CONGESTION MANAGEMENT PROCESS

TECH MEMO 1

COMPILED BY:

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TECH MEMO 1

1. INTRODUCTION

1.1 WHAT IS A CONGESTION MANAGEMENT PROCESS?

A Congestion Management Process (CMP) is a systematic and regionally accepted approach for managing congestion that provides accurate, up-to-date information on transportation system performance and assesses alternative strategies for congestion management that meet state and local needs. This CMP identifies strategies in the Association of Central Oklahoma Governments Metropolitan Planning Organization Transportation Management Area (ACOG MPO TMA) to minimize traffic congestion and increase efficient movement of people and goods for specific locations. The CMP was prepared for the Association of Central Oklahoma Governments (ACOG) by Olsson and Streetlight Inc. A CMP steering committee, comprised of transportation and planning professionals from local governments, the Oklahoma Department of Transportation, and the Federal Highway Administration participated in and provided guidance throughout the update process.

The congestion management process is mandated by the Federal Government for metropolitan areas with a population exceeding 200,00, known as Transportation Management Areas (TMAs). The federal requirements state that in all TMAs, the Congestion Management Process shall be developed and implemented as an integrated part of the metropolitan transportation planning process.

ACOG previously completed their Congestion Management Process in 2016. This area is reviewed every 10 years to ensure that urban and urbanizing sections of the region that are connected by a common economy and transportation system are included in the MPO's transportation planning efforts. This congestion management process update is part of the routine TMA review and is intended to align with updates to Encompass 2045, the Metropolitan Transportation Plan (MTP), which is also the functioning Regional Transportation Plan (RTP). This process is also anticipating a newly updated RTP that will be known as Encompass 2050.

1.2 OVERVIEW AND HISTORY OF THE CONGESTION MANAGEMENT PROCESS

The Congestion Management System (CMS), originated in 1991 when it was introduced by the *Intermodal Surface Transportation Efficiency Act* (ISTEA). This legislation required metropolitan planning organizations (MPOs) and state departments of transportation (DOTs) to provide information on transportation system performance and strategies to improve mobility of goods and people and ease overall congestion[1]. The *Safe, Accountable, Flexible, Efficient Transportation Equity Act of 2005* (SAFETEA-LU) changed the name of the CMS to the Congestion Management Process (CMP). The CMP exemplified a shift towards a "living and breathing" process that is fully integrated into the overall state and regional transportation planning process[2].

The *Moving Ahead for Progress in the 21st Century* (MAP-21) *Act of 2012* also upheld laws related to CMPs, however; it advocated a performance measure-based approach for transportation planning and decision-making. This legislation improved monitoring and reporting of performance measures in reliability and congestion. Additionally, MAP-21 is the legislation that initiated the requirement of TMAs with a population of 200,000 or more to develop a CMP.

The current Congestion Management Process is systematic and identifies congestion and its key causes. The process uses congestion mitigation strategies that aim to improve transportation system reliability and performance. Additionally, the CMP evaluates the outcomes of implemented strategies and their effectiveness. The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) recommend the following actions or elements listed in **Figure 1** that are common among successful CMPs and must be implemented to comply with federal regulations.

[1] H.R.2950 - 102nd Congress (1991-1992): Intermodal Surface Transportation Efficiency Act of 1991 | Congress.gov | Library of Congress

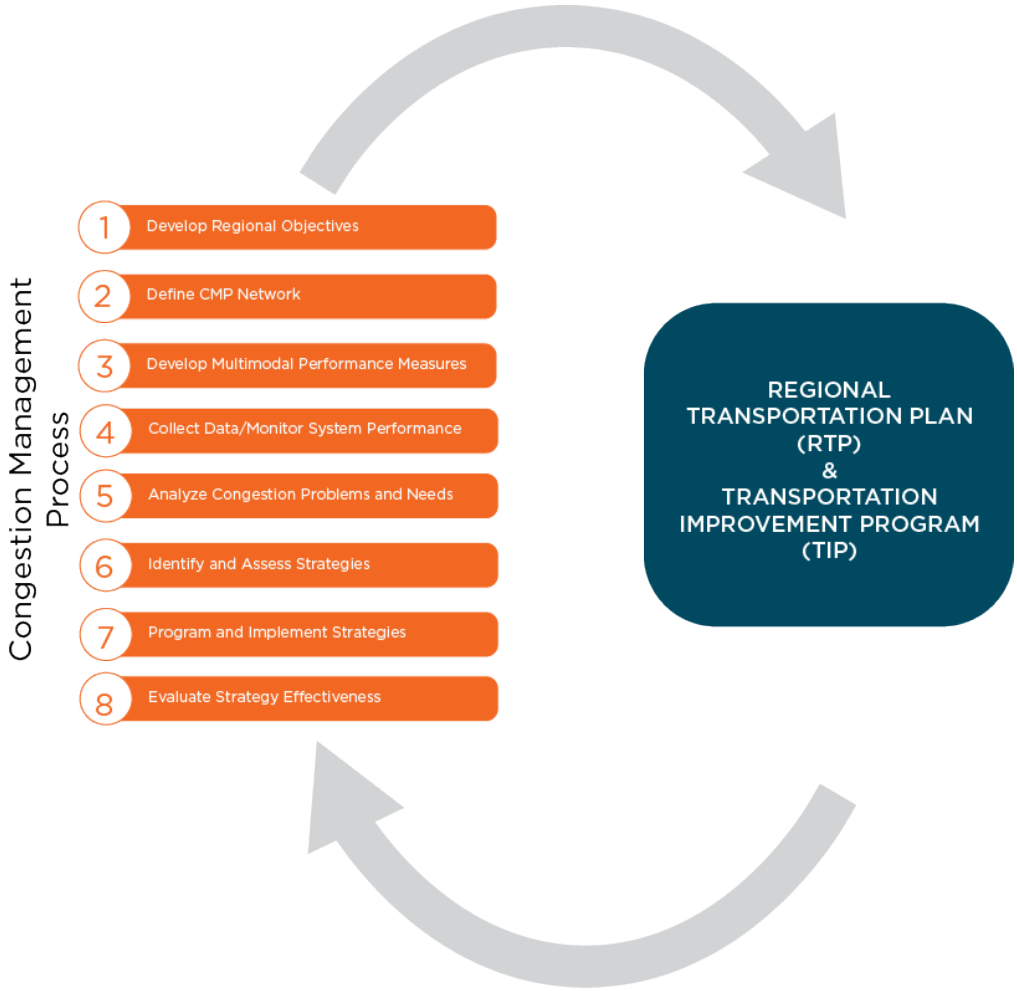
[2] SAFETEA-LU Act | US Department of Transportation

