Moving Goods and People Cross Border Collaboration Buffalo-Niagara Corridors EBTC September 12, 2018



Greater Buffalo Niagara Regional Transportation Council Hal Morse, Executive Director

Greater Buffalo-Niagara Regional Transportation Council







Erie and Niagara County's Metropolitan Planning Organization (MPO) A Cooperative Association of Area Governments and Agencies





GBNRTC Metropolitan Planning Organization



- THE GBNRTC is the Metropolitan Planning Organization for all of Erie and Niagara Counties in the State of New York.
- Member agencies include the City of Buffalo, City of Niagara Falls, County of Erie, County of Niagara, NYS Thruway Authority, Niagara Frontier Transportation Authority, and the NYS Department of Transportation.

GBNRTC Mission

- Plan for the future What do we need, how will we get there
- Address region's issues examine regional and local challenges and develop solutions
- Focus on projects Staging the right projects at the right time
- **Key issues** BiNational planning and economic integration

Importance of the International Border in the Greater Buffalo Niagara Region

3rd Largest Urban Concentration In North America

20.4 Million	New York-New Jersey-Long Island
16.2 Million	 Los Angeles-Riverside-Orange County
9.0 Million	 Toronto-Hamilton- Niagara Falls- Buffalo-Rochester-Syracuse
8.9 Million	Chicago-Gary-Kenosha
7.4 Million	Washington-Baltimore



Megaregion Planning Emphasis



- Responds to reality of emerging largescale regions
- Better adapted to deal with global economic opportunities and environmental issues
- Provides strategy to act globally, while providing a local focus on livability and sustainability
- Improves health, mobility and employment opportunities across large-scale regions
- Supports transportation innovation



Ultimate Goal is to Establish Integrated Multi-modal Transportation Network



- Maximizes the potential of air, rail and marine goods movement modes
- Provides efficient connections to hubs, employment lands, and markets
- Addresses projected highway capacity issues
- Incorporates an inter-regional multi-modal transit network
- Is planned and implemented in a manner that respects the importance of environmentally sensitive areas
- Is planned in a cooperative manner with active participation by municipal citizens, provincial and Federal governments and interest groups including the private sector



The Summit Infrastructure Products



Border Management

- Heightened security
- Need for predictable travel times
- Multiplicity of agencies and priorities
- Some decisions outside regional control
- Expectations for technology and ITS

Transportation Infrastructure Serving the Greater Buffalo – Niagara Border Region





QEW and Interstate I-90 (Major Connectors)



Commuter Rail – GO Train



Inter-City Bus Services



Two (2) Railway Bridges



Rail Passenger Service VIA and AMTRAK



Four (4) Major Airports



Welland Canal (St. Lawrence Seaway), Several Ports

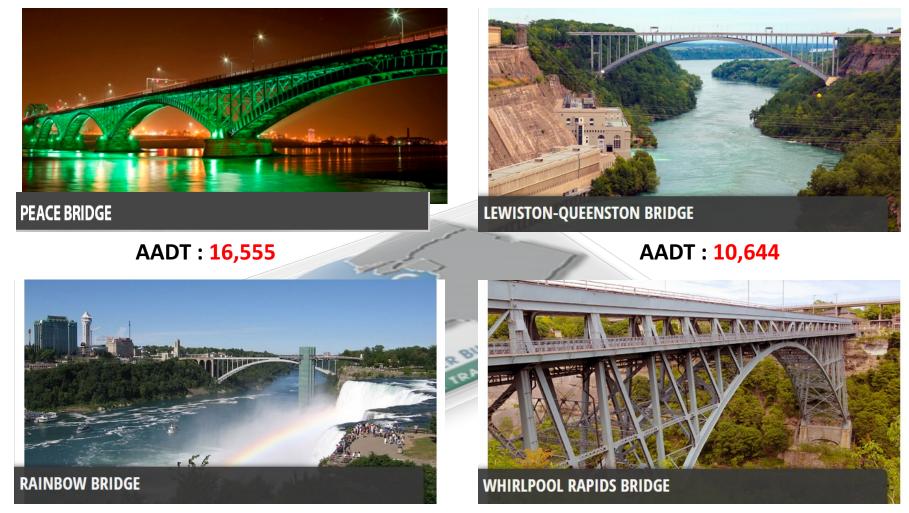
US Border Entry from Canada Volume Rankings

Buffalo-Niagara Border Crossings

Crossing Statistics	Border Rank	% of Inbound Entries
Trucks	2	17%
Trains	3	10%
Train passengers	4	13%
Buses	2	25%
Bus passengers	1	35%
Personal vehicles	1	20%
Personal vehicle passengers	1	22%
Pedestrians	1	64%

Source: Research and Innovative Technology Administration / Bureau of Transportation Statistics - 2009 Data

International Motor Vehicle Bridges in the Buffalo Niagara Region



AADT : 10,035

AADT : 1,599

Border and Integrated Traffic Management



Niagara International Transportation Technology Coalition

To improve mobility, reliability and safety on the regional bi-national multimodal transportation network through information sharing and coordinated management of operations.

