

Planning and Operations:

*... creating an objectives-driven,
performance-oriented environment to include
operations and to reduce congestion in
statewide and metropolitan planning*



A Joint Initiative of the
Office of Operations and Office of Planning, Environment, & Realty
Federal Highway Administration



Overview

- ② Motivation
- ② Philosophy
- ② What is being developed
- ② Implications
- ② Next steps



Motivation for Guidebook

⊙ SAFETEA-LU Requirements

- CMP: "The transportation planning process shall address congestion management through a process that provides for effective management and operation"
- M&O: LRSTPs and MTPs to contain "Operational and management strategies to improve the performance of existing transportation facilities"

⊙ Secretary's Congestion Initiative

"Transportation is key to the productivity, and therefore the success, of virtually every business in America. Congestion and delay not only waste our time as individuals, they also burden our businesses and our entire economy with inefficiency and higher costs."

- Secretary Norman Mineta, 2006



Motivators

- ② Address recurring and non-recurring congestion
- ② Concerns such as traffic congestion, traffic incidents and goods movement
- ② Efficient management and operations helps meet a range of MPO goals
 - Improving safety, security, connectivity, etc.
- ② M&O applications are important to system performance, reliability, and optimizing existing capacity



The Stakeholder Perspective

- General acceptance about incorporating M&O in the planning process, but no consistency about how to do that
- General acceptance of the need for performance measures
- Helpful to reinforce need for improved collaboration between MPOs, States, local jurisdictions, transit operators, and independent operating agencies



Who Are We Addressing?

- ① **Primary “targets”** – Participants in statewide and metropolitan transportation planning process: States, MPOs, and transit agencies
- ② **Related “targets”** – Operators (DOTs, agencies, etc.)
- ③ **Collateral “targets”** – Decision makers (elected and appointed)