The eight actions that will be implemented as a part of this process are:

1. **Develop Regional Objectives for Congestion Management:** Congestion management objectives should be developed with meaningful stakeholder participation and an understanding of the needs and desires of the public related to congestion. Ideal objectives should focus on outcomes and follow the SMART principles: Specific, Measurable, Agreed, Realistic, and Time-bound.
2. **Define CMP Network:** Define the geographic boundaries and the system components/network of facilities. Although the CMP has traditionally focused primarily on the road network, the network should consider the transit, bicycle, and pedestrian networks, as well as their interface with the highway network.
3. **Develop Multimodal Performance Measures:** Performance measures should be developed and used at the regional level to measure the performance of the system and at the local level (corridor, segment, intersection) to identify specific location with congestion problems and measure the performance of individual segments and system elements. Performance measures should be adapted and adjusted over time.
4. **Collect Data/Monitor System Performance:** Numerous agencies across the study region must collaborate to collect data and monitor system performance.
5. **Analyze Congestion Problems and Needs**: Raw data are translated into meaningful measures of performance to analyze congestion problems and needs. The analysis should include locations of major trip generators, seasonal traffic variations, time-of-day traffic variations, and separation of trip purpose.
6. **Identify and Assess Strategies:** The data and analysis can be used to identify and assess CMP strategies to effectively manage congestion and achieve congestion management objectives. Important considerations include contribution to meeting regional congestion management objectives, local context, contribution to other goals and objectives, and jurisdiction over CMP strategies.
7. **Program and Implement Strategies:** Strategies should be programmed and implemented through inclusion of congestion management strategies in the various components of the metropolitan transportation planning process, including the Metropolitan Transportation Plan (MTP), TIP corridor plans, and the Regional Intelligent Transportation Systems (ITS) Architecture.
8. **Evaluate Strategy Effectiveness:** After implementation, the MPO should evaluate strategy effectiveness through system-level performance evaluation and strategy-effectiveness evaluation. Ongoing monitoring of transportation system performance provides a feedback loop designed to inform future decision making about the effectiveness of transportation strategies.

Figure 1 on the following page illustrates these actions and portrays the cyclical nature of the congestion management process. Although these actions are listed in a linear fashion, it is important to note that within the cycles of ACOG transportation planning, some of these actions may be revisited, or take place on an on-going basis, while others may not. The Process Model for this CMP is not intended to be a step-by-step approach, but is intended to show the general flow, building on regional objectives to implementation of strategies, and lastly the evaluation of their effectiveness in mitigating congestion in the ACOG region.

Figure 1: Congestion Management Process



Federal requirements have explicitly outlined the process for implementation and development of a CMP and its integration with the overall metropolitan transportation planning process. This involves coordination with transportation system management and operations activities. The CMP does not have an update cycle established by Federal requirements, although the four-year certification review cycle and the four or five-year Metropolitan Transportation Plan (MTP) or RTP update cycle for each TMA provide a baseline for an update cycle in the absence of a specific requirement.

Federal emphasis on performance measures is tied to a set of seven national goals. The following are national goals outlined in the MAP-21 Act:

1. **Safety**- To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.

2. **Infrastructure Condition**- To maintain the highway infrastructure asset system in a state of good repair.

3. **Congestion Reduction-** To achieve a significant reduction in congestion on the National Highway System.

4. **System Reliability**- To improve the efficiency of the surface transportation system.

5. **Freight Movement and Economic Vitality**- To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.

6. **Environmental Sustainability-** To enhance the performance of the transportation system while protecting and enhancing the natural environment.

7. **Reduced Project Delivery Delays-** To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

The USDOT established performance measures in connection with the National transportation goals set by MAP-21. These performance requirements are a result of a series of rulemakings. One of the rulemaking processes focuses on specifically congestion and system performance. It involves the following[3]:

- Defining performance of the interstate system, non-interstate National Highway System and freight movement on the interstate system.
- Finalizing interpretation of scope of Congestion Mitigation and Air Quality Improvement (CMAQ) performance requirements, including congestion and on-road mobile source emissions.
- Summarizing highway performance measure rules from the FAST act.

In 2015, the Fixing America's Surface Transportation (FAST) act continued what MAP-21 established and carried on the National Highway Performance Program (NHPP). The NHPP requires MPOs to coordinate with states in selecting performance targets. Additionally, MPOs are required to report on metropolitan system performance as a part of the transportation plan every 4 or 5 years. In 2021, the Infrastructure Investment and Jobs Act (IIJA) carried on the requirements for a performance measure-based approach.

