



Beyond the Border: What Forces to Watch (I-95 Corridor Region and Beyond!)

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I-95 Corridor Coalition – Beyond the Borders

- **Multi-Jurisdictional**
 - 16 States and the District of Columbia
 - Associate members include 2 Canadian Provinces (Quebec, New Brunswick)
- **Multi-Modal**
 - All Modes – Rail, Marine, Air, Highway – with a focus on passenger travel and freight movement
- **Multi-Disciplinary**
 - 100+ Transportation Agencies (federal, state, MPO, local), Toll Authorities, DMV's, Port Authorities, Transit Agencies, Railroads, Trucking, Public Safety/Law Enforcement





I-95 Corridor Coalition – Beyond the Borders

- I-95 Corridor has:
 - 21% of Nation’s Road Miles
 - 35% of Nation’s Vehicle Mile Traveled
 - High Volume of trips daily that cross state/regional boundaries
 - 565 million+ Passenger and Freight Trips > 100 miles annually
 - 5.3 billion tons of freight moves through corridor annually
 - Multi-Modal – Major class 1 railroads, 42 Ports, major airports
- Unique Characteristics of Corridor
 - Close geographic proximity of states
 - 10% of land mass – 37% of national population
 - Large urban areas in proximity to “mega-regions”
 - Coalition states have rural areas to serve also
- “Interoperability” across borders is critical





Beyond The Border: Issues to Watch...what can we do....)

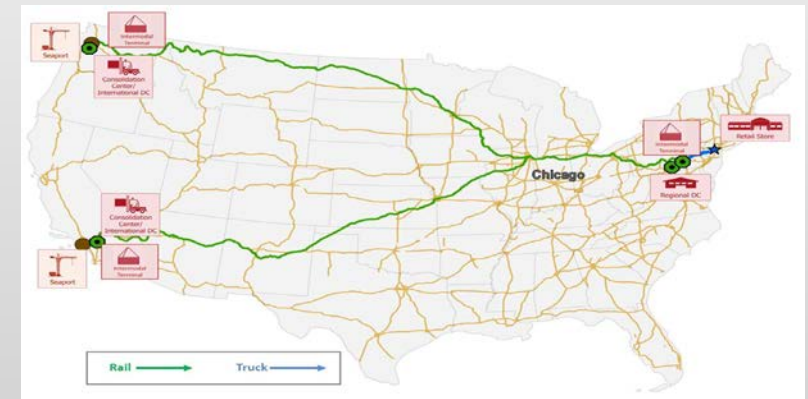
- Freight increase and shifts
 - Freight movement on the rise nationally and in the East Coast (This region!)
 - ***Freight performance becomes more critical***
 - Supply Chain performance across transportation systems critical to understand for policy and investment
 - Implications from shifts/innovations in supply chain logistics
 - Sourcing/near sourcing, “blockchain”, e-commerce vs “brick and mortar”, consumer demand for faster delivery
- Automation
 - Transportation Systems, Open Road Tolling, Connected/Automated vehicles
- Regulatory/legislative changes
 - HOS, Electronic Logging Devices...
- Contributing challenges
 - Shortage of truck parking spaces
 - Cost of “real estate” for truck parking versus other land use, “NIMBY” effect, agency funding constraints
 - “ In the News” (ELDs impact)
 - Workforce
 - Private sector: Driver Shortages
 - Public Sector: More critical for agency staff to understand freight –including trends and performance



