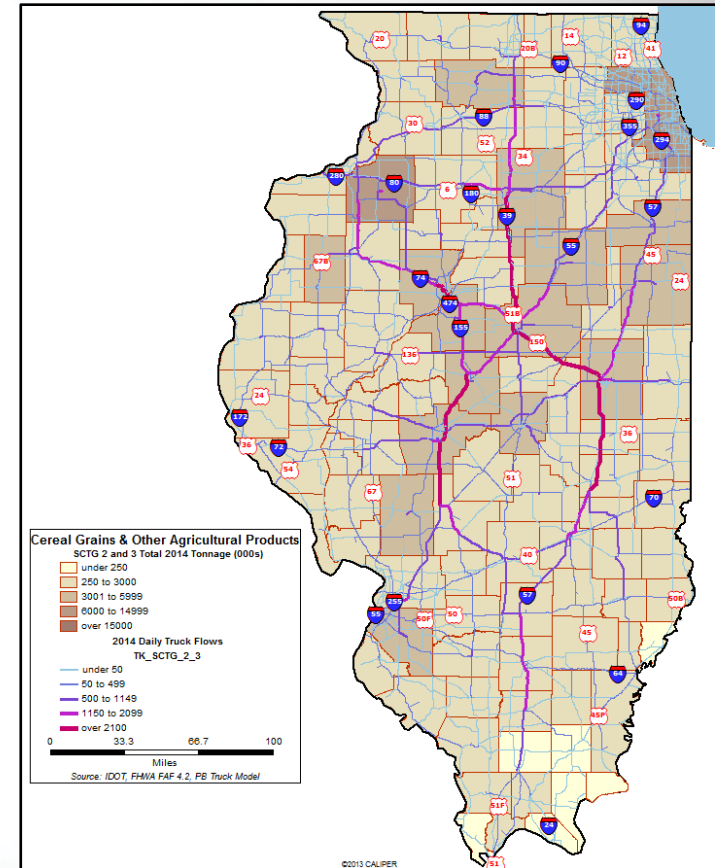
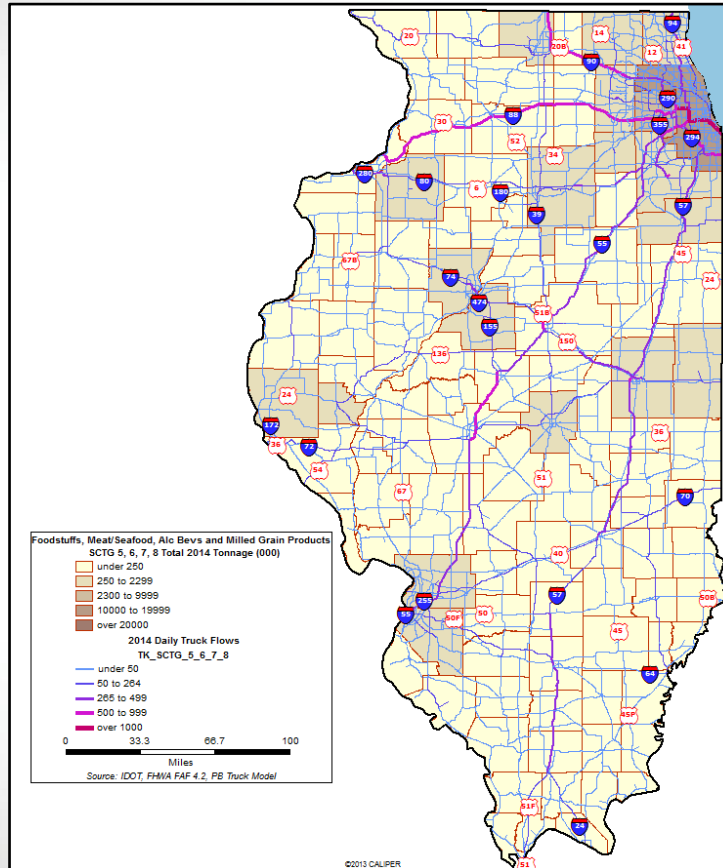
## Value



- Tonnage Markets: Gulf Coast, CA, Regional
- Value Markets: CA and WA, TX, Regional

