Planning for Operations in the Genesee-Finger Lakes Region

Joseph M. Bovenzi, AICP
ITS NY 30th Annual Meeting - Saratoga Springs, New York
June 14, 2023
Presentation Outline

- MPO Overview
  - Purpose & Function
  - Long Range Transportation Plan

- Unified Planning Work Program (UPWP) - TSMO strategic planning
  - TSMO Planning Tasks

- Transportation Improvement Program (TIP)

- Challenges and Opportunities
Metropolitan Planning Organizations (MPO)

- Federal-Aid Highway Act of 1962
  - Coordinate regional transportation planning and investment decision-making
  - Ensure local representation

- Federally mandated for urbanized areas with populations greater than 50,000

- Metropolitan Transportation Planning “3-C” Process
  - Continuing
  - Cooperative
  - Comprehensive
New York State Metropolitan Planning Organizations

Source: New York State Association of Metropolitan Planning Organizations (NYSAMPO)
Major MPO Work Products

- **Strategic Direction (LRTP)**
- **Concept Development (UPWP)**
- **Investment Decisions (TIP)**

**Long Range Transportation Plan**
Genesee-Finger Lakes Region 2045
June 2021

**Unified Planning Work Program**
2023 - 2024
April 1, 2023

**Transportation Improvement Program**
2020 - 2024
October 2019
Long Range Transportation Plan (LRTP) 2045

- **Adopted June 2021**
  - Region and System Profile
  - Emerging Issues and Opportunities
  - System Needs

- **Recommendations**
  - Health and Safety
  - Access and Equity
  - Management and Maintenance
  - Sustainability and Resilience
  - Economic Development
Long Range Transportation Plan (LRTP) 2045

- System Needs (*Selected*)
  - Increasing Safety for all Users
  - Ensuring Access for All to Employment, Goods, and Services
  - Expanding Mobility and Connectivity for Active Transportation Users
  - Reducing Energy Usage and Greenhouse Gas Emissions
  - Enhancing Connectivity and Access for Freight
  - Increasing System Resiliency
Long Range Transportation Plan (LRTP) 2045

- System Management and Maintenance (MM) Recommendations
  - MM-1: Implement TSMO Strategic Plan Recommendations
  - MM-2: ITS Integration
  - MM-3: ITS Communications
  - MM-5: Signal Synchronization
  - MM-6: Interagency Operations Coordination
  - MM-7: Traffic Incident Management
  - MM-15: ITS Asset Management
Long Range Transportation Plan (LRTP) 2045

- Congestion Management Process

Congested Road Segments
(Travel Time Index ≥ 2.0)
April/October Weekdays 2018/2019

- AM Peak (7-9AM)
- PM Peak (4-6PM)

Travel Time Index 2.0 or greater indicates corridor travel time is two or more times longer than during free-flow conditions. Source: INRIX © 2020
Long Range Transportation Plan (LRTP) 2045

- Transportation Operations Coordination Committee (TOCC)
  - Regional Traffic Operations Center (RTOC) Initiatives
  - Construction Updates
  - Special Event Coordination
  - Traffic Incident Management (TIM)
Long Range Transportation Plan (LRTP) 2045

- **Regional ITS Architecture**
  - Defines ITS elements and interconnections

- **Components**
  - Subsystems
  - Information Flow

- **Applicability:**
  - Integrate & Coordinate Technology
  - Align Agency Efforts
  - Maximize Existing Resources
Unified Planning Work Program (UPWP)

- Annual work program of federally-funded transportation planning activities

- Activities must be consistent with and advance:
  - Federal planning factors
  - Long Range Transportation Plan
  - Local plans and policies

- Eligible projects include concept-level planning, analysis, and design initiatives
Transportation System Management and Operations (TSMO) Strategic Plan

- Objectives
  - Rationale for investments in operations ("Why?")
  - Roles & responsibilities ("Who?")
  - Operations strategies ("What?" and "How?")
  - Ten-year timeframe ("When?")
TSMO Strategic Plan - Tier I Corridors
**TSMO-Supportive Planning - I-490 Integrated Corridor Management (ICM)**

- **Purpose:**
  - Guide future ITS deployments on the I-490 corridor
  - Improve safety, minimize delay, and enhance operations efficiency

- **Recommendations**
  - ITS Infrastructure
  - Operations and Policy
  - Regional ITS Architecture
TSMO-Supportive Planning - Regional Traffic Operations Center (RTOC) Strategic Plan

- **Purpose:** Develop a strategic plan to guide RTOC operations

- **Recommendations**
  - Workforce & Staffing
  - Business Processes
  - Systems & Technologies
  - Performance Measurement
  - Interagency Partnerships
Regional Performance Measurement Monitoring and Evaluation System

