

Genesee-Finger Lakes Regional Transportation Systems Management and Operations (TSMO) Strategic Plan



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Genesee-Finger Lakes Region



What is TSMO?

➤ **“Active Management” of transportation infrastructure**

➤ **Activities:**

- ❑ **Coordination**
- ❑ **Technology**
- ❑ **Demand**



➤ **Intelligent Transportation Systems (ITS)**

- ❑ **Tools (*traffic cameras, synchronized signals, dynamic message signs*)**

➤ **Emerging Technologies**

- ❑ **Connected / Autonomous Vehicles**

Transportation System Management and Operations (TSMO) Strategic Plan

➤ Identifies a vision for TSMO investments

- ❑ Multi-agency**
- ❑ Multi-jurisdictional**
- ❑ Multi-modal**



➤ Objectives

- ❑ Rationale for TSMO investments (“Why?”)**
- ❑ Roles & responsibilities (“Who?”)**
- ❑ Operational strategies (“What?” and “How?”)**
- ❑ Ten-year timeframe (“When?”)**

Regional TSMO Planning – Background

- **1995-96: First formal regional TSMO planning activity (IMAGE Report)**
- **2003: First GTC ITS planning report (Port of Rochester ITS Case Study)**
- **2005-06: TSMO Feasibility Study**
- **2009-11: ITS Strategic Plan**
- **2012: Regional ITS Architecture (RITSA) Update**
- **2013: Congestion Management Process (CMP) Update**
- **2016-18: TSMO Strategic Plan**



Policy – Federal ITS Strategic Plan 2015-2019

➤ Strategic Priorities

- ❑ Realizing Connected Vehicle (CV) Implementation
- ❑ Advancing Automation

➤ Strategic Themes

- ❑ Enable Safer Vehicles and Roadways
- ❑ Enhance Mobility
- ❑ Limit Environmental Impacts
- ❑ Promote Innovation
- ❑ Support Transportation System Information Sharing



Policy – Long Range Transportation Plan 2040

➤ Coordination

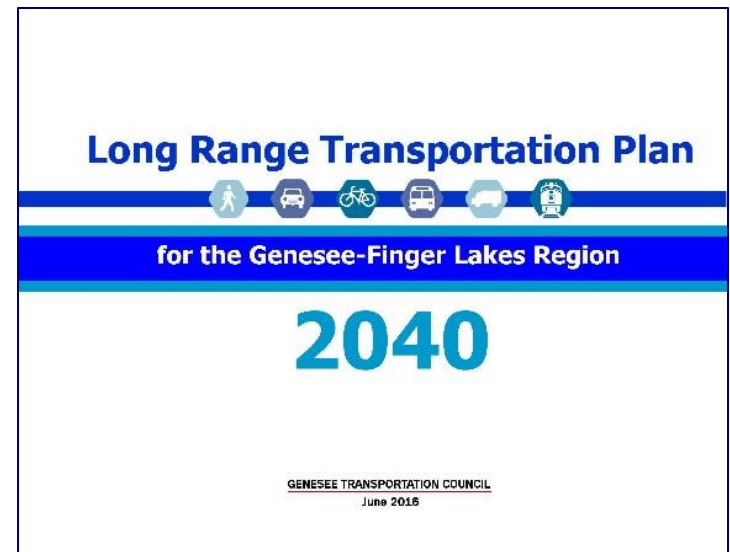
- ❑ Regional Traffic Operations Center (RTOC)**
- ❑ Highway Emergency Local Patrol (HELP) program**
- ❑ Interagency coordination agreements**