Coalition's Border Management Role





- Regional Collaboration and Leadership
 - Border Crossing Collaboration
 - Border Crossing Operations
 - Traffic and Incident Management
 - Technology Deployment
 - Public Information and Education
 - Traveler Information

Border Crossing Operations



- Coalition TMC acts as information clearinghouse for all border related traveler and traffic information
- Border enforcement resource management
- Event planning and review
- Construction planning

Border Related Traffic and Incident Management



- Ontario and WNY Incident Management Committees
- Coordination with border enforcement, local police and public safety agencies
- Border Crossing Traffic Management Plans
- Staging areas and truck management
- Queue end management



A NEW WAY OF PLANNING FOR TRANSPORTATION

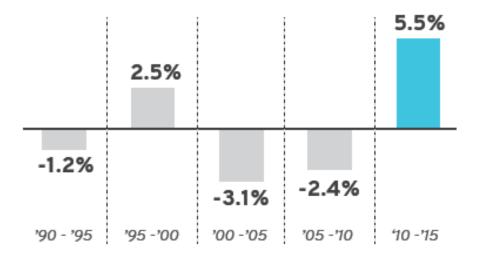
Where we want to be in 2050 —

Our Economy	In 2050, our economy will be globally competitive with shared prosperity that spreads economic opportunities and benefits to all residents in the region.
Our Communities	In 2050, our communities will be brimming with opportunities, providing residents with various lifestyle choices and attracting new, diverse residents, businesses and investments from all over the world.
Our Environment	In 2050, our environment will be ecologically healthy and easily accessible so that all residents and visitors have abundant opportunities to enjoy our region's world class waterways and open spaces.
Innovation	By 2050, we will be making transformative changes to the way we plan, fund and implement the region's transportation investments through harnessing technological advances, making data-driven decisions and utilizing creative and diverse partnerships and funding sources.

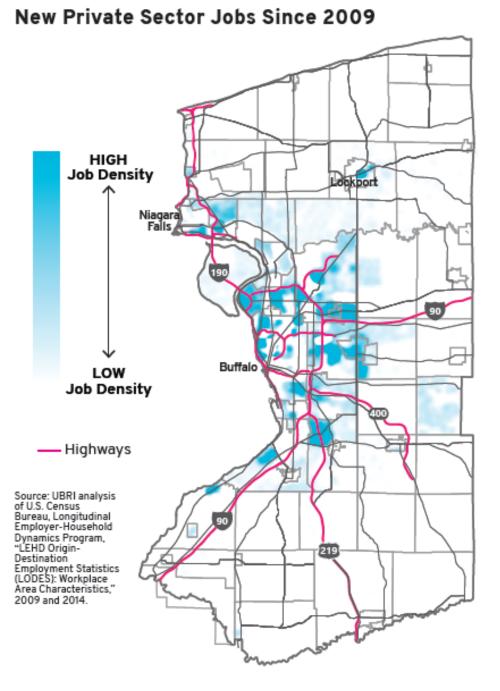
We've seen the most job growth in a generation.

WHERE WE ARE TODAY OUR ECONOMY

% Change in Private Sector Jobs in Buffalo Niagara, 1990 - 2015



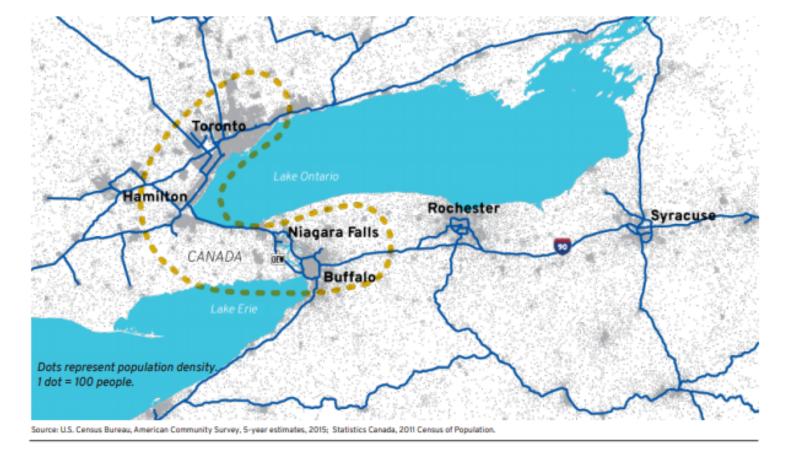
Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 1990-2015.



We need bi-national transportation planning to support a bustling border economy.

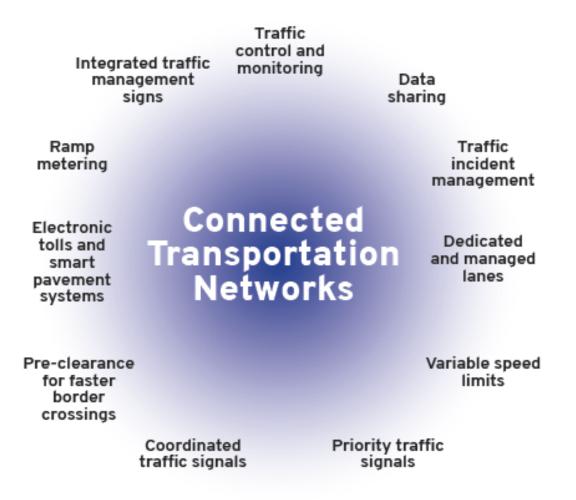


The Greater Golden Horseshoe includes over 9 million people.



