



Department of
Transportation

I-495 Integrated Corridor Management (ICM)

Presentation to NYMTC PFAC – September 2023

Region 11 Planning and Program
Management



I-495 Corridor map



What is ICM?

Integrated **C**orridor **M**anagement (ICM) projects are transportation networks that realize significant improvements in the efficient movement of people and goods through institutional collaboration and proactive integration of existing infrastructure along major corridors.



Project History & Background

2014- Envisioned systematic approach for intra-agency ICM type incidents



Concept of Operations (Con-ops) developed between 2015 to 2017



Proposed ICM project was on-hold due to lack of funding



Reactivated in 2021 by NYMTC TSMO Group



Project progressed by NYSDOT R-11 Planning & Program Management in 2022



NYSDOT Region 11 Planning Group is progressing a Draft Work Scope

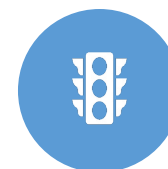
Project Purpose and Need



To align relevant congestion management processes to build integrated, balanced, and responsive transportation programs and systems throughout the corridor.



Actively reduce congestion



Monitor and control traffic;



Improve the mobility, reliability, and safety of all users including mass transit, expressways, arterials, freight, bike/ped and public and private transportation modes.



Improve air quality/encourage clean air vehicles



Address traveler demand;

Partnering Agencies and Jurisdictions

LIE (NYSDOT R-10 & R-11)

Queens-Midtown Tunnel (MTA)

Midtown Manhattan (NYCDOT)

I-495 (NJDOT, NJTRANSIT)

Lincoln Tunnel (PANYNJ)

FHWA

Core Components of ICM

***Coordinated
responses
to
conditions***

**An agreed
upon
operational
decision
support
system
framework
and data
management**

***Multimodal
engagement***

**Tighter
integration of
traffic and
transit
operators and
centers
(especially
transit bus
operations)**

***Performance-
driven
management
of entire
corridor***

**Proactive
assessment of
impacts of
conditions**

***Emphasis on
trip
reliability/person
throughput***

**New tools for
dynamic
management of
corridor assets**

I-495 ICM Major Elements

Decision Support System (DSS)

Decision Support System is an information system that supports organizational decision making and, in the case of an ICM, assists in multimodal transportation operation decision making in real-time

DSS includes **Automatic Operational Systems** for major incidents that affect more than one jurisdictions and/or mode (ICM-type incidents)

DSS also includes **Formal Multi-agency Operational Protocols and Procedures for ICM-type Incidents** which are agreed upon by the partner agencies on the I-495 Corridor

