

# FREIGHT PERFORMANCE MEASURES



## Freight Performance Measures

Dan Murray

American Transportation Research Institute (ATRI)

# Board of Directors

**ArcBest**<sup>SM</sup>  
Corporation



**WERNER**

GREAT WEST CASUALTY COMPANY  
*The Difference is Service*<sup>®</sup>

**SCHNEIDER**<sup>®</sup>  
NATIONAL

**FedEx**  
Freight



**TransSafe** CONSULTING LLC

**Trimac**



**PRIME inc.**

**ATRI** American  
Transportation  
Research  
Institute



# Research Advisory Committee



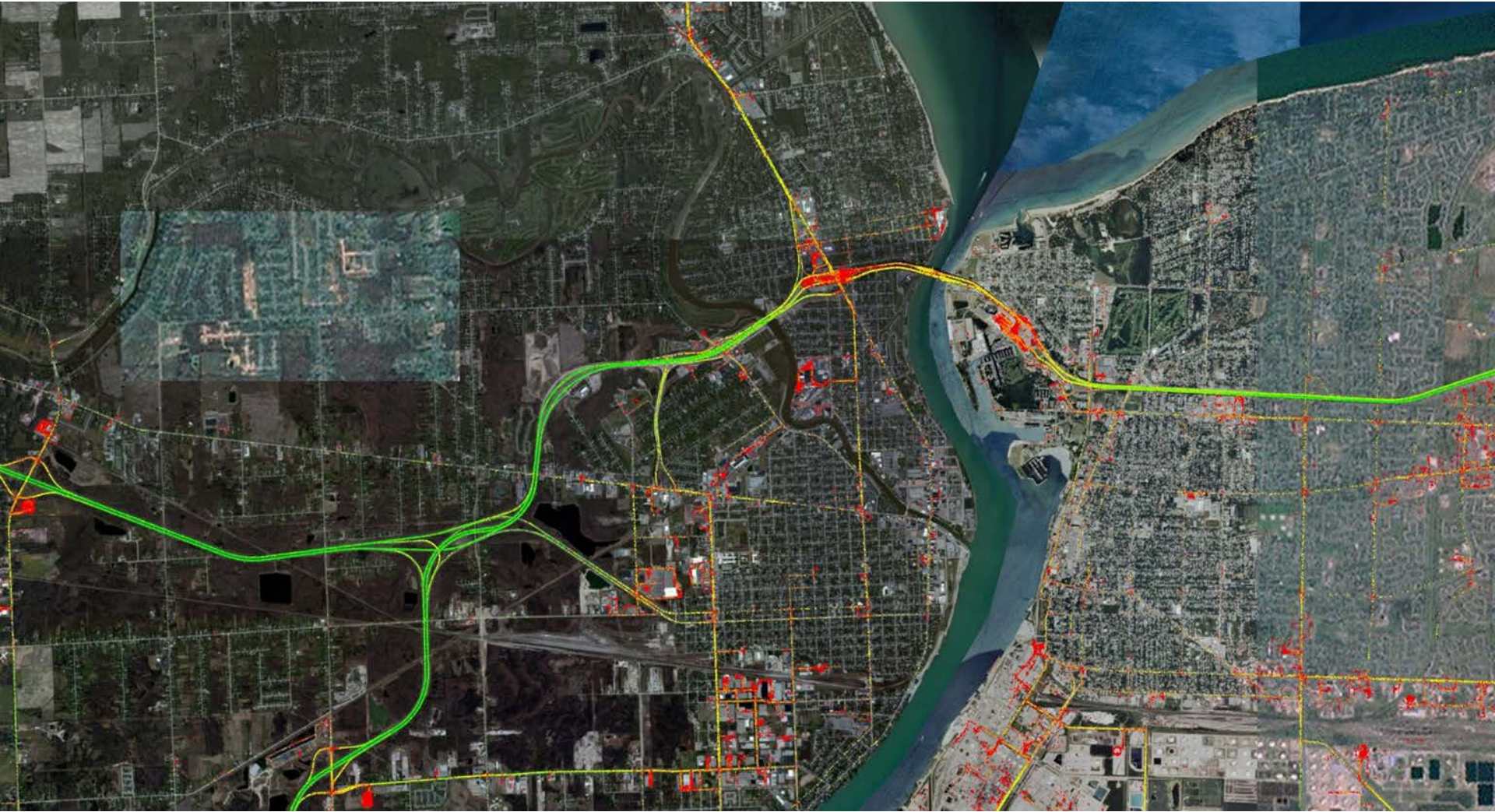
# Truck GPS Opportunities

- O&D Analyses
- System Monitoring
  - ◆ Borders
  - ◆ Travel Time & Reliability
- Bottleneck Analysis
- Truck Parking S&D
- Freight Fluidity
  - ◆ Detention, Intermodal, Ports
- AT / Platooning Network







