



New York State  
Department of Transportation



NJTPA

NORTH JERSEY  
TRANSPORTATION  
PLANNING AUTHORITY



**THE PORT AUTHORITY**  
OF NY & NJ



**TRANSCOM**<sup>SM</sup>  
TRANSPORTATION OPERATIONS COORDINATING COMMITTEE

**NJ TRANSIT**  
The Way To Go.



**MMN/ITS WORKING GROUP MEETING:  
USDOT INTEGRATED CORRIDOR MANAGEMENT (ICM)  
DEPLOYMENT PLANNING GRANT PROCESS**

Commissioner Polly Trottenberg, New York City Department of Transportation (NYCDOT)  
Presented by: Assistant Commissioner Mike Marsico, P.E., NYCDOT, Division of Traffic & Planning  
Presented on: February 8th, 2014



# INTRODUCTION: NEED FOR ICM

- Each of us if fortunate and un fortunate to work in the metropolitan region
  - Multiple jurisdictions, competing technologies, advancements in probe data
  - Operational and planning needs vary by corridor , neighborhood, Zone , TAZ ...
- The caliber and work done in the region by the MPO's , Agencies, Authorities and TRANSCOM have set the bar to new levels.
- The need to capitalize on the work done became evident to many of the key transportation professional in the region, numerous meetings, presentations and workshops were conducted to discuss the tech as well as to promote an environment of cooperation and sharing.
- With the Support FHWA a group of agencies stated to work towards strategies sharing information, best practices and working together to maximize the output and benefit to our users.
- The ICM solicitation was the catalyst that solidified the consortium of agencies listed on the cover page.
- Together the participants will work to explore what we can do as a team.

# NEED FOR ICM (CONT'D)

- Region is at a key turning point;
- Beginning of renewed inter-agency collaboration regarding integrated operations and planning
- ICM is logical next step - consisting of operational coordination of multiple transportation networks and cross-network connections comprising a corridor; and coordination of institutions responsible for corridor mobility;
- Goal of ICM is to improve mobility, safety, and other transportation objectives for travelers and goods movement
- Successful development of a concept of operations in a key corridor is potential model for other ICM TMS & ITS system deployments in the region; key outcome is inherent system synergies, economies-of-scale that can be produced in era of tight fiscal uncertainties.

# TIMELINE

## Milestones in multi-agency participation and preparation of ICM-495 application:

- Best Practices Peer-to-Peer Exchange for ATDM – May 2011
- Developing & Institutionalizing an ATDM Program in New York – April 2013
- Workshop on Use of ATDM DSS & Analytical Tools – July 2013
- Analysis Tools for Operations Planning – August 2013
- Development of ATDM Solutions for Deployment – September 2013
- FHWA Workshop on Emergency Preparedness Planning – September 2013
- ICM Deployment Planning Grant solicitation released – November 2013
- ICM-495 Concept of Operations Study application submitted – January 2014

# OPERATING/PLANNING AGENCIES

Jurisdiction	Operation Agency / Authority	Planning Agency
New York	<ul style="list-style-type: none"> <li>▪ New York City Department of Transportation (NYCDOT)</li> <li>▪ New York State Department of Transportation (NYSDOT)</li> <li>▪ Metropolitan Transportation Authority (MTA)                             <ul style="list-style-type: none"> <li>○ Bridges and Tunnels (B&amp;T)</li> <li>○ New York City Transit (NYCT)</li> <li>○ Bus Company</li> <li>○ Long Island Rail Road (LIRR)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ New York Metropolitan Transportation Council (NYMTC)</li> </ul>
NY & NJ	<ul style="list-style-type: none"> <li>▪ Port Authority of New York and New Jersey (PANYNJ)</li> <li>▪ Port Authority Trans-Hudson Corporation (PATH)</li> <li>▪ Transportation Operations Coordinating Committee (TRANSCOM)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Federal Highway Administration (FHWA)</li> </ul>
New Jersey	<ul style="list-style-type: none"> <li>▪ New Jersey Department of Transportation (NJDOT)</li> <li>▪ New Jersey Transit Corporation (NJ Transit)</li> <li>▪ New Jersey Turnpike Authority (NJTA)</li> </ul>	<ul style="list-style-type: none"> <li>▪ North Jersey Transportation Planning Authority (NJTPA)</li> </ul>