2017 Con-ops Features

Structured

- Provide a framework for an ICM system
- Defines DSS functions

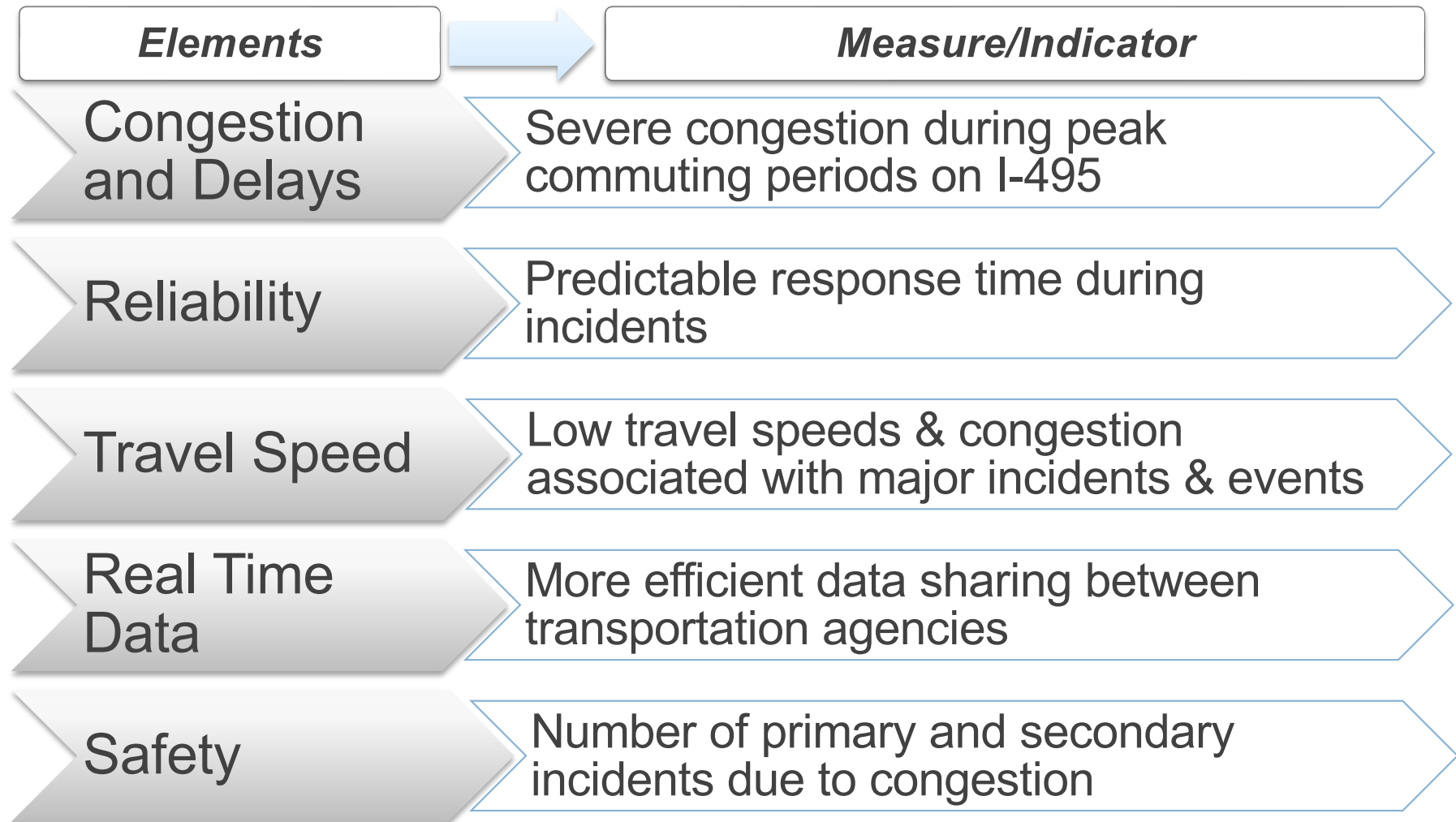
Incremental

- Recognizes agency roles and functions
- Existing systems remain in place but are enhanced by an overall DSS

Practical

- Realistic role for decision support
- **“Human in the Loop”**
- Ties together existing systems

Problem Identification During ICM Events



Challenge

Factors

Category: Traffic

Severe congestion during peak commuting periods on I-495

- Mainline has demand higher than capacity
- Frequent merges and weaves reduce throughput
- Heavy truck usage

Severe congestion during peak commuting periods on Midtown Streets

- High number of pedestrian conflicts
- Queue spillback from bridges and tunnels in afternoon/evening periods

Severe congestion during peak commuting periods on NJ 495

- Demand during morning and evening peaks
- Unacceptable levels of traffic impact during incidents

Challenge

Factors

Category: Freight

Disproportional impact on freight

- Limited options for truck re-routing
- Delivery time-windows induce peaks on demand

Category: Public Transportation

Buses face low average speeds in Manhattan

- Short spacing between traffic signals
- Short distance between stops

Category: Bike Lanes

Continued growth of bike lane system

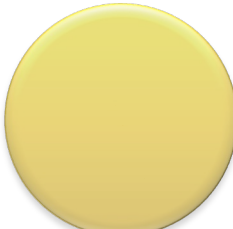
- More transportation options

Category: Major Transportation Improvements

Central Business District Tolling
Hudson Tunnel

- Ability of an optimized I-495 corridor to better respond to overall transportation system

Situations for ICM

-  **Severe Weather Event Management**
-  **Unplanned Traffic Incidents**
-  **Planned Events**
-  **Parking Management**

Situations for ICM

Severe Weather Event Management

- Improved and unified situational awareness
- Active and Dynamic management of facilities
- Improved center to center communication between Traffic Management Centers amongst all agencies and stakeholders