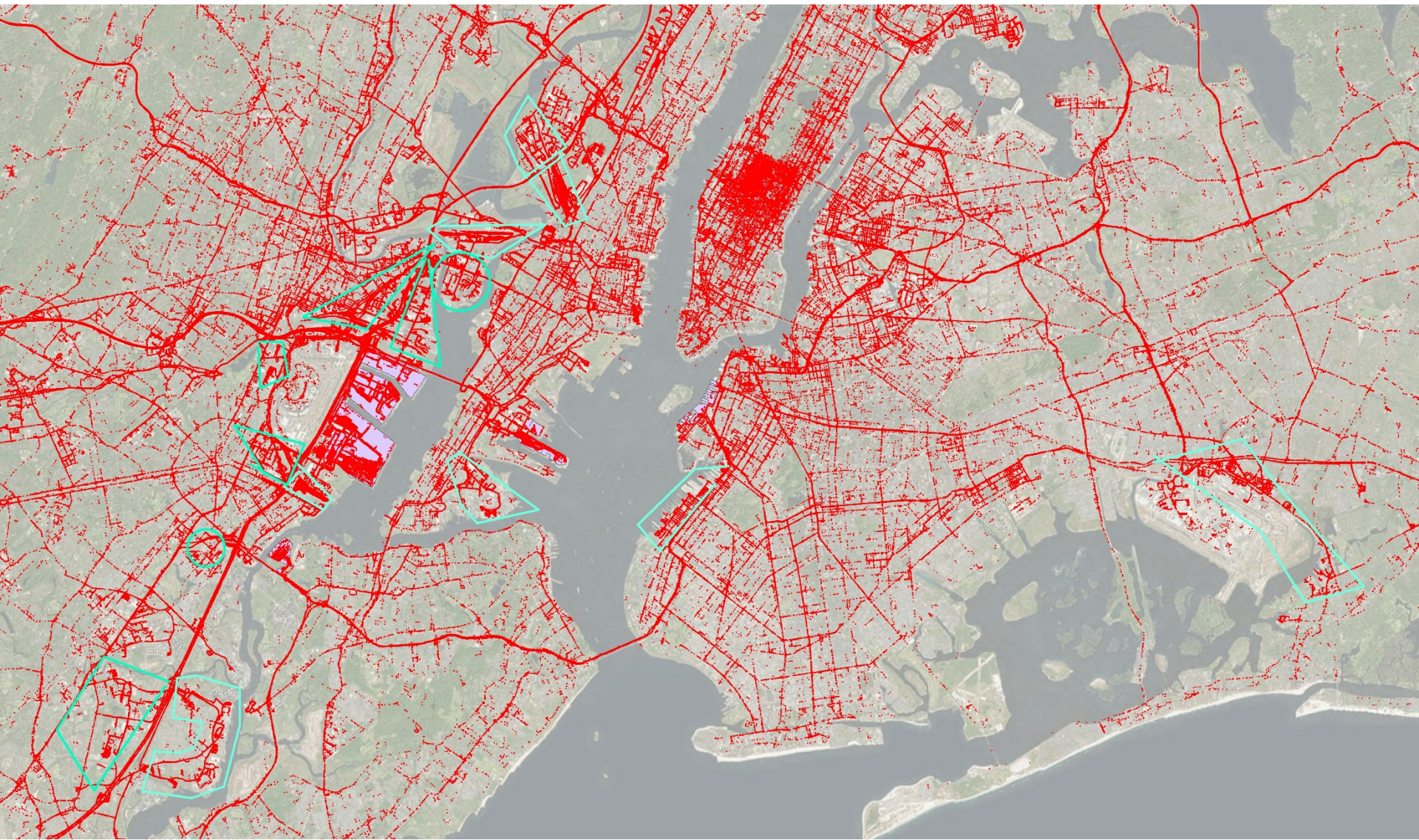






Los Angeles





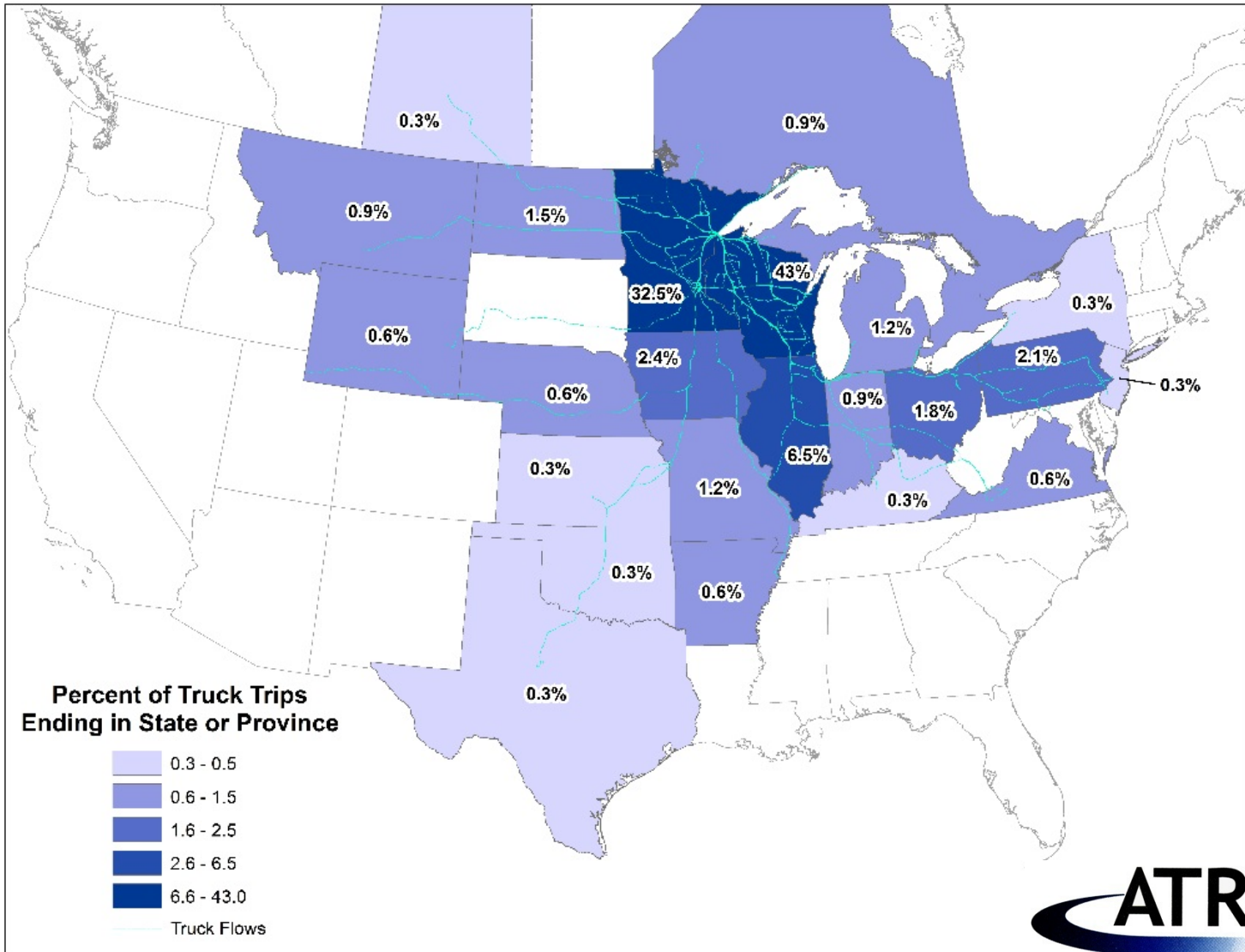




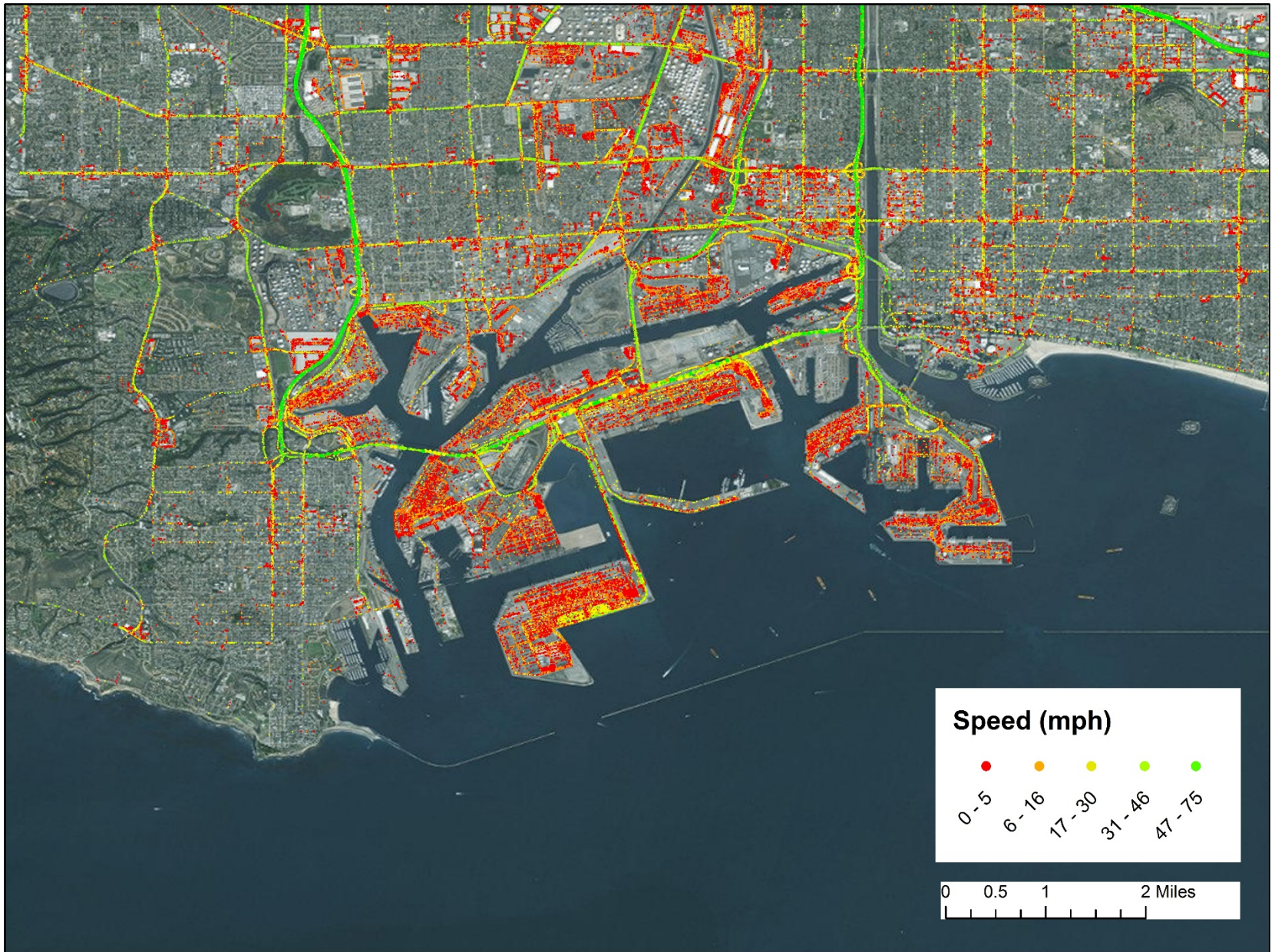