# Key Industry Highway Dependence: Food & Agriculture

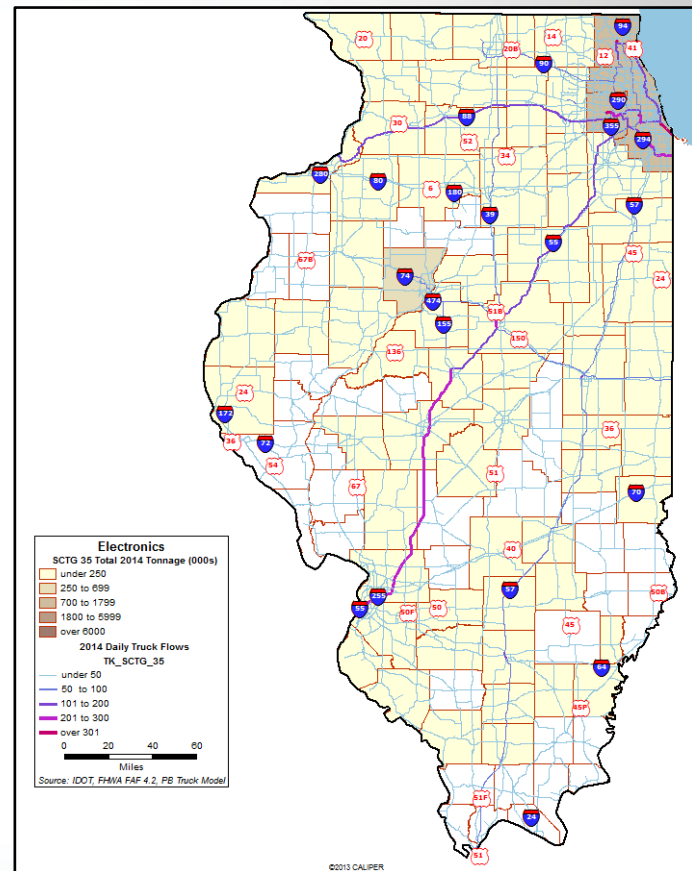
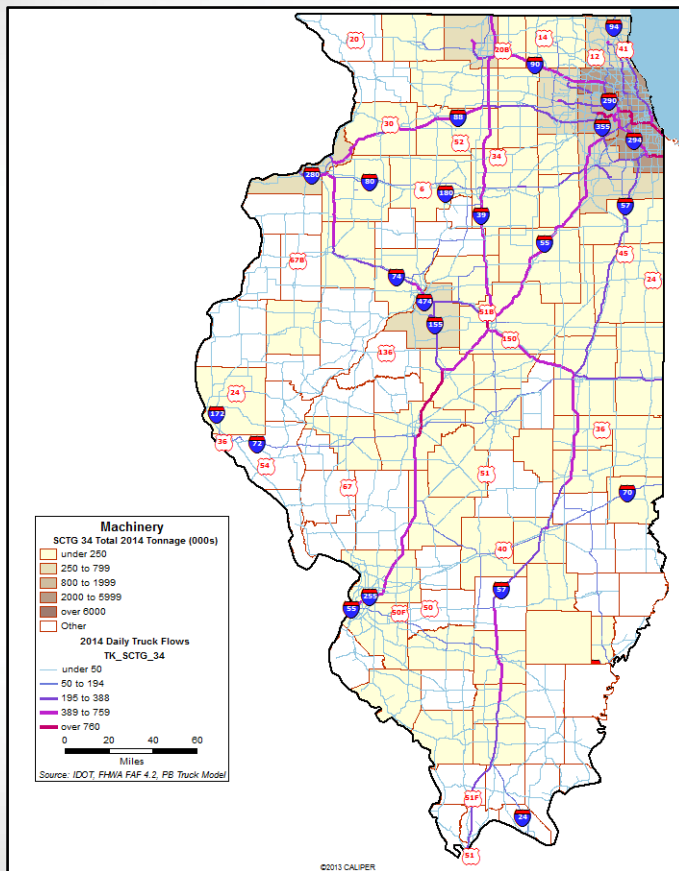
## Total IL Truck Flows & County Origins, 2014 Tons



# Key Industry Highway Dependence: Machinery & Electronics



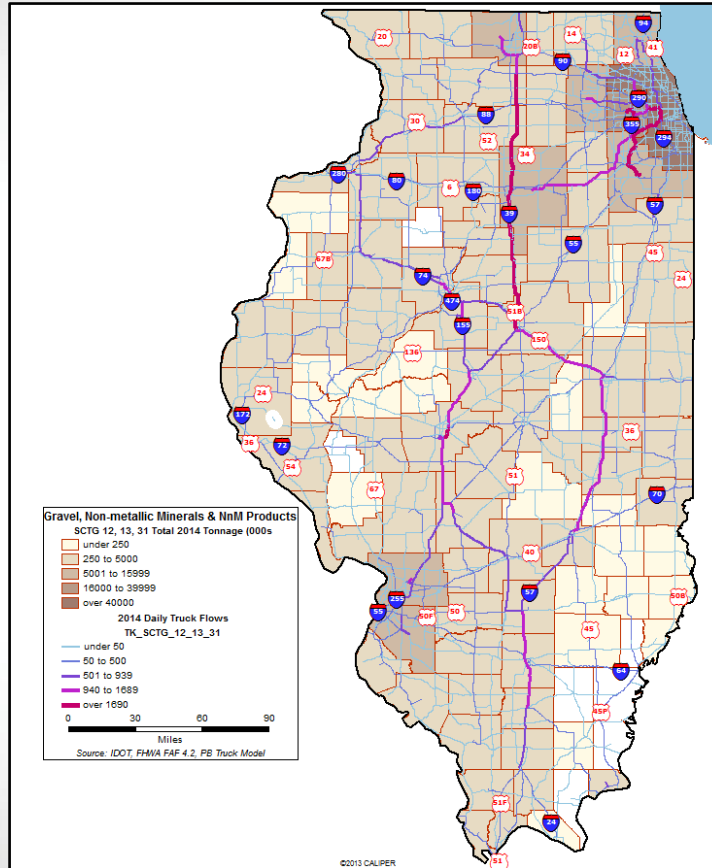
## Total IL Truck Flows & County Origins, 2014 Tons