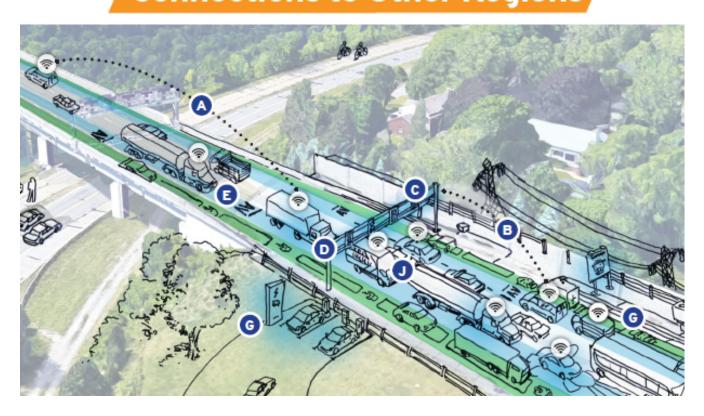
Data is the new infrastructure

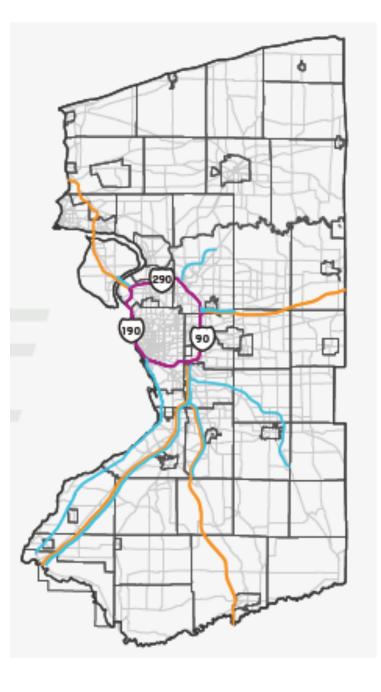
"Person flow" traffic management technology



Enhancing our highway system with Next Generation Freeways Commuter Expressways Connections to Other Regions

STRATEGIES TO MOVE US FORWARD





Next Generation Freeways + Commuter Expressways



B Vehicle-to-infrastructure (V2I) communications



Electronic signage

Variable speeds



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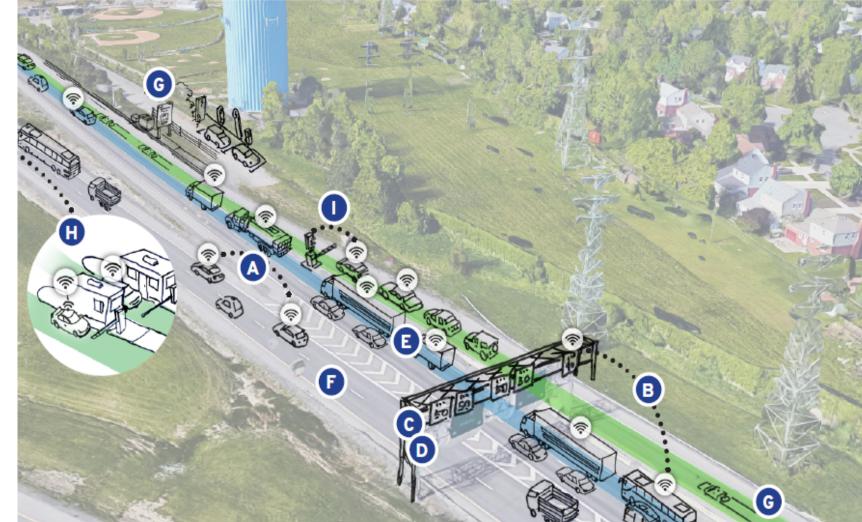
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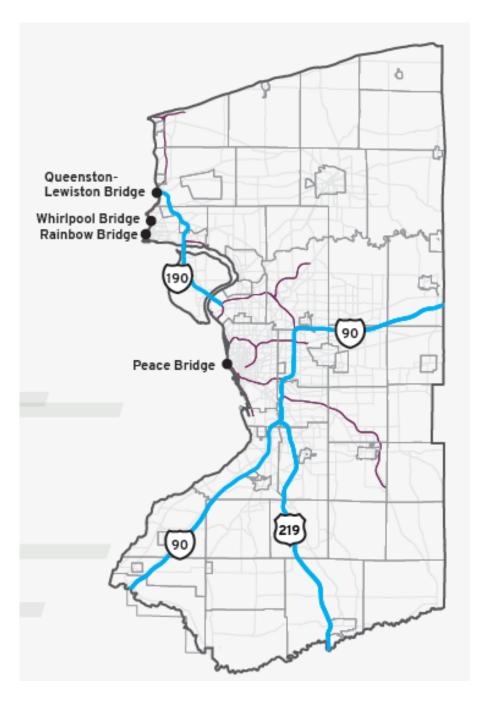
Autonomous vehicle (AV) lane

Sustainable materials



Electronic tolling





STRATEGIES TO MOVE US FORWARD

OUR REGIONAL HIGHWAY SYSTEM

CONNECTIONS TO OTHER REGIONS

Harnessing technology to improve our connections to other regions



WAYS TO GET THERE

A Vehicle-tovehicle (V2V) communications

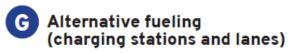
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Variable speeds