Denver



# O&D Analyses



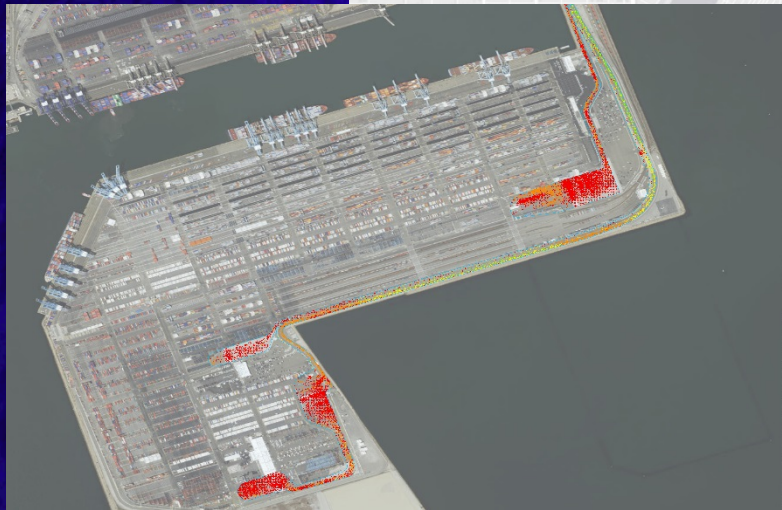
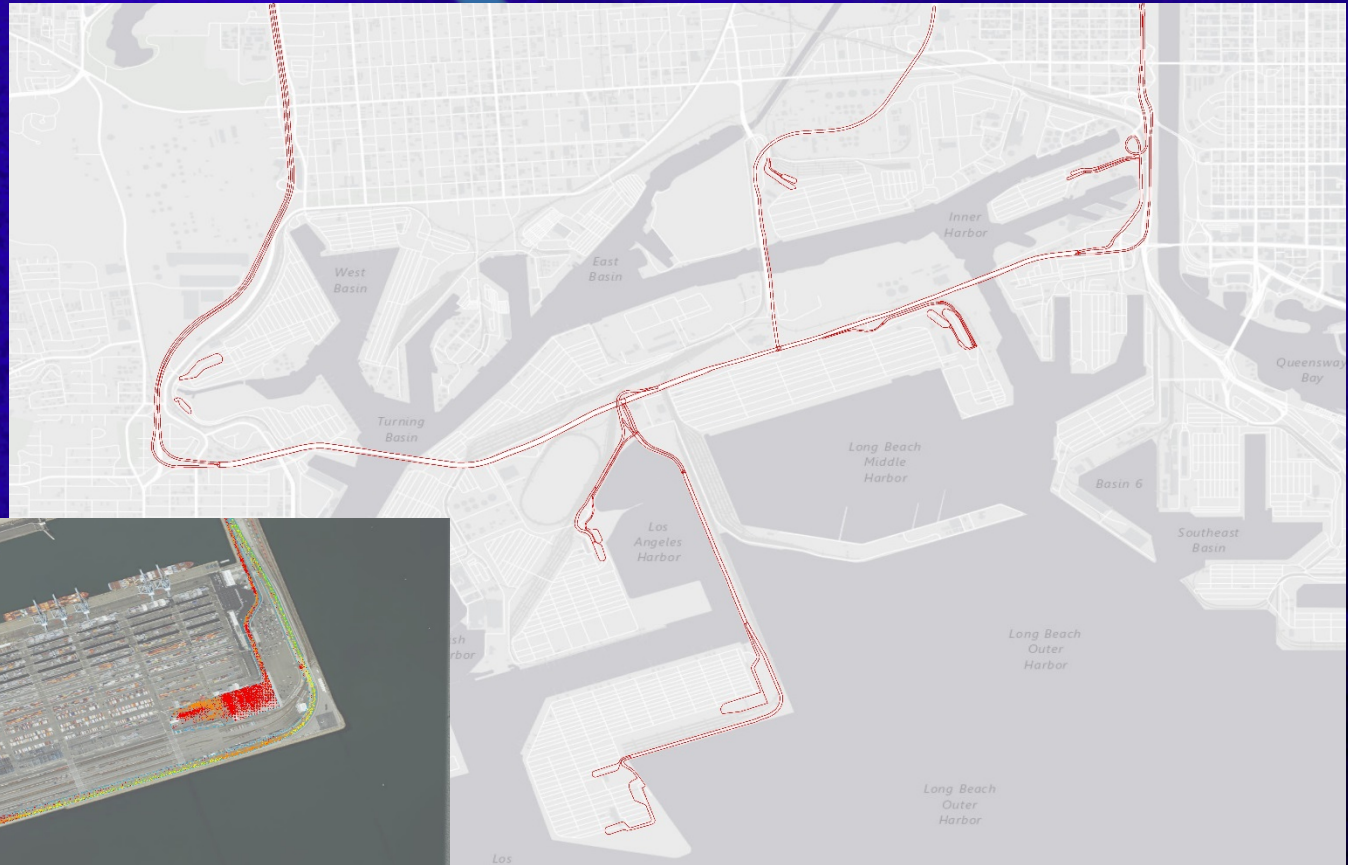






