

# Buffalo Niagara Integrated Corridor Management Project

**ENTERPRISE Webinar**  
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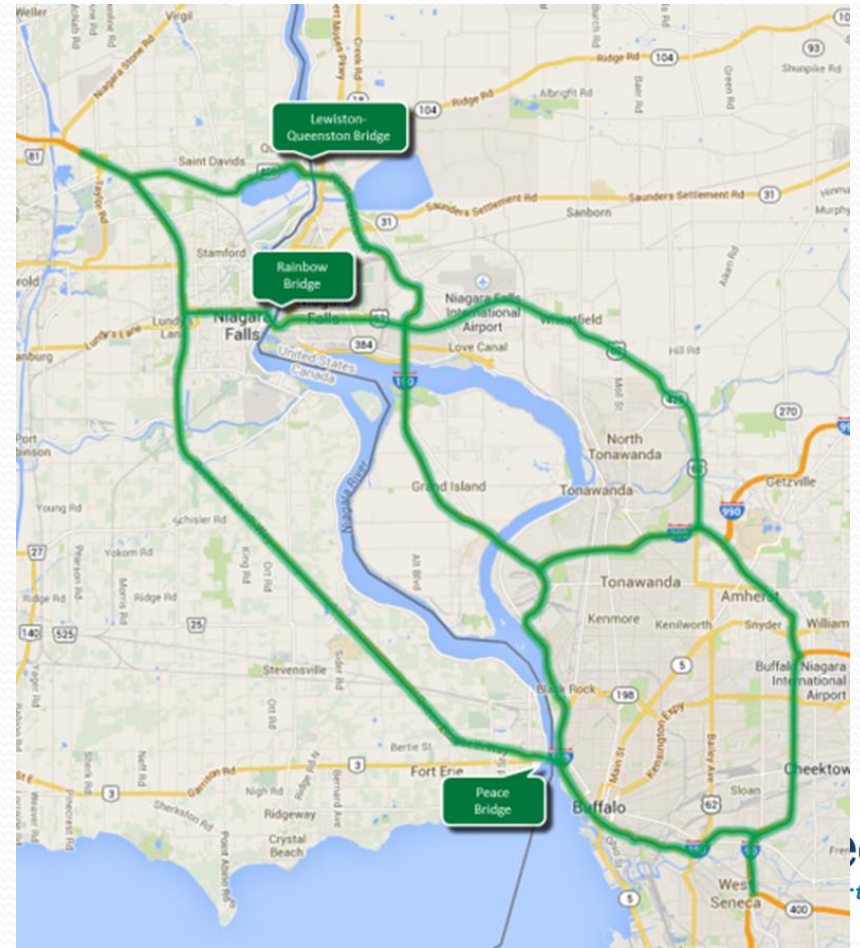


# Buffalo-Niagara ICM Corridors

## I-190 ICM Corridor



## Cross Border Corridor



# The Issues – Why ICM?

- Corridor operates in a very constrained geography
- Implications of border on corridor traffic
- Weather and traffic management
- Multi-jurisdictional configuration of facilities and management interface
- Multimodal aspects of travel in the corridor
- Corridor as designated emergency evacuation route
- Continued economic and population growth
- Rapidly emerging technologies



# Partnership Team

- The Partnership
  - NITTEC
  - GBNRTC
- Funding Agencies
  - NYSERDA and FHWA
- Consultant Team
  - Cambridge Systematics, Inc.
- Partnership Members
  - 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





# Expected Results

- The objectives of the I-190 Integrated Corridor Management Project are to optimize traffic operations by identifying effective traffic management strategies to mitigate congestion and the associated environmental impacts.
- The project involves the development of a Data-driven Decision Support Tool for:
  1. Congestion management on critical transportation corridors in the Buffalo-Niagara Region that provide access to New York State's bi-national border crossings
  2. Development of Buffalo-Niagara Border Crossing Corridor Management Plan
  3. Build upon the ICM vision by focusing on recurring and non-recurring congestion, which affects commuters in the downtown Buffalo area, and the re-routing of traffic to other border crossings in the area due to issues at the Peace Bridge and on the I-190 corridor.



# More Results

- The Decision Support Tool will help the BC Partnership understand the network-wide impacts of various strategies and develop plans corresponding to regional priorities, such as improving air quality and reducing delay.
- The Decision Support Tool will be a set of traffic simulation models developed using field data from a select number of known critical analysis periods.
- The Border Crossing Corridor Management Plan will include policies, procedures, and operational strategies that balance traffic loads among the regional border crossings and their access roads.



# More Results

- The Plan will include 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.
- The updated ICM will improve traffic management through the development of strategic diversion routes to the other border crossings in the region and travelers within the corridor of the downtown Buffalo area including daily trips to/from work, NFL and NHL sporting events and numerous special events.

