

# Congestion Management Process

## Executive Summary



### Introduction

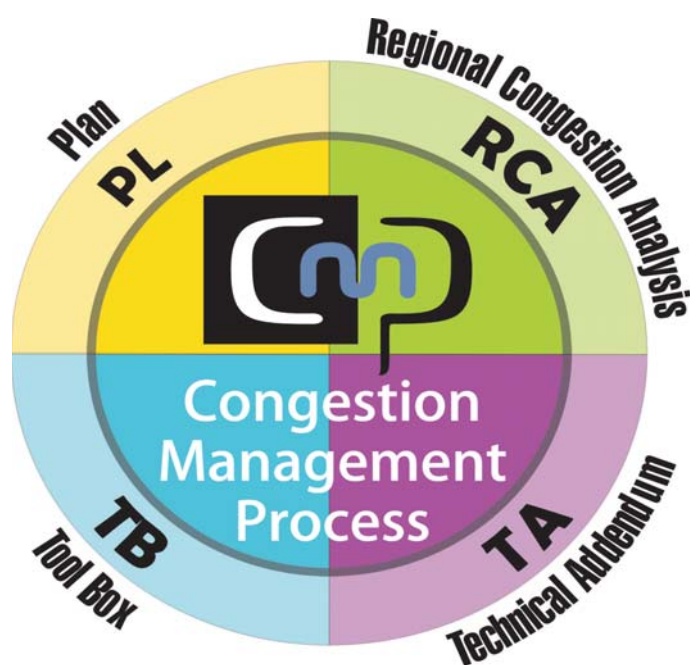
Everyday areas throughout the Wichita Area Metropolitan Planning Organization (WAMPO) region are prone to congestion due to accidents, weather, construction, capacity issues, and special events. Not only does congestion cause additional expenses related to gasoline and travel time; air quality can suffer greatly as well. Metropolitan areas are looking for innovative ways to reduce congestion and provide the most efficient transportation system.

The Congestion Management System (CMS) was approved by WAMPO in February, 2005. The CMS identified congested areas and listed potential solutions for reducing congestion throughout the WAMPO region. The most recent federal legislation, SAFETEA-LU, requires WAMPO to update their CMS to a **Congestion Management Process (CMP)**. The CMP essentially serves the same purpose as the CMS but is more integrated with the Long Range Transportation Plan (LRTP), the Transportation Improvement Program (TIP), and various other WAMPO plans and studies. The integration of the CMP with other documents leads to a more comprehensive metropolitan planning process.

WAMPO will be updating the CMP biennially to incorporate new data. The 2008 CMP will provide a baseline for future comparisons.

### Components

The CMP consists of four main components: Plan, Regional Congestion Analysis (RCA), Toolbox, and Technical Addendum. The Plan outlines WAMPO's approach for addressing congestion throughout the region. The RCA identifies when and where congestion occurs within the region. The Toolbox provides a listing of potential solutions for addressing congestion. Finally, the Technical Addendum provides background data used in the development of the CMP.