➤ Technology

- ❑ ITS deployments**
- ❑ Data collection**

➤ Demand

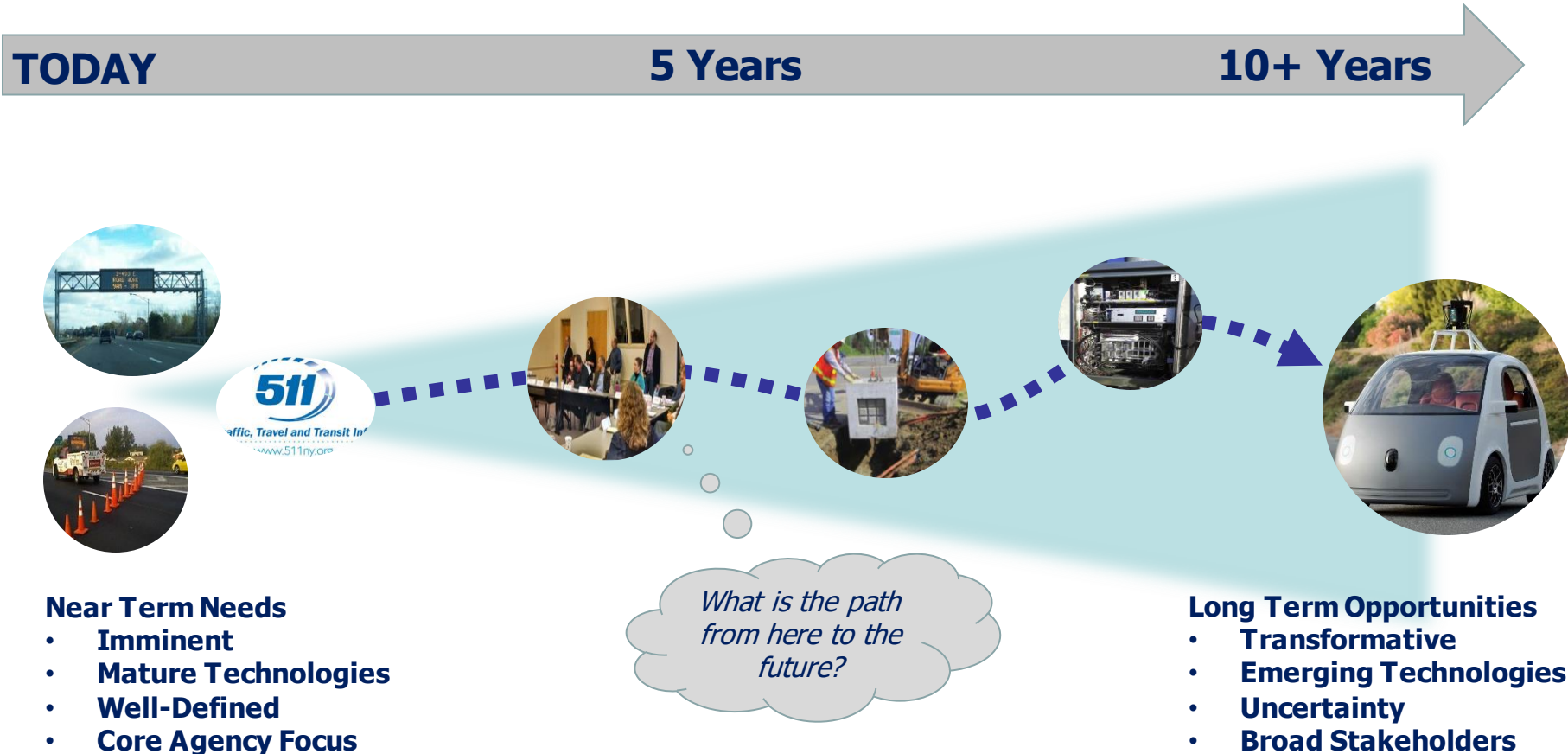
- ❑ Traveler information**
- ❑ Signal optimization**



TSMO Vision Statement:

"Transportation System Management and Operations (TSMO) in the Rochester-Genesee region improves the efficiency, safety, and convenience of the multi-modal transportation system through the use of advanced transportation technologies, free flow of information and data, and partnerships among public agencies and other transportation service providers."

TSMO Strategic Planning Process



Steering Committee

- **Federal Highway Administration**
- **New York State Department of Transportation**
- **New York State Thruway Authority**
- **New York State Police**
- **Monroe County Department of Transportation**
- **Monroe County Office of Emergency Management**
- **Monroe County Sheriff**
- **City of Rochester**
- **Rochester Genesee Regional Transportation Authority**
- **Genesee Transportation Council Staff**