2. PEER REVIEW & BEST PRACTICES

2.1 PEER COMMUNITIES

A review of CMPs from similar communities nationwide was conducted to understand the state of the practice, identify opportunities for local improvements, and leverage successful approaches from peer MPO's. Screening criteria were developed to identify candidate peer communities and potential best practices relevant to ACOG MPO TMA region challenges. The criteria are listed below:

Regional Population: Peer agencies were identified as having a regional population similar to the ACOG MPO TMA region (1.4 million residents); the exception being Dallas - Ft. Worth and Houston. These two communities were selected due to their proximity to Oklahoma City and to provide examples of high-quality CMPs for larger regions. Population in the urbanized areas for peer agencies range from 1,006,000 (El Paso) to 2,525,000 (San Antonio). The populations of the larger communities are 7,699,873 (Houston) and 7,874,950 (Dallas – Ft. Worth.)

Travel Time Index (TTI): Travel reliability is an important factor in congestion management. The data shown is from the most recent year available (2022). TTI is the ratio of average travel time in peak hours to free flow travel time. The travel-time index across the peer communities is similar to Oklahoma City (1.19), ranging from 1.13 (El Paso and Memphis) to 1.27 (Houston).

Annual Delay Per Commuter: This metric measures the annual excess delay hours experienced by each commuter. This data display is from the most recent year available (2022). Figures range from 38 (El Paso) to 69 (Houston), with Oklahoma City commuters experiencing an average of 52 excess hours of delay per year. This is an increase from the previous CMP showing, 49 hours of delay.

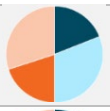
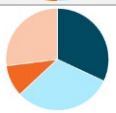
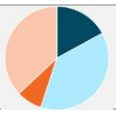
[3] MAP-21 - Fact Sheets - Performance Management | Federal Highway Administration

Annual Delay Split: This metric measures the annual split of excess delay across peak and off-peak periods of streets and freeways. The pie charts below provide a visual representation of the delay split for each community. The delay split for Oklahoma City in 2022 as shown are (Peak, Freeways: 30%), (Peak Streets: 15%), (Off Peak, Freeways: 38%), and (Off Peak, Streets: 14%). According to these results, one can assume that residents of the OKC metro are traveling by highway more often in both peak and off-peak periods. A key for the delay split is provided on the following page:

Peak, Freeways - Peak, Streets - Off Peak, Freeways - Off Peak, Streets -

Nine peer communities were reviewed and compared using the above metrics. The results of the peer community screening are shown below in **Table 1.**

TABLE 1: PEER COMMUNITY COMPARISONS

City	Agency	Last CMP Update	Population (Current)	Travel Time Index (TTI) [4]	Delay Per Commuter [4*]	Delay Split [4]	Non-Attainment Area
Dallas/Ft. Worth	North Central Texas Council of Governments (NCTCOG)	2021	7,874,950	1.23	68		*
San Antonio	Alamo Area Metropolitan Planning Organization (AAMPO)	2018	2,525,000	1.21	48		*
Memphis	Memphis Metropolitan Planning Organization (MMPO)	2015	1,188,000	1.13	58		–
Houston	Houston -Galveston Area Council (HGAC)	2021	7,699,873	1.27	69		*
El Paso	El Paso Metropolitan Planning Organization	2019	1,006,000	1.13	38		–
Kansas City	Mid-America Regional Council (MARC)	2023	1,754,000	1.15	54		*
Charlotte	Charlotte Regional Transportation Planning Organization (CRTPO)	2012	2,321,000	1.17	48		*
St. Louis	East – West Gateway Council of Governments (EWCOG)	2013	2,795,504	1.14	49		–
Jacksonville	North Florida Transportation Planning Organization (TPO)	2015	1,713,240	1.19	54		–
Oklahoma City	Association of Central Oklahoma Governments (ACOG)	2016	1,477,926	1.19	52		–

*Annual Hours of Delay During Peak Periods

[4] https://mobility.tamu.edu/umr/congestion-data/ (2022 data)

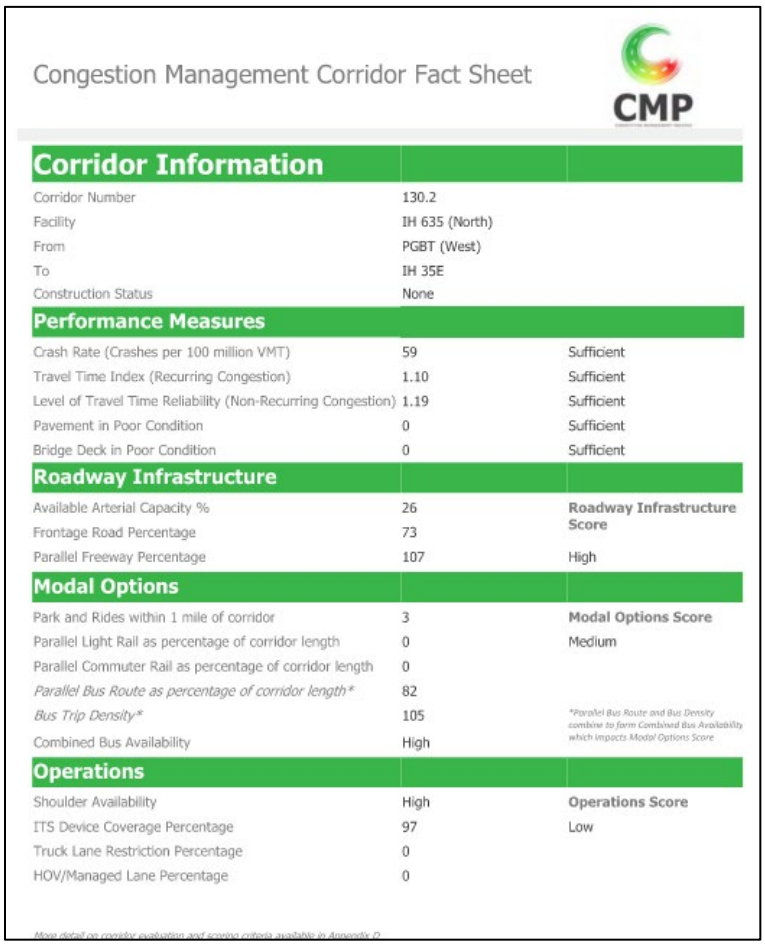
A key takeaway from the peer comparison in **Table 1.** is the Oklahoma City region is most similar in congestion to Kansas City, St. Louis, and Jacksonville when comparing Travel Time Index (TTI), Delay Per Commuter, and Delay Spit. It is important to compare similarities and differences across peer communities and to understand the best practices of how each community addresses and monitors congestion over time.