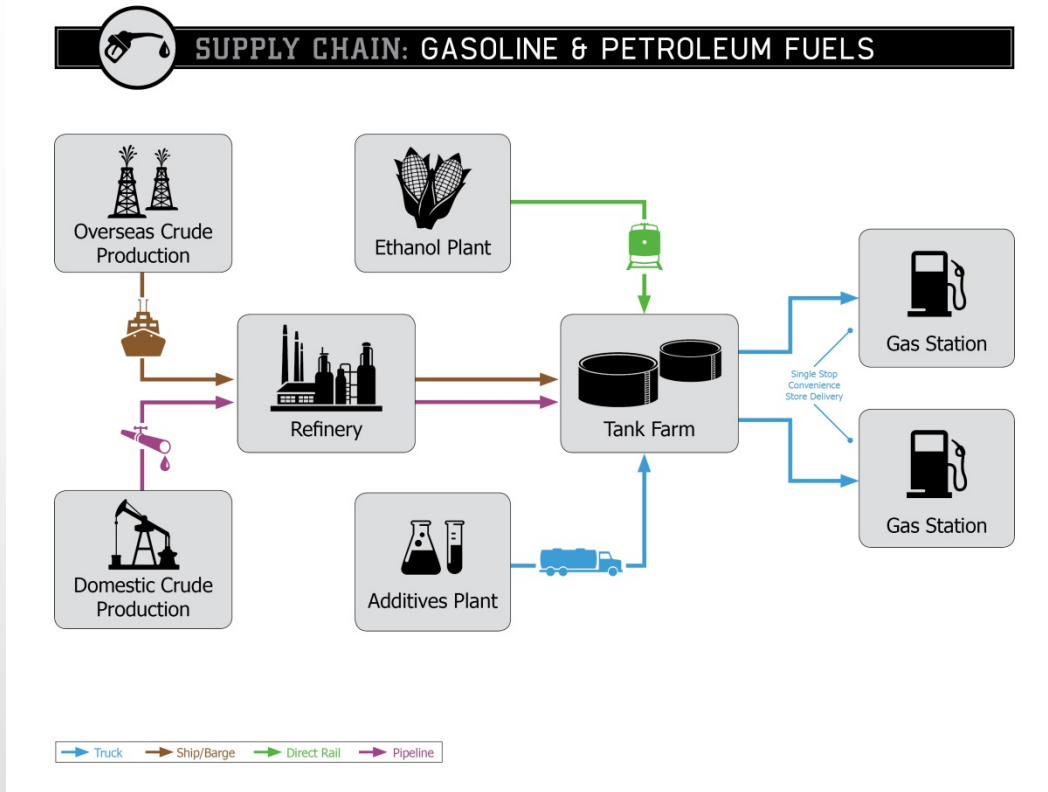
Beyond the Border: Understanding Supply Chain Freight Performance Across Jurisdictions

- National Freight Fluidity Monitoring Program
 - FHWA Sponsored National Program to initiate implementation of a national freight fluidity (performance) monitoring program
 - Move supply chain performance monitoring from theory into real-world applications
 - Support State and Regional implementation of fluidity measurement programs
 - Two regional pilots – Greater NY/NJ, Chicago
 - Measures:
 - Travel time: measured in days (or hours) of transit and dwell time
 - Travel-time reliability, measured as the 95th percentile of travel time in days (or hours)
 - Transportation cost, measured in current dollars
 - Modal coverage focuses on highways, railroads and waterways
 - Measures will report high-level performance of supply chains
 - To support public policy, program and investment decisions

• *Map Source: Measuring Freight Performance Across Multi-State Jurisdictions*
I-95 Corridor Coalition