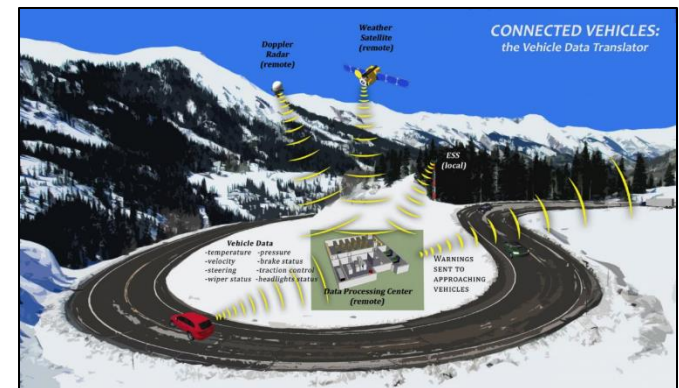
Needs Assessment

➤ Themes

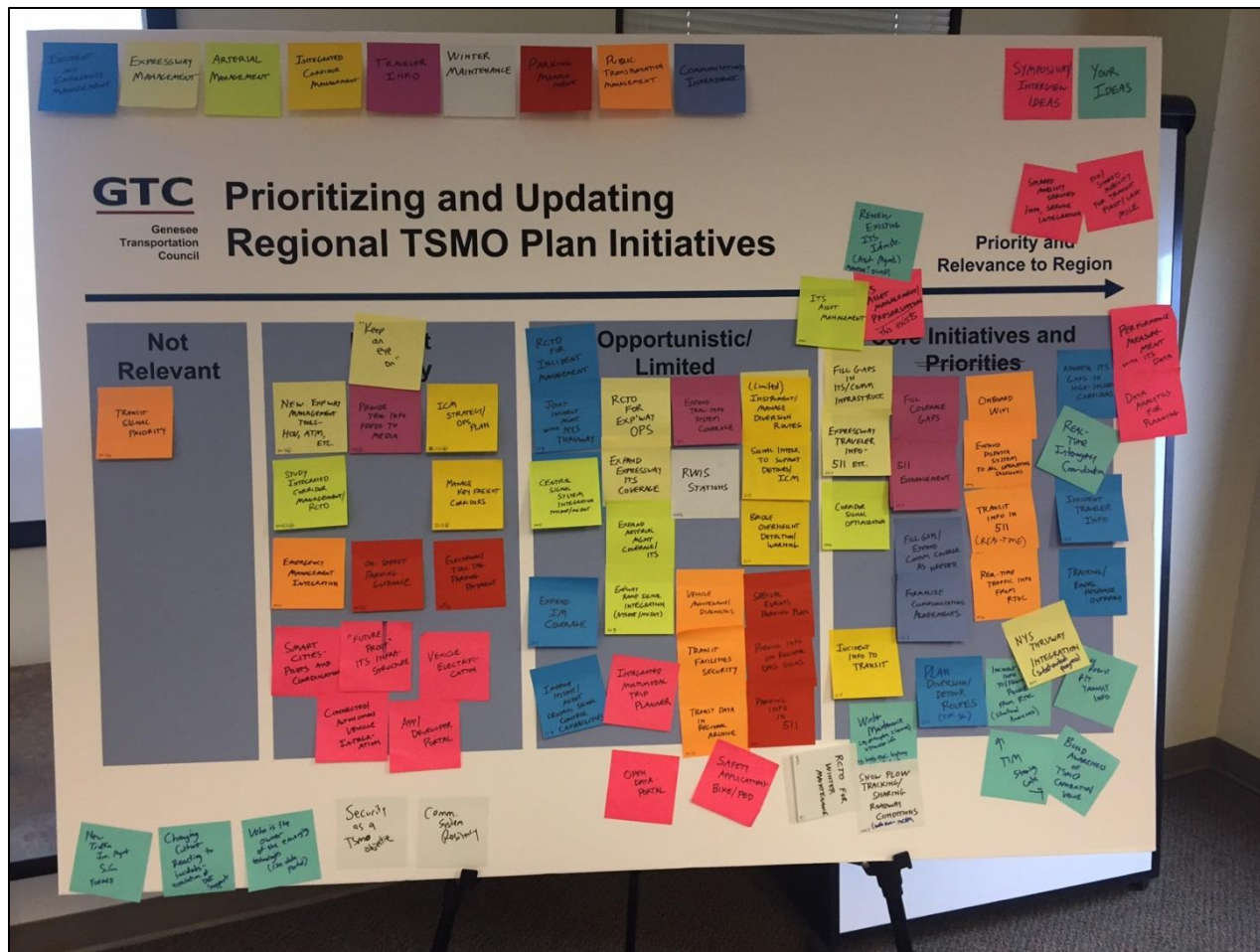
- ❑ Maintain a maturing TSMO program
- ❑ Embrace and adapt to emerging mobility technologies

➤ Identified Needs

- ❑ Asset Management
- ❑ Targeted ITS expansion
- ❑ Interagency coordination
- ❑ Performance measurement & planning data analytics
- ❑ “Future Proof” infrastructure for emerging mobility



Regional TSMO Objectives



Regional TSMO Objectives

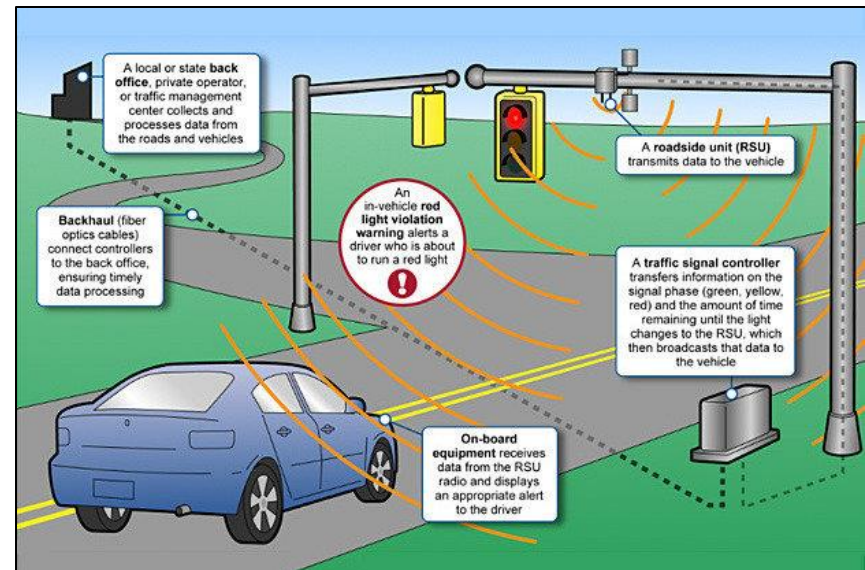
- 1. Improve transportation safety and efficiency through coordinated management and operations**
- 2. Maximize transportation system performance from the user's perspective**
- 3. Consider TSMO as a low-cost solution to regional transportation needs**
- 4. Target new investment in areas with the greatest impact and value (corridors)**
- 5. Prepare for emerging technologies with a potential transformative impact on the transportation system**