2.2 BEST PRACTICES

In the best practices review, peer communities generally followed the recommended actions from the FWHA and FTA; however, each CMP varied in their methodology, strategies, and evaluation tactics to assess strategy effectiveness. Peer CMPs integrated with their individual regional/metropolitan transportation plans and aligned their strategies based upon what their stakeholders and residents desired and the outcomes their data produced. Extra attention to sizable and realistic best practices is key to ensuring a cohesive, efficient, and effective CMP for the ACOG MPO TMA region. Best practices that stood out in the review are listed below:

1. **Data-Driven Corridor Identification and Analysis:** This practice uses real-time traffic data, GIS analysis, and modeling and narrows the focus on specific roadway corridors that complete the CMP network. The practice also prioritizes specific areas/corridors based on both recurring and non-recurring congestion factors, such as traffic incidents and weather conditions.

Below is a clip from the NCTCOG CMP displaying a possible outcome of data-driven corridor identification[5]:



Congestion Management Corridor Fact Sheet

CMP

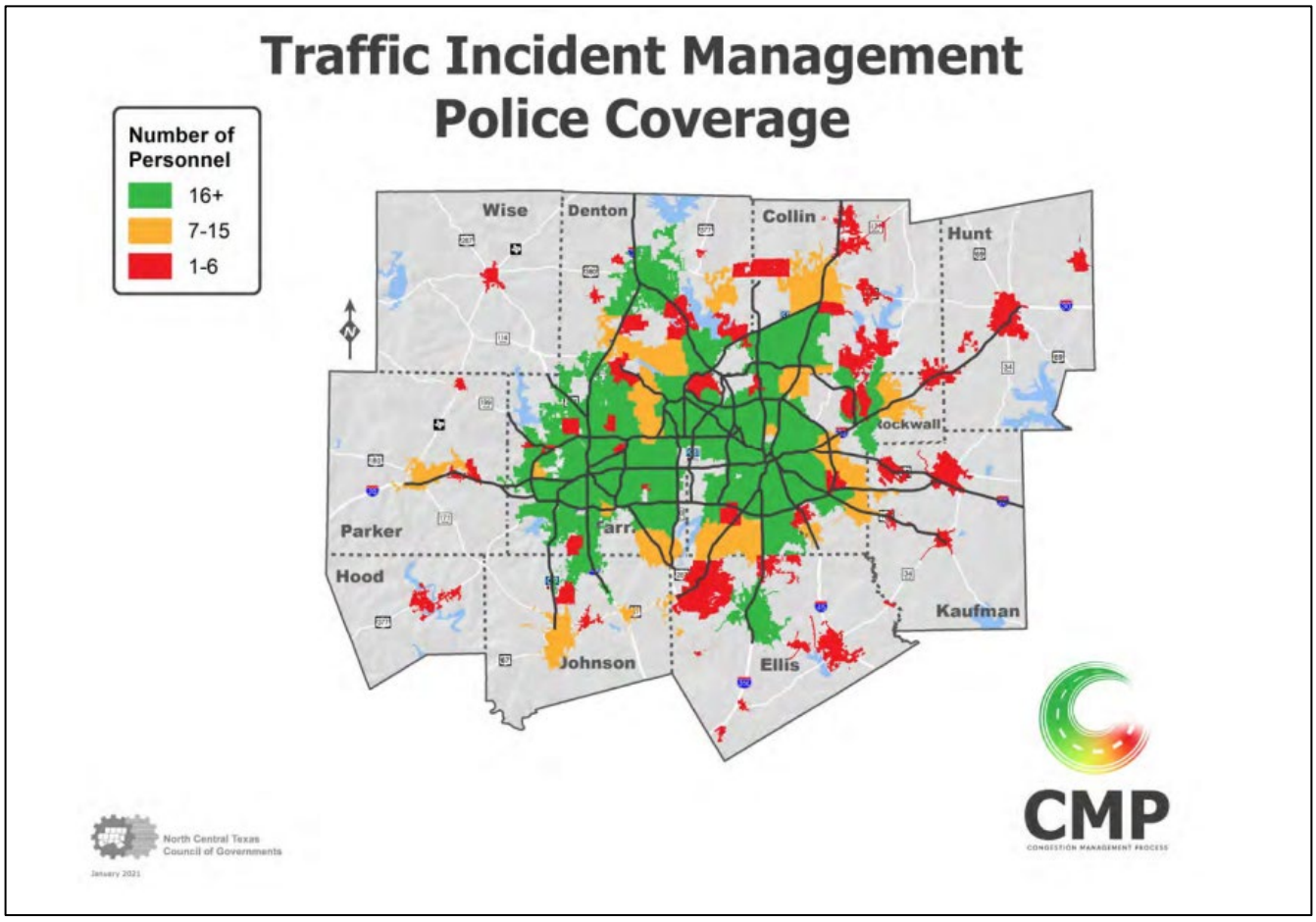
Corridor Information		
Corridor Number	130.2	
Facility	IH 635 (North)	
From	PGBT (West)	
To	IH 35E	
Construction Status	None	
Performance Measures		
Crash Rate (Crashes per 100 million VMT)	59	Sufficient
Travel Time Index (Recurring Congestion)	1.10	Sufficient
Level of Travel Time Reliability (Non-Recurring Congestion)	1.19	Sufficient
Pavement in Poor Condition	0	Sufficient
Bridge Deck in Poor Condition	0	Sufficient
Roadway Infrastructure		
Available Arterial Capacity %	26	**Roadway Infrastructure Score**
Frontage Road Percentage	73	
Parallel Freeway Percentage	107	High
Modal Options		
Park and Rides within 1 mile of corridor	3	**Modal Options Score**
Parallel Light Rail as percentage of corridor length	0	Medium
Parallel Commuter Rail as percentage of corridor length	0	
*Parallel Bus Route as percentage of corridor length**	82	
*Bus Trip Density**	105	*Parallel Bus Route and Bus Density combine to form Combined Bus Availability which impacts Modal Options Score*
Combined Bus Availability	High	
Operations		
Shoulder Availability	High	**Operations Score**
ITS Device Coverage Percentage	97	Low
Truck Lane Restriction Percentage	0	
HOV/Managed Lane Percentage	0	