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Sustainable materials



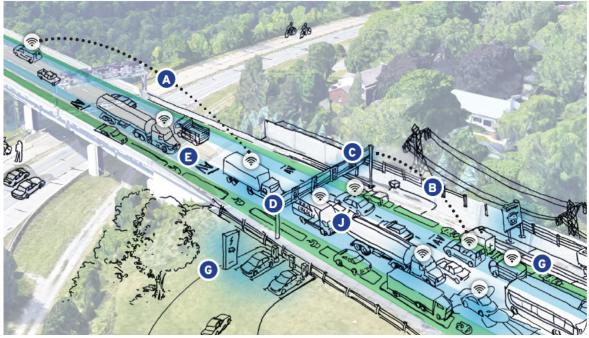
Electronic tolling

Seamless bridge crossings

Allow most passenger and freight vehicles to be pre-cleared to cross, minimizing border delays and congestion. Low-risk cross-border travelers and freight shippers enroll in pre-clearance programs in order to expedite the customs process and limit border delays – like an expanded NEXUS plan.

AV lane with Truck Platoons

AV lanes could accommodate closelyspaced together AV truck "platoons" that ship freight into, from and through the region. These may initially run during off-peak hours and would travel in a dedicated lane alongside passenger vehicles.



STRATEGIES TO MOVE US FORWARD

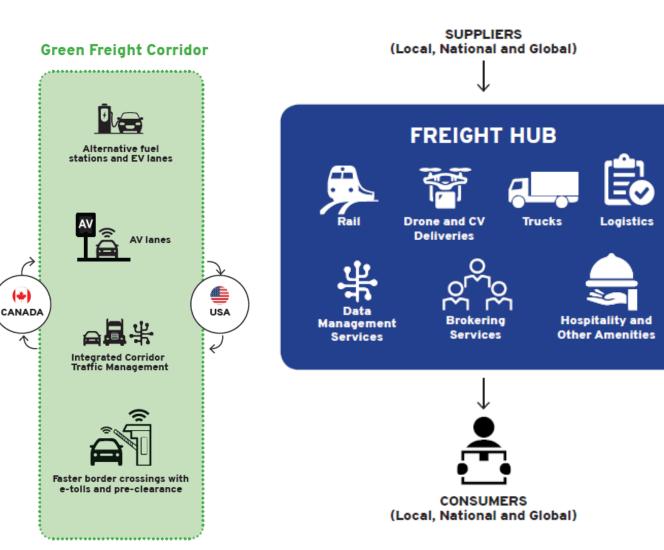
FUTURE FREIGHT NETWORK

Strengthening our economy with a smart, efficient and diverse freight network



WAYS TO GET THERE

Bi-national Autonomous Green Freight Corridor



Freight Hubs

AV truck platoons on highways

Upgrades that facilitate AV truck platoons, like dedicated lanes and vehicle-to-infrastructure communications, can make our freight system more efficient.



Local "last mile" deliveries

Our freight network will need to diversify to accommodate new services and expand so that deliveries can be made safely and efficiently on local streets using drones, delivery bots and package pick-up lockers.

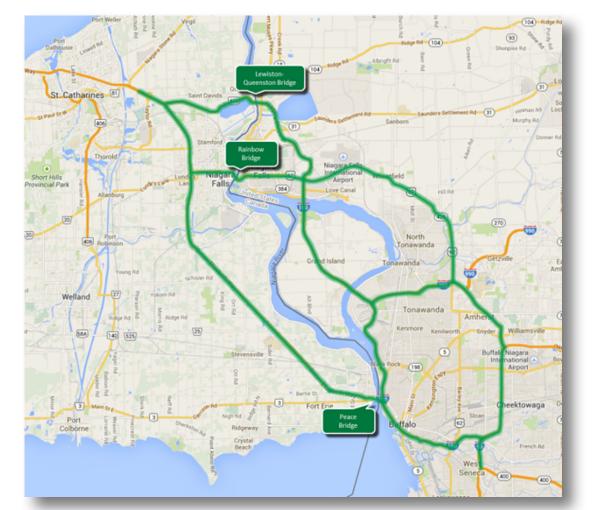


Some Near Term Initiatives

- Integrated Corridor Management
- Technology Deployments
- International Trade Gateway
- Crossdock Facility
- National Economic Partnership



Geographic Area in the ICM Initiative



ICM Partnership Team

- Buffalo and Fort Erie Public Bridge Authority
- City of Buffalo
- Ministry of Transportation Ontario
- New York State Department of Transportation
- New York State Thruway Authority
- Niagara Frontier Transportation Authority



- Objectives are to optimize traffic operations by identifying effective traffic management strategies to mitigate congestion and the associated environmental impacts.
- Development of a Data-driven Decision Support Tool for:
 - 1. Congestion management on critical transportation corridors in the Region that provide access to the BiNational border crossings
 - 2. Development of a Border Crossing Corridor Management Plan
 - 3. Build upon the ICM vision by focusing on recurring and non-recurring congestion and the re-routing of traffic to other border crossings in the area



- Develop plans corresponding to regional priorities, such as improving air quality and reducing delay
- Balance traffic loads among the regional border crossings and their access roads
- Deploy softer strategies to reduce delay and manage demand through increased awareness of electronic pre-clearance programs, transit promotion, and long-term solutions focused on reducing regional border delay
- Develop strategic diversion routes to border crossings in the region and travelers within the corridor including daily trips to/from work, NFL and NHL sporting events and numerous special events





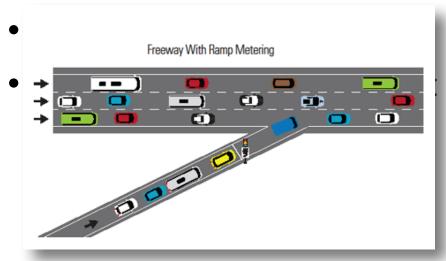




Potential ICM Strategies

- Active Traffic Management
- En-route information
- Incident response policies
- Real-time traffic signal management
- Integrated Weather Data
- Advanced parking systems

- Advanced ramp metering
- Inter-agency information sharing
- Regional data integration





Decision Support Tool Evaluation Metrics:

Network Usage

• Volumes, VMT, number of trips, etc.