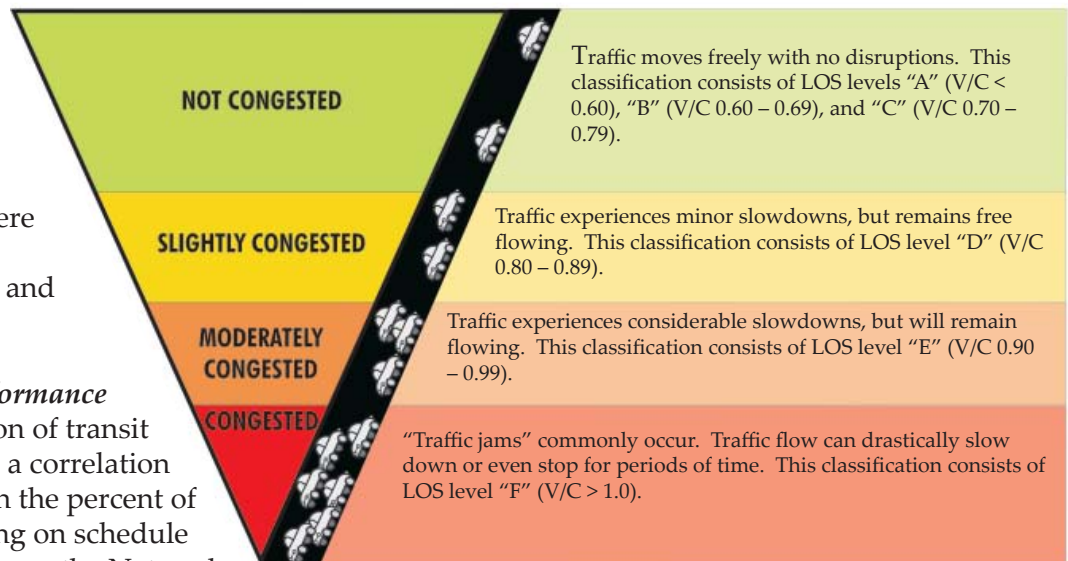
### Accidents

Accident data was obtained, analyzed, and mapped to identify areas most prone to accidents.

Two types of maps were used for this analysis: intersection accidents and accident density.

### Transit On-Time Performance

Through the evaluation of transit on-time performance, a correlation can be drawn between the percent of transit vehicles arriving on schedule and overall congestion on the Network.



## Congestion Findings

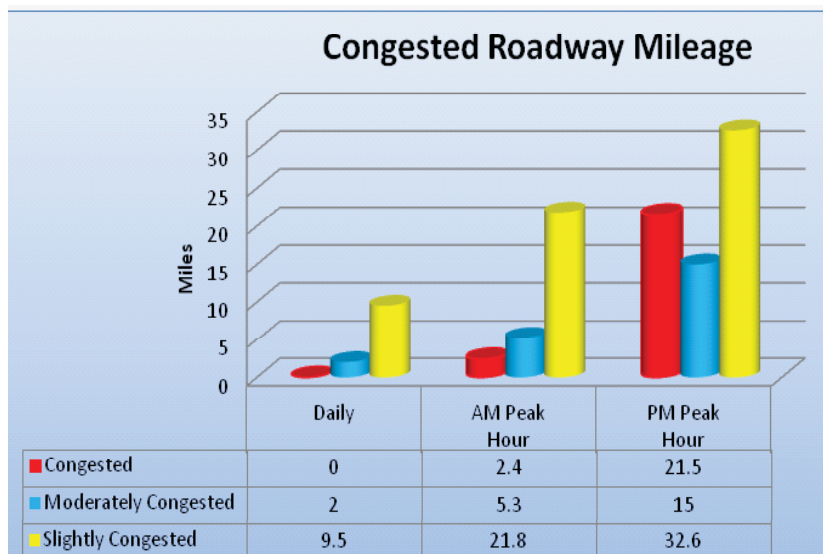
### V/C Ratio

The following congestion findings are based on V/C ratios and are expressed as a percentage of the total Network of 461.8 miles. From this analysis, the PM Peak Hour shows the highest percentage of congestion compared to the entire 24 hour period and the AM Peak Hour.

Daily congestion (24 hour period) analysis shows a total of 11.5 miles of congested roadway for the entire Network. Further breakdown shows 2.0 miles are moderately congested leaving 9.5 miles only slightly congested. Thus, 2.5% of the total Network is slightly to moderately congested. US-54/400 (US-54), regionally known as Kellogg, west of I-135 carries the bulk of congestion.

AM Peak Hour (7-8 AM) analysis shows an overall total of 29.5 miles of congested roadway for the entire Network. Of that total 2.4 miles are congested, 5.3 miles are moderately congested, and 21.8 miles are slightly congested. Thus, 6.4% of the total Network experiences some level of congestion during the AM Peak Hour. The areas most affected by congestion during the AM Peak Hour are west of I-135 on Kellogg and the Big Ditch crossings.

PM Peak Hour (5-6 PM) analysis shows 69.1 miles of congested roadway for the entire Network. Of that total, 21.5 miles are congested, 15.0 miles are moderately congested, and 32.6 miles are slightly congested. Thus, 15.0% of the total Network experiences some level of congestion during the PM Peak Hour. The areas most affected by congestion during the PM Peak Hour are the Big Ditch crossings.



### Accidents

Intersection accident analysis was done wherever two CMP roadways intersect. The total number of intersection accidents for the study year was 2,406. Of the total intersection accidents 151 occurred during the AM Peak Hour and 290 occurred during the PM Peak Hour. The top accident locations include:

- I-235 and US-54
- I-135 and US-54
- Rock Rd. and US-54

A series of accident density maps were developed to analyze concentrations of accidents. These maps show that the PM Peak Hour has a significantly higher amount of accident occurrences in concentrated areas than the AM Peak Hour. Some of these areas include:

- US-54 and Washington
- US-54 and 143rd Street East
- I-135 and K-254 interchange

### *Transit On-Time Performance*

The current level of transit on-time performance suggests that traffic congestion currently has little effect on transit movement within the WAMPO region.