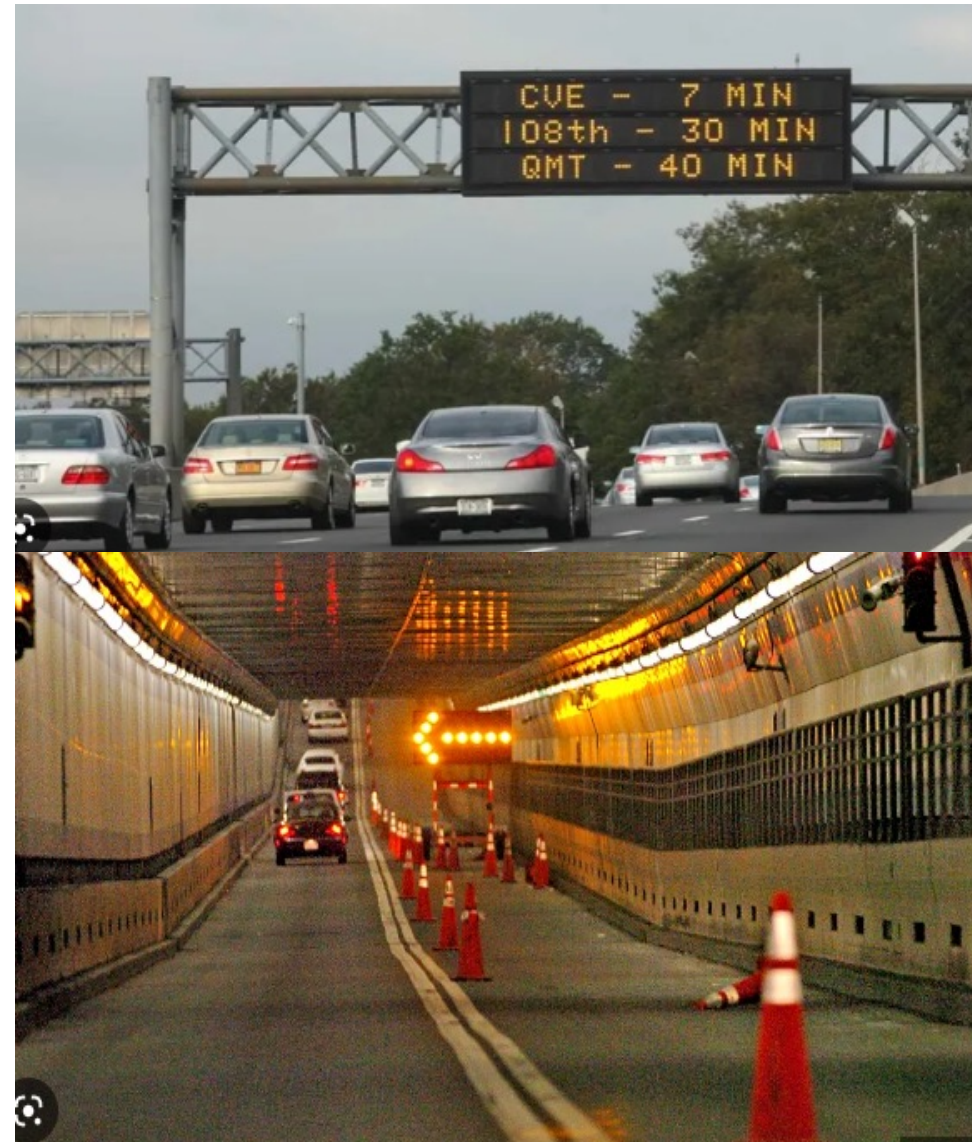


**September 2021: Video footage from a
NYC OEM drone over Major Deegan**

Situations for ICM

Unplanned Traffic Incident in the Midtown Tunnel that effects the LIE

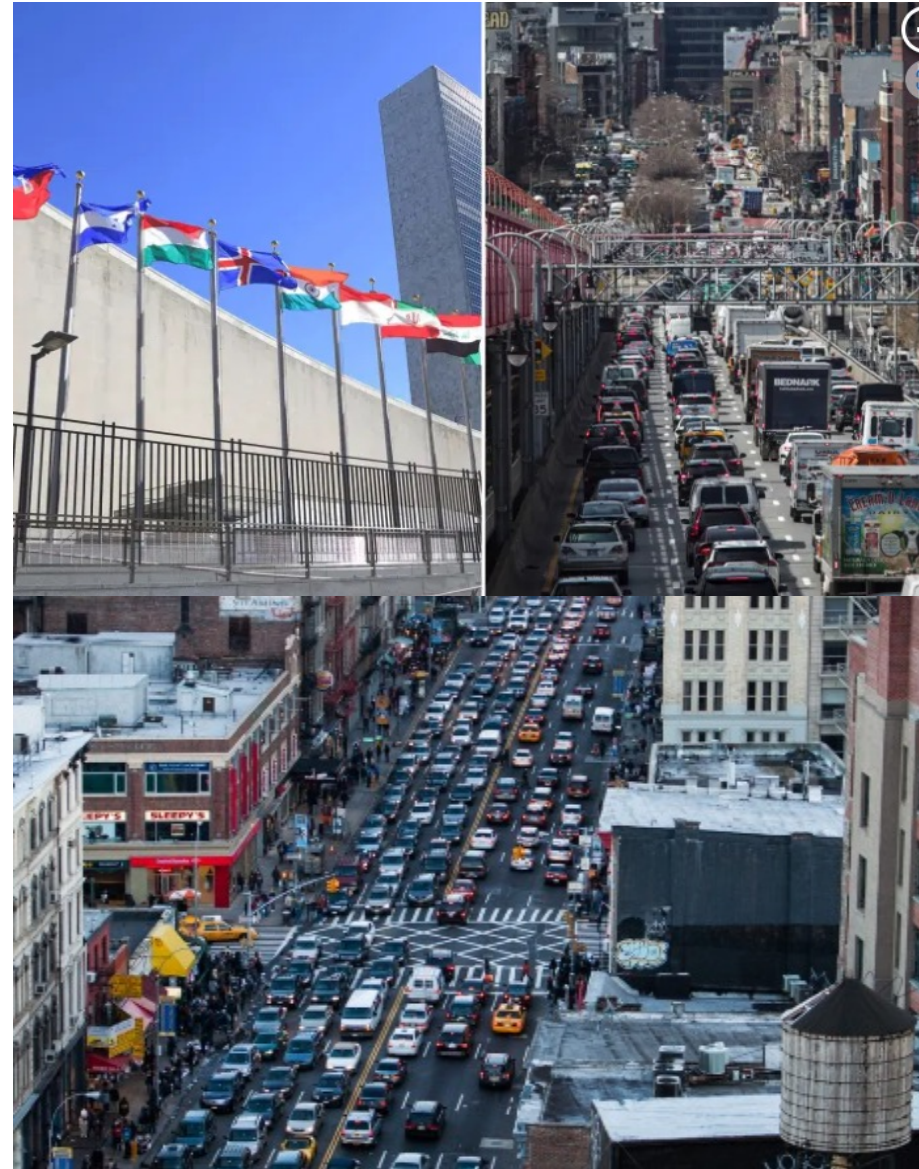
- Reduced incident clearance time
- Proactive messaging to travelers including real time dynamic management of facilities
- DSS provides automated strategies as applicable



Situations for ICM

Planned Events

- UN General Assembly
- FIFA World Cup 2026
- NYC Marathon
- Five-Boro Bike Tour
- Parades
- Street Fairs
- Presidential visits
- Entertainment Event



Situations for ICM

Parking Management

- Drivers can choose parking destinations in advance by tying into the latest NYCDOT technologies
- If parking is not available, drivers may choose to utilize transit options



