

Background about the Metropolitan Highway System Investment Study

Updated April 2010

The Metropolitan Highway System Investment Study (MHSIS) is a joint effort between the Metropolitan Council and the Minnesota Department of Transportation (MnDOT) to create short-term and long-term visions for the highway system in the Twin Cities region. The goal of the study is to identify methods and improvements to achieve the greatest efficiency out of the region's highway system and manage congestion from a system-wide perspective.

The study, referenced in the Council's 2030 Transportation Policy Plan, will result in proposed amendments to the plan to be considered by the Council later in 2010. The MnDOT Metro District will also update its Highway Investment plan as a result of this study.

Rationale for the MHSIS

The 2030 Transportation Policy Plan, adopted by the Metropolitan Council in January 2009, highlights the extensive highway system in place in

the seven-county metropolitan area, which was built over the past 50 years and now requires the commitment of significant resources to maintain. The plan notes the need to refocus highway investment on preserving the existing system and improving its performance – maximizing efficiency by managing all elements of the system.

As a result, improvements should be focused on the need to enhance system performance – including managing and optimizing the effectiveness of the existing system, and implementing strategic and affordable capacity expansion. Key principles for these improvements include safety, preservation, and congestion management.

The plan also acknowledges the need to reassess the projects defined as “major expansions.” Several of these projects have been carried over from plan to plan, because they were unable to be constructed within existing resources. Each project will be reassessed with the intent to reduce the scope and cost while still achieving substantial benefit.

MnDOT and Council staff estimate the revenue needed to address congestion over the next 20 years tops \$40 billion, and even the most optimistic revenue projections show that a fraction of that amount will be available in that timeframe. A majority of existing funding will have to be dedicated to bridges, and preservation and maintenance projects.

“Our goal is to effectively use every inch of pavement so that we have the most efficient transportation system possible.”

Victor Mendez
Federal Highway Administrator
September 2009



That leaves approximately \$900 million in total for congestion mitigation projects through 2030, or about \$55 million annually.

This reality requires a new approach to managing congestion in the metropolitan highway system, which is what the MHSIS will begin to address.

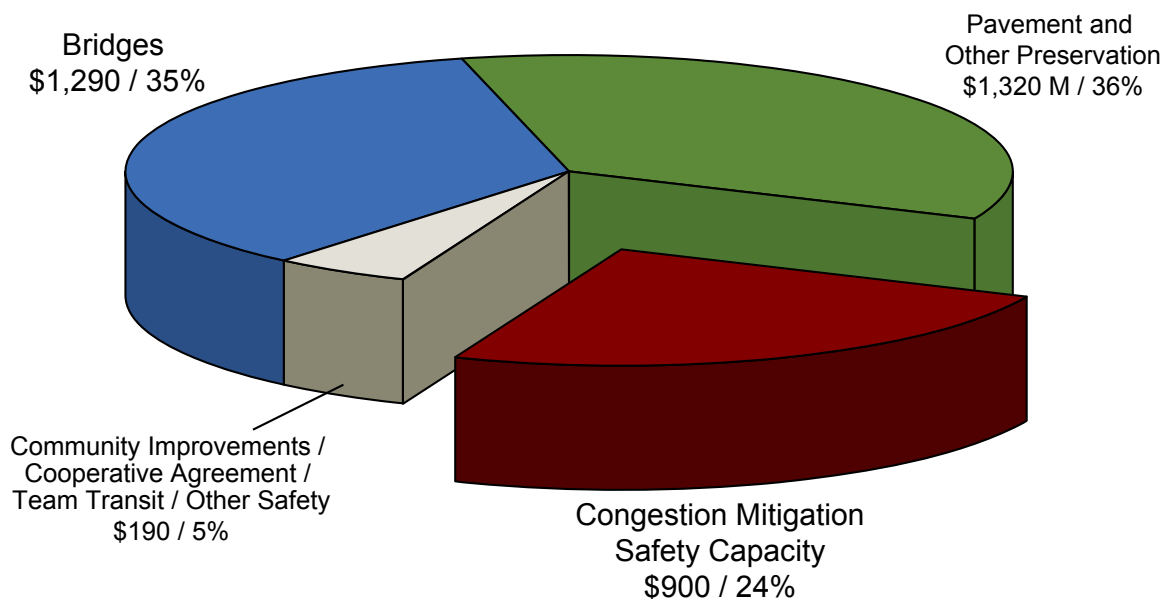
A new strategy for highway investment

The challenges of managing the metropolitan highway system call for a 21st century solution that is technology-based, multi-modal, and problem-focused, with an emphasis on system-wide management.