Regional TSMO Objectives

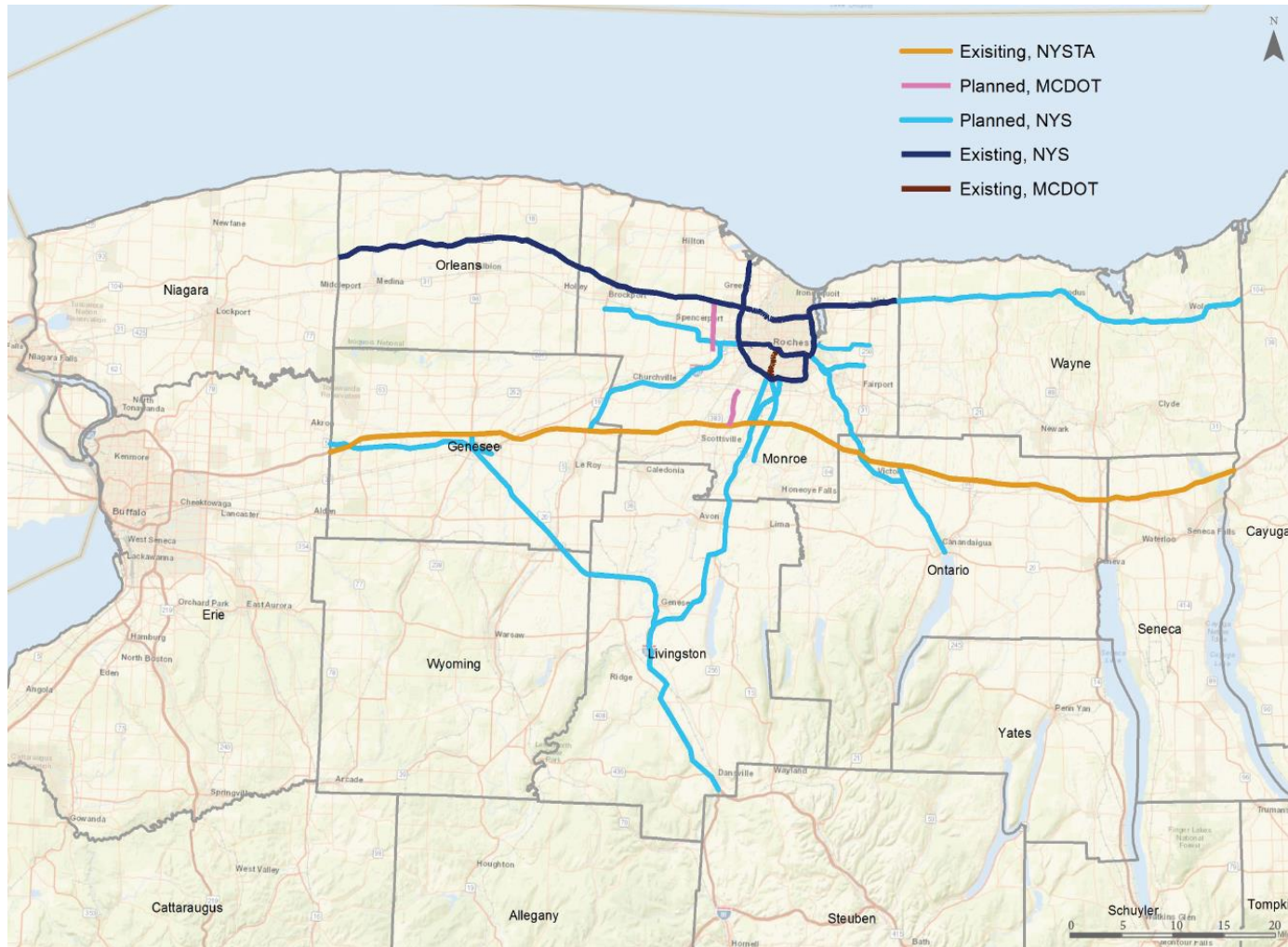
- 6. Promote partnerships and collaboration in support of regional operations**
- 7. Integrate TSMO into regional transportation planning and policy making**
- 8. Maximize TSMO efficiency through resource and cost sharing**
- 9. Support long-term operations through sustainable funding and asset management strategies**
- 10. Promote interoperability and value-added services through shared and open data**

Regional TSMO Corridors – Tier I

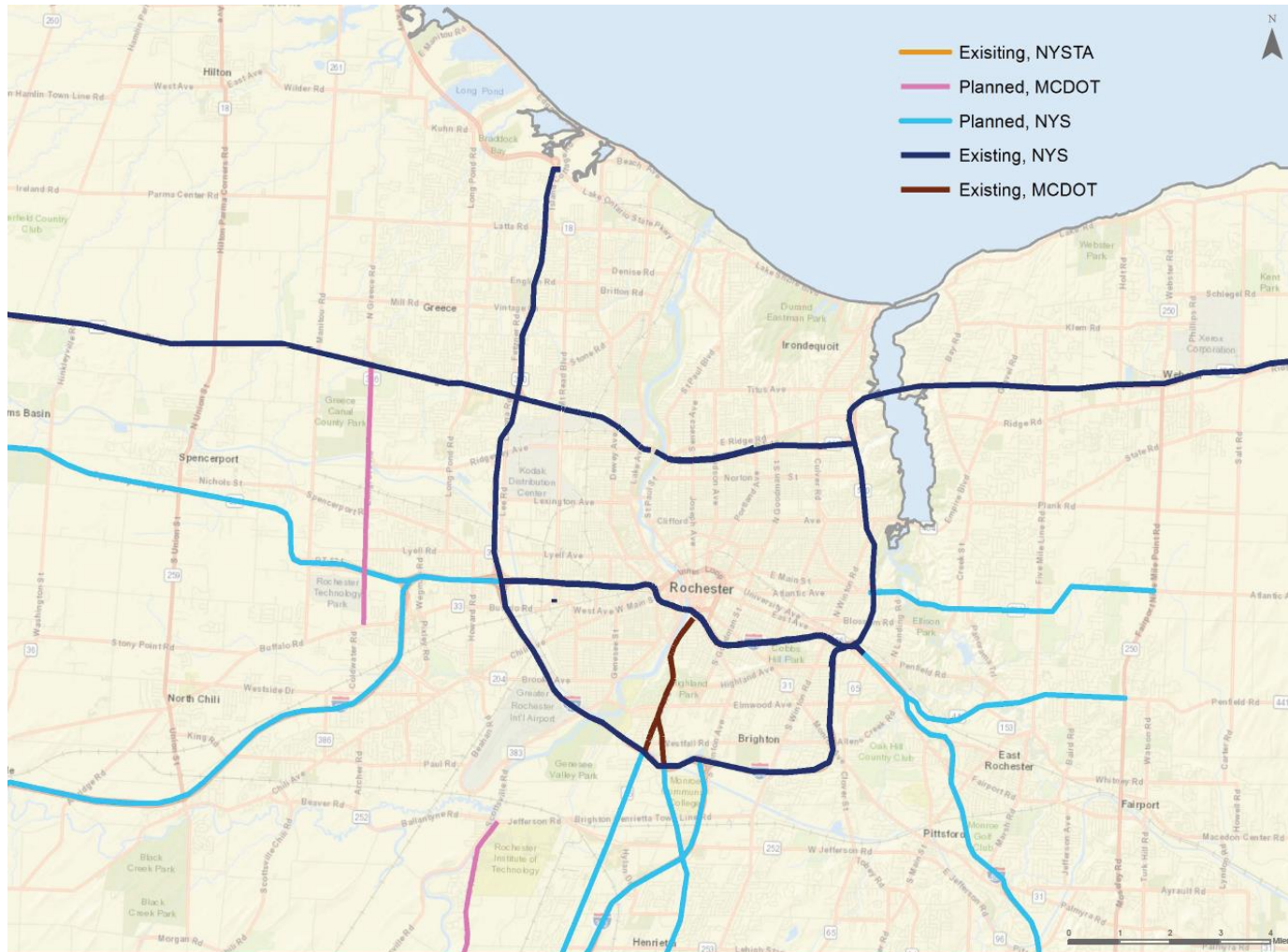
- Interstates and urban expressways
- New York State Thruway
- Selected New York State and Monroe County urban arterials
- Tier I Corridors:
 - ❑ Greatest values and impacts
 - ❑ Reflect emphasis on reinvestment and enhancement of existing corridors



