

Opportunities for Elevating the Role of TDM in Transportation Planning

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Traffic congestion is a continuing and growing concern in metropolitan areas across the U.S. According to data from the Texas Transportation Institute, traffic congestion has increased in urban areas of all sizes since 1982. Congestion is affecting more roads, extending into longer periods of the day than traditional rush hour, and impacting travel times to a greater extent. In 2005, Americans experienced 4.2 billion hours of delay, up from 0.8 billion hours in 1982.¹

Transportation demand management (TDM) programs can be an important part of the solution by encouraging transit, ridesharing, bicycling and walking, shifting trips to off-peak periods, and options such as telecommuting. TDM programs, however, typically have not been included as a major component in metropolitan transportation plans. A number of factors, including new federal transportation regulations, are now creating new opportunities and motivation for raising the profile of TDM programs in the metropolitan transportation planning process.

Increasingly, transportation decision makers are recognizing that traffic congestion problems cannot be solved simply through new highway investments. Developing a major transportation capacity project in an urban area can cost hundreds of millions of dollars,

and nationally, funding for major transportation capacity enhancements is severely limited. According to the U.S. Department of the Treasury and the Congressional Budget Office, the Highway Account of the Federal Highway Trust Fund will have a negative balance by the end of Federal Fiscal Year 2009. New infrastructure projects (both highways and transit) can also take a long time to develop, and often have negative community and environmental impacts. According to the Federal Highway Administration, major highway projects take approximately 13 years to advance from project initiation to completion. Moreover, concerns about global warming and public health concerns associated with auto-oriented development are also causing new emphasis on sustainable transportation options.

At the same time, there is increasing recognition that much of the delay experienced by travelers cannot be solved simply through new highway capacity. FHWA estimates that over half of traffic delay faced by travelers is caused by non-recurring events, such as traffic incidents, weather conditions, work zones, and special events.² Travelers and shippers are increasingly sensitive to unanticipated disruptions to tightly scheduled personal activities and manufacturing distribution procedures, and overall increases in traffic volumes often mean that even

small disruptions can have a significant ripple effect on transportation system performance throughout a broad area. Moreover, emergency preparedness and homeland security concerns require regional system coordination and collaboration for emergency response. Together, these needs are pushing an increased emphasis on ensuring that transportation planning does a better job of relating regional transportation funding decisions to not only long-term capacity needs, but also near-term customer needs, addressing issues such as transportation system reliability, safety, and security, and to optimizing the performance of the existing and planned transportation system.

The federal surface transportation law passed in 2005, the Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA-LU), has put new emphasis on: 1) optimizing transportation system capacity through system management and operations; and 2) on improved consideration of congestion management in the transportation planning process. Specifically, SAFETEA-LU includes “promote efficient system management and operations” as one of eight planning factors that must be considered in statewide and metropolitan transportation planning. The law also requires that Metropolitan Transportation Plans include not only capital projects, but also “operational and management strategies to improve the performance of existing transportation facilities to relieve vehicular

1 For further details, see the Texas Transportation Institute (TTI) Annual Urban Mobility Report, <http://mobility.tamu.edu/ums/report/>.

2 For more information, see the FHWA Office of Operations web site, http://ops.fhwa.dot.gov/program_areas/reduce-non-cong.htm

congestion and maximize the safety and mobility of people and goods.” TDM programs are clearly one of these strategies since TDM programs help to reduce vehicular congestion, improve mobility, and optimize use of existing transportation capacity.

SAFETEA-LU also requires metropolitan areas with populations over 200,000 -- designated as transportation management areas, or TMAs (not to be confused with transportation management associations) to implement a Congestion Management Process (CMP), as a systematic means to consider congestion mitigation within the transportation planning process. This responsibility falls to the metropolitan planning organization (MPO) that handles transportation planning for the region. In the past, these metropolitan areas were required to implement what was called a Congestion Management System (CMS). However, SAFETEA-LU changed the terminology, and refers to a Congestion Management Process (CMP), reflecting that the goal of the law is to utilize a process that is an integral component of metropolitan transportation planning, rather than a stand-alone system or activity. The SAFETEA-LU requirement further specifies that the process shall provide for “effective management and operation, based on a cooperatively developed and implemented metropolitan-wide strategy, of new and existing transportation facilities... through the use of travel demand reduction and operational management strategies.”

The change in terminology from CMS to CMP is more than simply a change in words, and is intended to reflect a more systematic approach to congestion management. Whereas in the past some MPOs have struggled with how to relate their CMS to the metropolitan transportation plan (MTP), the intent of the CMP is for congestion management to become an integral element of the transportation planning process and a strategy for integrating management & operations

(M&O) considerations into the metropolitan transportation plan. The CMP should facilitate an overall systematic approach to planning that uses regional operations objectives to develop system performance measures, collect data regarding the operation and functioning of the system, identify deficiencies within the system, and develop congestion relief strategies. A well-designed CMP should help the MPO to:

- Identify congested locations,
- Determine the causes of congestion,
- Develop alternative strategies to mitigate congestion,
- Evaluate the potential of different strategies; and
- Propose alternative strategies that best address the causes and impacts of congestion.

In TMAs designated as ozone or carbon monoxide non-attainment areas, Federal regulation prohibits projects that increase capacity for single occupant vehicles (SOVs) unless the project emerges from a CMP. Moreover, 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...is proposed to be advanced with Federal funds... 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.” (23 CFR Part 450 Sec. 320)

This new approach to the CMP and the requirement to include management and operations strategies in metropolitan transportation plans offer opportunities to elevate the role of TDM on a regional basis. Specifically, TDM programs can be presented as an implementation

mechanism to help meet system performance objectives and to optimize the capacity of existing transportation systems (both highways and transit). TDM professionals, therefore, have a unique opportunity to present TDM programs and strategies as not only as supporting programs, but as an important component of the regional transportation investment program in order to help attain regional goals and objectives.

During the transportation planning process, TDM advocates will need to communicate to decision makers about the value of TDM programs as congestion mitigation and operations strategies. Performance measurement is a critical component of the CMP, and it will be vital to communicate how TDM strategies can improve system performance and help meet regional goals. Therefore, real, concrete examples of benefits achieved from TDM programs are needed to show how effective these strategies can be. Quantifying benefits will lend additional credibility to these approaches, and help communicate to elected officials and other decision makers regarding the value and importance of TDM programs to the regional transportation system. Ultimately, inclusion in the MTP offers the potential to bring more attention and funding to TDM programs, and to help ensure that TDM elements are included in planning as it relates to new land use development and transportation infrastructure. **ACT**

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