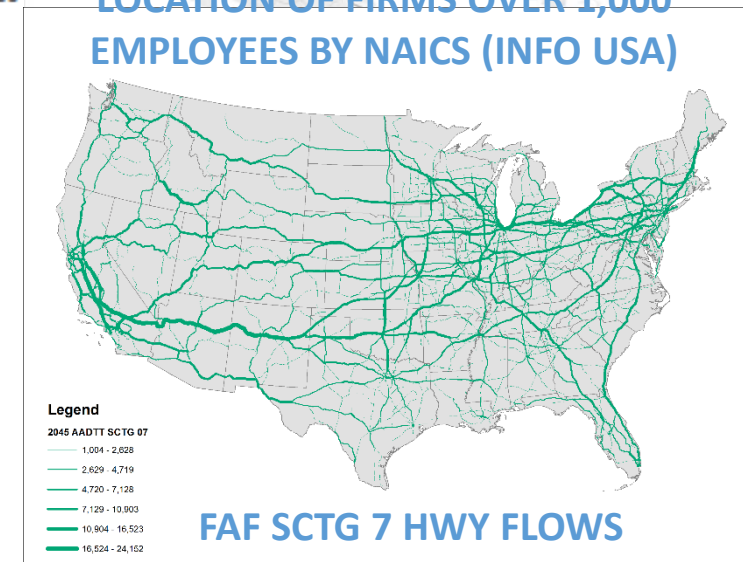
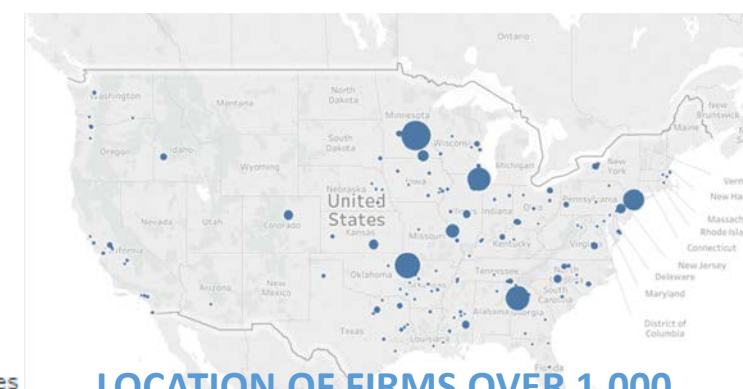
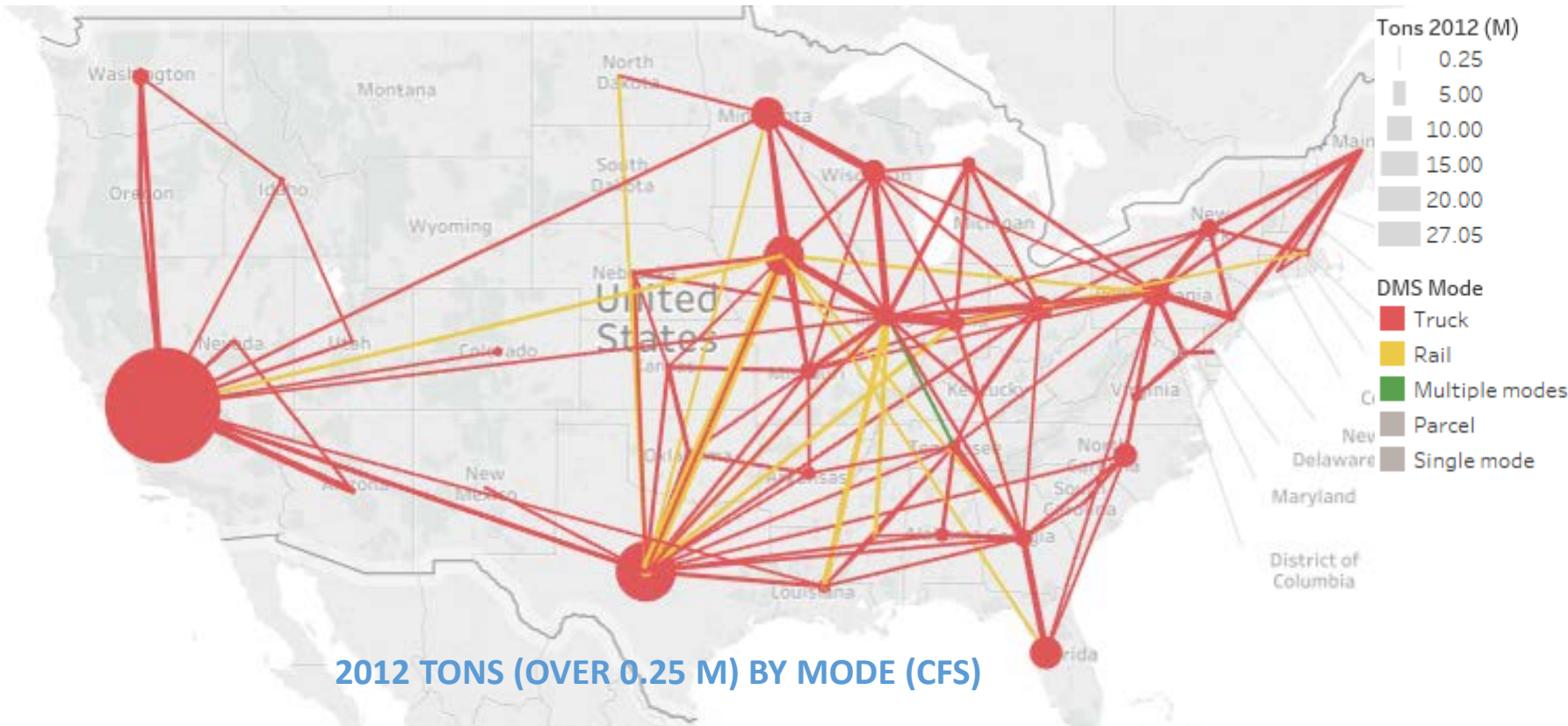
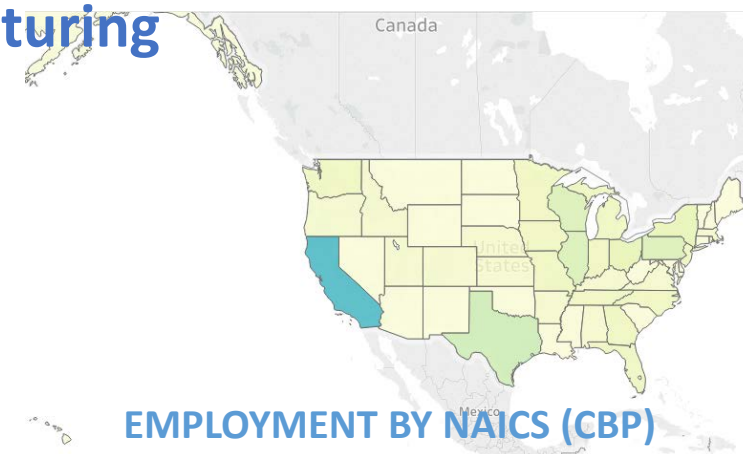
Beyond The Border: - Why It is Critical to Understand Supply Chain Performance on Transportation Systems