Mobility

• Travel times, speeds, VHT, total hours of delay, border crossing delays, average delay per person

Reliability

• Variance in travel time and or speeds

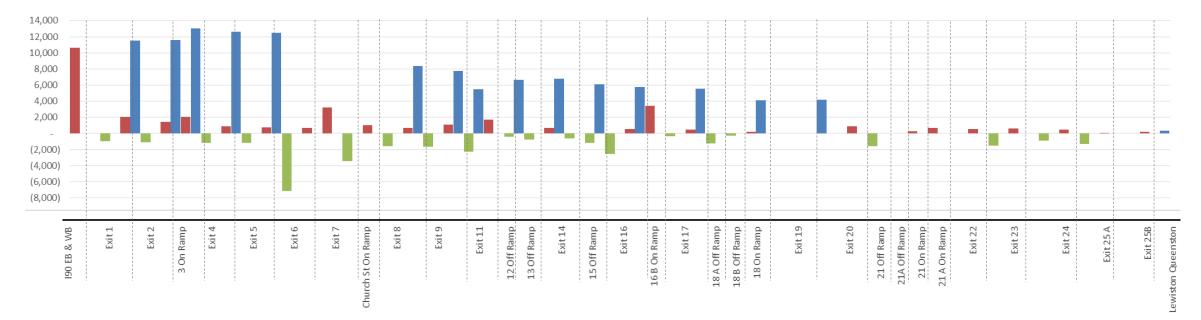
Environmental

• Tailpipe emissions, fuel consumption Benefit/Cost Ratios Travel Demand Modeling and Dynamic Traffic Simulation in the Greater Buffalo – Niagara Region



I-190 Typical Weekday Traffic Volume

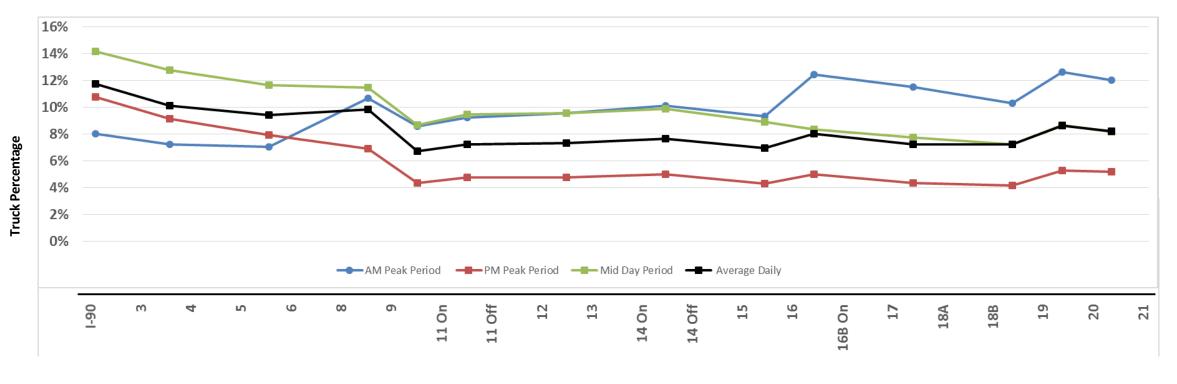
I90 Northbound AM Peak Volumes Freeway Section On Ramp Off Ramp



Typical Weekday: Non Holiday Tuesday, Wednesday & Thursday AM Peak Period : 6 AM to 9 AM PM Peak Period : 3 PM to 6 PM



I-190 Northbound Truck Percentage



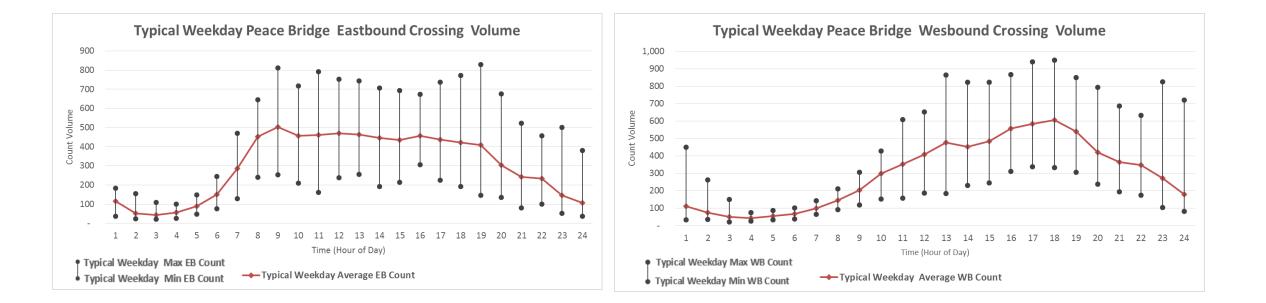
Exits

Typical Weekday: Non Holiday Tuesday, Wednesday & Thursday AM Peak Period : 6 AM to 9 AM PM Peak Period : 3 PM to 6 PM