# Port / Gate Analyses

FHWA: Port of  
LA/Long Beach

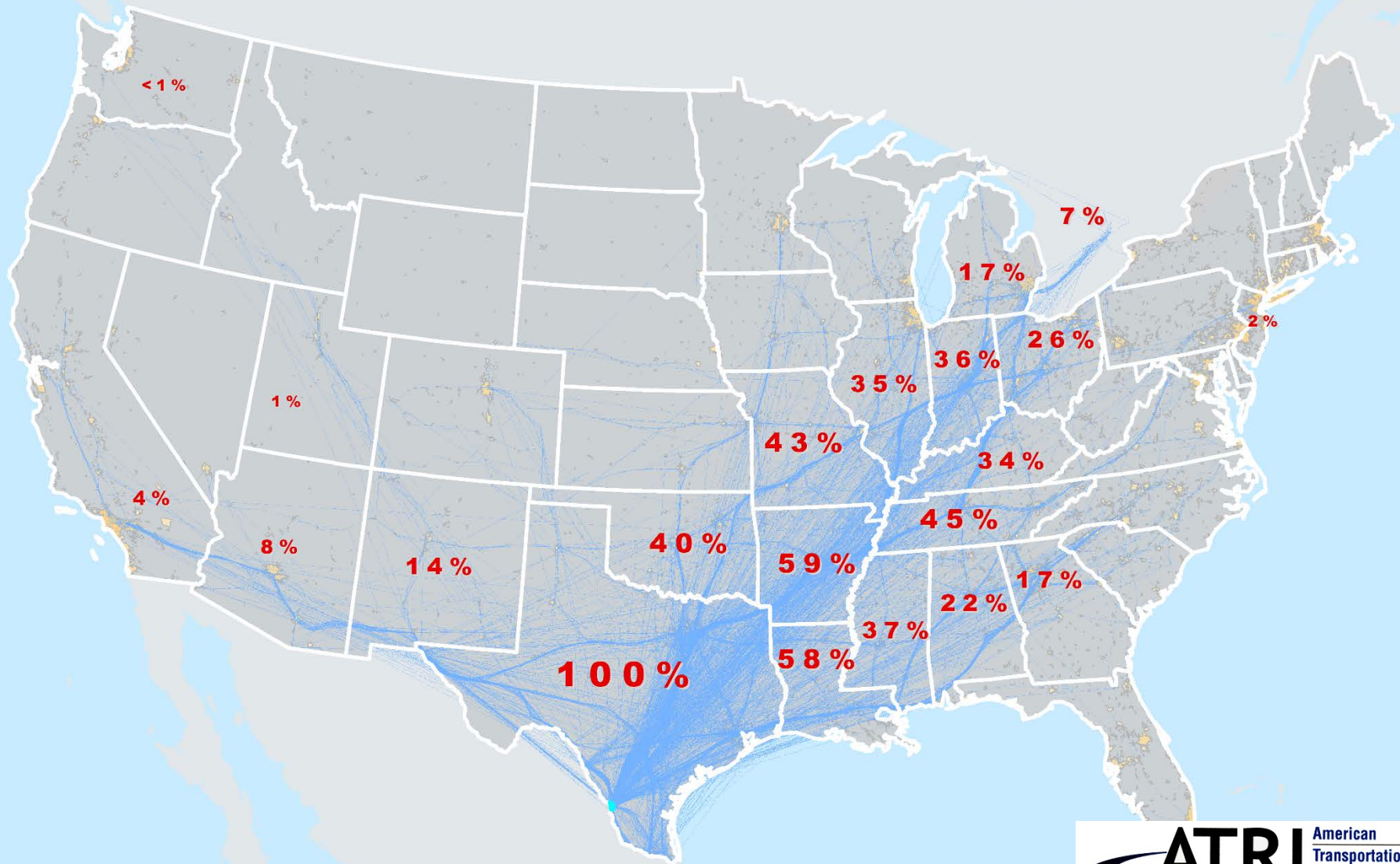








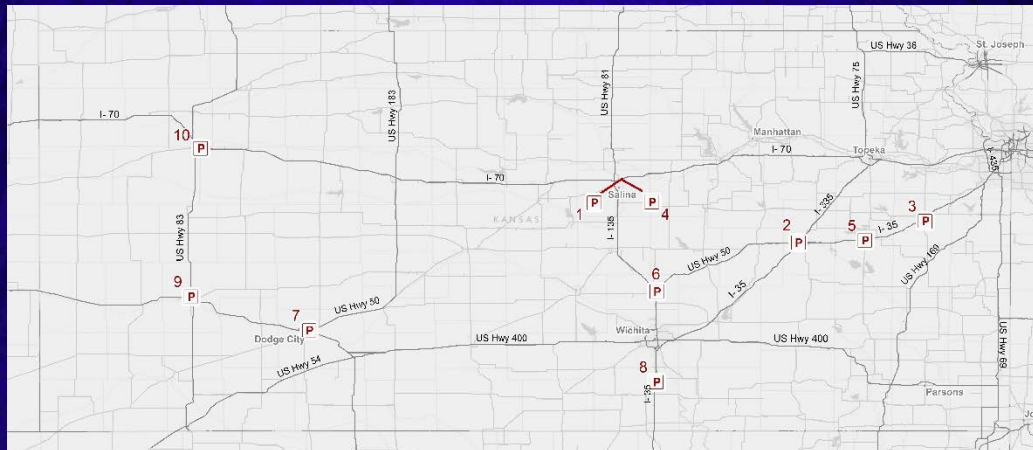
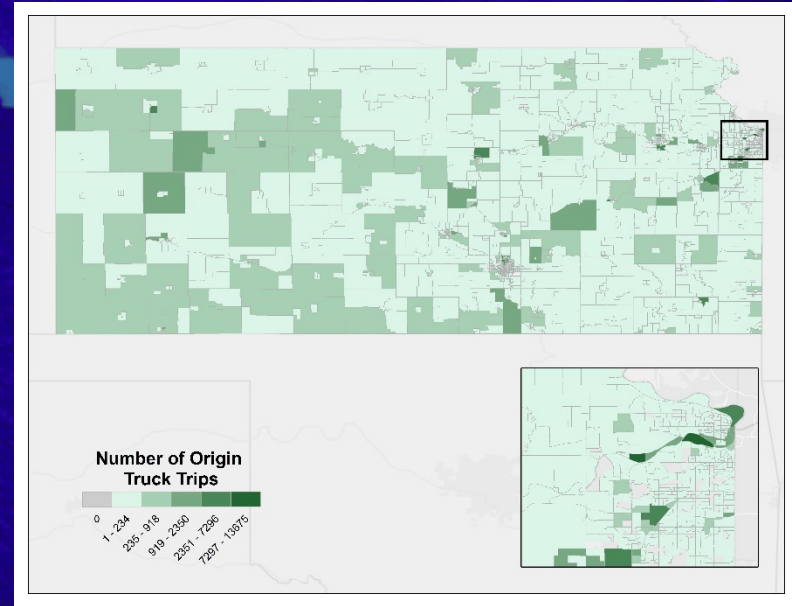
# From Laredo – “Thru/To” State





