

South Western Region Congestion Management System Progress Report January 2004 - June 2005

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I. Background

The metropolitan planning region covered by the South Western Region Metropolitan Planning Organization (SWRMPO) was designated as a Transportation Management Area (TMA) as a result of population growth measured by the 2000 Census. Consequently, the SWRMPO is required to develop and implement a congestion management system (CMS) as part of its Long Range Transportation Plan.

The SWRMPO, through the South Western Regional Planning Agency (SWRPA), anticipated the future need to comply with federal CMS requirements. In 1999, SWRPA sought funding for a corridor-level congestion mitigation study through the Connecticut Department of Transportation (ConnDOT). In early 2001, ConnDOT entered into an agreement with SWRPA that provided federal CMAQ and state funds to conduct such a study. The study, called the Congestion Mitigation Systems “Vision 2020” Plan, commenced in May 2001 and was completed in February 2003. Study products include technical memoranda summarizing existing conditions and predicted future travel demand, preliminary analysis of possible “visions” for mitigating traffic congestion over time, and detailed market research reports that identify the types of options supported by commuters and shippers. A final report outlining a twenty-year plan for implementation of transportation improvements and the likely benefits of implementing such a plan also was prepared.

The *Vision 2020* planning process provided the foundation for the South Western Region Congestion Management System Technical Memorandum, which was released in January 2004. The purpose of this Technical Memorandum was to outline the steps taken by the SWRMPO to prepare for its designation as a Transportation Management Area (TMA) and to establish a plan of future actions to satisfy the associated Congestion Management System (CMS) requirements.

This report is an update to that Technical Memorandum.

II. Scope, Applicability and Purpose

Purpose: This report was developed to summarize actions taken to implement a regional CMS during FY 2004 and FY 2005. This report also will identify future actions to be taken by SWRPA to further develop its CMS.

Area of Application: This report focuses on the eight (8) municipalities in the South Western Region. The Region’s connections with the transportation networks and economies of adjacent regions also are considered to the extent they impact travel demand and trip patterns within and through the Region.

Regulatory Requirements: The following table of authorities outlines the applicability of federal CMS requirements:

Authority	Summary
23 CFR § 450.316	The metropolitan planning process requires Transportation Management Areas (TMAs) to develop a CMS that meets the requirements of 23 CFR § 450.320.
23 CFR § 450.320	A CMS should provide for “effective management of new and existing transportation facilities through the use of travel demand reduction and operational management strategies...”

	TMA's in a designated CO/O ₃ non-attainment area may not use Federal funds for "any project that will result in a significant increase in carrying capacity for single occupant vehicles unless the project results from a CMS meeting the requirements of 23 CFR §500.
23 CFR §500 et seq.	Federal requirements governing the development, implementation and management of transportation facilities and systems are contained in this section. Requirements specific to the development and implementation of a CMS are stated in 23 CFR §500.109.
23 CFR §500.109	<p>Congestion is defined as "the level at which transportation system performance is no longer acceptable due to traffic interference."</p> <p>"An effective CMS is a systematic process for managing congestion that provides information on transportation system performance and on alternative strategies for alleviating congestion and enhancing the mobility of persons and goods to levels that meet State and local needs...consideration needs to be given to strategies that reduce SOV travel and improve existing transportation system efficiency."</p> <p>Required elements are as follows:</p> <ol style="list-style-type: none"> 1. Identify methods to monitor and evaluate the performance of the multi-modal transportation system. 2. Define parameters for measuring the extent of congestion and for evaluating the effectiveness of congestion reduction strategies. 3. Establish a program for data collection and system performance monitoring 4. Identify and evaluate anticipated performance and expected benefits of appropriate congestion reduction strategies. 5. Develop an implementation schedule -- including possible sources of funding -- for recommended congestion reduction strategies. 6. Implement a process for periodic assessment and the efficiency and effectiveness of implemented strategies.

It should be noted that these requirements may change upon passage of the transportation reauthorization legislation pending in Congress. SWRPA is tracking the status of this legislation and will modify its CMS and reporting procedures as needed to meet any new or modified requirements.

III. Report: Status and Achievements

Using the *South Western Region Congestion Management System Technical Memorandum* (hereinafter "*Technical Memorandum*") as a guide, SWRPA commenced implementation of its CMS in early 2004 as required by federal transportation planning program regulations. This section provides an update of activities planned by SWPA during the first 18 months of the CMS implementation period.

For ease of review, these activities are organized by category: planning and coordination; data collection and analysis; development of performance measures; evaluation of systems performance; and reporting.

Planning and Coordination: The chart below outlines the planning activities in which SWRPA has been involved – either as a lead agency or as a participant – during the first phase of CMS implementation. Activities include efforts to improve passenger and freight transport services, to enhance coordination between SWRPA and its partners in adjacent planning regions, and to better link land use and transportation planning efforts within the South Western Region.