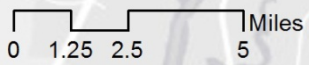
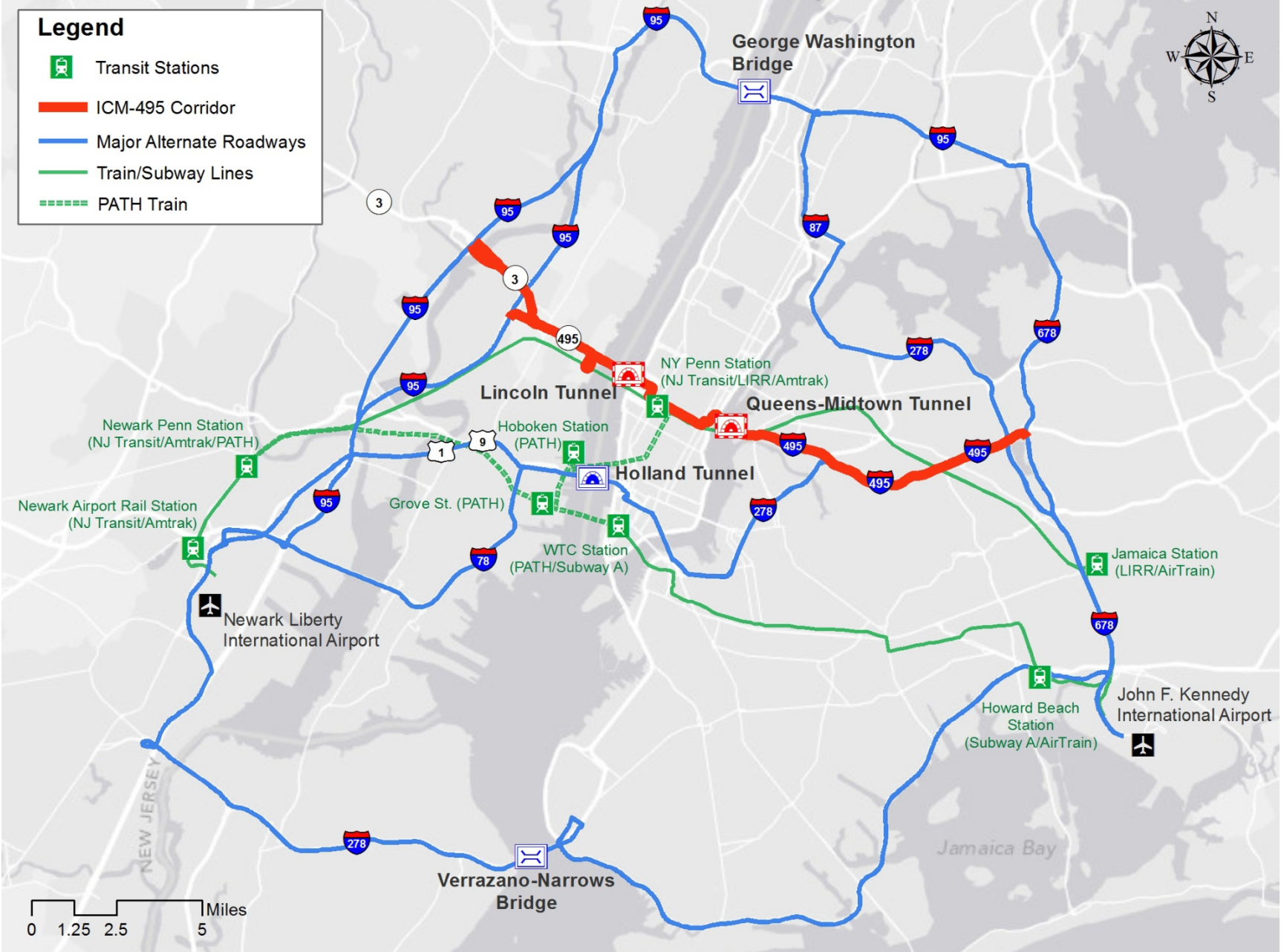
# POTENTIAL CORRIDORS FOR AN ICM CONCEPT OF OPERATIONS

