

Congestion Management Process

2005

Southwestern Pennsylvania Commission
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1. Introduction

SAFETEA-LU (Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users), enacted August 10, 2005, reaffirms the Federal requirements initially established in ISTEA and continued in TEA-21 for a Congestion Management System (CMS). SAFETEA-LU basically retains the structure established by ISTEA, requiring that Congestion Management be part of the metropolitan transportation planning process for Transportation Management Areas. Under SAFETEA-LU this is now called a Congestion Management Process or CMP.

This 2005 report on SPC's Congestion Management Process was prepared during 2004 and 2005 in compliance with the provisions of TEA-21; however it is now adapted to meet the continuing requirements for congestion management under SAFETEA-LU.

A CMS or CMP is to be A..a systematic process that provides information on transportation system performance and alternative strategies to alleviate congestion and enhance the mobility of persons and goods. A CMS [or CMP] includes methods to monitor and evaluate performance, identify alternative actions, assess and implement cost-effective actions, and evaluate the effectiveness of implemented actions.@

Periodic updates will continue to keep the CMS/CMP an ongoing part of the planning and programming process for the ten-county region. To reflect changing needs or conditions in the region between major updates, Tables 4 and 5 of this document may be amended by the Transportation Technical Committee upon review and recommendation by the Transportation Operations and Safety Subcommittee.

2. Area of Application

In January 1999 the Southwestern Pennsylvania Commission (SPC) was formed, merging the Southwestern Pennsylvania Regional Planning Commission (SPRPC, the former Metropolitan Planning Organization for a six-county area) and the Southwestern Pennsylvania Regional Development Council (The Council, the former Local Development District for a nine-county area).

SPC is now the Metropolitan Planning Organization (MPO) and Transportation Management Area (TMA) for a ten-county region, including Allegheny, Armstrong, Beaver, Butler, Fayette, Greene, Indiana, Lawrence, Washington and Westmoreland Counties. The Southwestern Pennsylvania Commission is responsible for developing the CMS/CMP for the region in cooperation with the Pennsylvania Department of Transportation.

This 2005 report updates the Congestion Management System Analysis issued in 2001, for the eight counties which were members of SPC at that time. The update also incorporates Fayette and

Lawrence Counties, which joined SPC in 2002 and 2003 respectively.

3. Organizational Structure

Responsibility for preparation of the regional CMP lies with the staff of SPC. The Transportation Operations and Safety Subcommittee (TOSS) will meet periodically with staff to review the network, to discuss performance measures and data collection techniques, to evaluate types and severity of congestion on corridors in the monitoring network, to evaluate congestion management strategies for each corridor, and to describe the status of current implementation projects. This subcommittee includes PennDOT District Traffic Engineers from District 10-0, District 11-0, and District 12-0 and representatives from the Pittsburgh Bureau of Engineering and Construction, Allegheny County Department of Public Works, and the Port Authority of Allegheny County (transit operator), as well as other technical professionals. The Inter-agency Technical Task Force on Congestion Management, predecessor to the Transportation Operations and Safety Subcommittee, provided valuable advice during preparation of the initial CMS on up through the 2005 CMS.

4. Definition of Congestion

Congestion is the level at which transportation system performance is no longer acceptable due to traffic interference. The level of acceptable system performance will vary by type of transportation facility, location within the region and time of day. The level of acceptable system performance depends upon transportation and development goals for the region and reflects public perception of traffic interference.

5. Goals and Objectives

Goals:

- ! To develop strategies, including multimodal alternatives, to facilitate the mobility of people and goods within the region.
- ! To improve the accessibility of major existing destinations and of key redevelopment and growth areas.
- ! To manage congestion, reducing its incidence in corridors where reduced travel time is desirable.
- ! To reinforce the goals and objectives for the region, adopted by the Southwestern Pennsylvania Commission in its regional plan.

Objectives:

- To contribute to the process of **decision-making and policy-making** by providing information on the performance of the transportation system.
- To evaluate **transportation demand management strategies** providing alternatives to single-occupant vehicle travel, including the following, and to promote such strategies where appropriate:
 - improved transit service;

- public rideshare programs;
- park ñ=ride and other intermodal facilities;
- HOV facilities/HOT lanes;
- employer-based programs such as telecommuting, flexible or staggered work schedules, carpool/vanpool programs, promotion of transit usage, and parking management;
- pedestrian information and facility improvements;
- bicycle information and facility improvements;
- public parking management;
- congestion pricing;
- public relations and education for travel demand management.
- To evaluate **operational management strategies** including the following, and to promote such strategies where appropriate:
 - traffic signal improvements;
 - intersection geometric improvements;
 - elimination of bottlenecks;
 - one-way streets;
 - reversible lanes;
 - ramp metering;
 - incident management systems;
 - access management;
 - Intelligent Transportation Systems (ITS).
- To evaluate **capital intensive improvements**, including the following, and to promote such strategies where additional system capacity is demonstrated to be appropriate:
 - lane additions;
 - new SOV facilities;
 - transit capital improvements
- To evaluate **land use policies**, including the following, and to promote such strategies where appropriate:
 - growth management;
 - transit-oriented development policies;
 - public relations and education for transportation-supportive development.

6. System Definition

The purpose of defining a CMP monitoring network is to identify those corridors and facilities where existing congestion occurs or where future congestion is anticipated. The network is to be sensitive to all modes of transportation.

A set of thirteen maps delineates the CMP monitoring network. (See Figures 1 through 13.) The first figure is a map showing the entire, ten-county region. The following twelve figures show the ten counties individually, the City of Pittsburgh, and the Pittsburgh Central Business District. CMP

corridors are numbered and keyed to an accompanying list. (See Table 1.)

The challenge in delineating a CMP monitoring network is to include those roadways which currently experience or are expected to experience significant congestion, but to avoid extending the network to a degree where continual monitoring becomes burdensome and impractical and where CMP strategies are not needed to alleviate congestion problems. Uncongested roadways should be included only in anticipated growth areas where congestion is predicted.

The CMP monitoring network has been defined in cooperation with the Inter-agency Technical Task Force for Congestion Management. It covers approximately 544 miles. The CMP monitoring network is reviewed and updated periodically to keep it current with changing conditions in the region. Since the 2001 CMS update, slight adjustments in corridor limits have been made in response to conditions observed in the field, and the network has been expanded to include corridors in Fayette and Lawrence Counties.