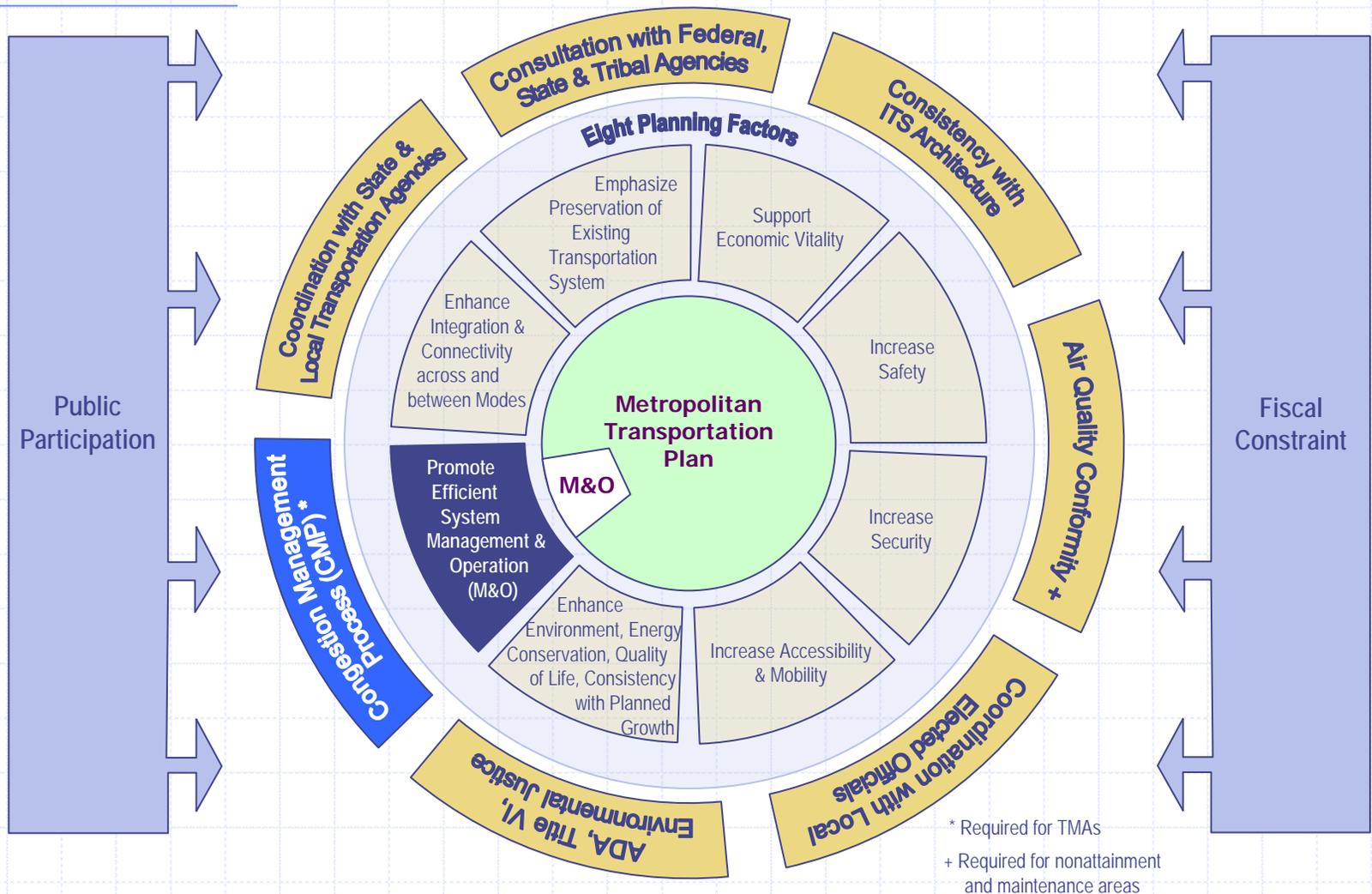


What Are We Developing?

- For Operations, advancing a fundamental shift from a traditional project-oriented approach to an **objectives-driven approach with outcome-oriented performance measurement**
- Linking** the CMP to the MTP by using it to develop performance measures and strategies that address recurring and non-recurring congestion