# Freight Performance Measures

## Kansas State Truck Movements and Parking Study

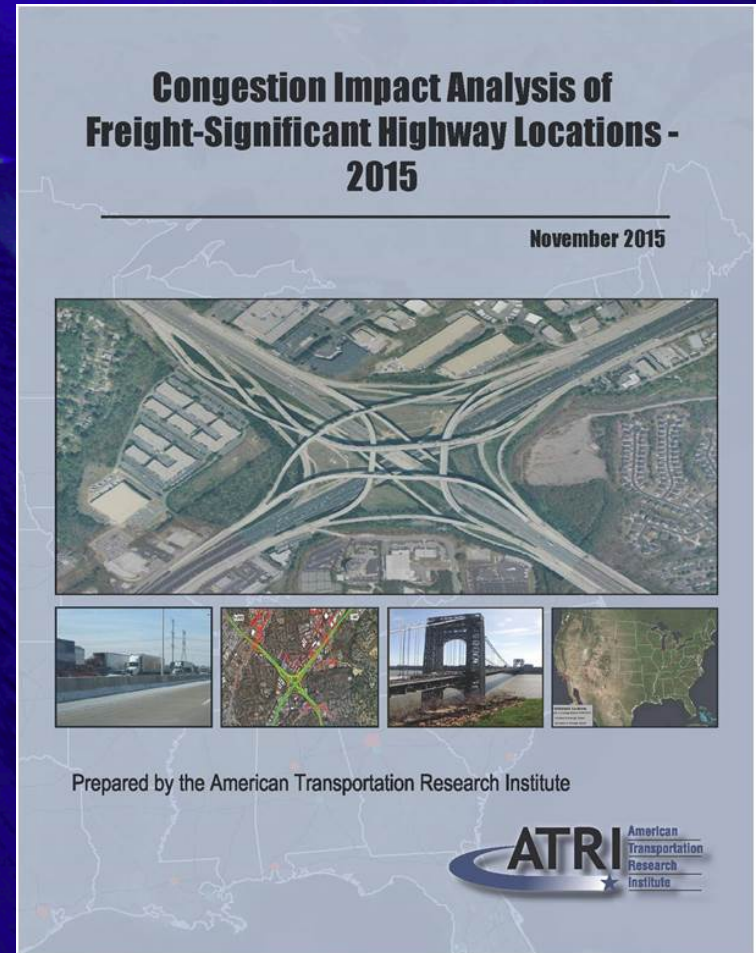




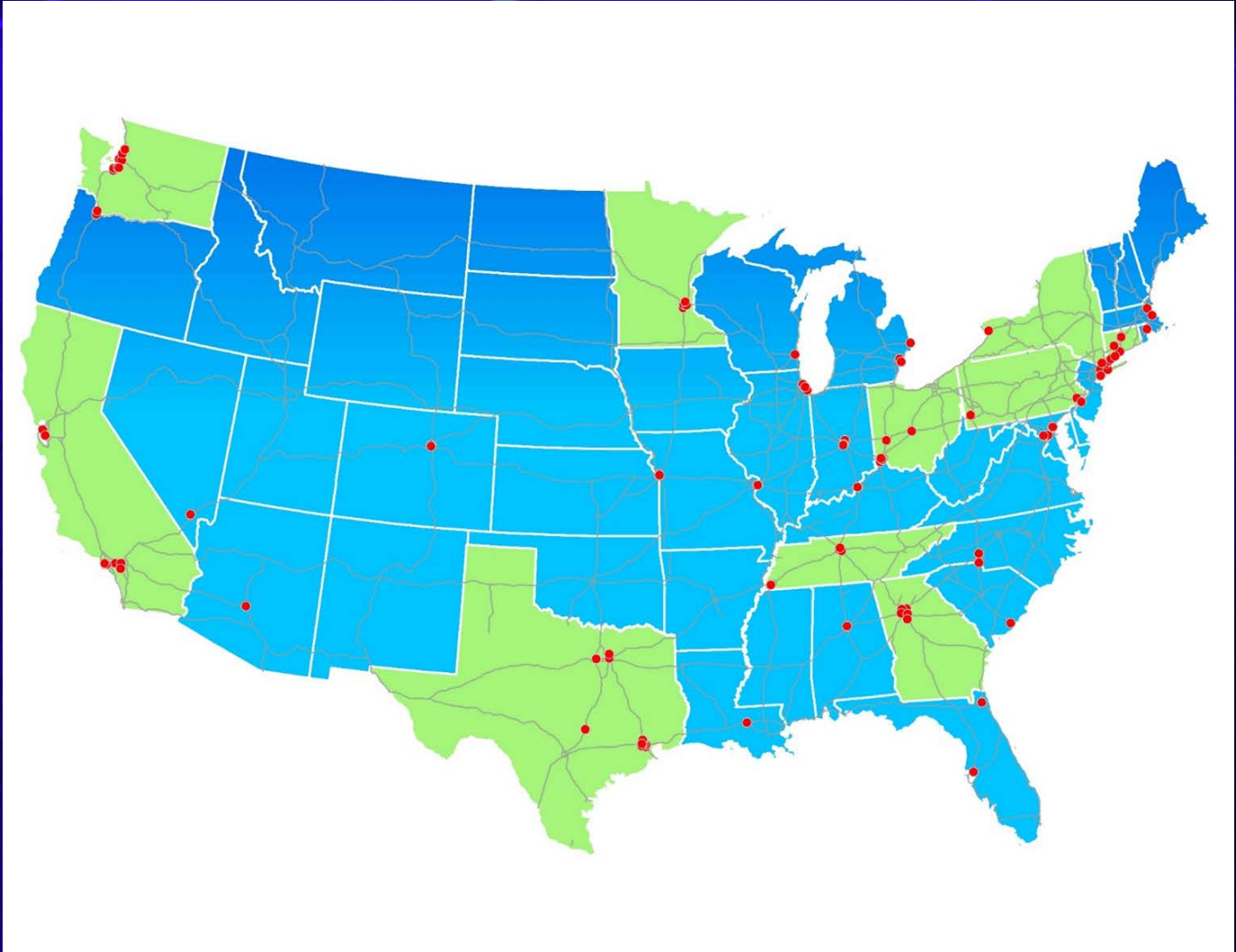
# Freight Bottleneck Analysis

- Ongoing monitoring of 250 truck freight-significant locations
- Avoiding/scheduling around truck freight congestion chokepoints

[www.atri-online.org](http://www.atri-online.org)









