

# **National Capital Region Transportation Planning Board**

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Item 5

## **MEMORANDUM**

TO: Travel Management Subcommittee

FROM: Andrew J. Meese, AICP  
Systems Management Planning Director

DATE: September 21, 2007

SUBJECT: Congestion Management Process Update and Outline

The attached package of information provides background to the discussion of the Congestion Management Process (CMP) at the September 25, 2007 Travel Management Subcommittee meeting. This is the package that went to the TPB Technical Committee for their May 4, 2007 meeting. The draft CMP Report outline was approved by the Technical Committee on that date, and staff has proceeded following that approval, working to compile and develop content for the report and for the CMP components of the next regional Constrained Long-Range Plan (CLRP).

Attached are:

- May 4 memorandum to the TPB Technical Committee
- Outline for the CMP Report
- Excerpt of relevant federal regulations from the February 14, 2007 federal Final Rule for Statewide and Metropolitan Transportation Planning.

The new federal regulations emphasize the importance of congestion management in the overall transportation planning process.

The Technical Committee is the designated oversight committee for the CMP, with the input of other subcommittees as necessary. For example, the Management, Operations, and Intelligent Transportation Systems (MOITS) Technical Subcommittee will look at CMP aspects of incident management and non-recurring congestion. The Travel Management Subcommittee is a stakeholder because of its background of strategy analysis and demand management alternatives. The potential roles of demand management and of the Travel Management Subcommittee in the CMP will be topics of discussion at the September 25 meeting.

The draft CMP Report and CLRP inputs will be available for review by the Technical Committee and others at a later date.

Attachments

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Item 8

## **MEMORANDUM**

TO: TPB Technical Committee

FROM: Andrew J. Meese, AICP  
Principal Transportation Planner

DATE: May 4, 2007

SUBJECT: Congestion Management Process Update and Outline

This memorandum provides an update on Congestion Management Process (CMP) development, following the course of action laid out by staff at the February 2, 2007 Technical Committee meeting. On February 2, the law and draft regulations setting out the requirements for a CMP were reviewed. Final new federal planning regulations were published February 14, 2007, and were discussed at the April 6 Technical Committee meeting. Today's discussion presents a proposed draft outline for a CMP report (also later to provide information for a Constrained Long-Range Plan [CLRP] CMP chapter).

SAFETEA-LU requires that metropolitan transportation planning processes include a CMP, an updated version of the previous requirements for a Congestion Management System (CMS). The CLRP to be developed by this fall must be SAFETEA-LU-compliant, including integration of a CMP. Additionally, the March 2006 federal certification of the TPB metropolitan planning process recommended that the region's CMS be enhanced. Excerpts from the February 14 final rule addressing the CMP are attached for reference, showing the emphasis that has been placed on CMP requirements in the new law and regulations.

The FY2008 Unified Planning Work Program (UPWP), beginning July 1, 2007, will have a separately funded task for the CMP. This will enable COG/TPB to hire a new staff person dedicated to the CMP, and will facilitate a concentrated CMP development effort at that time.

Attached is the proposed draft outline for a CMP report as a guide to the work to be done over the coming months. The outline is based upon review of the SAFETEA-LU legislation and regulations, as well as the outlines of the TPB's Congestion Management System Annual Reports produced in the mid-1990s.

The proposed CMP report outline is divided into two major sections. Chapters 1 through 6, comprising the first major section, will provide an overview of the CMP, focusing on where congestion occurs or will occur in the region. This section will also look at strategies for congestion management, both previously implemented strategies as well as proposed strategies. These chapters will also substantially comprise the CMP chapter included in the next CLRP.

Chapter 7 comprises the second major section of the CMP report, focusing on data and methodologies. The data tables, maps, and graphics in Chapter 7 will communicate the many

**TPB Technical Committee**

May 4, 2007

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necessary details of CMP analysis. This will be the technical core of the CMP report, but likely would not be included in such detail in the CLRP.

Please provide any comments by May 15 to me at [ameese@mwkog.org](mailto:ameese@mwkog.org). Thank you.