Activity	Level of SWRPA Involvement	Time Frame	Outcome
Formation of a CMS committee.	Lead agency	Current activity	SWRPA staff has developed the structure for a regional CMS committee and identified potential members.
Update of SWR Long Range Transportation Plan	Lead agency	Completed	Plan updated to include selected recommendations from SWRPA's <i>Vision 2020</i> study and the initial CMS Technical Memorandum.
Update of SWR Plan of Conservation and Development	Lead agency	Current activity	Update of plan is approximately 60% complete and incorporates recommendations for improved coordination of land use and transportation planning.
Data Collection	Lead agency	On-going	Collect, organize and analyze data critical to the development and monitoring of a CMS. Data collection activities will be conducted in partnership with ConnDOT.
Darien/Norwalk Railroad Parking Study	Lead agency	Completed	Final report makes recommendations for improved access to the South Norwalk and Noroton Heights rail stations. Recommendations include expanded parking, increased use of ITS and transportation demand programs, supportive economic development and improved commuter connections via transit, bike and pedestrian services.
ITS Systems Plan	Lead agency	Current activity	Regional ITS systems plan including recommendations to enhance accessibility/use of transit and improve coordination and performance of critical transportation networks in the region.
PANY-NJ East of Hudson Rail Infrastructure Needs Assessment	Participant, project advisory committee	Completed	Final report makes recommendations for infrastructure improvements to enhance cross-Hudson freight mobility.

Cross-Harbor Tunnel EIS	Participant, project advisory committee	Completed	Final EIS recommends alternatives for improved lower Hudson River freight crossing.
PANY-NJ Smart Card Project	Participant, project advisory committee	Completed	Final report establishes operational specifications for regional smart card program.
NYMTC Long Island Sound Waterborne Transportation Plan	Participant, project advisory committee	Completed	Final report recommends location of landside access and routes for movement of persons and goods across Long Island Sound.
East of Hudson Rail Operations Task Force	Participant in bimonthly dialogue	On-going	Develop recommendations/build support for infrastructure improvements to enhance cross-Hudson freight mobility.
SWR Incident Management Task Force	Lead agency	On-going	Continued coordination and improved management of highway incidents.
Bridgeport-Stamford Urbanized Area Planning and Coordination	Co-lead agency	On-going	Build consensus regarding major transportation projects in the Bridgeport-Stamford Urbanized Area.
I-95 Corridor Study (Operational Improvements)	Participant	Completed	Final report recommends implementation of operational improvements on I-95 between Greenwich and Westport.
I-95 Operational Improvements: Project Design	Participant	On-going	Design phase for operational improvements identified through the CMS 2020 and I-95 Corridor Study.
Bridgeport-Stamford Urbanized Area: STP Coordination	Participant	On-going	Participate in and provide leadership to support planning, development and coordination of STP-funded projects within the Bridgeport-Stamford Urbanized Area.
Bridgeport-Stamford Urbanized Area: FTA Enhancement Coordination	Participant	On-going	Participate in and provide leadership to support planning, development and coordination of FTA Enhancement-funded projects within the Bridgeport-Stamford Urbanized Area.
Darien/Route 1 Downtown Circulation Study and Plan	Lead agency	Anticipated start date: 9/1/2005	Funding secured.
South Norwalk Intermodal Center Plan	Participant	Anticipated start date 9/1/2005	Funding secured for lead agencies: the City of Norwalk and the Norwalk Transit District

In addition to those activities listed in the chart above, SWRPA also has actively advocated for the development of an urbanized area-wide CMS. Through the Bridgeport-Stamford Urbanized Area Planning and Coordination, SWRPA has made efforts to educate its peer agencies about the benefits of an urbanized area-wide CMS and to seek consensus on the development of such a CMS during the next LRTP update cycle. SWRPA will continue these efforts and hopes to fully involve ConnDOT and the Federal Highway Administration (FHWA) in these efforts.

Data Collection and Analysis: Since the release of the initial *Technical Memorandum* in January 2004, SWRPA has continued to collect and analyze data to support further development of its CMS and transportation planning activities. Since January 2004, SWRPA has completed the following data collection activities:

- Obtained a copy of the 2004 Congestion Management Systems: Congestion Screening and Monitoring Report published by the ConnDOT.
- Obtained a copy of the 2000 CTPP, Part 3 Data Set released by the U.S. Census. This data set includes Journey to Work flow tables.
- Developed analyses and maps illustrating the following:
 - Traffic Volumes, 1990-2000: Connecticut's South Western Region;
 - Highway Performance and Public Safety Maps;
 - Commuter Lots in Connecticut's South Western Region;
 - South Western Region Commuter Lot Inventory;
 - Journey to Work, 1990-2000: South Western Planning Region, Connecticut;
 - Journey to Work 2000: South Western Region, CT and Westchester County;
 - Average Daily Traffic, 2001, Along the Route 7 Corridor from Norwalk to New Milford;
 - Means of Transportation, Place of Residence of Persons Working in the City of Norwalk, 2000; and
 - Means of Transportation of Persons Working in the City of Norwalk by Transportation Analysis Zones, 2000.
- Prepared the following reports:
 - Congestion Continues to Increase in the South Western Region, January 2005; and
 - Congestion Conditions in the South Western Region, May 2005.

SWRPA will continue to collect and analyze data related to full development and implementation of its CMS.