More detail on corridor evaluation and scoring criteria available in Appendix D

[5] nctcog.org/getmedia/bcdd3906-3ee4-402f-8609-4866f2a8bbec/CMP_2021_Update_Final.pdf

2. **Congestion Definition Beyond Volume and Capacity**: This best practice attempts to take on congestion mitigation more holistically, using both quantitative and qualitative metrics such as delay, travel time reliability, non-recurring events, and user experience. As an example, Dallas/Ft. Worth (NCTCOG) utilizes Traffic Incident Management Police Coverage and Fire Coverage as performance measures in their CMP. This helps an agency understand the potential for congestion as non-recurring traffic incidents take place.

Below is a clip from the NCTCOG CMP displaying police coverage across the region for traffic incident coverage [6]:



3. **Tiered Strategy Toolboxes:** This practice involves grouping strategies by intensity or impact. Many of the peer communities provided layered strategy toolkits that focus on corridor types or congestion severity. Some examples also include cost and benefit notes to help communities prioritize and plan for potential implementation projects. It is anticipated the updated CMP will include a toolbox, informed by stakeholders and assessment of the current toolbox and its use.

[6] nctcog.org/getmedia/bcdd3906-3ee4-402f-8609-4866f2a8bbec/CMP_2021_Update_Final.pdf

Below is a clip from the MARC (Kansas City) Congestion Management Toolbox[7]:

Table 2.1 Summary of Congestion Management Strategies

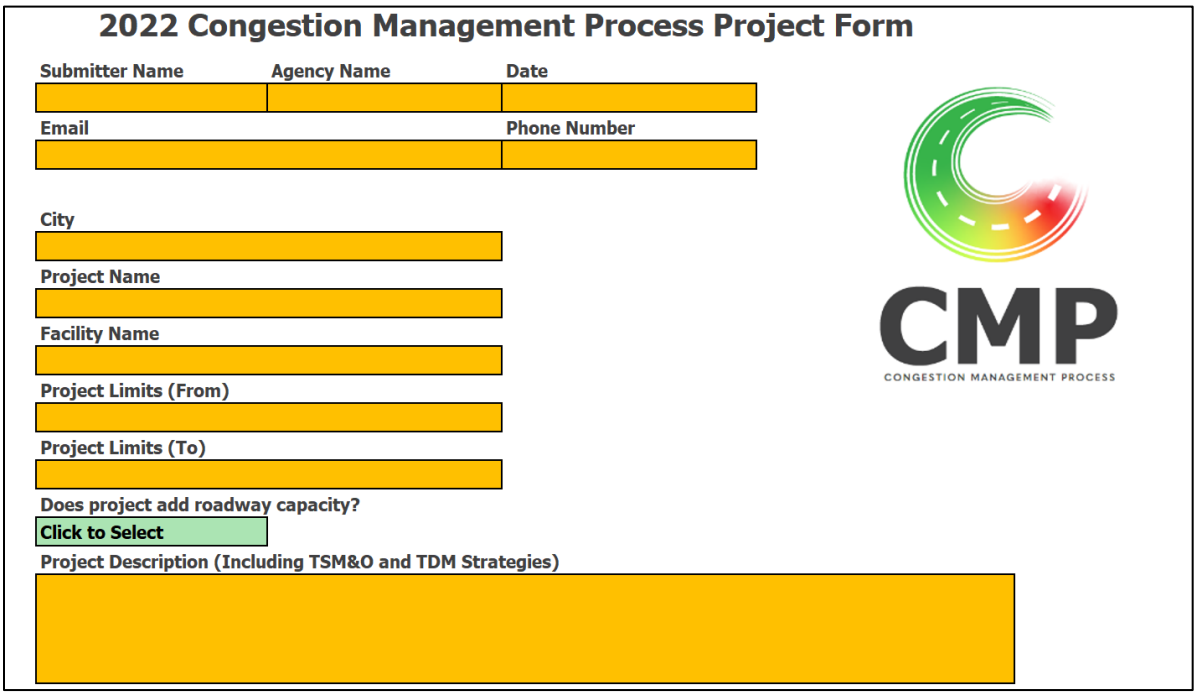
Major Categories	Number of Strategies	Benefits	Costs	Examples
Access Management	10 strategies identified	Increase capacity, efficiency, and mobility, reduce travel time	Vary from low to high and include, design, implementation, and maintenance costs	Turn restrictions, turn lanes, frontage roads, roundabout intersections
Active Transportation	8 strategies outlines	Decrease auto mode share, reduce VMT, provide air quality benefits	Low to moderate	New sidewalks and bike lanes, improved facilities near transit stations, bike sharing, and exclusive rights of way
Highway	11 strategies identified	Increase capacity, mobility, and traffic flow	Vary from low to high depending on strategy. Constructing new ROW results in higher cost than design improvements.	HOV lanes, super street arterials, highway widening, acceleration and deceleration lanes, design improvements
Land Use	6 strategies identified	Decrease SOV trips, increase walk trips, increase transit mode share, air quality benefits	Low to moderate and involve establishing ordinances and may require economic incentives to encourage developer buy-in	Infill, TOD development, densification
Parking	8 strategies identified	Increase transit use, reduce VMT, generate revenue	Low to moderate but require economic incentives to encourage developer buy-in	Preferential parking for HOVs, park and ride lots, advanced parking systems
Regulatory	10 strategies identified	Decrease VMT, air quality benefits, increase safety, generate revenue	Vary	Carbon pricing, VMT fee, pay as you drive insurance, auto restriction zones, truck restrictions
TDM	10 strategies identified	Reduce peak period travel, reduce SOV VMT	Low to moderate	Alternative work hours, telecommuting, road pricing, toll roads
Transit	14 strategies identified	Shifting mode share, increasing transit ridership, reduce VMT, provide air quality benefits	Vary from low to high depending on strategy. Constructing new transit travelways is higher cost than improving service frequencies.	Increasing coverages and frequencies, new fixed guideway travelways, employer incentive programs, signal priority, intelligent transit stops (tech improvements)
Transportation Operations and Management	18 strategies identified	Reduce travel time, reduce stops, reduce delays, increase safety	Vary but tend to be low to moderate. Large scale projects involving new infrastructure and devices higher cost.	Signal coordination, ramp metering, highway information systems, service patrols