Rather than focusing on building capacity alone, the new strategy will focus on improvements that build on existing management strategies and provide relief to identified problem areas throughout the system.

- Managed lanes (either conversion or expansion), such as the MnDOT MnPASS lanes, where rush-hour traffic is limited to high-occupancy vehicles (carpools and buses), motorcycles, and single-occupant vehicles willing to pay a toll to use the lane.
- Additional active traffic management techniques, such as the existing ramp meter, sign-messaging, traffic volume detection, traffic camera system, and new technologies.
- Strategic capacity enhancement projects, including projects to extend lanes or otherwise add capacity in specific locations to ease bottlenecks. Includes lower-cost, high-benefit projects, where a smaller scale, more affordable project to remove bottlenecks or improve traffic flow can help congestion.
- Access management for Interregional Corridors (IRCs), which involves limiting private access and managing public access to these highways.

State Road Construction Program Funding Through 2030 (Metro-Area Allocations, in millions)



The State Road Construction Program for the Twin Cities metro area through 2030 will include about \$900 million for congestion mitigation/capacity projects, or less than 25 percent of the total investment.

(IRCs provide significant connections between regions of the state, particularly for freight traffic.) The state, working with county and local governments, will manage access to optimize the performance of the existing routes. New public access, or new/reconstructed interchanges to expand capacity to meet safety concerns, will only be considered if they are consistent with MnDOT's criteria and adopted regional priorities.

- In addition, staff are examining other types of projects on the system, including resurfacing and replacement projects. Potential congestion relief strategies will also be examined as part of preservation projects to assure the greatest benefit for the resources expended.

Active Traffic Management Techniques

The Twin Cities region has used so-called Active Traffic Management techniques for many years to improve traffic safety and make the highway system operate as efficiently as possible. Examples include:

- Cameras
- Traffic volume detectors
- Ramp meters
- Changeable message signs
- High-Occupancy Vehicle (HOV) and MnPASS lanes
- Bus-only shoulders
- 511 traveler information
- Freeway Incident Response and Safety Team (FIRST)

In the future, technologies such as queue warning (alerting drivers to an incident or congestion up ahead) and dynamic re-routing (providing an alternate route to avoid congestion) will also be part of the metro region strategies.



The Urban Partnership Agreement (UPA) project, that brought \$133 million in federal funds for congestion relief in the I-35W corridor, shows how several different strategies can be used to address issues in one corridor. Pictured above is a MnPASS lane with motorist information signs to indicate incidents ahead.

Specifically, the MHSIS will produce potential solutions that may provide improvements for system-wide benefit. These solutions will be ranked according to defined principles, including specific methods for measuring performance, and will provide a reservoir of projects to draw from if additional financial resources become available.

Study progress and related efforts

The MHSIS began in late 2009, with a review of methods other major metropolitan areas are using to address congestion. Work is underway to analyze various strategies and apply established performance measurements, including how a particular strategy addresses safety, congestion, ability to move people, and cost.

The study will be completed in early summer, which is when draft amendments to the Transportation Policy Plan will begin to move through the Transportation Advisory Board's committees.

In addition, MnDOT is conducting several evaluations that are being coordinated with the MHSIS efforts, and will also result in changes to the MnDOT state and metro district improvement plans:

- Reassessment of large expansion projects
- Needs assessment of bridge projects (required by Legislature in 2008)
- Congestion Management Safety Plan (CMSP) efforts to develop and implement lower-cost, high-benefit projects for congestion management
- MnPASS studies to identify other potential corridors for MnPASS/managed lane solutions.

MHSIS and plan amendment timeline	
April-May 2010	Stakeholder outreach
May 2010	Draft amendment to the Council's Transportation Policy Plan (TPP) available for review
August 2010	Public comment period on TPP begins
September 2010	Public hearing on TPP amendment
October 2010	Record closes on public comment for TPP
November 2010	Council & MnDOT adopt final plan amendment



A project to construct an additional lane for a short distance on State Highway 100 in St. Louis Park (between Excelsior Blvd. and Cedar Lake Rd.) helped ease a bottleneck in the corridor.

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The Metropolitan Highway System Investment Study (MHSIS) is a collaborative effort between the Metropolitan Council and the Minnesota Department of Transportation's Metro District.