Attachments

# CONGESTION MANAGEMENT PROCESS REPORT

OUTLINE **DRAFT** of May 4, 2007

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# Federal Register

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Wednesday,  
February 14, 2007

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## Part III

### Department of Transportation

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**Federal Highway Administration**  
23 CFR Parts 450 and 500

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**Federal Transit Administration**  
49 CFR Part 613

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**Statewide Transportation Planning;  
Metropolitan Transportation Planning;  
Final Rule**



*Section 450.320 Congestion Management Process in Transportation Management Areas*

The docket included more than 25 documents that contained almost 30 comments on this section with about one-third from State DOTs, one-fifth from national and regional advocacy organizations, half from MPOs and COGs, and the rest from transit operators.

On May 16, 2006, the U.S. Secretary of Transportation announced a national initiative to address congestion related to highway, freight and aviation.<sup>13</sup> The intent of the "National Strategy to Reduce Congestion on America's Transportation Network" is to provide a blueprint for Federal, State and local officials to tackle congestion. USDOT encourages the States and MPO(s) to seek Urban Partnership Agreements with a handful of communities willing to demonstrate new congestion relief strategies and encourages states to pass legislation giving the private sector a broader opportunity to invest in transportation. It calls for more widespread deployment of new operational technologies and practices that end traffic tie-ups, designates new interstate "corridors of the future,"

<sup>13</sup> Speaking before the National Retail Federation's annual conference on May 16, 2006, in Washington, DC, former U.S. Transportation Secretary Norman Mineta unveiled a new plan to reduce congestion plaguing America's roads, rails and airports. The National Strategy to Reduce Congestion on America's Transportation Network includes a number of initiatives designed to reduce transportation congestion. The transcript of these remarks is available at the following URL: <http://www.dot.gov/affairs/minetasp051606.htm>.

targets port and border congestion, and expands aviation capacity.

U.S. DOT encourages State DOTs and MPOs to consider and implement strategies, specifically related to highway and transit operations and expansion, freight, transportation pricing, other vehicle-based charges techniques, congestion pricing, electronic toll collection, quick crash removal, etc. The mechanism that the State DOTs and MPOs employ to explore these strategies is within their discretion. The USDOT will focus its resources, funding, staff and technology to cut traffic jams and relieve freight bottlenecks.

A few commenters reiterated that the congestion management process (CMP) should result in multimodal system performance measures and strategies. The FHWA and the FTA note that existing language reflects the multimodal nature of the CMP. Existing language (§ 450.320(a)(2)) specifically allows for the appropriate performance measures for the CMP to be determined cooperatively by the State(s), affected MPO(s), and local officials in consultation with the operators of major modes of transportation in the coverage area.

Most of the comments pointed out that the provisions of § 450.320(e) pertaining to projects that add significant new carrying capacity for Single Occupant Vehicles (SOVs) applies in "Carbon Monoxide (CO) and Ozone Nonattainment TMAs," but does not apply to TMAs in air quality maintenance areas. The FHWA and the FTA agree and have clarified the language in paragraph (e). We also clarified that this provision applies to projects "to be advanced with Federal funds."

Several commenters asked for a clarification regarding what CMP requirements apply in air quality maintenance and attainment areas, as opposed to the requirements in air quality nonattainment areas. The CMP requirements for all TMA areas (attainment, maintenance and nonattainment) are identified in § 450.320(a), § 450.320(b), § 450.320(c), and § 450.320(f). Additional CMP requirements that apply only to nonattainment TMA areas (for ozone and carbon monoxide) are identified in § 450.320(d) and § 450.320(e).

Another commenter asked for clarification regarding the exact requirements for a CMP and how the CMP is integrated with the metropolitan transportation plan. As noted above, the specific CMP requirements for all TMAs, regardless of air quality status, are identified in this section. The CMP

in this section is not described as, nor intended to be, a stand-alone process, but an integral element of the transportation planning process. To reinforce the integration of the CMP and the metropolitan transportation plan, § 450.322(f)(4) requires that the metropolitan transportation plan shall include "consideration of the results of the congestion management process in TMAs that meet the requirements of this subpart, including the identification of SOV projects that result from a congestion management process in TMAs that are nonattainment for carbon monoxide or ozone."