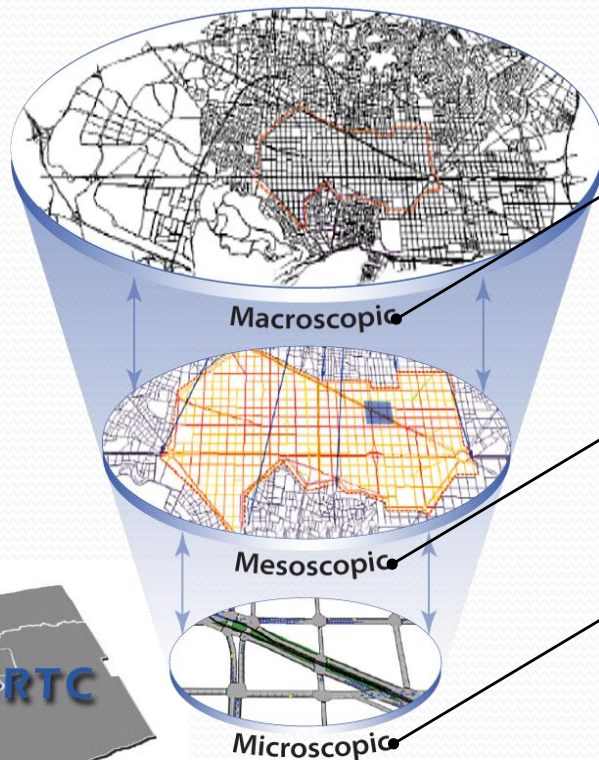


# Modeling Methodology

- Multi-Resolution Modeling Approach consistent with GBNRTC Simulation Framework

**Multi-level Analysis Tools Provide Comprehensive Insight**

**Selected Platform:**



Regional patterns and mode shift; Transit analysis capability

Traveler information, HOT lanes, congestion pricing and regional diversion patterns

Traffic control strategies such as ramp metering and arterial traffic signal control

TransCAD

Aimsun Meso  
Hybrid  
Aimsun Micro





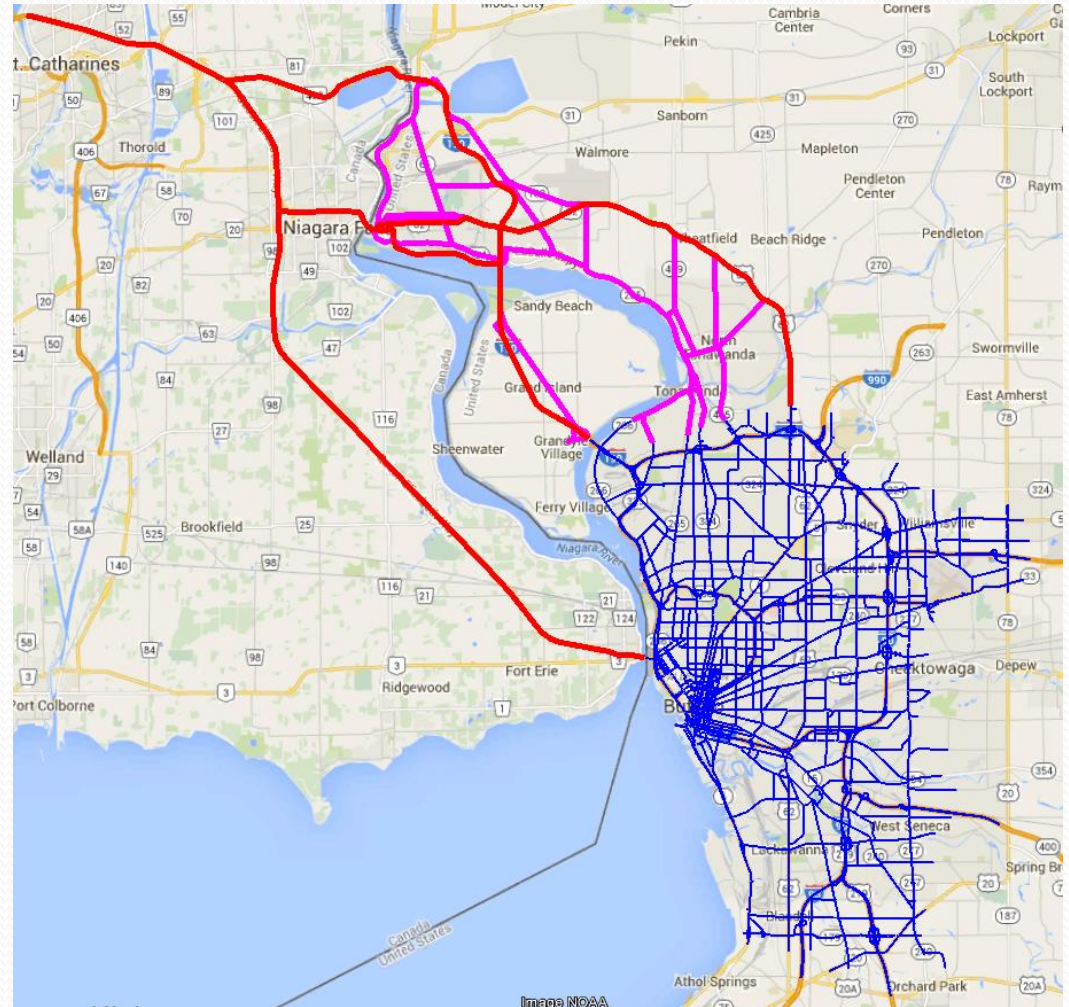
# Model Limits

- Combined Corridor Limits

Blue – Existing GBNRTC Meso Roadways

Red – Key roadways added

Pink – Diversion Roadways added



# Base Conditions for ICM deployment

- Considered scenarios
  - Weekday AM and PM peak periods
  - I-190 Accidents (during weekday peaks)
  - Adverse weather conditions (snow)
  - Special event (e.g. Sabres game, etc.)
  - Seasonal event (e.g. summer holiday weekend traffic)
  - Peace Bridge Construction (upcoming)
- Specific scenarios have yet to be selected for modeling purposes.



# 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
- Transit signal priority
- Real-time decision support



# Performance Measures & Evaluation Criteria

- 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



# Outcome Documents

- I-190 ICM Implementation Plan
  - Document the potential benefits for implementation of an ICM system concept in the I-190 Corridor
  - High-level plan to build and deploy the envisioned ICM system
- Draft Border Crossing Corridor Management Plan
  - Document policies, procedures, and techniques to be implemented in response to various scenarios
  - Build on existing plans
  - Incorporate project findings and lessons learned
  - Incorporate stakeholder feedback