Source: NYSTA Permanent Count Station October 2015 Truck Classification Data



Peace Bridge Crossing Volume





Bridge Crossing Volumes

2,200 2,000 1,800 1,600 **Count Volume** 1,400 1,200 1,000 800 600 400 200 1 2 3 15 16 19 20 21 22 23 24 10 12 13 17 18 11 14 Time (Hour of Day) Typical Weekday Average EB Count — July 1st 2015 (Wednesday) -July 2nd 2015 (Thursday)

-----July 5th 2015 (Sunday)

-July 4th 2015 (Saturday)

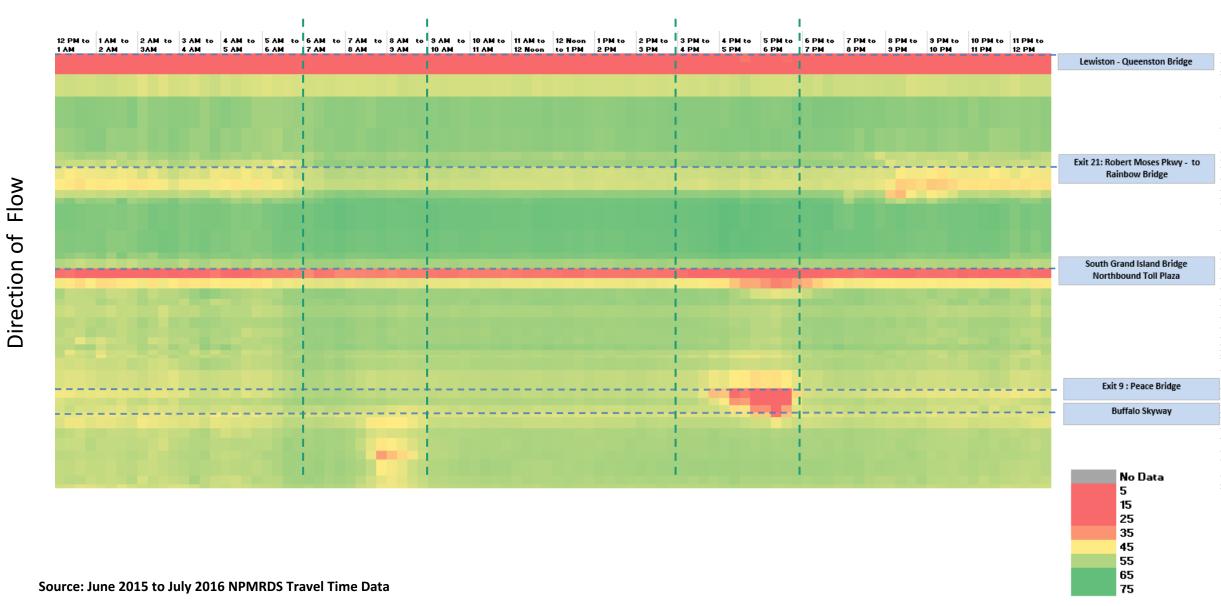
Canada to USA Crossing Volumes Over Holiday Weekend

-July 3rd 2015 (Friday)

Northbound NPMRDS Observed Speeds on I-190

From I-90 Interchange to Lewiston Queenston Bridge

Typical Weekday Speeds





#1 October 07, 2015 (Tuesday)

- Cross Street : Route 198
- Route/ Street : | 190
- Direction : Southbound
- Time: 7:34:10 AM
- Lanes Closed : 1 Left Lane Closed
- Additional Information: Accident at Exit 11. Reported at 7:33 am
- Lane Block Clearance Time : 60 Minutes
- Total Clearance Time : 80 Minutes

