

# CMAQ Tri-State Performance Measure Targets

Memphis Metropolitan Planning Organization (MPO)  
ETC & TPB Meetings: April 19, 2018



Memphis MPO  
METROPOLITAN PLANNING ORGANIZATION

*Strengthening Regional Transportation*

# Background

- Key Feature of **MAP-21 (2012) & FAST ACT (2015)** was establishment of a **performance and outcome based** program for transportation decisions.
- **7 Goal Areas**, 1<sup>st</sup> was Safety, which was approved in November 2017 & **2<sup>nd</sup> is Traffic Congestion (CMAQ)**.
- CMAQ Applies to Areas with the Following Criteria:

## Area Characteristics

- ✓ Designated urbanized area,
- ✓ Contains NHS mileage **AND**
- ✓ Population over 200,000\*

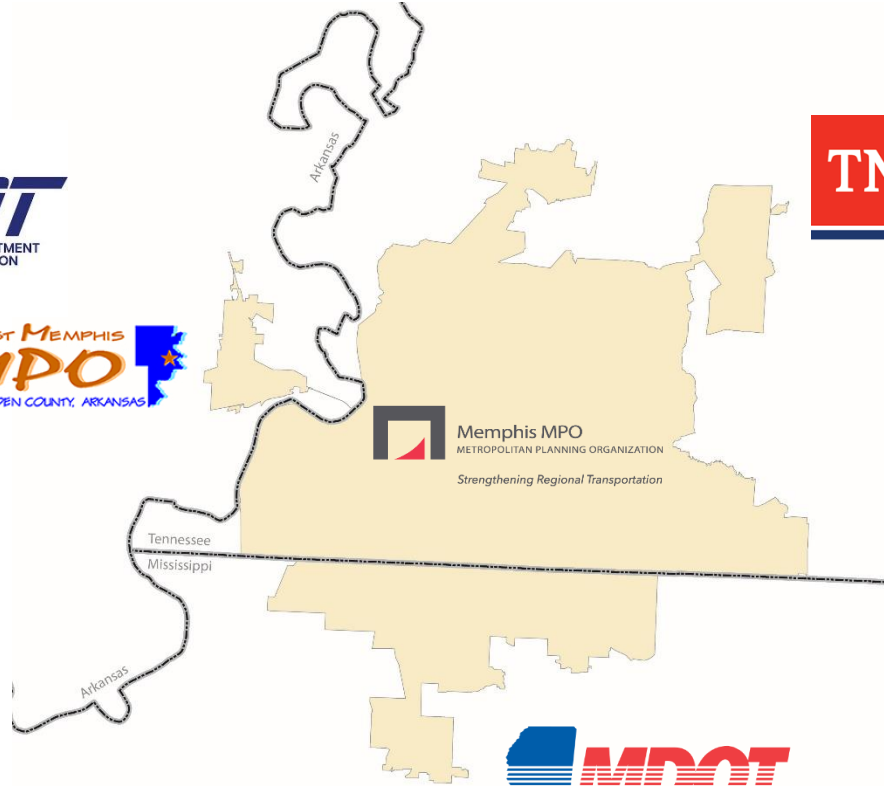


## Nonattainment or Maintenance Area

- ✓ Ozone (O<sub>3</sub>)
- ✓ Carbon monoxide (CO) **OR**
- X** Particulate matter (PM<sub>10</sub> or PM<sub>2.5</sub>)



# Tri-State Coordination



**+ Continued  
Coordination  
with ETC**



# Target Setting

- **TARGET 1:** Percentage of Non-Single Occupancy Vehicle (SOV) Travel
- **TARGET 2:** Annual Hours of Peak Hour Excessive Delay (PHED) Per Capita

# TARGET 1: Percentage of Non-SOV Travel

- **Data:** US Census Bureau, American Community Survey 5-Year Estimates.
  - Commuting to Work - % Drive Alone or Single Occupancy Vehicles (SOV)
- **Calculation:**
  - $\% \text{ Non-SOV Travel} = 100\% - \text{SOV}\% \text{ Travel}$
- **The target was based on trend analysis using the recent observed data.**

## % Non-SOV Travel Target

- 2-Year Tri-State Target: **16.5%**
- 4-Year Tri-State Target: **16.5%**
- Baseline: 16.6%

# TARGET 2: Annual Hours of Peak Hour Excessive Delay per Capita

- **Data:** National Performance Management Research Data Set(NPMRDS)
  - Vehicle/Passenger Probe Data
- **Calculation:**
  - TDOT & University of Tennessee developed a tool to assist with the calculation.

The diagram illustrates the calculation formula: 
$$\sum_{\text{All Links}} AVO \times \sum_{\text{All Days}} \sum_{\text{All Hours}} \sum_{\text{All Vehicles}} \left( \begin{matrix} \text{Excessive} \\ \text{Delay Per} \\ \text{Vehicle} \end{matrix} \times \begin{matrix} \text{All Peak} \\ \text{Hour} \\ \text{Traffic} \\ \text{Volume} \end{matrix} \right) \div \text{Urbanized Area Population}$$

The formula shows a large purple summation symbol ( $\Sigma$ ) over "All Links" multiplied by a smaller summation symbol ( $\Sigma$ ) over "All Days", another summation symbol ( $\Sigma$ ) over "All Hours", and a third summation symbol ( $\Sigma$ ) over "All Vehicles". The "All Vehicles" summation is multiplied by a blue box containing "Excessive Delay Per Vehicle" and "All Peak Hour Traffic Volume". The entire product is divided by "Urbanized Area Population", indicated by a green diagonal line.

- **The target was based on a trend analysis using the best available data.**

## Peak Hours of Excessive Delay Per Capita

- 4-Year Tri-State Target: **18.81**
- Baseline: 8.42

# State DOT/MPO Coordination

- **April 19, 2018** – Memphis MPO ETC and TPB approval of targets.
- **May 20, 2018** - State DOTs establish a single, unified target for the first performance period.
- **October 1, 2020** – Mid Point Performance Period Report, at this time 4-year targets may be adjusted.



# CMAQ Tri-State Performance Measures Targets - Overview

PERFORMANCE TARGETS			
PM3 - SUBPART G			
Congestion Mitigation & Air Quality Performance Measures	Memphis, TN-MS-AR Urbanized Area		
	Baseline (2017)	2-Year Target (2019)	4-Year Target (2021)
Percentage of Non-Single Occupancy Vehicle Travel	16.6%	16.5%	16.5%
Annual Hours of Peak-Hour Excessive Delay per Capita	8.42	NOT APPLICABLE	18.81

- **Consensus between TDOT, MDOT, ARDOT, and the West Memphis MPO**
- **Opportunity to Revisit Every 2-Years**