- It's how our freight users do business
- Supply chain performance key to economic competitiveness
- Shows performance from end-to-end (sum of stages)
 - “Across borders”
- Stages put local dynamics in larger perspective: user view & market view
- Identify disruptions and quantify effects
- Important to understand public sector role

Freight Fluidity: Industry Sector Example: Food Products Manufacturing

- Definition: NAICS 311-2
- Typical Commodities: **fresh, frozen, or processed meats, poultry, fish, fruits, vegetables; milled grains/oilseeds; sugars; baked goods; beverages**
- Representative Supply Chains: Anheuser-Busch, Coca-Cola, Perdue, General Mills



NAICS GDP	Trade Share (CFS Value)	D Modes (CFS Ton-Miles)	Tons and Avg Dist (CFS)
\$493 B	4% E, 96% D or I	68% T, 20% R, 12% O	706 M tons, 440 miles



Beyond the Border – FHWA Freight Fluidity Project Outcomes: Moving towards Implementation

Design of a national freight fluidity monitoring program

Data sharing and procurement **agreements** to support long-term monitoring of key national supply chains

Quarterly Reports documenting “market basket” supply chain trends

Workshop to share lessons learned and transfer knowledge regarding supply chain data, analysis methods and application

Two Pilot programs to further explore supply chain monitoring on a state or regional level



“TSMO” – Beyond the Borders

Traffic Systems Management and Operations

- Agency implementation of TSMO for improved operation and management of systems
 - Traffic Management, Asset Management...
- Traffic Management across borders is critical as incidents don't stop at borders
 - Critical need to connect systems and people
 - TMC to TMC information, ability to share real time incident information
 - That is reliable....critical that agencies and 3rd party providers “get it right”
 - Traffic Incident Management institutionalized in operations not just DOTs but law enforcement
 - Travel Information – accurate, reliable
- Freight is often forgotten, misunderstood
 - “Trucks are not big cars...”



Beyond the Border: Truck Parking –Real Time Information Dissemination

I-95 Corridor Coalition Truck Parking Project

- Demonstrated proof-of-concept and deployed real time information system to accurately identify available parking spaces and communicate truck parking information to truck drivers in a safe, timely useful, and efficient fashion
 - Cross border technology capability tested with sites in VA and MD
 - Data Collection system (in pavement sensors) deployed and integrated with host system
- Permanent Installations deployed w/ 95% accuracy rates in Northbound public rest areas: I-95 Ladysmith, I-95 Carson, I-95 Dale City, and I-66 New Kent (WB and EB)
- VDOT has assumed “TruckNPark” system continued Operation and Maintenance (4/18)
 - System will be ultimately fully integrated into Virginia DOT Statewide ATMS
 - Real Time Information available via VDOT’s 511 and “SmarterRoads” portal to Public and to 3rd Party Developers/Apps (e.g., NATSO’s Park My Truck)



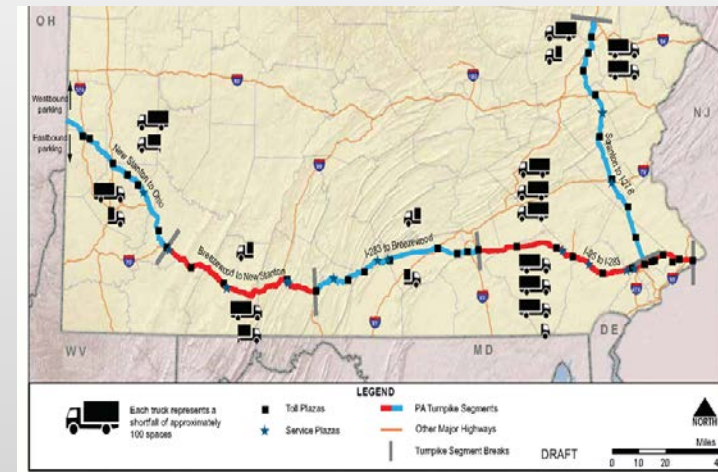


Beyond the Border: Truck Parking – Facilitate Agencies in Sharing/Implementing Strategies