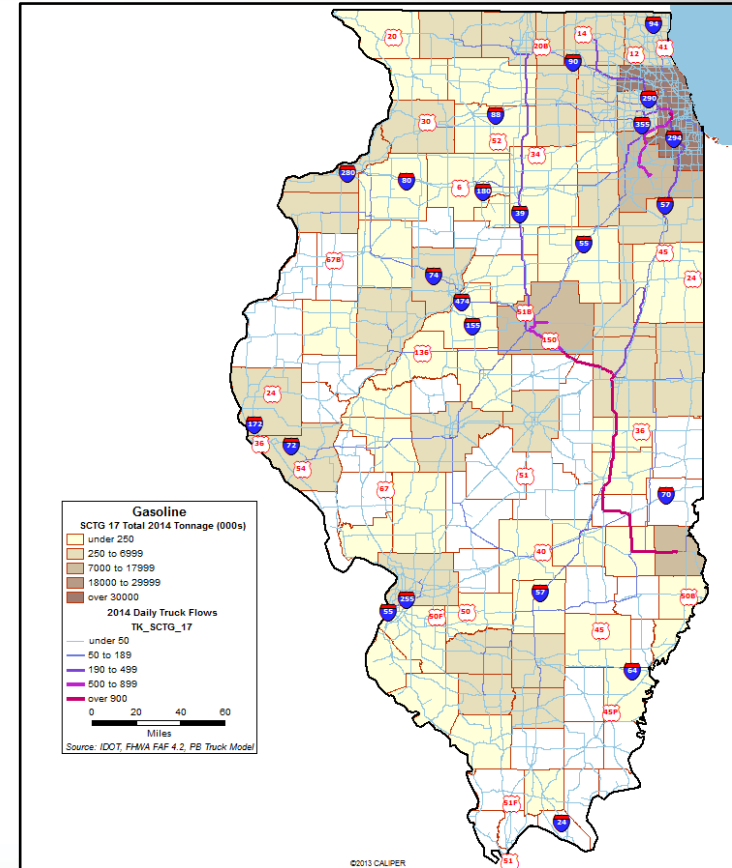
# Key Industry Highway Dependence: Aggregates & Gasoline



## Total IL Truck Flows & County Origins, 2014 Tons

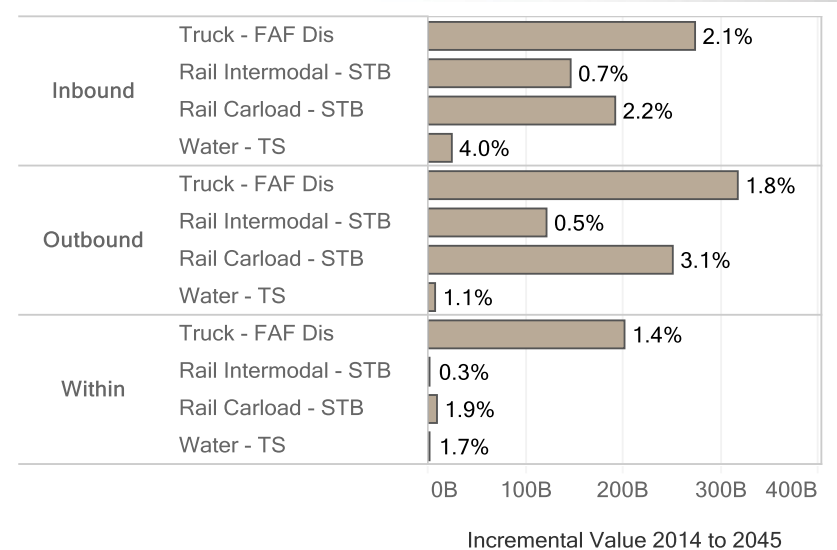
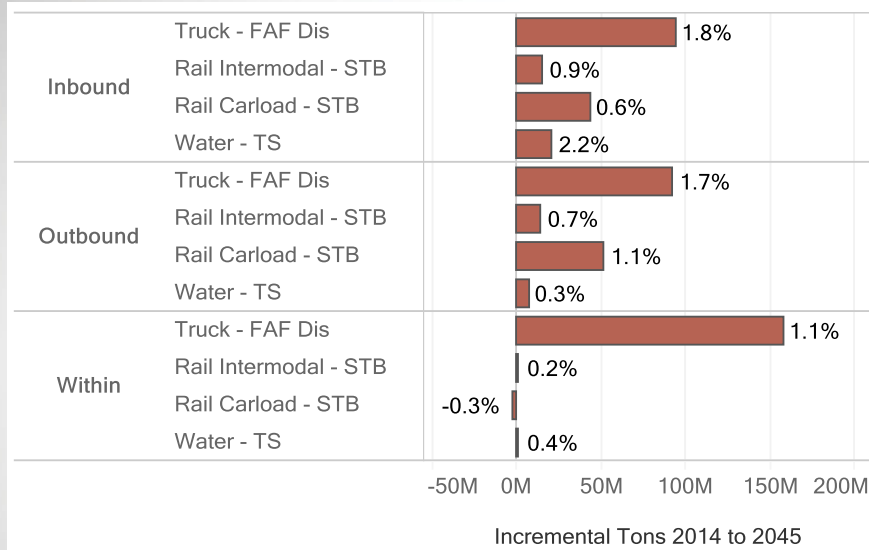