Development of Performance Measures: As indicated in the January 2004 *Technical Memorandum*, the *Vision 2020* study identified acceptable system performance as Level of Service (LOS) "C" or better. This study also identified five metrics that provide a basis for measuring transportation system performance. Those metrics are travel time, vehicle miles traveled, mode shift, accessibility and safety. SWRPA has started to review those assessments and the underlying data, at the staff level, to determine whether those definitions will be incorporated into the CMS as proposed in the *Vision 2020* study or modified.

The following framework is being used to guide this process:

- Defining congestion.
 - Focus on peak period only, or also consider off-peak times?
 - Identify the start/end times for peak periods.
 - Use performance measures as basis.
 - Consider the technical and policy perspectives.
 - Should corridor and “hot spot” congestion be defined differently?
 - Analyze patterns of incidents.
 - Develop method for analyzing recurring v. non-recurring congestion.

- Establishing performance measures.
 - Acceptable V/C ratio (corridor, “hot spot”)?
 - Acceptable LOS (corridor, “hot spot”)?
 - Acceptable accident rates (e.g. targeted reduction over current)?
 - Acceptable hours of congestion (e.g. targeted reduction over current)?
 - Percentage increase in travel speed desired?

When completed, staff recommendations will be shared with the to-be-convened CMS Technical Advisory Committee.

Strategy Evaluation: Through its *Vision 2020* study, SWRPA has identified a collection of strategies that will help mitigate the growth of traffic congestion in the South Western Region. These strategies have already been screened, evaluated as a package and incorporated into the region’s LRTP.

Future evaluation will be conducted using the process developed for the *Vision 2020* study. First, possible improvements will be identified as a systems management, a demand management or a capacity enhancing improvement. The placement of individual improvements along this continuum will assist in the initial assignment of priorities. Improvements then will be reviewed on the basis of professional judgment to determine their potential to achieve:

1. Reduction in person trips during peak periods
2. Reduction in VMT during peak periods
3. Measured shift from SOV to other modes
4. Measured shift from SOV to HOV
5. Measured improvement in systems/operational efficiency, e.g. on-time performance etc.
6. Desired capacity increases

SWRPA will also seek to identify quantitative methods for evaluating strategies and improvements that survive the initial screening and assessment process. Such quantitative methods will be designed once performance measurements have been developed. A time frame for these activities will be determined at a later date.

Progress Reports and Updates to CMS. The purpose of progress reports and updates is to assess the impact of transportation improvements – both infrastructure and services – over time. Progress reports then will be made annually and the reporting period will be the same as the period covered by the Unified Planning Work Program and MPO Certification period.

Updates to the CMS will be prepared to coincide with updates to the LRTP or as needed.

IV. NEXT STEPS

During the FY2004-2009 period, SWRPA will undertake the following steps to further implementation of its CMS:

- Convene a CMS Technical Advisory Committee that includes representatives of its member municipalities, at least one other MPO, a transit operator serving the South Western Region, a transportation management agency serving the South Western Region, ConnDOT, the FHWA and other stakeholders, as appropriate;
- Continue to monitor the status of the Reauthorization and any provisions that may impact CMS requirements;
- Advocate for a Bridgeport-Stamford Urbanized Area-wide CMS. Ask ConnDOT and FHWA to play a leadership role in this effort.
- Continue to participate in activities listed in Section III of this Report that have a status of “current” or “on-going”, or that are anticipated to start shortly.
- Adopt a definition for congestion and use that definition as a foundation for establishing preliminary performance measures. Recognizing that congestion is a multi-regional issue, such definition will be adopted after consultation with ConnDOT, other MPOs in the Bridgeport-Stamford Urbanized Area and the New York Metropolitan Transportation Council.
- Work with ConnDOT to determine what modeling capabilities may be available to SWRPA to help evaluate transportation program performance and set a strategy for the evaluation of the CMS. SWRPA also will consult with the New York Metropolitan Transportation Council to see how their Best Practices Model may be of assistance to SWRPA in evaluating CMS performance.
- Submit an annual report and update to ConnDOT on or about June 30, 2006.

V. SUPPLEMENT FOR CO/O₃ NON-ATTAINMENT AREAS

The federal CMS regulations require the CO/O₃ Non-Attainment Areas develop and implement a process for analyzing the travel demand impacts of any proposed project that seeks to increase single-occupant vehicle capacity at the corridor or regional level.

As indicated in the initial *Technical Memorandum*, SWRPA will work with ConnDOT to develop such a process. SWRPA had anticipated implementation of this process by June 30, 2005, but has not met this goal. SWRPA has reviewed the procedures used by MPOs in other CO/O₃ Non-Attainment Areas to meet these requirements. SWRPA staff also participated in a Congestion Management Systems workshop sponsored by the New York Metropolitan Transportation Council and FHWA Region 2 in May 2005. This conference provided staff with an opportunity to share best practices in CMS with other transportation agencies in the tri-state area.

At this time, none of the proposed projects listed in the TIP or the LRTP will increase single-occupant vehicle capacity at the corridor or regional level. Thus, delivery of this supplement at a future date, will not compromise compliance with federal CMS regulations.