## Chicago, IL: I-290 at I-90/I-94



### Summary

National Ranking by  
Congestion Index

1

Average Speed

30

Peak Average Speed

23

Nonpeak Average  
Speed

33

Nonpeak/Peak Ratio

1.44

Average Speed by Time of Day  
I-290 at I-90/I-94

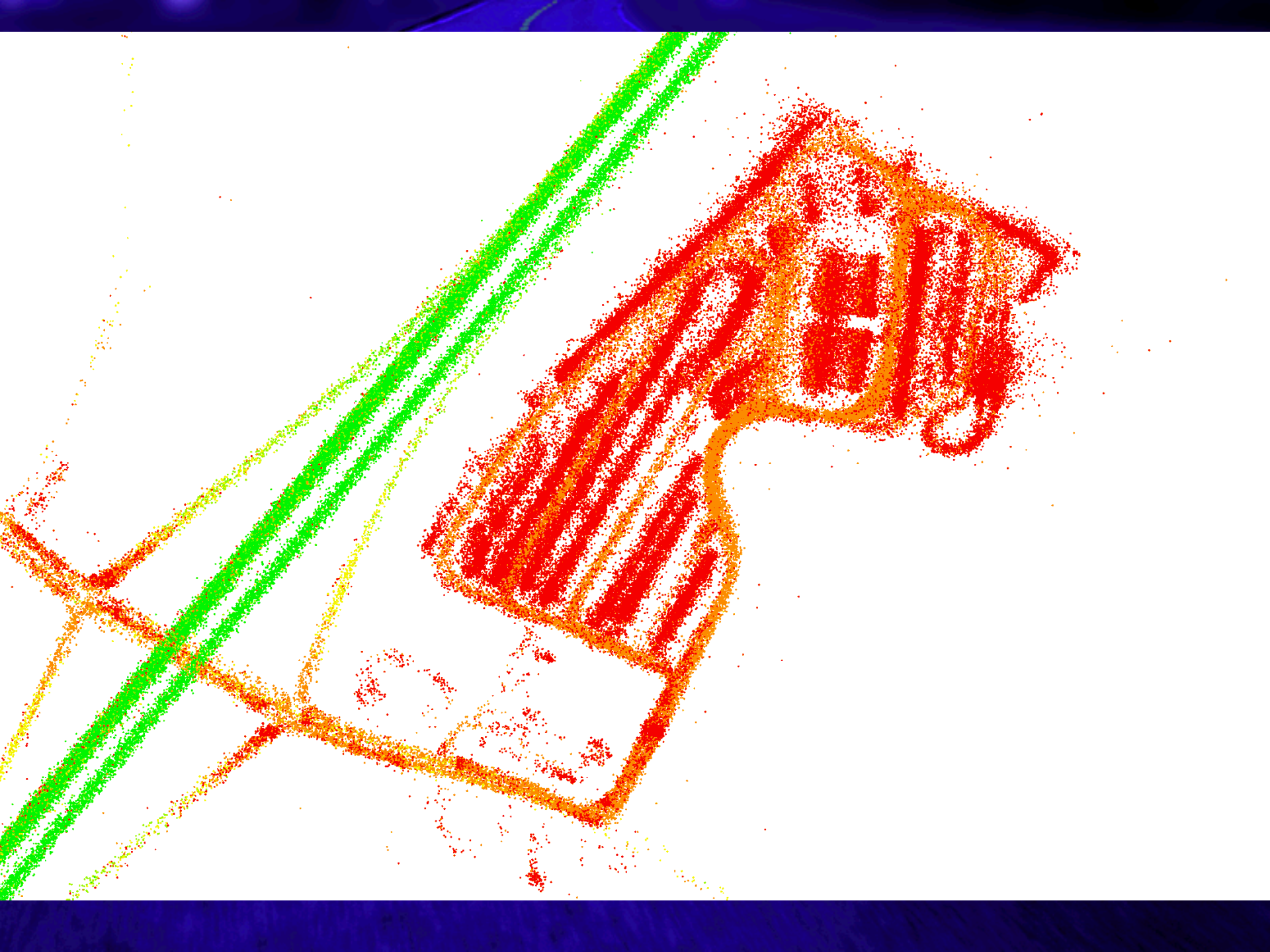




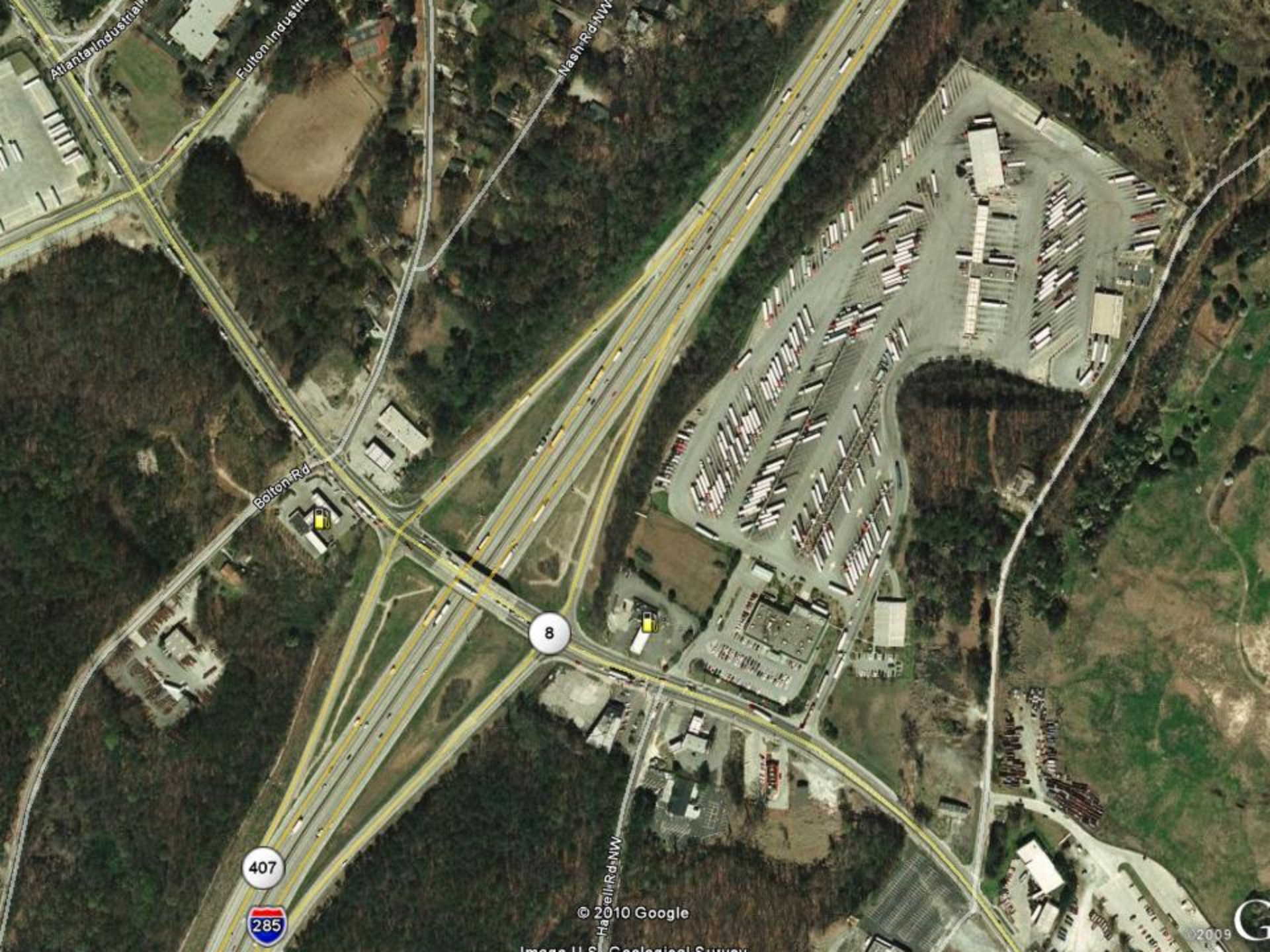
# Assessing Truck Parking Supply/Demand

- Assess supply/demand utilizing ATRI truck GPS data
- Proof of concept with MnDOT
  - ◆ Analysis to include 5 rest areas
  - ◆ Goose Creek Rest Area analysis complete
- Created methodology to examine truck parking demand at public rest stops
- Findings can inform investment decisions









