

MINNESOTA DEPARTMENT OF TRANSPORTATION
FREEWAY TRAFFIC MANAGEMENT PROGRAM

Status Report - July 2000

CONTROL FACILITY: The MN/DOT Traffic Management Center (TMC) is the operations center for managing freeway traffic in the Twin Cities Metro Area. The TMC was constructed and opened in 1972 and is located at 1101 4th Avenue South, Minneapolis, MN 55404. The contact person is Glen Carlson, Manager of the TMC, at phone number (612) 341-7500, fax number (612) 341-7239, or e-mail Glen.Carlson@dot.state.mn.us. The TMC web site is www.dot.state.mn.us/tmc/.

A new Regional TMC is currently being developed for the Metro Area and should be completed in 2003. This new facility will house existing TMC staff along with additional traffic management stakeholders including the State Patrol dispatch, Mn/DOT Metro Division highway maintenance dispatch, and Mn/DOT Metro Division Traffic Engineering.

RAMP METERS: The TMC currently operates 427 ramp meters, with 416 of them centrally controlled (on-line), and 11 isolated (stand-alone/pre-timed) meters. The Minnesota Algorithm uses a zone control approach to maximize both bottleneck flow rates and the overall freeway system productivity. Legislation was recently passed which requires Mn/DOT to turn off the ramp meters later this year and evaluate the impact.

CLOSED CIRCUIT TV: There are 219 cameras located along segments of the freeway system. Plans call for a total of 300 cameras by the end of year 2005. The standard design includes color cameras mounted on 50-foot poles, one mile apart, with fiber optic communications. Video from all of the cameras is shared via a distribution network with stakeholders including the State Patrol, Metro Transit, cities and counties, and all local TV stations.

CONTROL ROOM: The control room includes two independent operator stations, a radio announcer station, an information officer work station for communicating with the Highway Helpers/State Patrol/information providers, and an incident capture work station for traffic TV and traffic Internet. Each operator station has 24-20 inch monitors, and computer terminals with graphics capabilities to control on-line ramp meters, dynamic message signs (DMS) and lane control signals. With continued rapid deployment of traffic management systems, the control room was upgraded and redesigned in 1998. Also, a new computer platform and operator interface are being developed via in-house design that will combine the functionality of several stand alone systems.

DYNAMIC MESSAGE SIGNS: There are currently 62 DMS in operation including both amber LED and rotary display type signs. The 15 newest DMS are NTCIP standards compliant, and another 21 signs currently being installed or under design will also comply with these standards.

HIGH OCCUPANCY VEHICLE (HOV) FACILITIES: I-394 is a six-lane radial freeway with three miles of reversible HOV lanes and eight miles of concurrent or diamond HOV lanes. Six HOV ramps provide direct access to the reversible lanes between the Minneapolis CBD and TH 100, and there are also ten ramp meter bypasses for HOVs. Three parking garages with direct access from I-394 in downtown Minneapolis provide 6,000 spaces. Registered carpools can park there for \$40/month while single occupant vehicles pay \$112-\$127/month. Other incentives include seven remote Park & Ride lots, timed transfer stations for public transportation, and a guaranteed ride home program.

In November 1994, a diamond lane was added in each direction on I-35W between Highway 13 and I-494. These lanes were installed in the median area of a four-lane freeway, and there is no buffer between the HOV lane and the general-purpose lanes. A project is currently underway, with completion scheduled for 2004, to extend the HOV lanes from I-494 to 46th Street.

Mn/DOT operates 73 HOV ramp meter bypasses, with 12 additional bypasses scheduled for completion later this year. Through a partnership with Mn/DOT, Met Council, Metro Transit, and other cities and counties, there are 100 miles of bus-only shoulders so transit buses can bypass congested areas of freeway.

HIGHWAY HELPER PROGRAM: The Highway Helper program was initiated in December 1987 to remove stalled vehicles from the roadway, assist stranded motorists and aid the State Patrol with incident management. Fully equipped pickup trucks patrol eight routes (or 170 miles) of the most congested freeway segments from 5:00 AM to 7:30 PM Monday through Friday. Each year the program assists approximately 13,000 motorists. In May 2000, the Highway Helper program completed relocating to a new-shared facility. This facility houses the entire 17 person Highway Helper staff and 9 fleet vehicles along with an entire State Patrol station of 10 officers.

TRAVELER INFORMATION PROGRAM:

Traffic Radio - Mn/DOT has a partnership with the Minneapolis Public Schools (MPS) to provide a Traffic Radio service for the Twin Cities Metro Area. The MPS public radio station (KBEM, 88.5 FM) is used to provide live traffic reporting weekdays during peak traffic periods, broadcasting a two to three minute report every ten minutes. During major incidents, traveler information is broadcast continuously and drivers are alerted by DMS to tune in to the Traffic Radio station for live reports. TMC operators also communicate frequently with commercial traffic reporters via two-way radio, updating them on current situations.

Traffic Television - The partnership with KVBM-TV has ended due to a change in ownership of the company. An RFP process for a new Traffic TV partnership resulted in the selection of KMSP-TV, Channel 9, and negotiations for a partnership agreement are in progress.

Traffic Internet - Travelers can find real-time traffic information at the web sites listed below, and several other sites are under development. The data for most of these web sites comes directly from the TMC data distribution server:

www.dot.state.mn.us/tmc/trafficinfo/ (the Traffic Management Center site)

www.pioneerplanet.com — (click on traffic alert)

www.startribune.com — (click on latest traffic)

www.twincitiesexpress.com - (a personalized e-mail service)

www.smarttraveler.com

www.trafficstation.com

Traffic Telephone - SmartTraveler, a private sector company, offers a traffic telephone service. It provides route specific information and is free to the public. The number is (651) 633-8383 or #211 on most cellular phones.

ITS OPERATIONAL TESTS: The principal involvement with operational testing has been the Integrated Corridor Traffic Management (ICTM) project. This project was a multi-partner project with the goal of improving traffic flow along an eight-mile stretch of I-494. The adaptive control system runs 75 traffic signals and coordinates operation with 27 freeway ramp meters based on changing traffic conditions. An extensive traveler information system provides up-to-the-minute information on how to avoid incidents, construction and maintenance activities. Nine variable message signs, 81 electronic arrow signs and 11 surveillance cameras are installed along major local streets. The project evaluation has been completed and the final report is now available.

RESEARCH AND DEVELOPMENT: In addition to the ITS operational tests, the TMC conducts a traffic management research and development program. This program includes evaluation of HOV programs, incident management research, new product evaluation, traveler information research, simulation and modeling, and traffic management studies. A new initiative in 1999 was the formation of a partnership with the Center for Transportation Studies at the University of Minnesota to more closely coordinate and cooperate on Advanced Traffic Management System research.

