NORTHWEST ARKANSAS REGIONAL PLANNING COMMISSION CONGESTION MANAGEMENT PROCESS (CMP) JULY 24, 2013

CONGESTION MANAGEMENT PROCESS

Moving Ahead for Progress in the 21st Century Act (MAP-21) requires Metropolitan Planning Organizations serving as a Transportation Management Area (TMA) to develop and implement a Congestion Management Process (CMP). The Federal Highway Administration (FHWA) published the "Congestion Management Process: A Guidebook" which recommends the following eight steps to develop the CMP:

- 1. Develop Regional Objectives for Congestion Management
- 2. Define the CMP Network
- 3. Develop Performance Measures
- 4. Collect Data/Monitor System Performance
- 5. Analyze Congestion Problems and Needs
- 6. Identify and Assess CMP Strategies
- 7. Program and Implement CMP Strategies through the Metropolitan Transportation Plan and Transportation Improvement Program
- 8. Evaluate Strategy Effectiveness

Source: FHWA Congestion Management Process: A Guidebook, April 2011 NWARPC

The CMP Committee has been meeting for over six months and has drafted regional objectives for congestion management, defined the CMP network, and proposed congestion performance measures utilizing average travel time compared to posted speed and/or 85 percentile speed to measure congestion.

1. NWARPC REGIONAL OBJECTIVES

Objective One:	Develop procedures for evaluating the relative congestion of facilities;
Objective Two:	Develop procedures to determine if congestion mitigation strategies should be implemented for a particular facility;
Objective Three:	Develop a procedure or procedures for evaluating the effectiveness of congestion mitigation strategies implemented.

2. NWARPC CONGESTION MANAGEMENT PROCESS NETWORK

The CMP network is approximately 160 centerline miles made up of eleven facilities and will contain approximately 32 individual segments for data collection, analysis, and system performance and reliability. The proposed NWARPC CMP contains all of the identified roadways as shown on the October 2012 National Highway System Map plus several additional facilities as recommended by the CMP Committee.

The 32 segments have been defined based on three facility types – Freeways, Highways, and Urban Arterials. Each segment within each facility has been identified based on similar posted speed limit, number of lanes, functional class, and operating conditions (interrupted and uninterrupted).

Link to proposed CMP network:

http://nwarpc.org/pdf/Congestion%20Management/DRAFT%20CONGESTION%20MANAGEMENT%20NETWORK.pdf

3. PERFORMANCE MEASURES - NWARPC AVERAGE TRAVEL TIME DATA

NWARPC has programmed in the FY2014 UPWP to hire a consultant to acquire average travel time data (2012) from a third party data provider (e.g. Inrix, Navteq/Nokia) and develop the NWARPC CMP methodology and associated documentation for the use of this data including the CMP report. The Committee has reviewed and discussed performance measures for congestion and reliability. The following travel time performance measures are anticipated to be provided for the eleven identified corridors for the a.m. and p.m. peak travel times:

- Delay Rate Per Mile
- Travel Time Index Observed to Posted Speed Observed to 85th Percentile Speed
- Planning Time Index

The average travel speed will be used to compare the a.m. and p.m. peak period travel speeds to posted speed limit and/or 85 percentile speed. The delay in speed, based on the data, will then be used to identify congested freeway and arterial facilities. This type of data and analysis is currently being used in Kansas City and Austin and is being considered by Oklahoma City as part of their CMP process.

NWARPC has surveyed surrounding Transportation Management Areas (TMA's) to determine how they use average speed to measure congestion. The table below provides a comparison of how average travel speed is used as a measure of congestion:

Little Rock –	Delay Rate minutes per mile Arterials – 0.41 minutes per mile Freeways – 0.20 Minutes per mile
Springfield –	20 MPH below posted speed
Tulsa -	Arterials < 25MPH for Arterials Freeways < 50MPH for Expressways
Austin	Actual Average Speed to posted Speed –congestion Index 0.75 equals Congestion (65mph 48.75 Actual Average Speed = 0.75)
Kansas City	50% below posted speed = heavily congested

4. NWARPC LETTERS OF INTEREST (LOI)

Staff has drafted and presented the Letters of Interest and Scope of Work to the CMP Committee on June 11, 2013 and published the LOI in the Arkansas Democrat-Gazette on July 7, 2013 with a deadline of July 29, 2013 at 4 p.m. (CDT).

5. CMP COMMITTEE RECOMMENDATION

The CMP Committee recommended that staff bring forward to the full Technical Advisory Committee and Policy Committee the following items for consideration and approval:

- Regional Objectives for Congestion Management
- Definition of the CMP Network (NWARPC CMP Network Attached)
- Proposed Performance Measures –Average Travel Time a.m. and p.m. peak to posted speed –Delay Rate