Atlanta Industrial

Fulton Industrial

Nash Rd NW

Bolton Rd

8

407

285

Haell Rd NW

© 2010 Google

Image U.S. Geological Survey

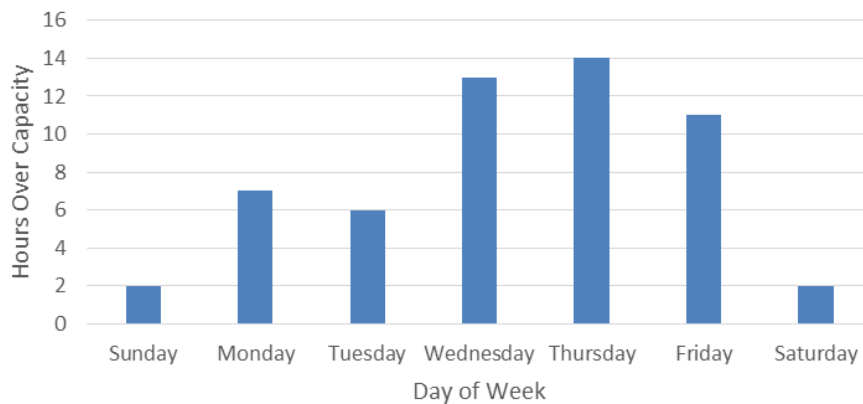
© 2009



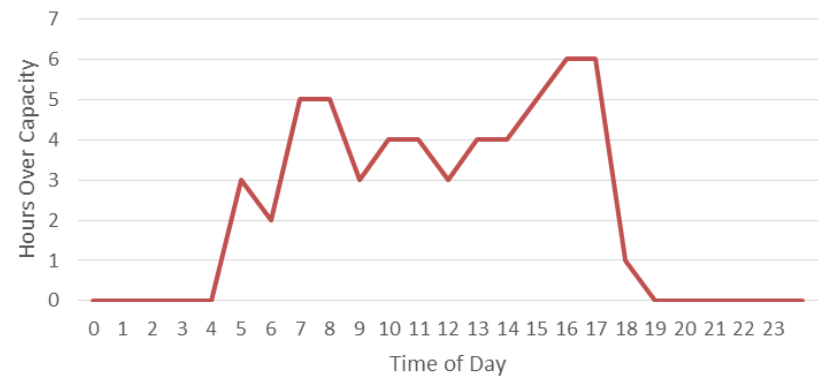


# Managing Critical Truck Parking

Overcapacity by Day of Week  
(October 2015)

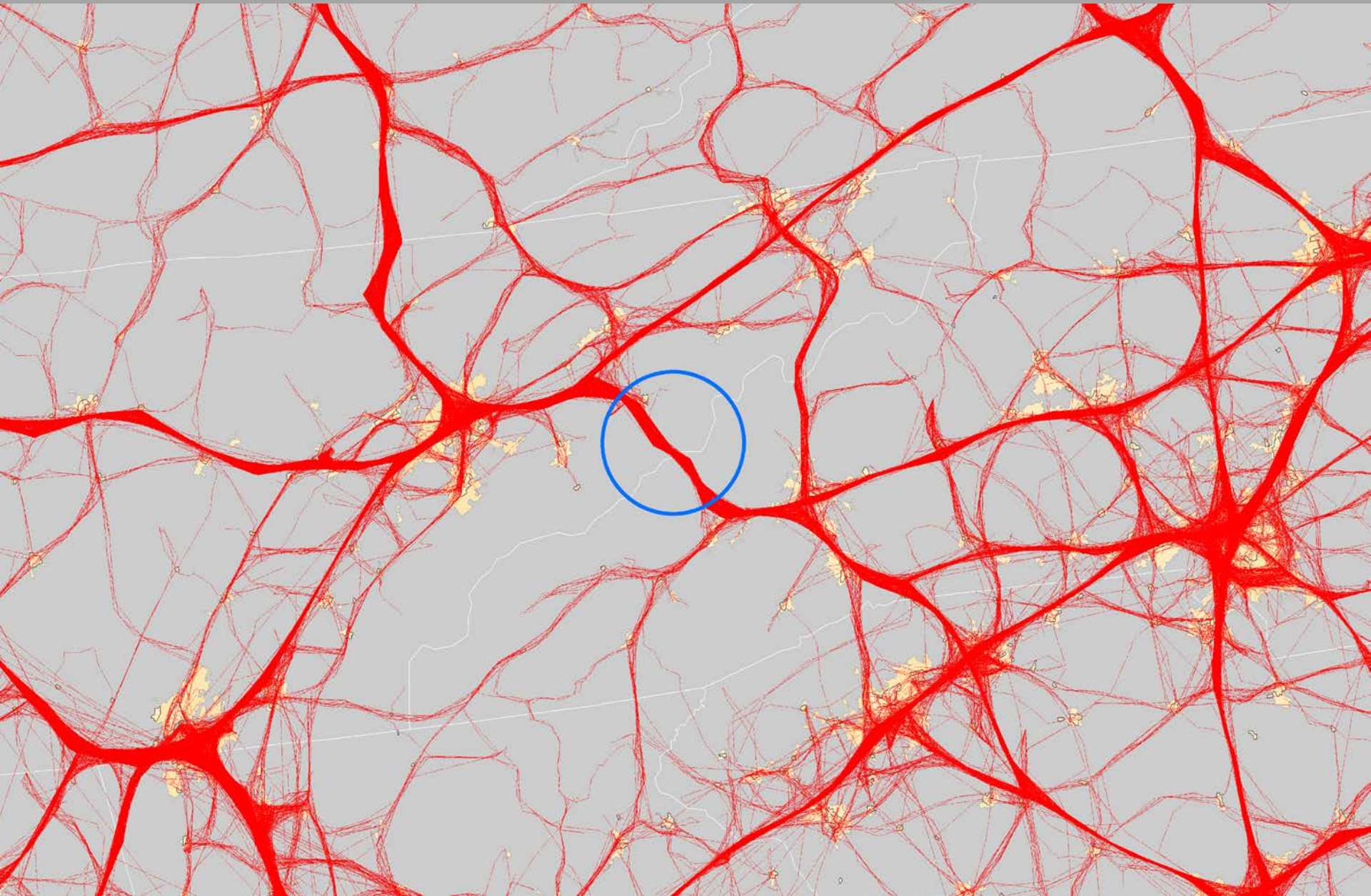


Overcapacity by Time of Day  
(October 2015)