- **Purpose**: Establish a program for evaluating and reporting transportation operations data generated by the RTOC

- **Phase I**
  - Understand needs

- **Phase II**
  - Combine ticketing and dispatching services with performance measurement
  - Emphasis on internal data for analysis
Regional Performance Measurement Monitoring and Evaluation System

- **Ticketing/Dispatching**
  - Track ticket resolution
  - Six ticket types

- **Reports**
  - Tracks number and type of tickets
  - Extract data for analysis to better understand trends in service calls
Transportation Improvement Program (TIP)

- Multi-year program of projects

- Categories:
  - Highway
  - Bridge
  - Transit
  - ITS/Operations
  - Bicycle & Pedestrian

- Schedules

- Funding sources
## Transportation Improvement Program (TIP)

### Project Evaluation - Common Criteria

<table>
<thead>
<tr>
<th>Area</th>
<th>Criteria</th>
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</thead>
<tbody>
<tr>
<td>Safety</td>
<td>• Improve safety</td>
</tr>
<tr>
<td>Mobility</td>
<td>• Improve efficiency and reliability</td>
</tr>
<tr>
<td>Accessibility</td>
<td>• Promote travel alternatives</td>
</tr>
<tr>
<td>Community &amp; Economic Development</td>
<td>• Support new and existing business</td>
</tr>
<tr>
<td></td>
<td>• Support from state, regional, or local policy</td>
</tr>
<tr>
<td></td>
<td>• Enhances designated freight corridor</td>
</tr>
<tr>
<td>System Continuity &amp; Operations</td>
<td>• Advance UPWP recommendations</td>
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<tr>
<td></td>
<td>• Improve resiliency</td>
</tr>
<tr>
<td>Environment</td>
<td>• Reduce vehicle emissions</td>
</tr>
<tr>
<td>Fiscal Responsibility</td>
<td>• Minimize lifetime maintenance</td>
</tr>
<tr>
<td></td>
<td>• Increased non-federal share</td>
</tr>
<tr>
<td></td>
<td>• Innovative funding/financing partnerships</td>
</tr>
</tbody>
</table>
Transportation Improvement Program (TIP)

- Project Evaluation - Mode-Specific Criteria

<table>
<thead>
<tr>
<th>Mode</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Management &amp; Operations</td>
<td>• Reduce travel times on major roadways</td>
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<tr>
<td></td>
<td>• Reduce incident clearance times</td>
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<td></td>
<td>• Increase productivity of regional transportation agencies/ providers</td>
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<td>• Support or advance existing &amp; proposed ITS elements</td>
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*Image of a road network with various nodes and connections.*
## Transportation Improvement Program (TIP)

### 2023-2027 TIP - TSMO Project Table

<table>
<thead>
<tr>
<th>Project:</th>
<th>Federal Share:</th>
<th>State Share:</th>
<th>Local Share:</th>
<th>Total:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highway Emergency Local Patrol [HELP] (2023-2027)</td>
<td>$ 2,564,000.00</td>
<td>$ 641,000.00</td>
<td>$</td>
<td>$ 3,205,000.00</td>
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<tr>
<td>MCDOT RTOC Operations (2023-2027)</td>
<td>$ 3,160,000.00</td>
<td>$ 110,600.00</td>
<td>$ 679,400.00</td>
<td>$ 3,950,000.00</td>
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<tr>
<td>MCDOT Traffic Signal Replacements-Group 1</td>
<td>$ 2,414,800.00</td>
<td>$</td>
<td>$ 603,700.00</td>
<td>$ 3,018,500.00</td>
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<tr>
<td>NYSDOT RTOC Operations (2023-2027)</td>
<td>$ 4,620,000.00</td>
<td>$ 1,155,000.00</td>
<td>$</td>
<td>$ 5,775,000.00</td>
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<tr>
<td>NYSDOT RTOC Staffing (2023-2027)</td>
<td>$ 8,500,000.00</td>
<td>$ 2,125,000.00</td>
<td>$</td>
<td>$ 10,625,000.00</td>
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<tr>
<td>Totals:</td>
<td>$ 21,258,800.00</td>
<td>$ 4,031,600.00</td>
<td>$ 1,283,100.00</td>
<td>$ 26,573,500.00</td>
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</table>
Challenges and Opportunities

- ITS Asset Management
- Expanding Core Capabilities & Functions
- Operations Data & Performance Measurement
- Future-Proofing
- Vulnerability & Resiliency
GTC Plans and Studies

➢ Available: https://www.gtcmpo.org/plans-and-studies
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