4. **Multimodal and ITS-Focused Performance Measures:** Many CMPs across the peer communities have shown a widespread shift towards time-based and reliability measures over previous reliance on volume and capacity measures. Metrics like speed index, travel time index, incident duration, and on-time transit performance may be used to shape the CMP network for the ACOG MPO TMA region depending upon data availability and local adoption. Some notable exceptions to this are Charlotte and Memphis that still focuses on traditional volume and capacity ratios and LOS measures.

5. **Project-Level CMP Screening or Evaluation Tools:** Many of the peer communities such as Dallas/Ft, Worth, Kansas City, Houston, and Jacksonville use project analysis forms or checklists to screen TIP or RTP projects for CMP relevance. This ensures a level of accountability between the MPO and the member agencies it serves. Through evaluation of proposed TIP and RTP projects, agencies can understand how projects influence delay, reliability and multimodal access. Additionally, agencies can screen their projects for their contribution to CMP corridors and the effectiveness of implemented strategies.

[7] Congestion Management Toolbox Update

Below is a clip from NCTCOG's CMP Project Form[8]:



2022 Congestion Management Process Project Form

Submitter Name | Agency Name | Date

Email | Phone Number

City

Project Name

Facility Name

Project Limits (From)

Project Limits (To)

Does project add roadway capacity?

Click to Select

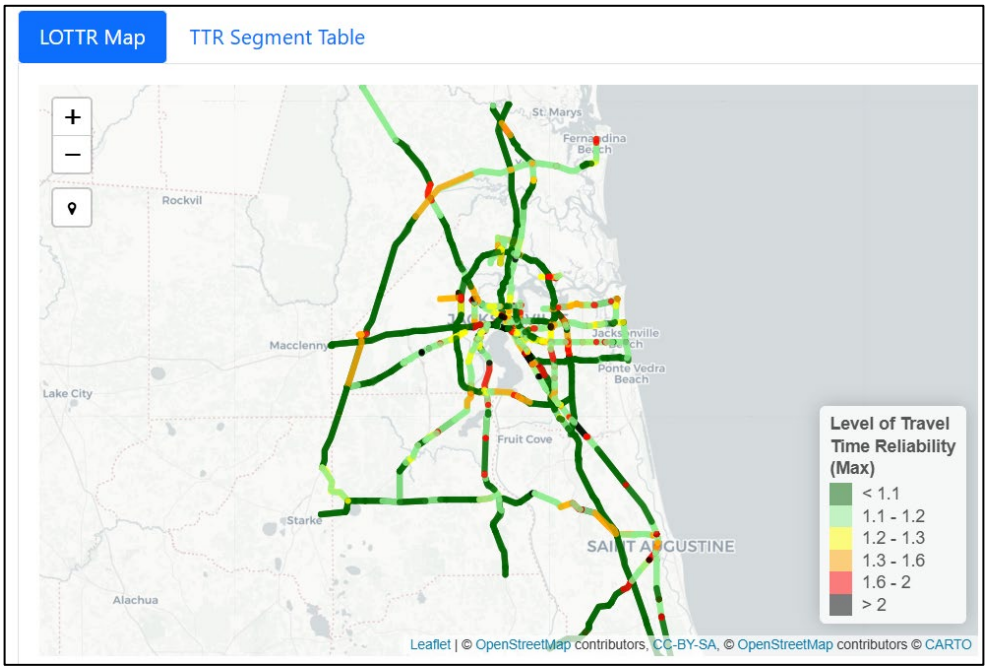
Project Description (Including TSM&O and TDM Strategies)