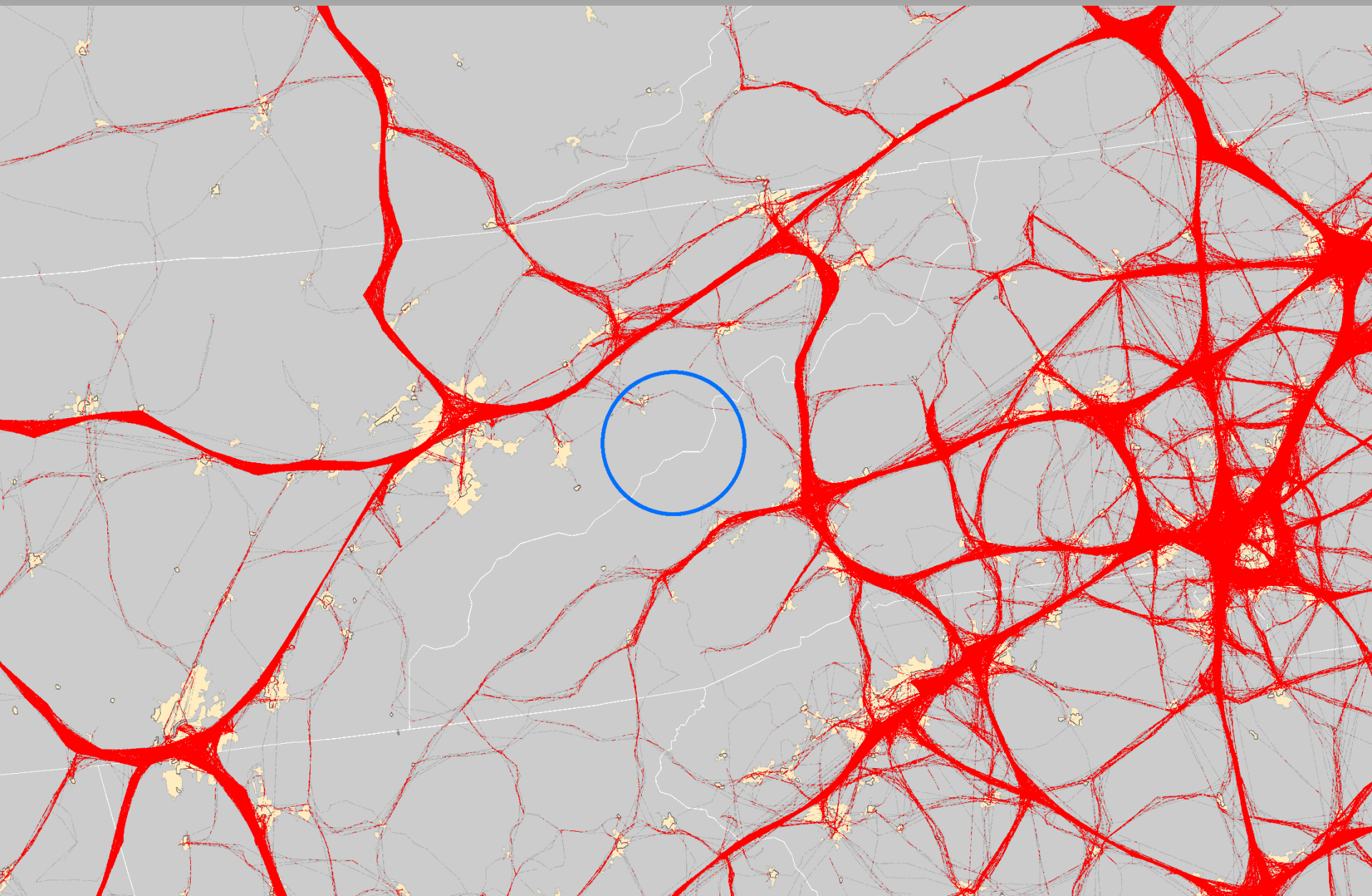


# Truck Flow Analysis Before I-40 Rockslide





# Truck Flow Analysis After I-40 Rockslide

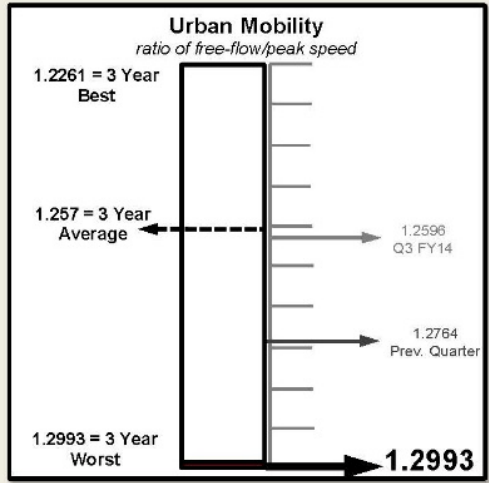
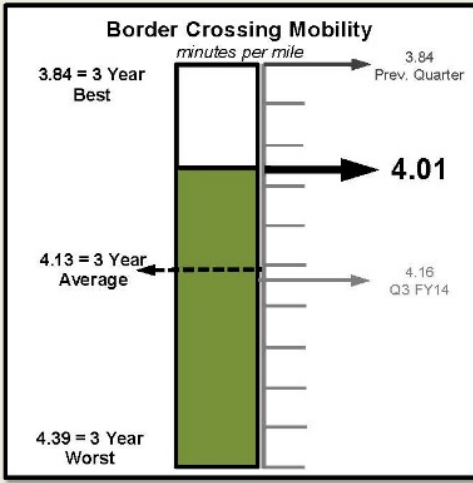
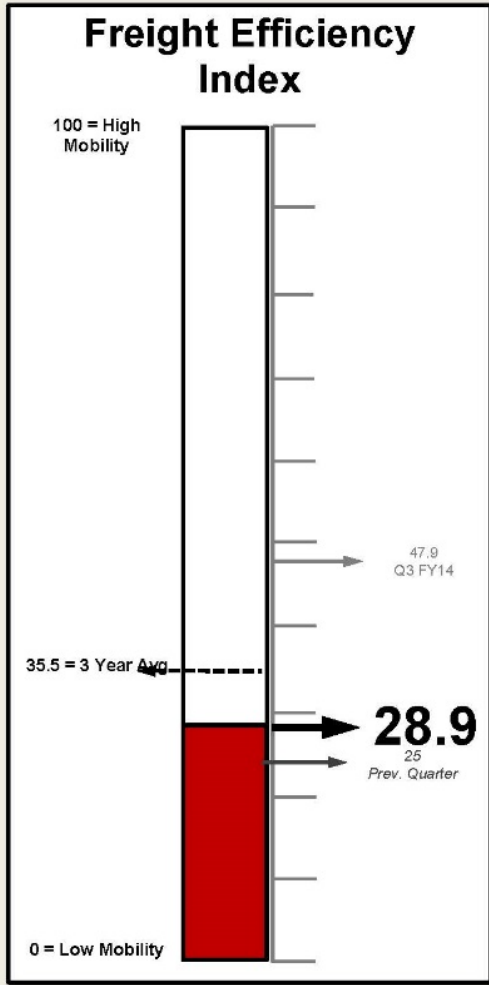
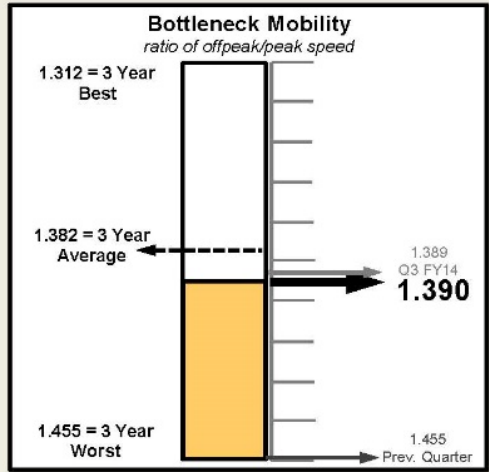
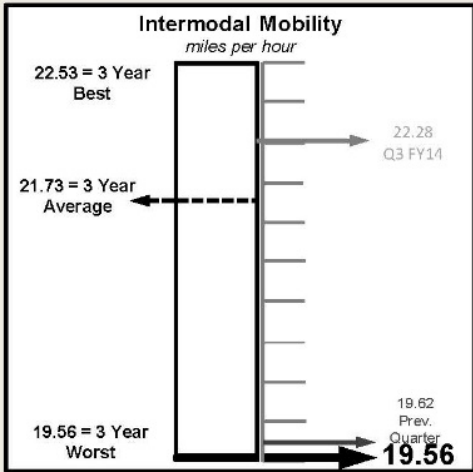




# Freight Mobility Trends

FY 2015

Third Quarter





# Questions?

Dan Murray: [dmurray@trucking.org](mailto:dmurray@trucking.org)

[www.atri-online.org](http://www.atri-online.org)