I-95 Corridor Coalition Truck Parking Workshop

- Participants were from “operating” agencies (e.g., State DOTs, Turnpike/toll authorities) across corridor
- Lessons learned from I-95 Corridor Coalition Truck Parking Project
 - Also building on lessons/best practice sharing from National Truck Parking Coalition
- Peer exchange included other truck parking initiatives in corridor (i.e., FL, VA, PA Turnpike) and outside corridor examples (MN, MO)
 - Real Time Information – agency ATMS and agency to “hub”/3rd party
 - Low cost capacity improvement opportunities (MO)
 - Examine key changes impacting truck parking including:
 - Electronic Logging Devices, E-Commerce

• Map source: *Pennsylvania Turnpike –Truck Parking Needs*





Beyond the Border: Truck Parking – Facilitate Sharing/Implementing of Strategies

Zeroing In On What Agencies Can Do To Address Truck Parking Challenges

- Capacity Expansion
 - Includes public and private sector (including industry sectors) solutions
 - Expansion may include better utilization of facilities
 - Find ways to work with private operators of truck stops, distribution/warehouses
- Design
 - Incorporate truck parking in planning, new projects/expansions
 - “Low cost reuse” of facilities
- Education/Outreach to Key Stakeholders (Including General Public)
- Real Time Information Dissemination
 - Where to park, “Know how far/how fast before you go” ...
 - *Solutions must work statewide/corridor wide/“APP Wide” - be interoperable*
- Making Decisions with Data
 - Is where the trucks are overflowing the point of investment?
- Share Truck Parking work results! I-95 CC Report release end of June 2018; Coalition Truck Parking follow up Symposium Fall 2018,
 - ***Stay involved in “beyond border efforts”: e.g., USDOT/National Truck Parking Coalition work***





Beyond the Border - Automation

Eastern Corridor States have high incidents of vehicles crossing borders

- Ability for trips to be “seamless” will be critical
 - Particularly for trucks given trip lengths and multiple jurisdictional crossings; economics
 - Bottlenecks both highway and rail are important to address across corridors in order to not “shift the bottleneck across borders”
- Systems will produce significant amount of data
 - Needs to be accessible and “understood” with privacy concerns recognized
 - Data for planning/investment will need to be shared more often and more economically
- Continued expansion of Open Road Tolling/E-Tolling
 - Important to address toll violators for lost revenue, accuracy critical in enforcing
- Connected/Automated/Autonomous Vehicles
 - Technologies deployed may have different challenges/adaptability than other corridors :
e.g. Truck Platooning
 - Deployment – mixed mode or “Truck only lanes” may pose challenging due to land use limitations, congestion/capacity availability, and/or public acceptance
 - Consideration to examine issues/challenges/barriers/opportunities for Multi-State/East Coast seamless and “realistic” deployment (I-95, I-81 corridors)
 - Can we learn from other experiences (i.e. Tandems/turnpike doubles)
 - e.g. where will truck platoons “make up/break up” on highway system



Beyond the Borders: Workforce

Transportation and related public agencies face workforce challenges – particularly with regards to Freight

- Knowledge base increasing for those entering but still more needed
- Industry trends changing constantly – Need to “keep up” for policy, planning, operations, investment decisions
- Retention is difficult – external employment more and more enticing





Beyond the Borders: Workforce

- Need to invest in/support freight capacity professional development
 - FHWA/NHI Freight Professional Development Training
- I-95 Corridor Coalition Freight Academy
 - A nationally recognized immersion program for public sector staff on goods movement/supply chain
 - Immersion week experience with candidates exposed to multi-modal private sector freight and supply chain operations and professionals
 - Port and Aviation facility/ terminal operations, Rail facilities, distribution/warehousing
 - Enhance understanding of private sector decisions related to transportation and investment
 - Next Academy – Spring 2019





Beyond the Borders – What can we do?

- Recognize the uniqueness of our region and how this may influence projects we undertake, technologies we examine/implement
 - Closer geography = more border crossing
 - Congestion, volumes
- Talk to each other – public and private sector
 - Forums such as I-95 CC, I-81 CC, AASHTO, NASTO, This event!
 - Private sector participation in freight professional capacity development
 - e.g. Freight Academy
- Share information, strategies, best practices
 - Leverage the work we do to save time, \$
- Emphasize “collaboration” over competition
 - Identify and seek out multi-state, multi-corridor research, activities, projects to advance



Questions?

Thank you!

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