Regional TSMO Corridors – Tier I



Regional TSMO Corridors – Tier I

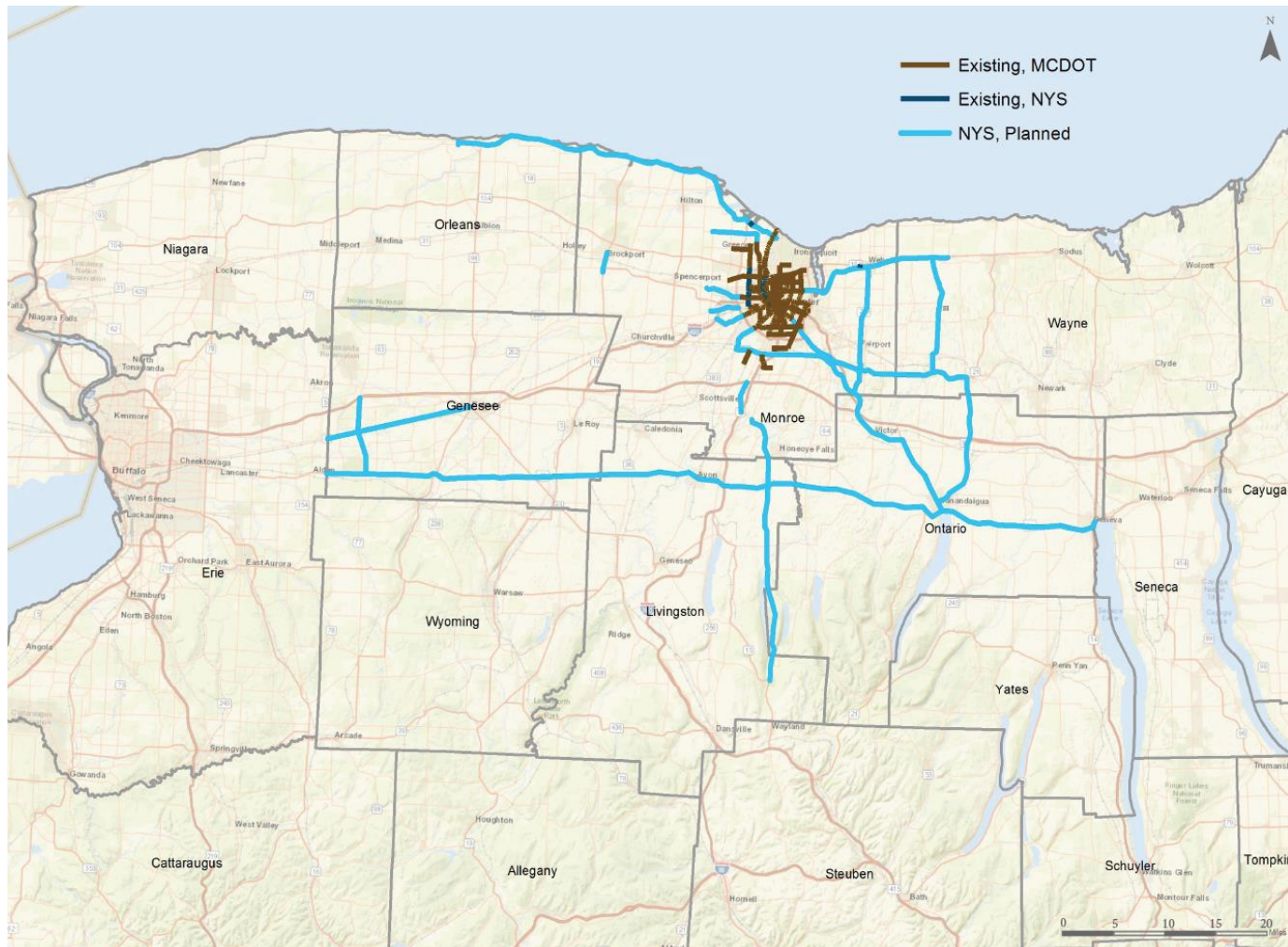


Regional TSMO Corridors – Tier II

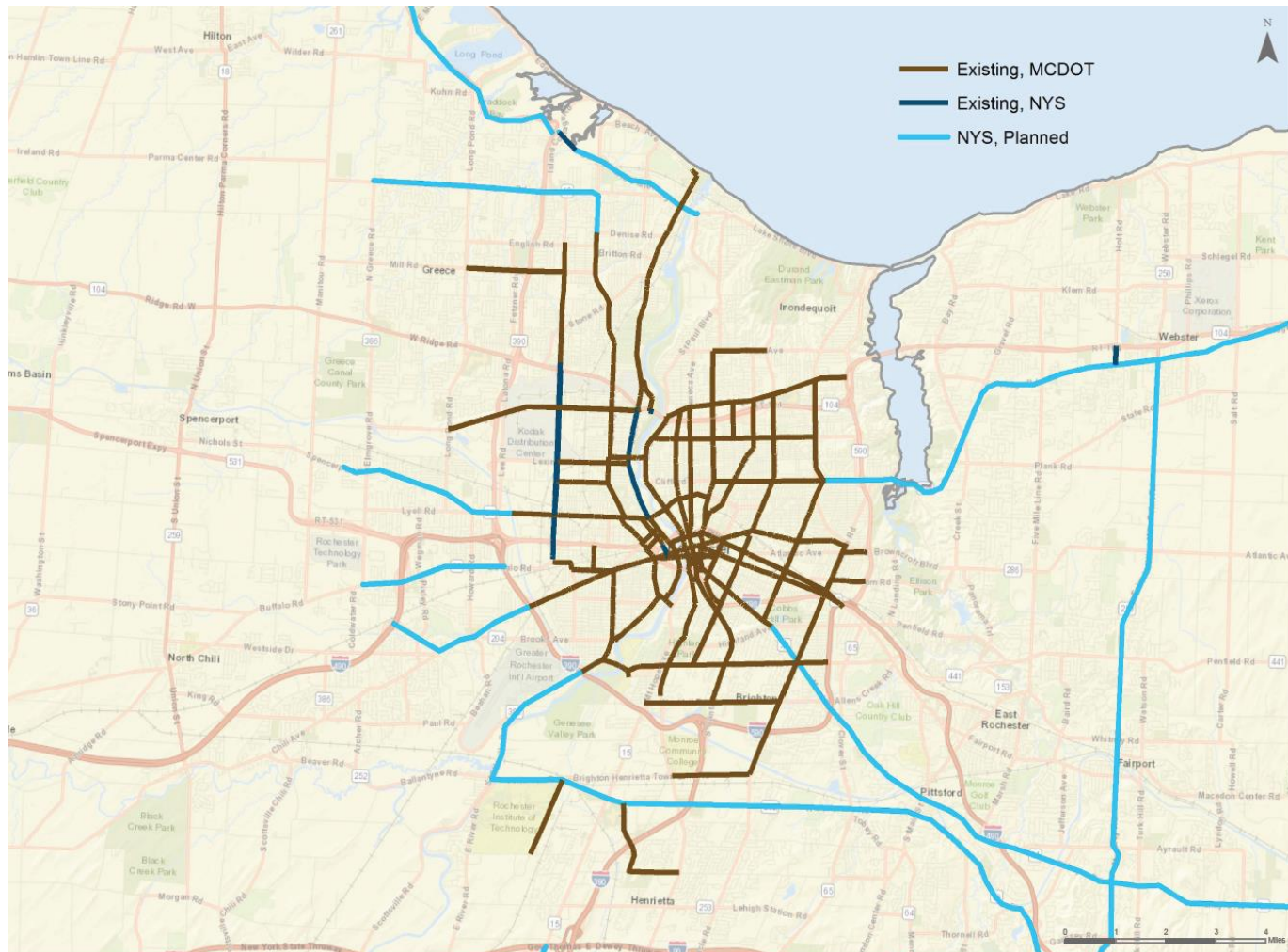
- **All New York State highways not designated as Tier I**
- **Majority of Monroe County urban arterials**
- **Tier II Corridors:**
 - ❑ **Selective ITS deployments based on need and capital/operations costs**
 - ❑ **Emphasis on reinvestment and enhancement of existing TSMO capabilities**



Regional TSMO Corridors – Tier II



Regional TSMO Corridors – Tier II



Regional TSMO Corridors – Tiers I and II

Table 6.2: Interstate Highways (I-390, I-490, I-590)	
ITS Deployments:	Applicability:
• Operations Center Coordination & Integration	■
• Traffic Signal Management & Synchronization*	■
• Traffic Monitoring, Detection, & Data Collection (CCTV, Sensors)	■
• Weather Information Collection (RWIS)	■
• Traveler Information Provision (DMS, HAR)	■
• Travel Time Estimation & Display	■
• Traffic Incident Management	■
• Special Event Management	■
• Detour/Diversion Route Management	■
• Emergency Evacuation Route Management	
• Transit Corridor Management	■
• Bicycle/Pedestrian Enhancements and Safety	
• Other TSMO Strategies (see notes)**	■
<p>Description: The Interstates are critical transportation corridors in the metropolitan area. Deployment of ITS field devices on these corridors will maximize their safety and efficiency, and are expected to have the greatest overall benefit due to the number of vehicles and modes (private auto, transit, freight, etc.) impacted.</p>	