- Besides the I-495/Route 495 corridors, the two other potential corridors were considered: I-278/Gowanus and I-95/Cross Bronx Expressway.
- Why the ICM-495?:
  - Centrally located in New York / New Jersey metropolitan area with population of over 20 million people
  - The Corridor connects the New Jersey Turnpike (NJTP, a section of I-95) to Van Wyck Expressway (I-678) and traverses Midtown Manhattan
  - Diverse residential, commercial and industrial uses interact with the Corridor along its entire length
  - Two regional key facilities – Lincoln Tunnel (connects NJ and Manhattan), and Queens-Midtown Tunnel (connects Manhattan and Queens)
  - The Corridor encompasses an extensive highway network, including expressway facilities, their approach roads, and the surrounding principal and secondary arterial networks providing the circulatory system for the movement of people, goods, and services



# Legend

-  Transit Stations
-  ICM-495 Corridor
-  Major Alternate Roadways
-  Train/Subway Lines
-  PATH Train



# ICM-495 CORRIDOR DESCRIPTION (CONT'D)

## *Queens Midtown Tunnel*

The Queens Midtown Tunnel is a highway tunnel and toll road in New York City. The deployed ITS assets along the Queens Midtown Tunnel include:

- CCTV cameras and Fiber
- Weather System covering all the bridge facilities with both surface and atmospheric sensors
- NTCIP complaint VMS and VSLS
- TRANSMIT System
- Lane Use Signal Control System
- Video Incident Detection
- Advanced Traffic Information System
- The Operations Central Command Center (OCCC) is the nerve center of MTA B&T Operations, including linkages to individual facilities and the JTMC Integrates all the facilities to one another and to OCCC



# ICM-495 CORRIDOR DESCRIPTION (CONT'D)

## *Lincoln Tunnel*

The Lincoln Tunnel connects NJ 495 to Midtown Manhattan. The three-tube configuration of the Lincoln Tunnel provides for unique operational flexibility. The directional ability of the tubes enables the tunnel facility to address varying traffic demands as they arise throughout the day. The Lincoln Tunnel ITS assets monitored and controlled from the communications desk include:

- Dynamic Message Signs
- CCTV surveillance cameras
- Lane-Use Control Signals
- Changeable Speed Limit Signs
- Video-based vehicle detection system stations
- TRANSMIT readers

# ICM-495 CORRIDOR DESCRIPTION (CONT'D)

Two Traffic Management Centers (TMCs):

- **Joint Traffic Management Center (JTMC)** - consists of representatives of the New York transportation and emergency response agencies, including NYSDOT, NYCDOT, and NYPD. The JTMC is responsible for managing traffic in New York City and detecting and responding to roadway incidents.
- **Statewide Traffic Management Center (STMC)** - established by NJDOT, is operated jointly with the New Jersey Turnpike Authority and the New Jersey State Police. The STMC is operational 24/7, and is jointly staffed by experienced personnel from each of the participating agencies. Each agency manages its own roadways from the STMC, but the co-location affords efficient and effective “statewide” coordination of response to traffic incidents and emergencies. The fiber network converge provides access to a wide range of roadway information including video feed from more than 400 traffic surveillance cameras, as well as roadway metrics, weather, and roadway surface condition data.

