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

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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

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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

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