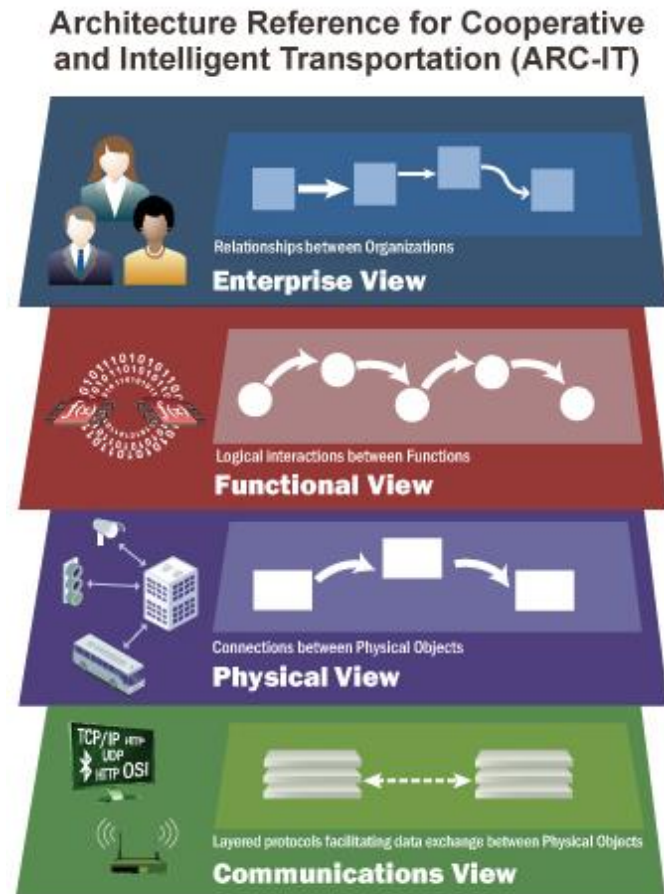
Recommendations

- **Promote Regional TSMO Coordination**
 - ❑ **Interagency committees**
- **Renew and Expand ITS Infrastructure**
 - ❑ **ITS Asset Management; selective expansion**
- **Build New Partnerships**
 - ❑ **“Smart Cities” stakeholders**
- **Plan for Operations**
 - ❑ **Mainstream TSMO solutions**
- **Priority Initiatives Identified by Agencies**
 - ❑ **Address agency needs**



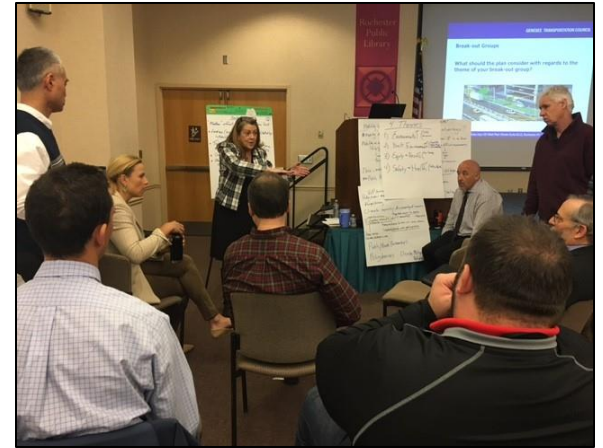
Regional ITS Architecture (RITSA)

- **Alignment between Strategic Plan and RITSA**
 - ❑ All federal-aid ITS projects must conform to the RITSA
- **RITSA identifies ITS:**
 - ❑ Functions
 - ❑ Elements (devices & vehicles)
 - ❑ Interconnections
- **Version 8.1**
 - ❑ Connected Vehicle Reference Implementation Architecture