CMP
CONGESTION MANAGEMENT PROCESS

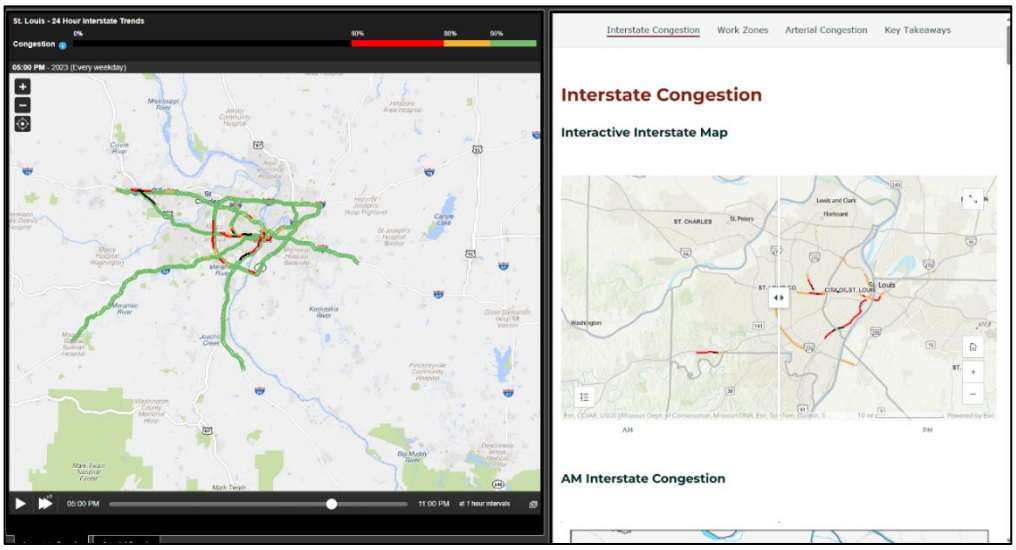
6. **Monitoring and Reporting Dashboards**: This practice is a great way to track system performance over the lifetime of the congestion management process. Evaluating strategy effectiveness is a key element to a CMP and providing a dashboard with real time data is just one way of accomplishing this. As a part of this CMP update, a dashboard will be created to monitor the ACOG CMP system performance.

[8] NCTCOG - CMP Project Forms

Below is a clip from the Jacksonville (North Florida TPO) 2024 Congestion Management Process Report[9]:



Below is a clip of St. Louis's (EWCOG) 2023 Congestion Dashboard[10]:



[9] North Florida TPO - Annual Mobility Report 2024
[10] 2023 Congestion Dashboard

7. **Strategy Effectiveness Evaluation Frameworks**: Evaluation of strategies is still emerging as a practice across CMPs; however, several MPOs use tactics such as: before and after studies, strategy-specific performance indicators, annual reports and ongoing feedback loops via mobility reports or stakeholder input. The previous ACOG CMP highlighted the use of the Regional Travel Demand Model, Tool for Operations Benefit Cost Analysis (TOPS-BC), Transportation Demand Management Evaluation Models, etc. This update will include many similar frameworks and tools to ensure ongoing evaluation of the CMP's progress.

Peer review and identification of best practices emphasizes the need for a locally tailored yet federally aligned approach. A key trend among peer regions is the shift toward data-driven corridor analysis, using real-time traffic data, GIS tools, and modeling to prioritize problem areas. These efforts are often supported by broader definitions of congestion that go beyond volume and capacity, incorporating metrics like travel time reliability, delay, and non-recurring factors such as weather and incidents. Many regions also use tiered strategy toolboxes, which group congestion mitigation strategies by severity or corridor type and often include cost-benefit information to support decision-making.

Additionally, best practices include the use of multimodal and Intelligent Transportation System (ITS)-focused performance measures, such as travel time index and on-time transit performance, which better capture system reliability. Several MPOs implement project-level CMP screening tools to ensure consistency between CMP goals and project selection in Transportation Improvement Programs (TIPs) and long-range plans. Real-time monitoring dashboards have also gained popularity, offering accessible ways to track system performance and strategy effectiveness. Finally, emerging evaluation frameworks—such as before-and-after studies and ongoing stakeholder input—highlight a growing emphasis on adaptive, performance-based planning. These practices serve as a strong foundation for ACOG's CMP update, helping ensure strategies are relevant, measurable, and impactful.

2.3 PEER COMMUNITIES CMP PERFORMANCE MEASURES AND IMPLEMENTATION

Performance measures across the selected group of peer communities varied in the details; however, the following themes remained consistent. **Table 2** provides a comprehensive list of performance measures and the number of agencies across the selected peers that include specific measures in their CMPs.

TABLE 2: PERFORMANCE MEASURE UTILIZATION

Performance Measure	# of CMPs Used In
Travel Time Index (TTI)	6
Level of Travel Time Reliability (LOTTR or PTI)	6
Crash Rate / Safety Measures	6
Vehicle Miles Traveled (VMT)	5
Volume-to-Capacity Ratio (V/C)	5
Transit Ridership	5
On-Time Transit Performance	5
Bicycle Facility Mileage	5
Pedestrian Facility Mileage	5
Daily/Annual Delay per Commuter	5
Park-and-Ride Lot Capacity or Coverage	4
Percent of Population with Transit Access	4
Pavement Condition	4
Average Travel Speed	4
Incident Duration/Clearance Time	4
Average Commute Time	4
Bridge Condition	3
Percent Miles Severely Congested	3
Truck Travel Time Reliability (TTTR)	3
Emissions/Air Quality Indicators	3
Project Screening Tools or Checklists	3
Passenger per Revenue Mile/Hour	3
System Reliability Index/Congestion Cost per Capita	2
Freight Movement/Goods Moved	2
Enplanements (Airport Access)	2
Vehicle Occupancy	2
Total Number of System Users	1
Air Cargo Volume	1
Tons of Freight Moved	1
Person Miles Traveled	1
Truck Miles Traveled	1
Percent Miles Meeting LOS Criteria	1
System-wide Travel Time Reliability	1
Delay by Corridor or Mode	1
Number of Vanpool Users	1
Mode Share (Bike/Ped/Transit/Auto)	1
Park-and-Ride Lot Utilization	1
Average Vehicle Age	1
Average Load on Transit Vehicles	1
Cost of Congestion Per Capita	1
Jobs Near State Highways	1
Percent of BRT Stops Near Bike Facilities	1
Number of Transit Marketing Programs	1
GDP Near State Highways	1

