Congestion and Asset Management

Congestion Management Process Update

Natalie Bettger
Public Input
April 2020
What is the CMP?

One of five federally-mandated planning documents (MTP, TIP, UPWP, Public Participation Plan, CMP)

Required for urbanized areas with populations exceeding 200,000 (also known as Transportation Management Areas)

“A regionally-accepted approach for managing congestion that provides up-to-date information on multimodal transportation performance and assesses alternative strategies that meet state and local needs.”

FHWA CMP Guidebook
What is Required in the CMP?

Regulations are not prescriptive towards the methods, approaches, and strategies in the CMP.

Congestion Management Strategies *should* include:

- Demand management strategies
- Traffic operational improvements
- Public transportation improvements;
- ITS technologies; and
- "Where necessary, additional system capacity"

For **nonattainment areas**, projects adding Single Occupant Vehicle (SOV) capacity *must* be evaluated and comply with the CMP by integrating congestion management strategies.

The CMP *shall* be developed, established, and implemented as part of the Metropolitan Transportation Planning Process.
CMP Processes and Related Documents

**PROCESSES**

1. Regional Goals and Objectives
2. System Identification
3. Develop Performance Measures
4. System Performance Monitoring & Evaluation
5. Strategy Identification
6. Strategy Selection
7. Project & Program Implementation and Monitoring
8. Project Performance Evaluation

**DOCUMENTS**

MTP

- Routes of Significance
- NHS FFCS
- Federal Performance Measures & Reporting
- Progress North Texas
- NEPA, Corridor & Other Studies

- Program Areas

TIP
Regional Goals and Objectives

Mobility
Increase available options, reduce congestion, increase efficiency, provide access

Quality of Life
Preserve environment, improve air quality, promote active lifestyles, livable communities

System Sustainability
Encourage and enhance maintenance, increase safety and reliability, invest long-term in existing system

Implementation
Timely project planning; cost-effective solutions for construction, operations, and maintenance; leverage existing assets
Recurring Congestion (V/C): Level of Service DEF

Safety: Crash Rate Above 75th Percentile

Non-Recurring Congestion: Travel Time Reliability/Peak-Hour Delay: 75th Percentile

Pavement and Bridge Conditions: First Quartile Ratings

If so, hold for evaluation after completion.

Corridor Asset Inventory
# Critical Corridors

- **Meets Initial Criteria**
- **Fact Sheet/Database Entry**
- **Determine CMP Strategies**

### Performing Corridors

- **Does Not Meet Criteria/Construction programmed**
- **Fact Sheet/Database Entry**
- **Continue to Monitor Performance**

## Asset Availability Data

<table>
<thead>
<tr>
<th>Infrastructure</th>
<th>Alternative Modes</th>
<th>Operational Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parallel Arterials</td>
<td>Sidewalks</td>
<td>NHS</td>
</tr>
<tr>
<td>Managed Lane ROW</td>
<td>Veloweb/Multi-Use Paths</td>
<td>Managed/HOV/Express Lanes</td>
</tr>
<tr>
<td>Frontage Roads</td>
<td>Light Rail</td>
<td>ITS</td>
</tr>
<tr>
<td>Parallel Freeways</td>
<td>Dedicated Bus Lanes</td>
<td>Routes of Significance</td>
</tr>
<tr>
<td>Shoulders</td>
<td>Commuter Rail</td>
<td>Hazmat Routes</td>
</tr>
<tr>
<td>At-Grade Intersections</td>
<td>Bus Routes</td>
<td>Truck Lane Restrictions</td>
</tr>
<tr>
<td>At-Grade R/R Crossings</td>
<td>Safe Routes to School</td>
<td>Signalized Intersections</td>
</tr>
<tr>
<td>Grade Separations (Arterials)</td>
<td>Demand Response Coverage (GP)</td>
<td>Regional Freight Routes</td>
</tr>
<tr>
<td>Park-and-Ride Facilities</td>
<td>TIM Attendance &amp; Coverage</td>
<td></td>
</tr>
</tbody>
</table>

---

Critical Corridors: Determine CMP Strategies

Performing Corridors: Continue to Monitor Performance

---

8
## Strategy Identification

<table>
<thead>
<tr>
<th>Critical Factors</th>
<th>Recurring Congestion</th>
<th>Non-Recurring Congestion/Reliability</th>
<th>Safety</th>
<th>Pavement and Bridge Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>One Factor</strong></td>
<td>Alternative Modes; Demand Management</td>
<td>Operational Improvements</td>
<td>Safety-Related Projects</td>
<td>Rehabilitation/Asset Management Planning</td>
</tr>
<tr>
<td><strong>Two Factors</strong></td>
<td>Asset Optimization (maximize available capacity + no added Right-of-Way) or M&amp;O</td>
<td>Operational Strategies</td>
<td>Safety Strategies</td>
<td>Pavement Rehabilitation</td>
</tr>
<tr>
<td><strong>Three Factors</strong></td>
<td><strong>Possible Reconstruction (4R)</strong></td>
<td>Major Operations Studies and Commitments</td>
<td>Major Safety Studies and Commitments</td>
<td>Complete Pavement/Bridge Replacement</td>
</tr>
<tr>
<td><strong>Four Factors</strong></td>
<td><strong>Possible Major Corridor Reinvestment (5R)</strong></td>
<td>Major Capital Investments in Transit, Active, and Highway Infrastructure in Corridor</td>
<td>Multimodal Operational Studies and Investments</td>
<td>Comprehensive Corridor Safety Action Plan</td>
</tr>
</tbody>
</table>
Promote and encourage usage of parallel roadways
Promote and encourage usage of available transit services
Promote and encourage usage of trip reduction programs

Bottleneck removal
Emergency vehicle routing
Mobility assistance patrols
Reduction in merging and weaving
Work zone management

Increase deployment of Intelligent Transportation Systems
- Dynamic route guidance
- Speed monitoring
- Network surveillance (CCTV)

Promote Freeway Incident Management Training
Improve incident response and clearance times
Shoulder Utilization Program

Pavement and Bridge Rehabilitation
Replacement of Pavement and Bridges
Example Project Performance Measures

- Before/After Speeds
- Before/After Volumes
- **Before/After Crash Rate**
- Transit Ridership/Mode Split
- Changes in Asset Inventory
- Changes in Asset Condition
- Changes in Criteria Performance Measures, Peak Hour LOS, Crash Rate, Travel Time Reliability
<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 2020</td>
<td>30-Day Public Comment Period and Public Meeting</td>
</tr>
<tr>
<td>April 24, 2020</td>
<td>STTC Info</td>
</tr>
<tr>
<td>May 14, 2020</td>
<td>RTC Info</td>
</tr>
<tr>
<td>September 25, 2020</td>
<td>STTC Workshop – Scoring, Ranking, Strategies and Implementation</td>
</tr>
<tr>
<td>September 2020</td>
<td>30-Day Public Comment Period and Public Meeting</td>
</tr>
<tr>
<td>October 23, 2020</td>
<td>STTC Info</td>
</tr>
<tr>
<td>November 12, 2020</td>
<td>RTC Info</td>
</tr>
<tr>
<td>December 4, 2020</td>
<td>STTC Action</td>
</tr>
<tr>
<td>December 10, 2020</td>
<td>RTC Action</td>
</tr>
</tbody>
</table>
Questions?

Contact:

Eric Quintana  
Transportation Planner  
(817) 608-2381  
equintana@nctcog.org

Natalie Bettger  
Senior Program Manager  
(817) 695-9280  
nbettger@nctcog.org