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# 2045 IL-Based Forecast: Added Volumes & Growth Rates

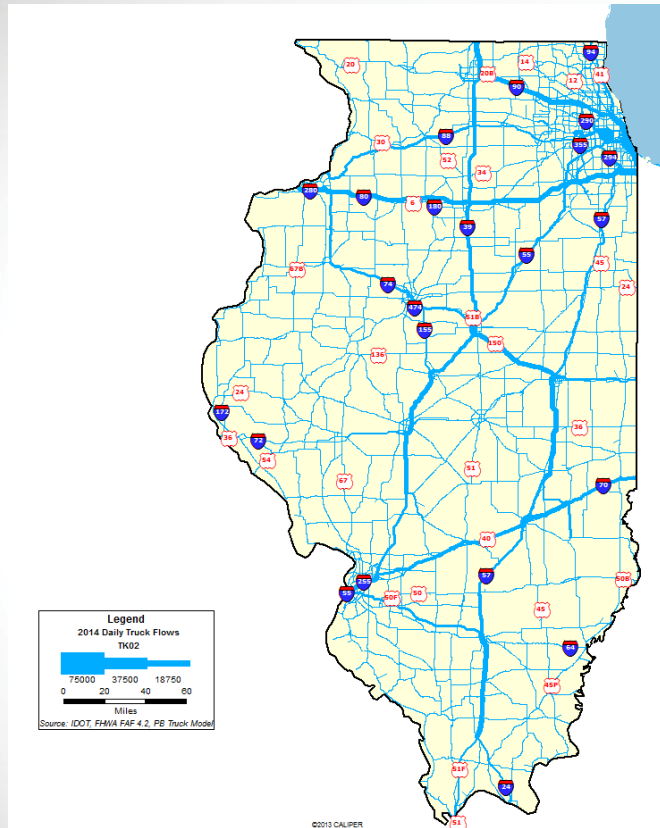


- Tonnage: 40% growth, +493 million tons, 70% by truck
- Value: 56% growth, +\$1.5 trillion product value, 51% by truck

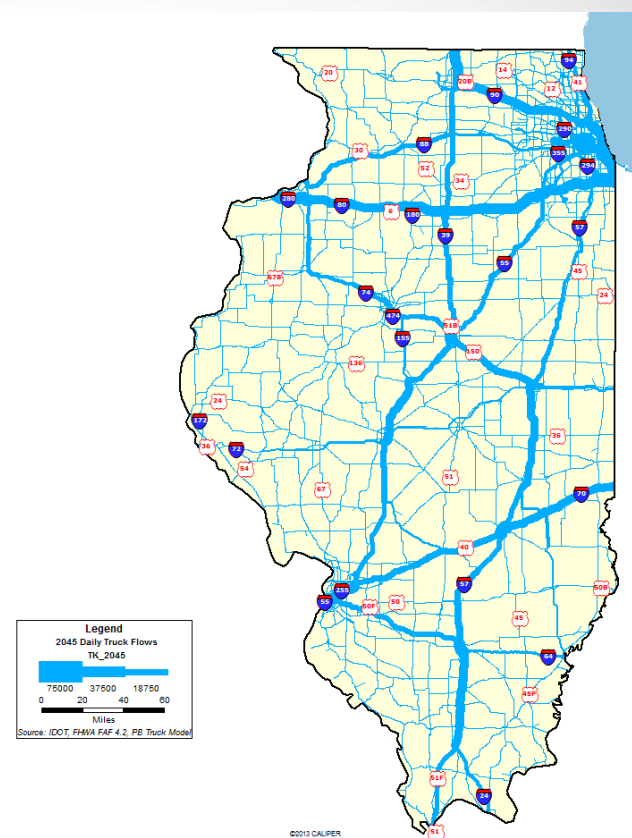
# 2045 Forecast: Total Truck VMT Grows 82%



2014



2045



➡ Through trucks grow faster, add half the new VMT

# Agenda



- Freight Traffic & Forecast
- Roadway Freight Bottlenecks

# Truck Bottleneck Identification

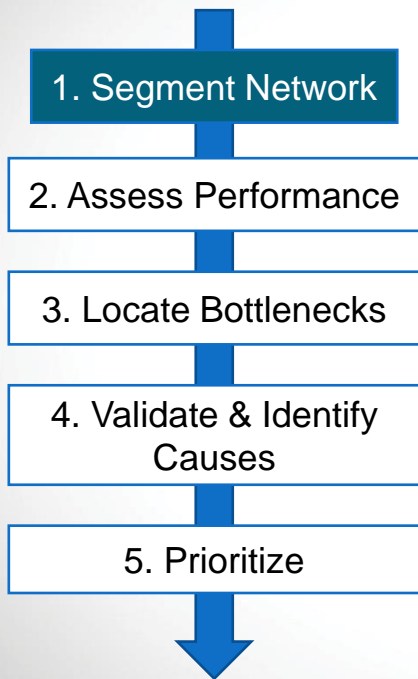


## What is a freight bottleneck?

*A freight bottleneck is a part of the transportation system that causes disproportionately high costs to the movement of freight in terms of delay and unreliability.*