One commenter asked for examples of the reasonable travel demand reduction and operational management strategies as required in § 450.320(e). Examples of such strategies include, but are not limited to: Transportation demand management measures such as car and vanpooling, flexible work hours compressed work weeks and telecommuting; Roadway system operational improvements, such as improved traffic signal coordination, pavement markings and intersection improvements, and incident management programs; Public transit system capital and operational improvements; Access management program; New or improved sidewalks and designated bicycle lanes; and Land use policies/regulations to encourage more efficient patterns of commercial or residential development in defined growth areas.

**23 CFR Part 500***Section 500.109 Congestion Management Systems*

Few docket documents specifically referenced this section. However, the docket included more than 25 documents that contained almost 30 comments on § 450.320 (Congestion management process in transportation management areas) which is relevant to this section.

As was mentioned, on May 16, 2006, the U.S. Secretary of Transportation announced a national initiative to address congestion related to highway, freight and aviation. The intent of the "National Strategy to Reduce Congestion on America's Transportation

Network" is to provide a blueprint for Federal, State and local officials to tackle congestion. The States and MPO(s) are encouraged to seek Urban Partnership Agreements with a handful of communities willing to demonstrate new congestion relief strategies and encourages States to pass legislation giving the private sector a broader opportunity to invest in transportation. It calls for more widespread deployment of new operational technologies and practices that end traffic tie ups, designates new interstate "corridors of the future," targets port and border congestion, and expands aviation capacity.

U.S. DOT encourages the State DOTs and MPOs to consider and implement strategies, specifically related to highway and transit operations and expansion, freight, transportation pricing, other vehicle-based charges techniques, etc. The mechanism that the State DOTs and MPOs employ to explore these strategies is within their discretion. The U.S. DOT will focus its resources, funding, staff and technology to cut traffic jams and relieve freight bottlenecks.

A few comments were received reiterating that the CMP should result in multimodal system performance measures and strategies. The FHWA and the FTA note that existing language reflects the multimodal nature of the CMP. Specifically, § 450.320(a)(2) allows for the appropriate performance measures for the CMP to be determined cooperatively by the State(s), affected MPO(s), and local officials in consultation with the operators of major modes of transportation in the coverage area.

Several commenters asked for a clarification with regards to what CMP requirements apply in air quality attainment areas, as opposed to the requirements in air quality nonattainment areas. The CMP requirements for all TMA areas (attainment and nonattainment) are identified in §§ 450.320(a), 450.320(b), 450.320(c), and 450.320(f). Additional CMP requirements that apply only to nonattainment TMA areas (for CO and ozone) are identified in § 450.320(d) and § 450.320(e).

*Congestion management process* means a systematic approach required in transportation management areas (TMAs) that provides for effective management and operation, based on a cooperatively developed and implemented metropolitan-wide strategy, of new and existing transportation facilities eligible for funding under title 23 U.S.C., and title 49 U.S.C., through the use of operational management strategies.

*Consideration* means that one or more

acceptable by State and local transportation officials may vary by type of transportation facility, geographic location (metropolitan area or subarea), and/or time of day. In addition, consideration should be given to strategies that manage demand, reduce single occupant vehicle (SOV) travel, and improve transportation system management and operations. Where the addition of general purpose lanes is determined to be an appropriate congestion management strategy, explicit consideration is to be given to the incorporation of appropriate features into the SOV project to facilitate future demand management strategies and operational improvements that will maintain the functional integrity and safety of those lanes.

