

Appendix E

Summary of Regional Congestion Management Process



T h i s p a g e i s i n t e n t i o n a l l y b l a n k

Appendix E

Summary of Dallas-Fort Worth Regional Congestion Management Process

Congestion management is an integral element of the region's transportation planning and programming process. It serves as a guide for implementing both near-term and long-term regional transportation improvements. The Congestion Management Process (CMP) seeks a "management" solution to a growing traffic problem by targeting resources toward operational management and travel demand reduction strategies. Although capital investments are needed to meet the growing travel demand, the CMP also develops lower cost strategies that complement major capital recommendations. Integrating a management approach into the provision of transportation services and infrastructure is a challenge. The congestion management approach offers opportunities for stretching transportation resources and is a component of the Fixing America's Surface Transportation (FAST) Act. The result is a more efficient and effective transportation system offering increased mobility and safer travel. Federal requirements define the required elements of a CMP and specify that areas with populations over 200,000 must implement and maintain a CMP.

The Dallas-Fort Worth Metropolitan Area's CMP, formerly known as the Congestion Management System, was originally adopted by the Regional Transportation Council (RTC) in October 1993. The most recent update to the CMP was adopted by the RTC on July 11, 2013.

Three goals have been established for the *CMP–2013 Update* that align with the overall Mobility 2045: The Metropolitan Transportation Plan for

North Central Texas (Mobility 2045) goal themes.

The three CMP goals are:

Goal One: Identify quick-to-implement low cost strategies and solutions to better operate the transportation system.

Goal Two: More evenly distribute congestion across the entire transportation corridor.

Goal Three: Ensure corridors have options and available alternate routes/modes to relieve congestion daily and during incidents and accidents.

The need to operate the current transportation system as efficiently as possible is a top priority because of air quality and financial challenges faced by the DFW Metropolitan Area. The CMP comprises two types of congestion management approaches proven to be cost-effective tools in addressing these challenges. Transportation System Management and Operations (TSM&O) and Travel Demand Management (TDM) are very cost-effective, quick-implementation projects, policies, and programs that encourage the use of alternate travel modes and improve the efficiency of the transportation system. TSM&O seeks to identify and implement mitigation strategies to improve traffic flow, safety, reliability and capacity. These strategies include intersection improvements, traffic signal improvements, bottleneck removals, and deployment of Intelligent Transportation System (ITS) elements. TDM strategies address the demand side of travel behavior by reducing the number of vehicles that travel on roadways through the promotion of alternatives to driving alone. These strategies include employer trip reduction programs, rideshare

programs (vanpool and carpool), park-and-ride facility development, and the operation of transportation management associations. TSM&O and TDM strategies will comprise \$2.3 billion (approximately two percent) of the total anticipated capital cost of the future transportation system as outlined in the *Mobility 2045*.

Data collection and system performance monitoring provide a high level overview of congested facilities. The mix of data collection and performance measures evaluated through the CMP look at multiple elements that affect traffic congestion on our metropolitan system. The data outlined in the CMP was chosen to analyze multiple elements that affect traffic congestion on the metropolitan transportation system. These performance measures focus on recurring and non-recurring congestion.

The *CMP – 2013 Update* evaluated 25 regional roadways. Those 25 corridors were broken into 93 segments based on specific characteristics, including alternate routes, modal options, and available decision points. The evaluation looked at four categories of options that influence congestion levels: alternative roadway infrastructure, modal options, system demand (recurring), and system reliability (non-recurring). The factors that influence alternative roadway infrastructure include the presence of parallel freeways, frontage roads, parallel arterials, and direct connections or interchanges. The factors that influence modal options include the presence of transit options (bus and/or rail), park-and-ride facilities, High Occupancy Vehicle/Managed lanes, and bicycle/pedestrian options. The factors that influence system demand include traffic volume, truck volumes/percentage, number of employees along that roadway corridor by block, and residential population. Lastly, the factors that influence system reliability include facility crash rates, agencies that participate in

incident management training, truck lane restrictions, roadway shoulders, and the presence of ITS technology.

The information collected through the evaluation was used in the CMP Corridor Scoring Criteria; which allowed the corridor segments to be ranked based on the segment scores and areas of deficiency for each corridor segment. The corridor segments that received the lower scores are considered to have a more immediate need for improvements.

A variety of TSM&O and TDM strategies can be deployed to alleviate congestion on the transportation system. The type of strategy implemented depends on the type of congestion experienced. The CMP outlines the list of these strategies and provides examples of how they can be used to improve congestion conditions. More information on the CMP, including the CMP Corridor Analysis for each corridor segment, CMP Corridor Rankings and list of regional TSM&O and TDM strategies can be accessed at the following website -- <http://www.nctcog.org/trans/programs/cmp.asp>.

Additionally, CMP-related strategies that arise as a result of deficiencies in infrastructure condition or performance issues are also addressed within the 2019-2022 TIP. These strategies are embodied within corridors identified within *Mobility 2045* for Asset Optimization recommendations. Consistent with Federal Highway Administration (FHWA) initiatives on context-sensitive solutions and performance-based practical design, Asset Optimization involves a strategic design and performance-oriented approach to address corridor improvement planning by integrating the business principles of asset management. These projects are also comprised of lower-cost and quicker-to-implement solutions to improve congestion, but they also help address the viability and lifecycle functionality of corridor infrastructure assets.

Additional details regarding Asset Optimization and proposed project listings are detailed in Chapter 6 and Appendix E of *Mobility 2045*. To complement the Asset Optimization approach, Chapter 5 - Operational Efficiency in *Mobility 2045* identifies multiple strategies to promote the efficiency of the transportation system by managing and reducing congestion. These strategies include addressing Travel Demand Management, Transportation System Management and Operations and Sustainable Development. The CMP is fully integrated into the region's transportation planning and programming processes. With the identification and alleviation of current and future traffic congestion as the foundation of decision-making for planning and

programming functions, strategies for congestion mitigation are developed, monitored, and updated on the system level (via the Metropolitan Transportation Plan), on the corridor level (via project implementation process documentation incorporated within corridor studies and National Environmental Policy Act actions), and on the project level (via the TIP). To meet Federal requirements, a project tracking and monitoring system has been developed to ensure as comprehensively as possible that all approved regionally significant roadway capacity-added projects listings in the 2019-2022 TIP have integrated project-specific CMP and asset management information for utilization and analysis within the Metropolitan Transportation Plan.

T h i s p a g e i s i n t e n t i o n a l l y b l a n k