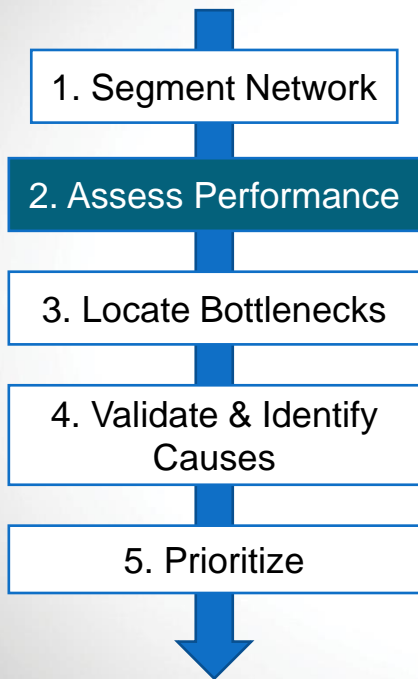


# Truck Bottleneck Identification



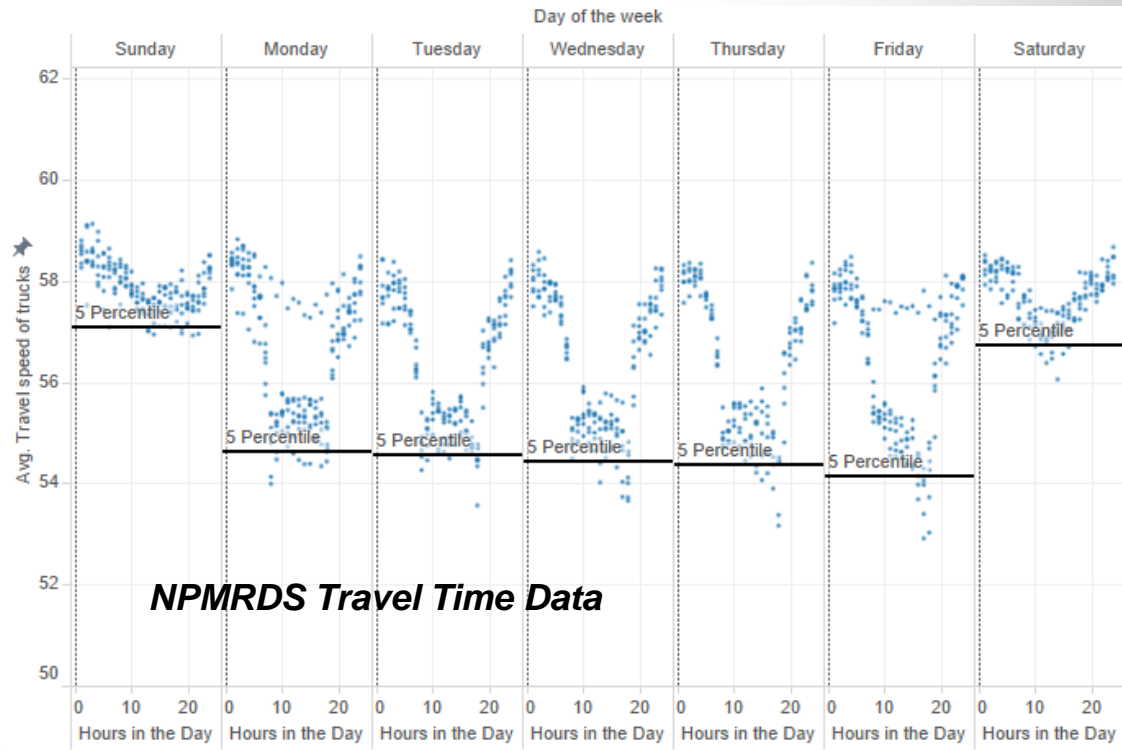
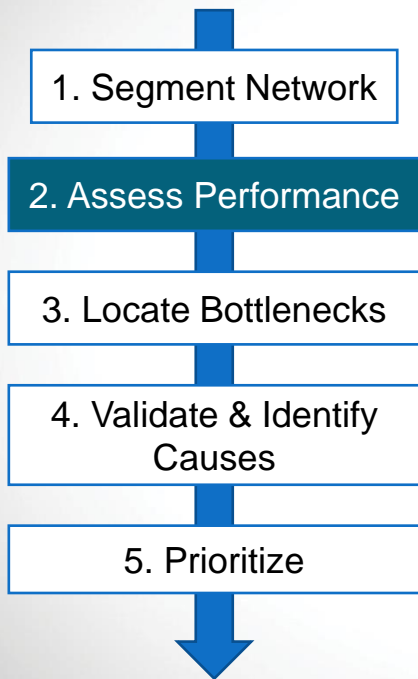
- Segments should have comparable characteristics
  - Congestion
  - Traffic levels/operations
  - Geometry
- Adopt segmentation in NPMRDS
- Focus on highways