## Mitigation Strategies

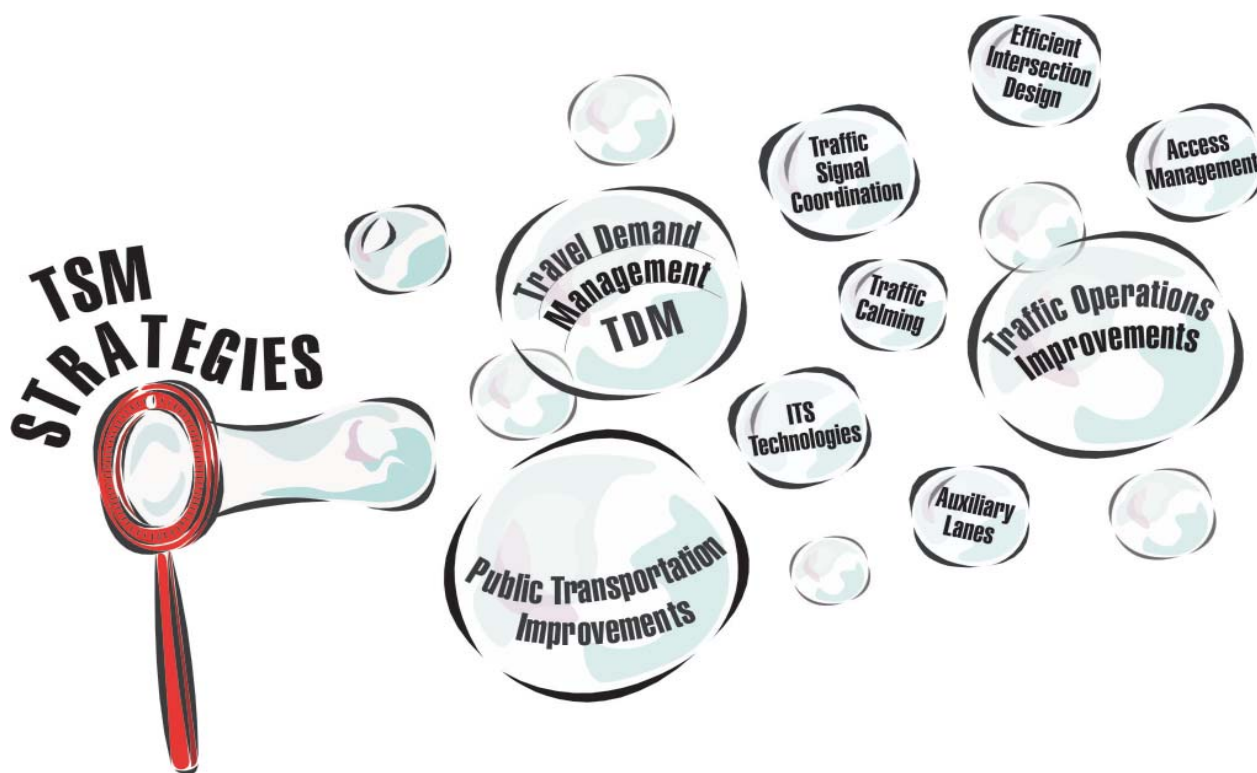
There are several ways that the region could reduce congestion and improve regional air quality. There are two categories of congestion reduction strategies laid out in the CMP Toolbox.

*Transportation System Management (TSM):* TSM refers to a broad range of non-capital intensive

operational improvements that reduce traffic congestion. TSM strategies provide many different approaches to relieve congestion. As represented by the graphic below, TSM strategies contain a number of different individual options. Because the causes of congestion for each location vary; individual options may work better for certain locations.

*Added Capacity:* Adding capacity to the region's transportation system (e.g. more lanes) is a traditional approach in reducing traffic congestion. Before the addition of general purpose lanes, TSM solutions should be considered due to their cost effectiveness.

The Congestion Mitigation and Air Quality (CMAQ) federal program funds projects that are intended to reduce congestion and mobile source emissions. Through the TIP, WAMPO is able to program CMAQ funds for projects designed to alleviate regional congestion problems. Currently, there are a number of projects, either programmed, under construction, or completed, that are intended to help mitigate the congestion in the region.



# WAMPO

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