(c) The congestion management process shall be developed, established, and implemented as part of the metropolitan transportation planning process that includes coordination with transportation system management and operations activities. The congestion management process shall include:

(1) Methods to monitor and evaluate the performance of the multimodal transportation system, identify the causes of recurring and non-recurring congestion, identify and evaluate alternative strategies, provide information supporting the implementation of actions, and evaluate the effectiveness of implemented actions;

(2) Definition of congestion management objectives and appropriate performance measures to assess the extent of congestion and support the evaluation of the effectiveness of congestion reduction and mobility enhancement strategies for the movement of people and goods. Since levels of acceptable system performance may vary among local communities, performance measures should be tailored to the specific needs of the area and established cooperatively by the State(s), affected MPO(s), and local officials in consultation with the operators of major modes of transportation in the coverage area;

(3) Establishment of a coordinated program for data collection and system performance monitoring to define the extent and duration of congestion, to contribute in determining the causes of congestion, and evaluate the efficiency and effectiveness of implemented actions. To the extent possible, this data collection program should be coordinated with existing data sources (including archived operational/ITS data) and coordinated with operations managers in the metropolitan area;

**CONGESTION MANAGEMENT**

**§ 450.320 Congestion management process in transportation management areas.**

(a) The transportation planning process in a TMA shall address congestion management through a process that provides for safe and effective integrated management and operation of the multimodal transportation system, based on a cooperatively developed and implemented metropolitan-wide strategy, of new and existing transportation facilities eligible for funding under title 23 U.S.C. and title 49 U.S.C. Chapter 53 through the use of travel demand reduction and operational management strategies.

(b) The development of a congestion management process should result in multimodal system performance measures and strategies that can be reflected in the metropolitan transportation plan and the TIP. The level of system performance deemed

(4) Identification and evaluation of the anticipated performance and expected benefits of appropriate congestion management strategies that will contribute to the more effective use and improved safety of existing and future transportation systems based on the established performance measures. The following categories of strategies, or combinations of strategies, are some examples of what should be appropriately considered for each area:

- (i) Demand management measures, including growth management and congestion pricing;
- (ii) Traffic operational improvements;
- (iii) Public transportation improvements;
- (iv) ITS technologies as related to the regional ITS architecture; and
- (v) Where necessary, additional system capacity;

(5) Identification of an implementation schedule, implementation responsibilities, and possible funding sources for each strategy (or combination of strategies) proposed for implementation; and

(6) Implementation of a process for periodic assessment of the effectiveness of implemented strategies, in terms of the area's established performance measures. The results of this evaluation shall be provided to decisionmakers and the public to provide guidance on selection of effective strategies for future implementation.

(d) In a TMA designated as nonattainment area for ozone or carbon monoxide pursuant to the Clean Air Act, Federal funds may not be programmed for any project that will result in a significant increase in the carrying capacity for SOVs (i.e., a new general purpose highway on a new location or adding general purpose lanes, with the exception of safety improvements or the elimination of bottlenecks), unless the project is addressed through a congestion management process meeting the requirements of this section.

(e) In TMAs designated as nonattainment for ozone or carbon monoxide, the congestion management process shall provide an appropriate analysis of reasonable (including multimodal) travel demand reduction and operational management strategies for the corridor in which a project that will result in a significant increase in capacity for SOVs (as described in paragraph (d) of this section) is proposed to be advanced with Federal funds. If the analysis demonstrates that travel demand reduction and operational management strategies cannot fully satisfy the need for additional capacity in the corridor and

additional SOV capacity is warranted, then the congestion management process shall identify all reasonable strategies to manage the SOV facility safely and effectively (or to facilitate its management in the future). Other travel demand reduction and operational management strategies appropriate for the corridor, but not appropriate for incorporation into the SOV facility itself, shall also be identified through the congestion management process. All identified reasonable travel demand reduction and operational management strategies shall be incorporated into the SOV project or committed to by the State and MPO for implementation.

(f) State laws, rules, or regulations pertaining to congestion management systems or programs may constitute the congestion management process, if the FHWA and the FTA find that the State laws, rules, or regulations are consistent with, and fulfill the intent of, the purposes of 23 U.S.C. 134 and 49 U.S.C. 5303.

**§ 450.322 Development and content of the metropolitan transportation plan.**

(a) The metropolitan transportation planning process shall include the development of a transportation plan addressing no less than a 20-year planning horizon as of the effective date. In nonattainment and maintenance areas, the effective date of the transportation plan shall be the date of a conformity determination issued by the FHWA and the FTA. In attainment areas, the effective date of the transportation plan shall be its date of adoption by the MPO.