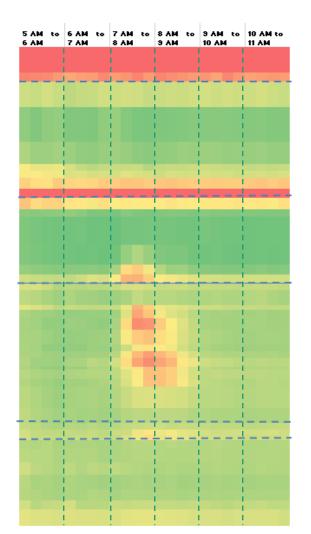
Southbound Observed Speeds

#1 October 07, 2015 Accident

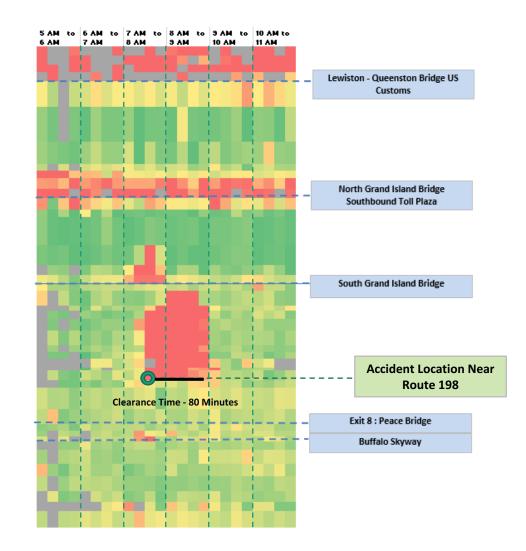
On I-190 SB Near Route 198 , 7:34:10 AM

Average Weekday





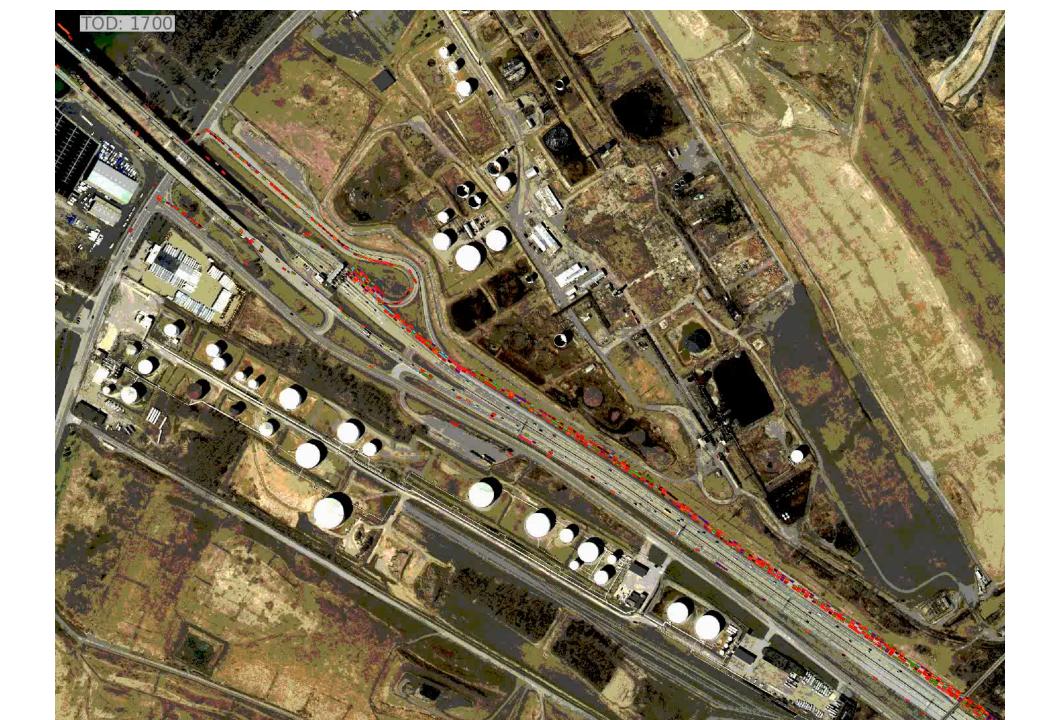
October 07, 2015



O Incident Location

Simulate Incident with Proposed Management Strategies







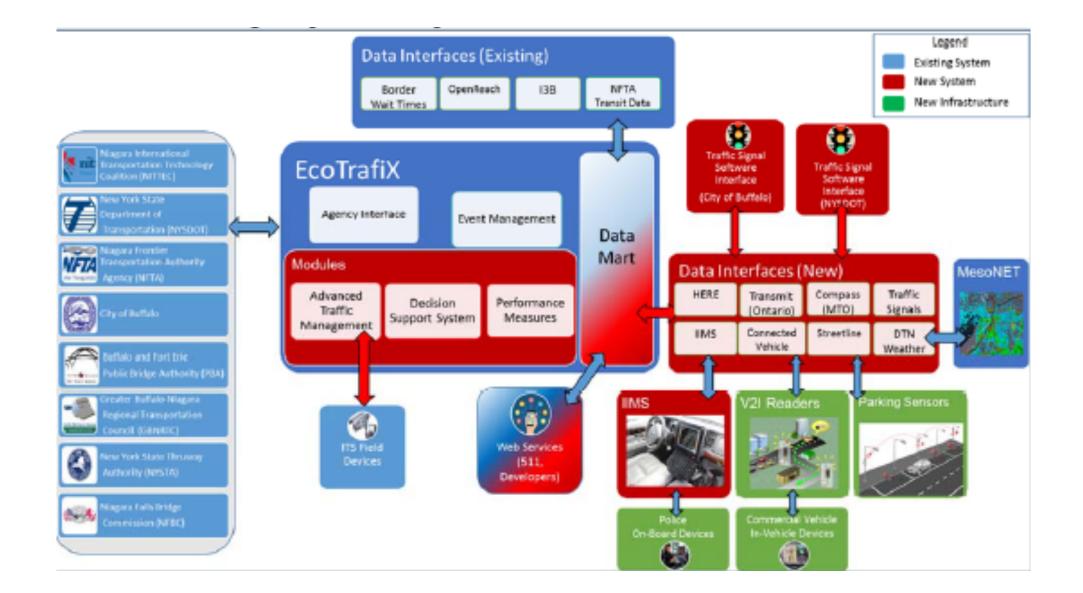
TRANSPORTATION AND CONGESTION MANAGEMENT TECHNOLOGIES DEPLOYMENT INITIATIVE



ATCMTD Program



- BiNational region successful applicant through NITTEC
- Federal investment leveraging about \$25M in technology deployments
- Technical and institutional integration a key component
- Initial phase 18 month startup, then operational
- Sets stage for next lift, connected vehicles,