# Truck Bottleneck Identification

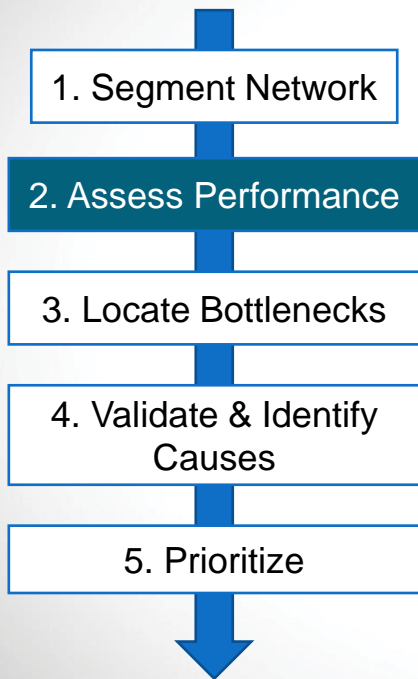


- Calculate two metrics based on NPMRDS and Truck AADT
  - **Recurring Travel Time Delay:** Can be anticipated
  - **Non-Recurring Travel Time Unreliability:** Cannot be anticipated
- Set thresholds based on policy
- Different thresholds for urban and rural

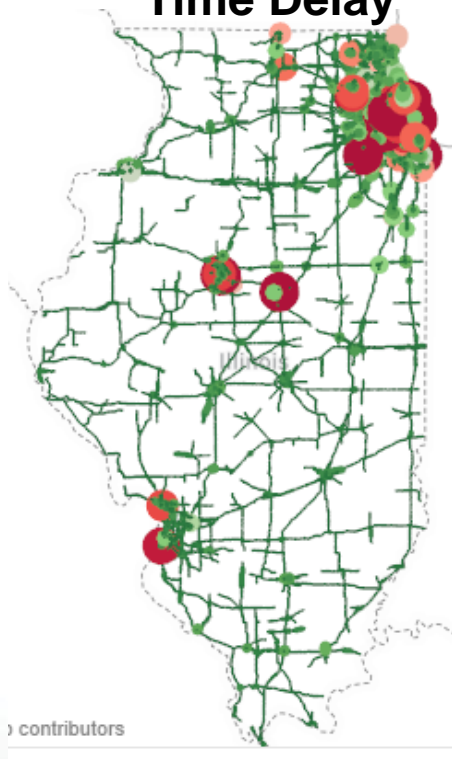
# Truck Bottleneck Identification



# Truck Bottleneck Identification



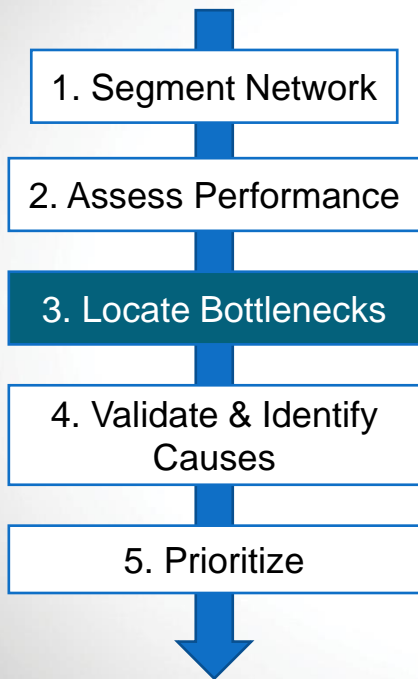
**Recurring Travel  
Time Delay**



**Non-Recurring Travel  
Time Unreliability**

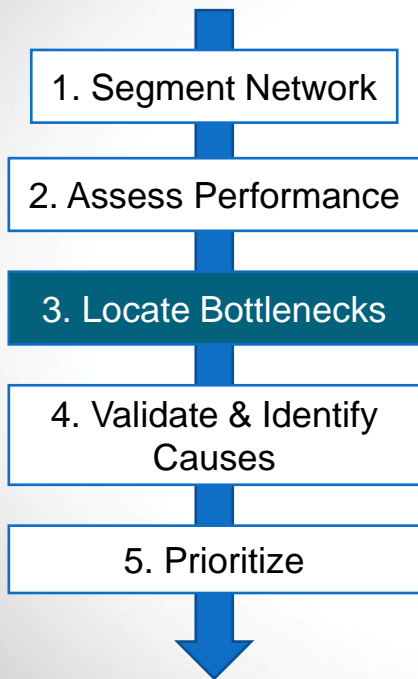


# Truck Bottleneck Identification



Threshold Transpo Delay (hr/mile-yr)	Threshold Unreliability	Bottleneck Miles	% Bottleneck Miles of Total	Number of TMC Bottlenecks
38,048.0	11,891.2	498.28	2.5%	749