(b) The transportation plan shall include both long-range and short-range strategies/actions that lead to the development of an integrated multimodal transportation system to facilitate the safe and efficient movement of people and goods in addressing current and future transportation demand.

(c) The MPO shall review and update the transportation plan at least every four years in air quality nonattainment and maintenance areas and at least every five years in attainment areas to confirm the transportation plan's validity and consistency with current and forecasted transportation and land use conditions and trends and to extend the forecast period to at least a 20-year planning horizon. In addition, the MPO may revise the transportation plan at any time using the procedures in this section without a requirement to extend the horizon year. The transportation plan (and any revisions) shall be approved by the MPO and submitted for information purposes to the Governor.

Copies of any updated or revised transportation plans must be provided to the FHWA and the FTA.

(d) In metropolitan areas that are in nonattainment for ozone or carbon monoxide, the MPO shall coordinate the development of the metropolitan transportation plan with the process for developing transportation control measures (TCMs) in a State Implementation Plan (SIP).

(e) The MPO, the State(s), and the public transportation operator(s) shall validate data utilized in preparing other existing modal plans for providing input to the transportation plan. In updating the transportation plan, the MPO shall base the update on the latest available estimates and assumptions for population, land use, travel, employment, congestion, and economic activity. The MPO shall approve transportation plan contents and supporting analyses produced by a transportation plan update.

(f) The metropolitan transportation plan shall, at a minimum, include:

(1) The projected transportation demand of persons and goods in the metropolitan planning area over the period of the transportation plan;

(2) Existing and proposed transportation facilities (including major roadways, transit, multimodal and intermodal facilities, pedestrian walkways and bicycle facilities, and intermodal connectors) that should function as an integrated metropolitan transportation system, giving emphasis to those facilities that serve important national and regional transportation functions over the period of the transportation plan. In addition, the locally preferred alternative selected from an Alternatives Analysis under the FTA's Capital Investment Grant program (49 U.S.C. 5309 and 49 CFR part 611) needs to be adopted as part of the metropolitan transportation plan as a condition for funding under 49 U.S.C. 5309;

(3) Operational and management strategies to improve the performance of existing transportation facilities to relieve vehicular congestion and maximize the safety and mobility of people and goods;

(4) Consideration of the results of the congestion management process in TMAs that meet the requirements of this subpart, including the identification of SOV projects that result from a congestion management process in TMAs that are nonattainment for ozone or carbon monoxide;

(5) Assessment of capital investment and other strategies to preserve the existing and projected future metropolitan transportation

movement of people and goods in a region. A congestion management system or process is a systematic and regionally accepted approach for managing congestion that provides accurate, up-to-date information on transportation system operations and performance and assesses alternative strategies for congestion management that meet State and local needs.

(b) The development of a congestion management system or process should result in performance measures and strategies that can be integrated into transportation plans and programs. The level of system performance deemed acceptable by State and local officials may vary by type of transportation facility, geographic location (metropolitan area or subarea and/or non-metropolitan area), and/or time of day. In both metropolitan and non-metropolitan areas, consideration needs to be given to strategies that manage demand, reduce single occupant vehicle (SOV) travel, and improve transportation system management and operations. Where the addition of general purpose lanes is determined to be an appropriate congestion management strategy, explicit consideration is to be given to the incorporation of appropriate features into the SOV project to facilitate future demand management strategies and operational improvements that will maintain the functional integrity of those lanes.

#### **PART 500—MANAGEMENT AND MONITORING SYSTEMS**

- 2. Revise the authority citation for part 500 to read as follows:

**Authority:** 23 U.S.C. 134, 135, 303, and 315; 49 U.S.C. 5303–5305; 23 CFR 1.32; and 49 CFR 1.48 and 1.51.

- 3. Revise § 500.109 to read as follows:

##### **§ 500.109 CMS.**

(a) For purposes of this part, congestion means the level at which transportation system performance is unacceptable due to excessive travel times and delays. Congestion management means the application of strategies to improve system performance and reliability by reducing the adverse impacts of congestion on the