The performance measures compiled from peer CMPs offer valuable insights for ACOG as it updates its Congestion Management Process. Widely adopted metrics like Travel Time Index (TTI), Level of Travel Time Reliability (LOTTR or PTI), and crash rate/safety measures each used in six CMPs highlight the importance of focusing on travel time reliability and safety, which ACOG can incorporate as foundational elements. Additionally, common measures such as vehicle miles traveled (VMT), volume-to-capacity ratios, transit ridership, and multimodal infrastructure (bike and pedestrian facilities) suggest strong peer emphasis on system efficiency and multimodal connectivity, aligning well with ACOG's goals to promote sustainable transportation. Less frequently used but still meaningful metrics such as emissions and vanpool utilization present opportunities for ACOG to tailor its performance tracking based on local priorities and available data. Overall, this review reinforces the value of a balanced performance framework that combines commonly used national indicators with locally relevant measures to support a robust, data-driven CMP update.

As part of its Congestion Management Process (CMP) update, the project team reached out to each of the peer communities and heard back from NCTCOG (Dallas-Fort Worth), HGAC (Houston), MARC (Kansas City), El Paso MPO, AAMPO (San Antonio), CRTPO (Charlotte), and St. Louis. These agencies demonstrate a range of approaches in integrating performance measures with planning, monitoring performance, and evaluating community impacts. Notably, the emphasis is shifting toward data-driven frameworks that support project prioritization in long-range plans and TIPs, ongoing performance tracking with real-time and third-party data, and greater responsiveness to community preferences and mobility shifts. Below are standout agencies that are enacting best practices in their regions:

1. **Performance Measures and Integration with TIP and RTPs:**

    - **NCTCOG** uses CMP metrics like travel time reliability and congestion levels to score and prioritize TIP projects, ensuring alignment with mobility and accessibility goals.
    - **El Paso MPO** systematically embeds performance metrics in both TIP and MTP project evaluations to promote system reliability and congestion reduction.
    - **MARC (Kansas City)** uses the Congestion Management Network (CMN) to guide project selection and screening. Projects located on CMN routes are evaluated for congestion and reliability before inclusion in TIPs.

2. **Monitoring Performance Measures:**

    - **HGAC** uses a combination of GIS, ITS, and third-party probe data to monitor travel time index, delay, and bottlenecks across the network.
    - **MARC** applies HERE and INRIX data through RITIS tools to measure reliability, delay, and incident clearance times. They also assess historical commuting corridors to understand evolving patterns.
    - **NCTCOG** combines National Performance Management Research Data Set (NPMRDS), GIS, ITS, and crash data to comprehensively track travel time reliability, congestion, and transit performance.

3. **Community Response and Strategy Impact:**

    - **NCTCOG** reports a positive public response to CMP strategies, especially regarding improved traffic flow and enhanced transit options. The public also acknowledged environmental improvements and increased multimodal investments.
    - **El Paso MPO** received community feedback prioritizing congestion mitigation—71% of MTP survey respondents ranked it as a top concern. This feedback informed greater focus on transit access, non-motorized travel, and incident management in project programming.
    - **AAMPO (San Antonio)** anticipates future community engagement as their updated CMP goes out for public comment and expects strategy impacts to be more visible in upcoming project calls.

These examples illustrate how MPOs are increasingly grounding their CMPs in measurable outcomes, using data to inform investment, and adapting strategies to better reflect public demand and system needs.

3 CONSIDERATIONS & NEXT STEPS

3.1 CONSIDERATIONS

Based on the best practices derived from peer communities as well as the previous ACOG CMP, the following practices should be considered for this CMP update:

3.1.1 Data Driven Corridor Identification and Analysis: Dependent on the data available; this practice can ensure that the CMP network is analyzed consistently across all roadway corridors in the ACOG MPO TMA region.

3.1.2 Congestion Definition Beyond Volume and Capacity: This practice will go hand and hand with the method listed above. ACOG has used time travel, reliability and non-recurring congestion in its previous CMP, and these should be considered as the CMP is updated.

3.1.3 Multimodal and ITS Focused Performance Measures: The implementation of this method is dependent on the data available at the time of this update. Focusing on alternative measures that reduce bottlenecks and the amount of vehicles on specific corridors is beneficial to the transportation system in the ACOG MPO TMA region.

3.1.4 Project-Level CMP Screening or Evaluation Tools: Ensuring that projects that go through the TIP and LRTP processes are also identified in the CMP is key in achieving regional goals and objectives. Providing local agencies within the Metropolitan Planning Area (MPA) with tools to streamline review and screening of projects can facilitate straightforward compliance and alignment with the regional vision.

3.1.5 Monitoring and Reporting Dashboards: Monitoring and reporting dashboards are powerful tools that allow agencies to visualize and track key performance measures like travel time reliability, delay, and safety in real time. For ACOG, integrating a dashboard into the CMP update can enhance data-driven decision-making, improve transparency, and support ongoing evaluation of strategy effectiveness. This tool would also help align future TIP and RTP project selections with measurable outcomes.

3.1.6 Strategy Effectiveness Frameworks: Strategy effectiveness frameworks provide a structured way to evaluate how well CMP strategies perform by using before-and-after analyses, performance metrics, and ongoing monitoring. Incorporating such a framework into the CMP update can help identify which strategies deliver the greatest impact, support continuous improvement, and ensure accountability in meeting regional congestion goals.

3.2 NEXT STEPS

1. Review current goals, assess the need to update, develop new goals, objectives, and methodology of the CMP network.

2. Develop Performance Measures, Problems and Needs, and a list of prioritized corridors/bottlenecks.