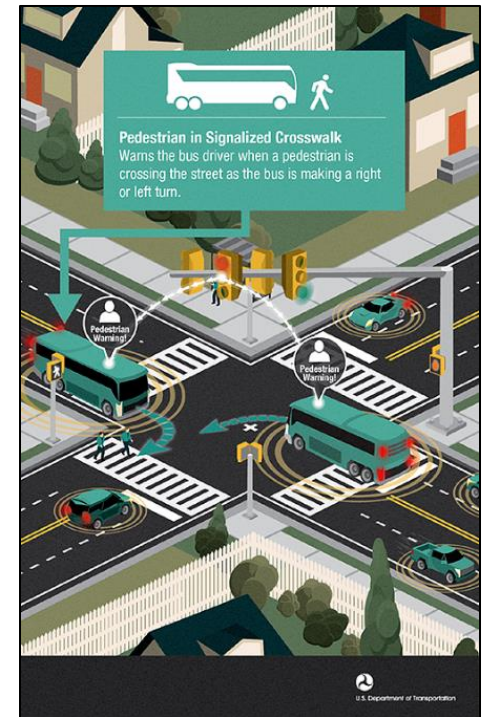
Source: USDOT

Community Symposium 1 – December 2, 2016

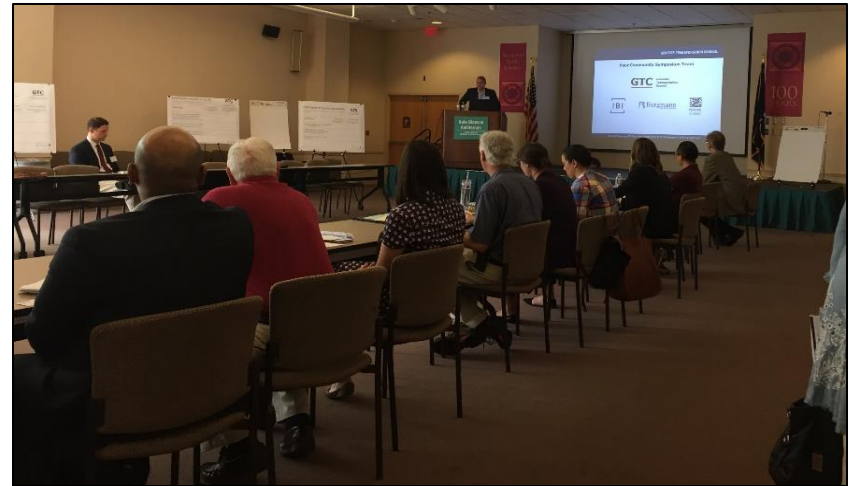


Community Symposium 1 – Key Themes

- **Apply emerging transportation technologies to social equity and environmental stewardship efforts**
- **Balance national leadership with local awareness and preparation**
- **Establish new public-private partnerships and stakeholder relationships; consider partnership opportunities with non-traditional stakeholders**
- **Evolving role of public sector agencies**
- **Privacy implication of “Big Data”**

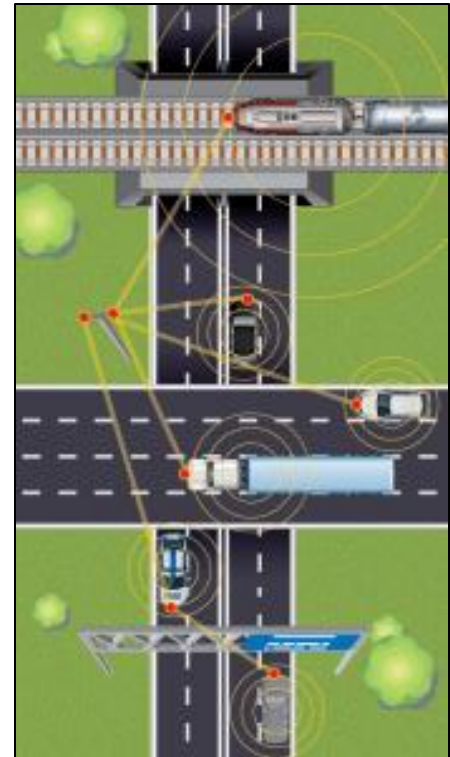


Community Symposium 2 – June 23, 2017



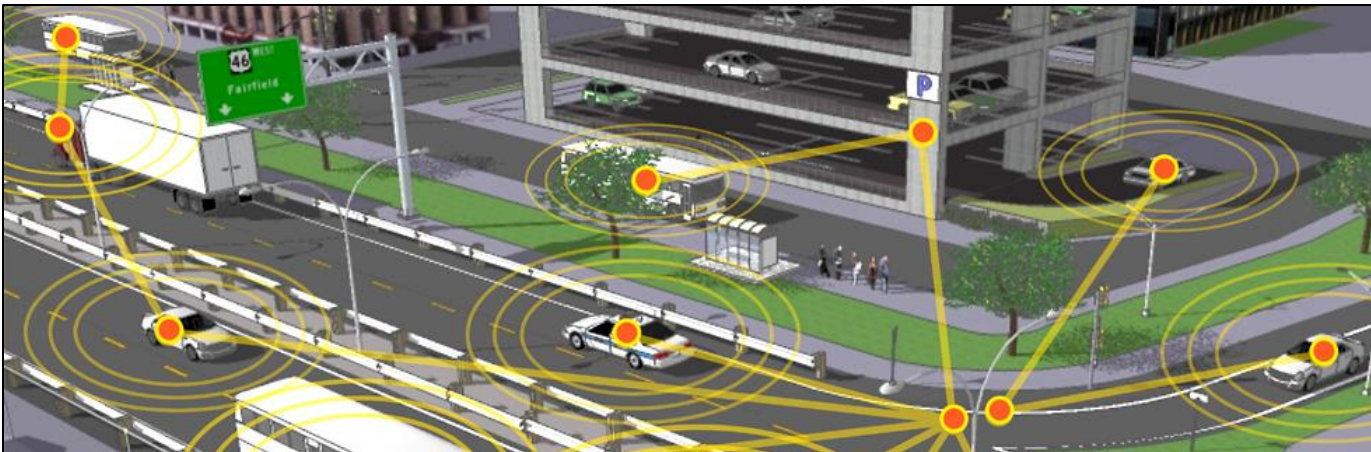
Community Symposium 2 – Key Themes

- **Coordinate transportation technology planning with other policy areas (job creation, poverty alleviation, etc.)**
- **Communicate the benefits of transportation technologies to the public and decision-makers**
- **Use data to improve access to and awareness of transportation services**
- **Recognize the challenges of anticipating the impacts of transformative technologies**
- **Need for community values and goals to influence technical applications**



Implementation

- **Performance Measurement (PM) System – Underway**
 - ❑ **Develop a PM reporting system for the Regional Traffic Operations Center**
- **ITS Corridor Planning – In Development**
 - ❑ **Develop an ITS asset management and deployment plan for the I-490 corridor**





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