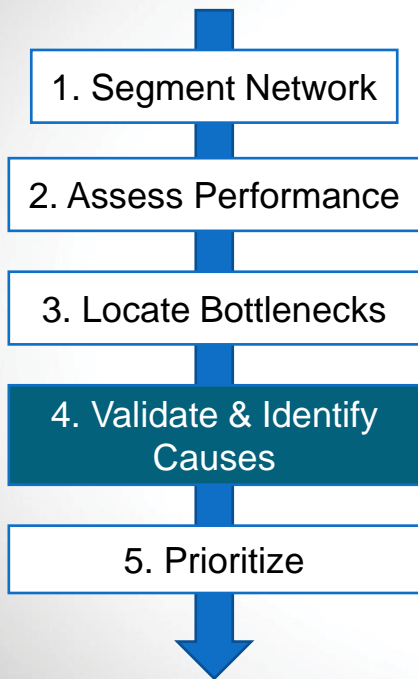
# Truck Bottleneck Identification



- Listened to stakeholders
- Got confirmation on performance issue locations

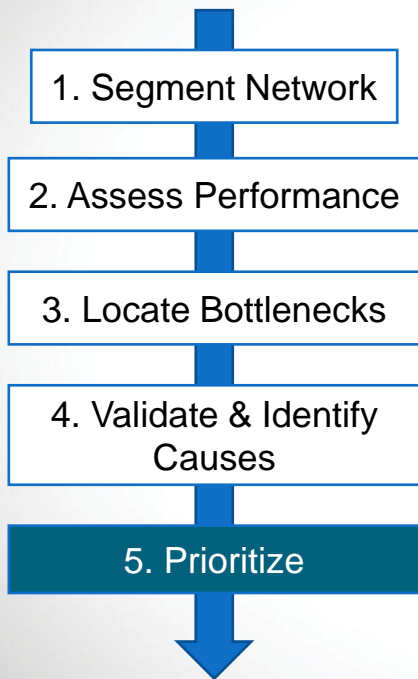


# Truck Bottleneck Identification



- Use complementary data sets to validate performance issues
- Search for agreement between data sets
- Start to find causes for performance issues
- Correlate performance issues with:
  - **Demand**
    - Freight Analysis Framework Tons 2014
    - Freight Analysis Framework Incremental Tons 2045 to 2014
    - Volume to Capacity Ratio
  - **Incidents**
    - Frequency of truck related collisions, injuries, and fatalities per year (2010 to 2014)
  - **Pavement Condition**
    - Pavement CRS
    - Pavement IRI

# Truck Bottleneck Identification



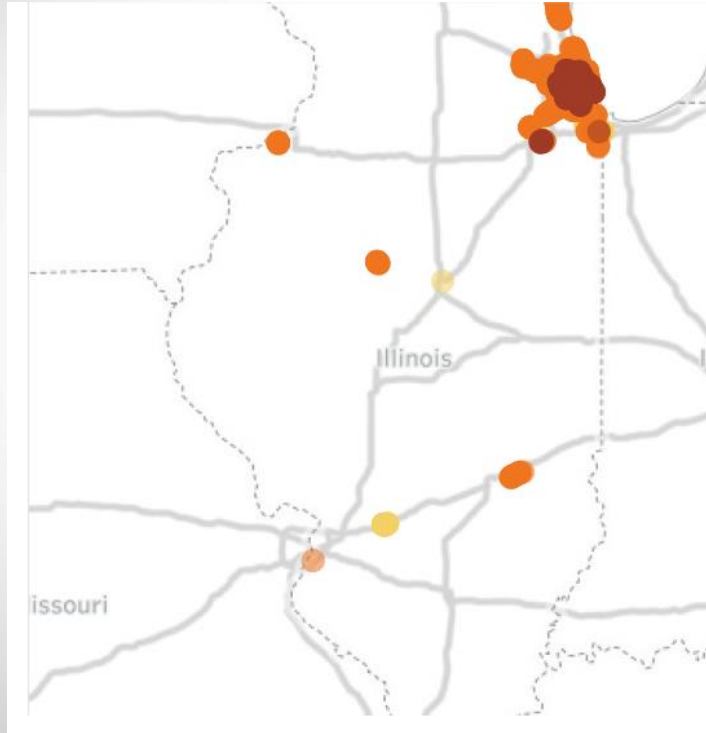
- Rank High, Medium, Low
- Combined percentile rank of Delay and Unreliability



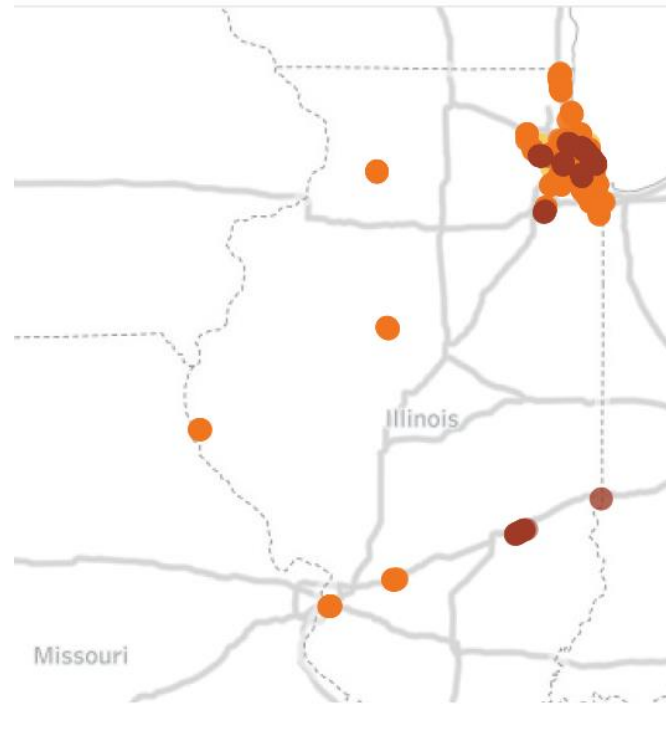
# 749 Bottlenecks: Statewide View – Better Maps Coming