Expected Results



- Operational Integration strengthens
- Newest technologies in place at and around the border
- Stage set for emerging technology jumps
- Overall mobility improves significantly

Some Other Technology Ideas Considered in Freight Planning Process

- Consider establishing a freight technology test bed in New York State
- Potential candidate locations could be the New York State Thruway or other similar facilities.
- This could serve as a test bed for truck platooning, CV technology, roadside inspection, and potentially automation.
- The creation of this test bed could also be a mechanism to obtain and leverage federal funding, including the next round of Advanced Transportation And Congestion Management Technologies Deployment (ATCMTD) grants
- Several technologies could be deployed on the test bed for evaluation including V2V connections via DSRC or other methods for safety, as well as platooning or eco-driving; V2I connections for safety purposes; Automated vehicles; Automatic roadside inspections with on-board software and infrastructure

International Trade Gateway

International Trade Gateway







- Integrated center for transshipment, storage, collection and distribution of goods, regionally-centered around a convergence point of rail lines, truck routes, water shipping routes and air transport modes and facilities
- Heavily features "soft" infrastructure assets related to trade – customs brokerage, 3PL, legal, financial, etc. – with an added emphasis on workforce development, education and training to ensure the strength of industry clusters served
- May include a single location in the region or virtual connection of all of a region's public and private sector assets

Benefits of Serving Two Nations



- Reduction of tariffs by utilizing more favorable codes and foreign trade zones
- Encouragement of foreign companies to ship components; instead of finished products to the region for assembly with potential locally source components
- Addition of value to goods heading to and from Canada, as well as goods to and from third countries. (Truck traffic via Buffalo to rise 90% from 2010-2035)
- Proximity to major U.S. and Canadian metro areas enables companies to quickly grasp and adjust to changing market conditions
- Opportunity to promote light manufacturing and assembly since companies tend to locate near transportation and distribution hubs

The Goal: Creation of a Logistics Ecosystem



PANYNJ Collaboration

- Established a relationship with PANYNJ to promote Buffalo Niagara as an "inland port," providing congestion relief and distribution capabilities.
- Led to the development of a memorandum-of-understanding (MOU) between ITGO and PANYNJ, which designated the Buffalo Niagara uniquely as region as a "strategic international gateway," creating a relationship based on joint marketing and sharing of resources and data.
- The ITGO and PANYNJ Workgroup convenes regularly per the MOU to create marketing, data and infrastructure initiatives to enhance the relationship and drive additional freight back-and-forth between Western New York and PANYNJ

Crossdock Facility



- Buffalo Lakeside Commerce Park proximity to the CSX intermodal yard (1.25 mi), facilitates creating a crossdock/transloading facility with possible U.S. Customs examination station in the Park
- With new activity at PANYNJ, due to the arrival of "neo-Panamax" megaships, ITGO and the Port Authority began to investigate again the possibility of the proposed facility at BLCP as a potential relief valve to help congestion at the New York and New Jersey ocean ports.
- In addition, the capture of freight and transition from rail to truck at the proposed facility will benefit the Buffalo Niagara Region in its ability to secure equipment for export purposes.

The Crossdock project will facilitate the following activities

- Crossdocking facility at Lakeside Commerce Park in Buffalo
- International freight coming into facility from PANYNJ
- Filling containers and sending back
- CNG fueling station
- Bonded warehouse and/or Foreign Trade Zone
- Security
- Direct access to CSX intermodal yard
- Staging area for trucks and containers
- Bifurcated warehouse for (1) receiving international freight and (2) containerizing regional export freight

Facilitate Exports by Offering Containerization Opportunities

- A critical component of the proposed crossdock facility is the ability to accept and containerize cargo for export through the Port of New York and New Jersey.
- Securing equipment locally is critical to that effort, and if the region is successful, it becomes an important tool in regional economic development agencies' ability to attract direct private investment, particularly manufacturing.
- The crossdock facility will corral equipment to be used for export by both WNY and Southern Ontario shippers, and containerization and export will be a primary function for the operator to provide.

National Economic Partnerships: Innovative Approaches to Multi-jurisdictional Coordination in the BiNational Buffalo Niagara Region

- Development of updated and/or expanded MOUs and working agreements between New York State and the Province of Ontario to better prioritize and coordinate investments across the region, reflecting the maturity of the transportation systems and technology influx not included in previous agreements
- Data governance framework/protocol (i.e., on data sharing, management, standardization)
- Recommendations on how to utilize technology to improve passenger and freight clearance at international borders
- A framework to support further development of the trade gateway including freight and container pool management
- Recommendations on sustainable funding and financing, including public and private sources, as well as opportunities for value capture
- Infrastructure plan based on integration of more current plans and smart corridor technologies
- Real-time systems management with data acquisition and deployment in the binational ICM corridor through the world's largest hybrid traffic simulation network in the world (now operational at GBNRTC)

Some Overall BiNational Issues Going Forward



- Coordination of numerous ongoing activities and relationships
- Multiplicity of issues, infrastructure/land use/economy/environmental
- Effective future mechanisms for continued coordination and cooperation
- Technology solutions are a "must win"

Actions

- Renew, update, revise craft new agreements
- Integrate initiatives and create coordinated plan
- Organize, acquire, deploy next generation technology solution
- Private sector partnerships essential for success