Examples of ICM – Buffalo



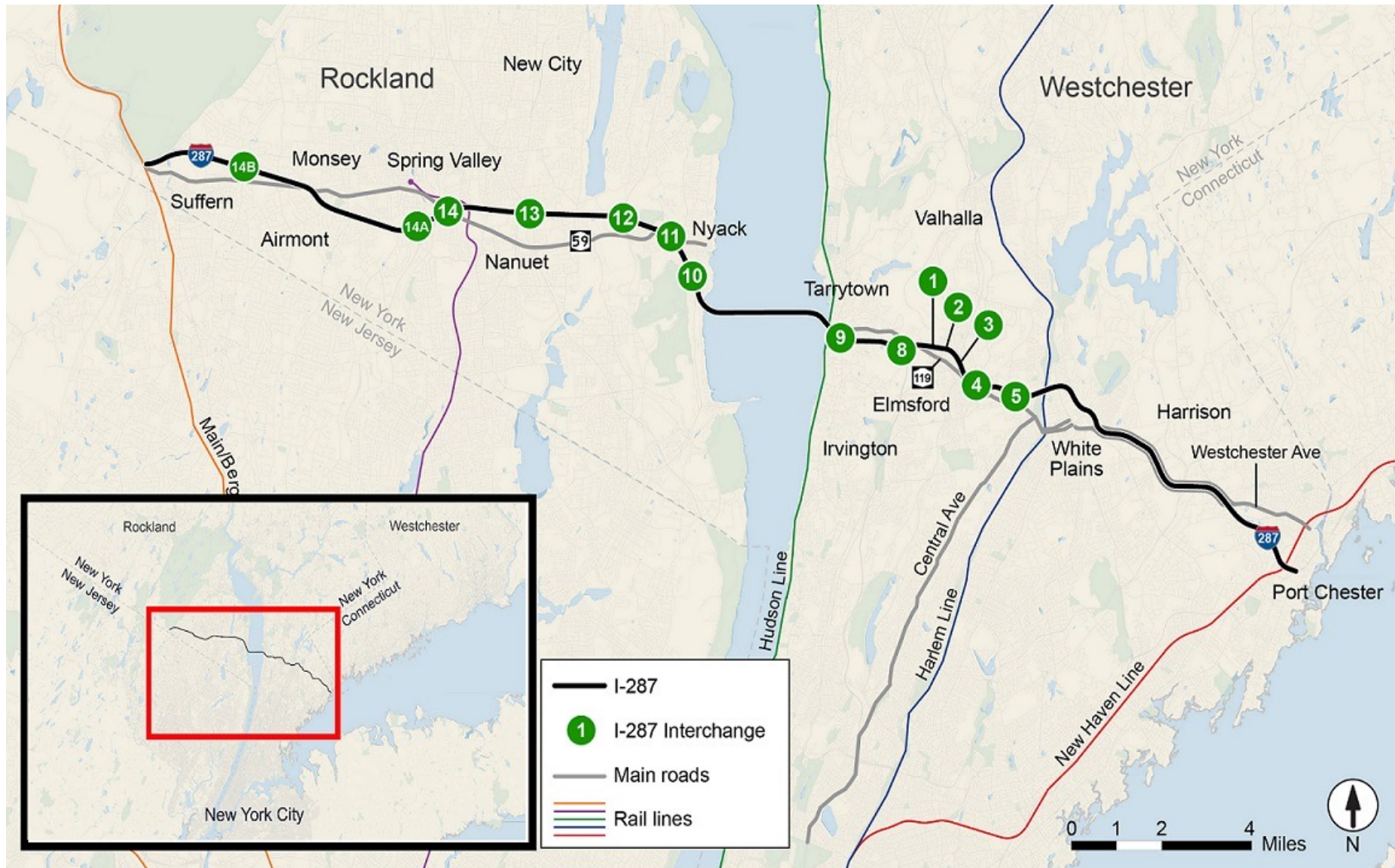
Examples of ICM – Buffalo

Buffalo Niagara Integrated Corridor Management (ICM) includes the major interstates in and around the City of Buffalo and the surrounding suburbs (I-90, I-190, and I-290), as well as connections to Southern Ontario. Strategies include:

- **Dynamic traveler information**
- **Incident detection and service patrol**
- **Ramp metering**
- **Variable speed limits and queue warning**
- **Variable toll pricing**
- **Signal coordination**



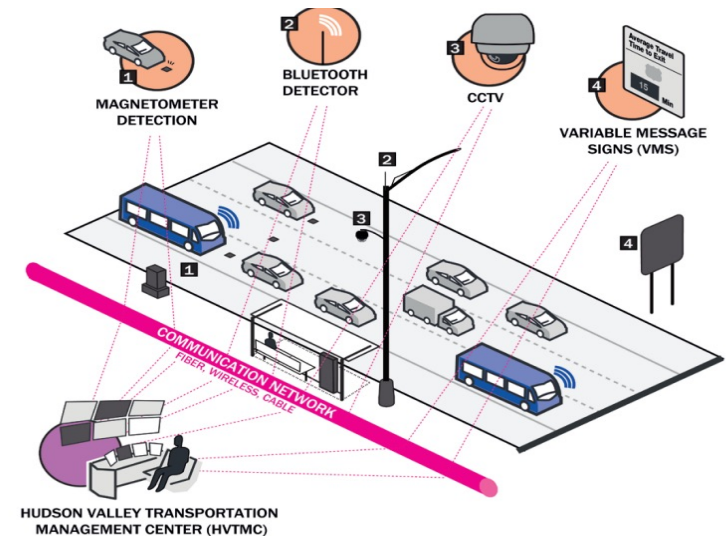
Examples of ICM – Hudson



Examples of ICM – Hudson valley

Improved traffic management, monitoring and control of the I-287 corridor, benefiting all users. The program includes:

- I-287 Ramp Metering
- Queue Jump Lanes
- Transit Signal Priority
- Adaptive Signal Control
- Improved Network Awareness
- Variable Message Signs (VMS)
- Real-Time Information



Next Steps

❖ Procure Consultant

❖ Agency Coordination

- Stakeholder Meetings
- Reevaluate Concept of Operations
- Identify Strategies for System Implementation

❖ Memorandum of Understanding

Questions?

Contact Information

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