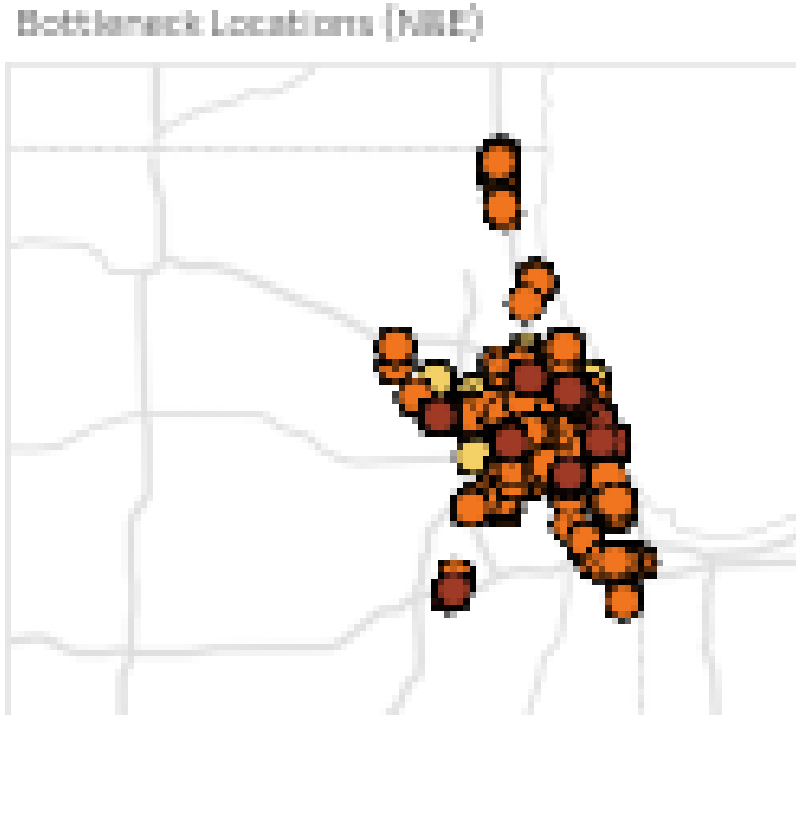
Bottleneck Locations N&E




Bottleneck Locations S&W



# Northeast IL Bottleneck Close-Up – Better Maps Coming



# Thank You!



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Strategic Goal	Objective	Strategy	Performance Measure
Improve Safety	Minimize roadway incidents involving freight vehicles	Provide safety alerts to drivers through IDOT in Motion	Number of fatalities/injuries involving freight vehicles
	Ensure the Department's Intelligent Transportation System (ITS) has adequate safety notification protocols	Evaluate ITS procedures for the delivery of safety messages and explore other innovative ITS uses to improve safety	Completion of ITS architecture plan update
Improve Efficiency	Establish performance measure to evaluate efficiency of freight movement	Establish procedures to use the National Performance Management Research Data Set (NPMRDS) to calculate performance	Truck Travel Time Reliability (TTTR) Index performance measure using NPMRDS traffic data
	Update the Department's Illinois Transportation Automated Permits (ITAP) truck permitting process	Secure funding to proceed with an update of the ITAP system	Completion of upgrade (Phase 3) to the ITAP platform
Grow The Economy	Secure stable dedicated state funding source for freight projects	Establish a funding source that can be used on freight projects that provide economic benefits to the state and local economies	Dollar amount of funds secured with regional breakdown of projects
	Improve international competitiveness of Illinois	Support freight projects that enhance access to global markets	Volume and value of commodities shipped to foreign markets
Preserve Existing Infrastructure	Perform routine maintenance in order to control deterioration of roadways and lessen number of critical repairs	Monitor pavement condition to identify roadways maintenance needs	Pavement Condition Rating Survey (CRS) assessments
	Reduce stress on roadway system by establishing multimodal alternatives for freight shipments	Explore scenarios where modal connections can be improved to facilitate shipments by rail, water, and air	Modal breakdown of shipping volumes
Expand Infrastructure Strategically	Optimize the limited funds that are available for new construction projects	Utilize a performance-based project prioritization tool to evaluate projects	Evaluation criteria which determines the return on investment of each project
	Ensure design policies encourage innovation and design flexibility to support multi-modal transportation goals	Update design policies and provide training related to freight-friendly design elements (e.g. Diverging Diamond Interchanges)	Number of design policy updates issued, together with training seminars/presentations given
Support Multimodal Distribution	Enhance coordination of multimodal planning with Illinois Metropolitan Planning Organizations (MPOs), local jurisdictions, and adjoining states	Engage with MPOs, local jurisdictions, and adjoining states on corridor planning that includes and encourages the use of all modes of transportation	Level of planning engagement with other entities, including joint projects and studies
	Encourage mode shifting to lessen environmental impacts	Reduce vehicle emissions from freight vehicles by promoting more environmentally friendly modes, such as rail, water, and air	Volume of greenhouse gas emissions