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Trucks and Twin Cities Traffic
Management

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Trucks and Twin Cities Traffic Management

tech transfer summary

Objectives

- Identify a variety of new, implemented, or proposed strategies for reducing truck traffic congestion in and around the Twin Cities area.
- Discuss the strategies by surveying and interviewing the Minnesota motor carrier industry and Twin Cities transportation professionals.
- Winnow the list of strategies down to those meeting the unique needs of the Twin Cities highway system.
- For the most promising strategies, consider implementation and propose steps to overcome institutional or policy issues.

Problem Statement

The Texas Transportation Institute's 2004 Urban Mobility Report found that the Twin Cities metro area is one of the most congested areas for its population size in the United States. The total traffic delay time in the Twin Cities falls in the top 25% of peer urban areas, and the congestion growth in the Twin Cities metro area places it in the top 20% of peer urban areas. For companies that ship inbound and outbound goods by truck, increasing traffic congestion means increasing business costs for the Twin Cities area, due to truck service costs and the unreliability of transit times. Because the Twin Cities are thus at a competitive disadvantage to other urban areas, it is important to identify strategies for reducing traffic congestion and thereby business costs in the Twin Cities.

Research Description

The research compiled an initial 38-item list of traffic congestion reduction or traffic management strategies that could be applied to the Twin Cities area, largely developed from the literature and from telephone discussions with organizations that have experimented with traffic reduction or management strategies. Information specific to the Twin Cities was then used to identify strategies applicable to the area and narrow the list of strategies 38 to 30. A focus group of public and private stakeholders then selected five of the most promising strategies and discussed implementation issues, such as benefits and costs, and recommendations for implementing each.

Strategies Selected as Most Promising

1. *Planning and Design guidance to local governments for accommodating truck generators.* Local land use and planning guidance may not be consistent with good guidance for accommodating large volumes of heavy trucks. Local design specifications for roadway infrastructure and traffic control devices may similarly be ill equipped to accommodate heavy truck volumes. This strategy creates guidance and training for local governments.

Continued on next page

Strategies Selected continued

2. *Legislation to strengthen quick clearance.* Many states hold harmless from liability first responders attempting to clear interstate highways of disabled trucks and spilled cargo. However, Minnesota does not hold harmless first responders, which impedes the ability of first responders to clear trucks involved in accidents and their cargo. The result is an increased duration for truck-involved incidents. This strategy involves reaching out to the trucking industry to achieve a compromise about legal liability protection for first responders that Minnesota's governor and legislature could support.
3. *Improve advanced guide signing on arterials for freeway entrances.* Because multiple interchange designs may confuse truck drivers unfamiliar with the Twin Cities area, signage should be placed upstream from interchanges to allow truck drivers sufficient time to move to the correct lane safely and efficiently. See Figure.
4. *Increase truck parking facilities on the urban fringe.* To satisfy federal hours-of-service regulations, meet narrow delivery windows, and avoid peak hour congestion, trucks need adequate parking facilities on the urban fringe.
5. *Lengthen acceleration/deceleration lanes.* Because trucks require more space than other traffic for accelerating, stopping, and merging safely, deceleration and acceleration lanes at intersections with heavy truck volumes can be lengthened to assist trucks during speed change maneuvers.

Implementation Benefits

The five selected strategies together are designed to reduce truck traffic congestion and improve roadway safety in and around the Twin Cities. These strategies would help local governments develop infrastructure that can accommodate high volumes of heavy trucks, place adequate signage before freeway interchanges, build sufficiently long acceleration and deceleration lanes for truck traffic, provide adequate truck parking on the



planning, and traffic management. The benefits are difficult to quantify, but they are clearly significant. For example, if a municipal government builds a street system around a truck traffic generator with inadequate geometric dimensions or pavement strength, the new infrastructure will fail prematurely. Though it is difficult to estimate the cost or frequency of roadway failures that result from underplanning or underdesigning for truck traffic, the benefits of anticipating truck traffic generators are certainly significant.

Implementation Readiness

- A design manual accounting for heavy truck traffic requires the compilation of existing information into a single readable format, and therefore could be completed in 12 months.
- Mn/DOT design professionals recognize the need for longer acceleration and deceleration lanes. Extending existing lanes can be costly, but modifying scheduled activities during reconstruction to accommodate longer lanes can significantly reduce costs. Truck-related guidance criteria should therefore be included in future versions of Minnesota's Road Design Manual.
- Mn/DOT has proposed legislation to hold harmless first responders from liability when clearing wrecked vehicles and spilled cargo. This legislation has been unpopular with the motor carrier industry, and Mn/DOT will be working with the Minnesota Motor Truck Association to reach a compromise.
- The 2003 Manual on Uniform Traffic Control Devices (MUTCD) contains entrance ramp guide sign recommendations that meet the identified needs. As Mn/DOT implements the new MUTCD's recommendations and upgrades guide signage, Mn/DOT should first improve interchanges with multi-lane arterial streets that carry a significant percentage of truck traffic.
- To study nighttime truck parking issues, Mn/DOT should convene a task force similar to the task force it convened in 2001. This task force should be charged with resolving the truck parking issues in the metro area. However, unlike the recommendations made by the earlier task force, Mn/DOT needs to follow through with the task force's recommendations.