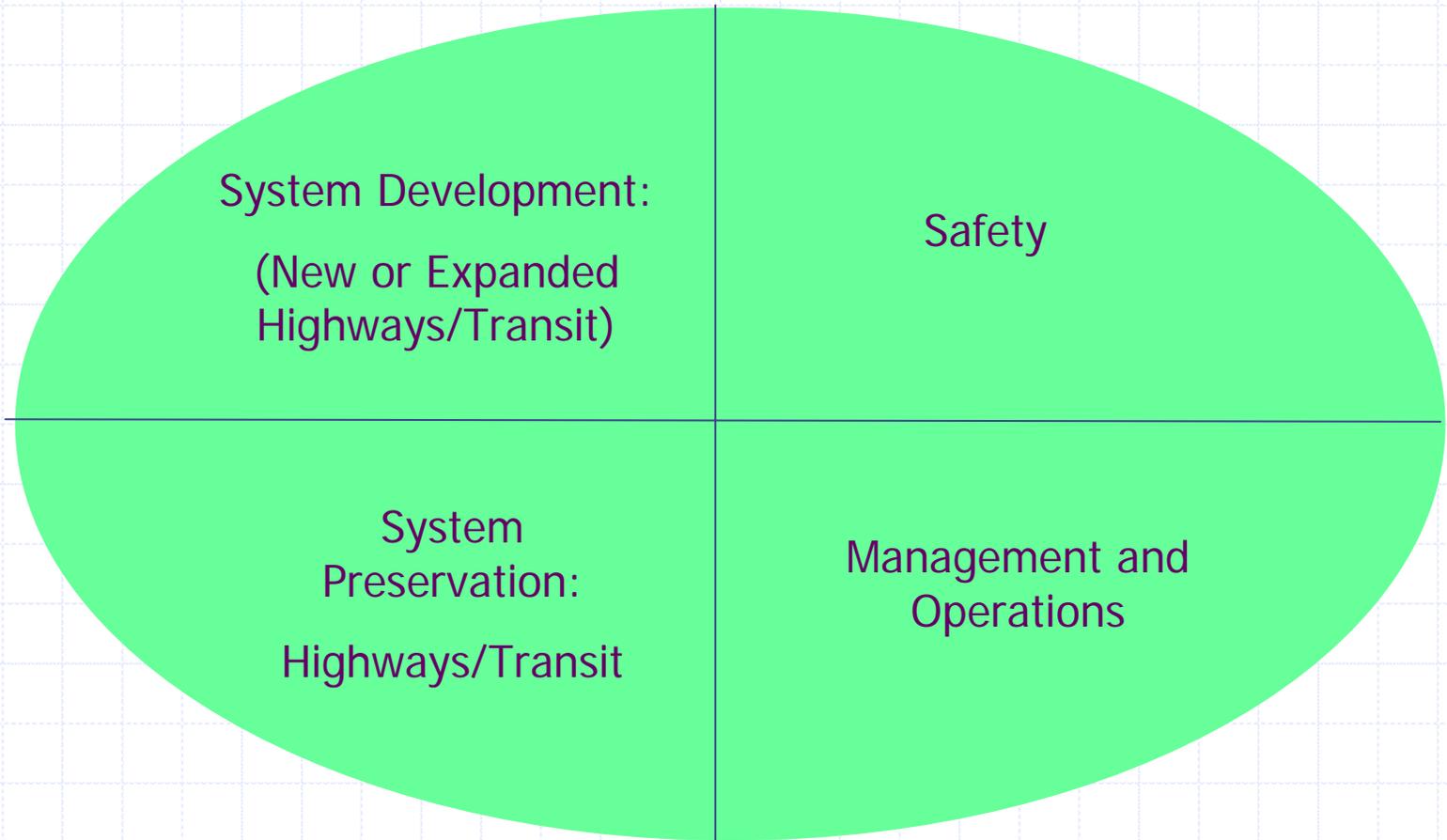


M&O in the Context of Transportation Planning Requirements





Major Outcomes of the Transportation Plan





Management & Operations in the "Plan"

- As part of the transportation plan, specific and measurable **regional operations objectives** are articulated and annotated to address recurring and non-recurring congestion issues

OBJECTIVES ADDRESS REGIONAL CONCERNS:

- Delay Due to Traffic Incidents
- Improved Travel Information
- Coordinated Work Zones
- Freeway Management
- Roadway Weather
- Electronic Payment Services
- Freight Management
- Traffic Signal Coordination



Objectives-driven Planning

- ② **Objectives** = specific, measurable statements, based on goals, relating to the attainment of system performance
- ② **Examples** (all relating to a goal of congestion reduction):
 - Over the next 3-5 years, reduce the clearance time of traffic incidents on freeways and major arteries in the region from a current average of X minutes to an average of Y minutes.
 - Over the next 3-5 years, reduce the variability in travel time on freeways and major arteries in the region such that 95% of trips (19 out of 20) have travel times no more than 1.5 times the average travel time for a specific time of day.
 - By 2012, enhance connectivity among transit services so that transfers between transit modes (rail, bus) and operators are seamless and can occur with one "smart card"



Performance Measures:

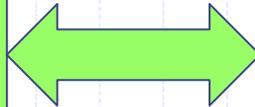
Crucial for the CMP

- **Performance Measures** = indicators of how well the transportation system is performing and is critical way to actualize the operations objective
- **Examples** (relating to operations):
 - Customer satisfaction
 - Extent of congestion
 - Delay – non-recurring
 - Delay – recurring
 - Incident duration
 - Reliability
 - Speed
 - Throughput – person, vehicle
 - Travel time – trip, reliability



How Management & Operations Relates to the CMP

Management & Operations part of the Metropolitan Transportation Plan contains:
Operational Objectives