# ICM-495 CORRIDOR DESCRIPTION (CONT'D)

ICM-495 will leverage and build upon ongoing programs:

- Congestion Management Process
- Drivers First Initiative
- Drive Smart & Bike Share
- I-495 Managed Use Lane
- Midtown in Motion
- New York & New Jersey 511 and Rideshare
- New York & New Jersey ITS Programs
- Off-Hour Deliveries
- PARK Smart
- Select Bus Service
- Smart Move Program
- Truck Routing and Bridge Strike Mitigation

# ICM-495 VISION

*To enhance the current transportation management systems of the ICM-495 Corridor by using state of practice solutions to build integrated, balanced, responsive, efficient, effective, and equitable programs and systems that actively reduce traveler demand; monitor and control traffic; and improve the mobility, reliability, and safety of all users. Solutions and resources will create a balanced network that reflects integration of pre-existing programs and systems with modified and new deployments. Improving overall Corridor performance will be a priority by providing better knowledge about real-time conditions and alternative travel options within practical operational, institutional, and financial constraints.*

The ICM-495 Concept of Operations will be the first key step toward this Vision...

# ICM-495 CORRIDOR CONCEPT OF OPERATIONS

- Formal document that provides a user-oriented view of ICM approaches and strategies and the associated operations
- Developed to help communicate this view to stakeholders and to solicit their feedback
- The con ops will address the operational scenarios and objectives, information needs, overall functionality, and the institutional environment in which ICM is deployed, operated, and maintained
- The con ops will document the results and findings from the 'concept exploration' and 'system conception' stages, laying out the ICM concept, explaining how things are expected to work once it's in operation, and identifying the responsibilities of operating agencies and stakeholders for making this happen
- The con ops documents answers to the following questions:
  - ✓ **What** - the known elements and the high-level capabilities of the system
  - ✓ **Where** - the geographical and physical extents of the system
  - ✓ **When** - the time-sequence of activities that will be performed
  - ✓ **How** - resources needed to design, build, operate, and maintain the system
  - ✓ **Who** - the stakeholders involved with the system and their respective responsibilities
  - ✓ **Why** - justification for the system, identifying what the corridor currently lacks, and what the system will provide.

# NEEDS ANALYSIS AND SYSTEM CONCEPT FORMULATION

- Engage in Operating Agency/Stakeholder Outreach & Participation
- Needs & Potential ICM Approaches and Strategies – based on outreach and participation
- Refined Corridor Boundaries – based on outreach and participation input/feedback
- Performance Measures and Metrics
- Gap Analysis – will show needed modifications, changes, new concept deployments that better address agency/stakeholder identified needs vis-à-vis what currently exists
- Develop System Concepts – based on gap assessment findings, recommendations
- Align with the Regional ITS Architecture



# NEEDS ANALYSIS AND SYSTEM CONCEPT FORMULATION

- Identify possible operational scenarios/concepts – including, but not limited to:
  - ✓ Enhanced, cooperative, and integrated policies among operating agencies/stakeholders
  - ✓ Enhanced communications among network operators and stakeholders
  - ✓ Improved efficiencies of cross-network junctions and interfaces
  - ✓ Enhanced mobility opportunities, including shifts to alternate routes and modes
  - ✓ Real-time traffic and transit monitoring
  - ✓ Real-time information distribution (including alternate networks)
  - ✓ Congestion management (recurring and non-recurring)
  - ✓ Enhanced incident management
  - ✓ Travel demand management
  - ✓ Public awareness programs
  - ✓ Alternative transportation pricing and payment programs

# ICM-495 CORRIDOR STUDY PLANNING DEPLOYMENT GRANT

- Application submitted on January 17, 2014
- Estimated project costs = \$450,000
  - ✓ \$200,000 = USDOT grant funds -- will supplement NYCDOT ESA contract
  - ✓ \$200,000 = NYSDOT (and others) – funds from existing task-order based planning contract
  - ✓ \$50,000 = In-Kind Services from ICM-495 Partnership
- Awaiting USDOT decision on grant award.

# NEXT STEPS

- Near-term activities while awaiting USDOT grant decision...
- Optimism high that grant funds will be awarded
- Phase 1 scope of services development has commenced
- Maintain productive dialogue by:
  - ✓ Developing ICM-495 project oversight committee that will manage potential Phase 1 study efforts
  - ✓ Developing simple operating procedures to expedite potential Phase 1 decision-making.

# QUESTIONS

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