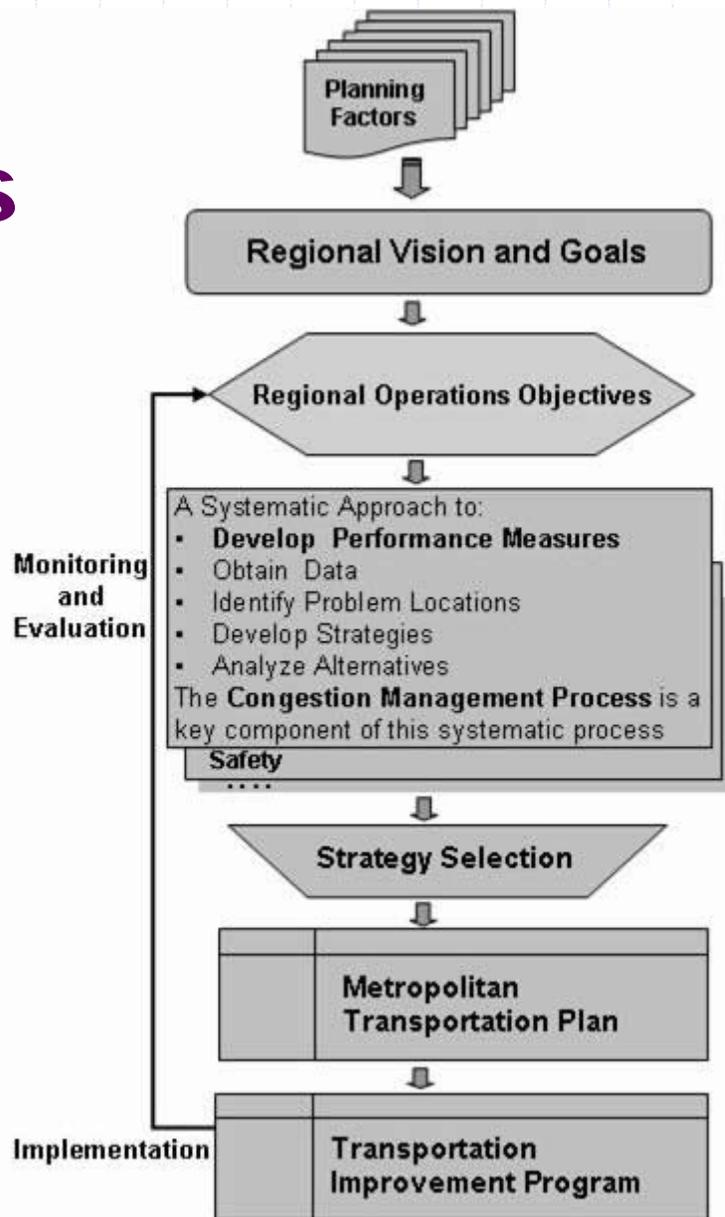
Congestion Management Process

The CMP actualizes the Operations Objectives through a systematic approach for:

1. developing performance measures
2. identifying and analyzing problems
3. collecting data
4. developing strategies
5. monitoring performance



M&O in the Planning Process





M&O in Planning Process –

Operations Objectives in Planning Process

Stage of Planning Process	Examples	
Goal(s) Broadly describe what the region wants to accomplish, focused on <u>outcomes</u>	Improved transportation system reliability and reduced unexpected traveler delay	
Regional Operations Objectives Specific measurable statements relating to the attainment of goals.	Reduce incident-based delay so that by 2010, travelers experience...	Improve transit system reliability (so that...)
Performance Measures Metrics used at a regional basis to track system-wide performance (used in developing a regional objective), or at a corridor, roadway, or intersection level to identify specific deficiencies within the system to address.	Incident duration (mean minutes per incident) Vehicle hours of non-recurring delay due to incidents	Percentage of buses more than 5 minutes off schedule Number of rail system breakdowns/ delays
Strategies Approaches to achieve objectives. Includes system preservation, safety projects, management and operations, capacity expansion	Traffic cameras and detection systems to identify incidents more quickly Roving incident response teams	Increased rail inspections and maintenance GPS systems to track transit buses
Projects/ Implementation Initiatives identified to carry out strategies	Install traffic cameras on Route X (2009) Install variable message signs on Route X (2010) Implement Incident Clearance Teams on Route X (2010)	Install GPS locator system for bus system (2010) Install “Next Train” signage (2011) Provide integrated train departure/ arrival schedule for all connecting bus systems (2010)



Implications to Integrating M&O in the Planning Process

Utilize the **CMP** as an integral part of developing the MTP

- Collaboration with operations managers and other stakeholders in the development of the Plan
- Decision-makers are engaged in M&O as part of the Plan development and funding
- Develop specific objectives and performance measures focusing on transportation systems operations that can be regionally accepted
- Develop M&O strategies based on Operations Objectives in the Plan



Desired Outcomes of M&O Guidebook

- ② Transportation Plans will be objectives-driven
 - Not project-focused, but objectives-focused
 - Addresses non-recurring congestion, in addition to recurring
- ② CMP is integral and relevant to MTP Development
 - It identifies and utilizes performance measures to develop M&O strategies and monitor system performance
 - MPO planning will take into account operational strategies that may be employed in region but are not necessarily required to be included in MTP/TIP
 - Strategies address short-term and long-term system operations objectives
- ② The Transportation Plan and the CMP engages decision makers and managers of day-to-day operations, including public safety officials



Next Steps

- ④ Drafts documents available
- ④ Peer exchanges
- ④ Peer Reviews thru AMPO and AASHTO Working Groups
- ④ FHWA Management and OST Review
- ④ Finalize draft (mid July)
- ④ Produce final version (August)
- ④ Conduct outreach and assistance (internally and externally)