Research Department

Patrick J. McCormack, Director

600 State Office Building
St. Paul, Minnesota 55155-1298
651-296-6753 [FAX 651-296-9887]
www.house.mn/hrd/hrd.htm

Minnesota House of Representatives

September 21, 2009

TO: Transportation Finance and Policy Division Members

FROM: Matt Burress, Legislative Analyst (651-296-5045)

RE: September 23, 2009 hearing – road sign retroreflectivity

One topic for the committee hearing on September 23, 2009, involves recent federal changes in road sign retroreflectivity. This memo summarizes the issue and discusses a state program for replacing town road signs.

Summary

New road sign requirements from the Federal Highway Administration are forthcoming in the next few years. The regulatory changes are designed to establish a nationally consistent approach for keeping road signs maintained so that they are reflective and therefore sufficiently visible at night. Under the regulations, road authorities such as towns and counties must implement a program for managing their stock of road signs and ensuring that the signs meet technical reflectivity standards.

Recent state legislation was combined with federal aid to create a $5 million a pilot program to inventory and replace town road signs, which dovetails with the changes in federal regulations. Under the pilot program, inventories of town road signs in six counties have been performed and signs are currently being replaced as necessary. Based on the results of the pilot, the Minnesota Department of Transportation (MnDOT) has created initial estimates of the costs of town road sign replacement in the rest of the state. The estimated range of costs is about $55 to $76 million, which does not take into account sources of possible cost increases (such as inflation).

Background on Regulation of Signs & Traffic Control Devices

The Federal Highway Administration (FHWA) maintains a technical manual that identifies standards and technical requirements for traffic control signs. It is the Uniform Manual on Traffic Control Devices (MUTCD), and it includes specifications for various types of road signs and devices ranging from ones that regulate traffic and construction zones to informational and guidance signage. The manual is incorporated by reference into federal regulations, making it

part of the general body of federal law. It applies as the national standard for all public streets and highways – including state and county highways as well as town roads. 23 C.F.R. § 655.603 (a). It is updated periodically, typically every few years, through the federal rulemaking process. (The current version is the 2003 Edition with Revisions 1 and 2.)

States have some limited ability to produce a state-specific manual. The state manual must be in "substantial conformance" with the national manual, so that the national manual would serve as a set of minimum guidelines and standards that the state manual can exceed, and the state manual could be more prescriptive. 23 C.F.R. § 655.603 (b). There is a state-specific version in Minnesota, known as the Minnesota Manual on Traffic Control Devices (MN MUTCD). The Minnesota version is primarily produced in order to keep the specifications aligned with state traffic laws, adjust aspects of the federal manual for conditions in Minnesota, and add in additional signage programs that are specific to Minnesota.

Creation of the MN MUTCD is authorized under state statute, which states in part that the Commissioner of Transportation "shall adopt a manual and specifications for a uniform system of traffic-control devices consistent with the provisions of this chapter for use upon highways within this state." Minn. Stat. § 169.06, subd. 1. The provision also specifically exempts adoption of the manual from the standard rulemaking process. Revisions to the manual take place on a roughly annual schedule.

When the federal MUTCD is revised, states that have a state-specific MUTCD must include the same revisions by modifying their MUTCD to comply or by replacing it with the federal one. States must adopt the revisions within two years of the effective date of the change. In Minnesota, such changes to do not require legislative action as the Commissioner is authorized under statute to adopt changes to the manual. MnDOT uses a committee process that involves stakeholders from both the state and local units of government to both address desired traffic control changes and identify state manual changes necessary for conformity with the latest changes in the federal manual.

Revisions to Reflectivity Requirements

FHWA recently completed rulemaking to modify the MUTCD, which went into effect January 22, 2008. 72 Fed. Reg. 72574. The modification revised sign retroreflectivity requirements. "Retroreflection" refers to a type of reflection of light that redirects it back to the source. Retroreflectivity in highway signs basically pertains to illumination of signs at night by the headlights of a vehicle and the resulting visibility of the sign to a driver. The federal action to establish sign reflectivity requirements appears to result from two notable factors: the aging of the driving public with a corresponding decrease in visual capabilities, and the general deterioration of sign reflectivity over time.

The new requirements essentially lay out (1) minimum retroreflectivity levels of signs, and (2) allowable methods for meeting the retroreflectivity requirements. A road authority can use a number of techniques to comply with the retroreflectivity regulations. They can be divided into two basic types: assessment methods, which involve various techniques for evaluating individual

signs; and management methods, which involve different types of scheduled replacement of sign stock.[1]

Implementation deadlines placed on road authorities to comply with the regulations are divided into three parts, which FHWA summarizes as follows.

> Agencies have until January 2012 to establish and implement a sign assessment or management method to maintain minimum levels of sign retroreflectivity. The compliance date for regulatory, warning, and ground-mounted guide signs is January 2015. For overhead guide signs and street name signs, the compliance date is January 2018.[2]

The first deadline in 2012, then, is for establishment of a sign maintenance program. This is not a date requiring sign replacement, but rather serves as a point at which a road agency must have methods in place for evaluating or managing sign stock. The second two deadlines are for actual compliance with the new technical retroreflectivity standards.

Town Road Sign Replacement Program

A town road sign replacement program was enacted by the 2005 Legislature but had a delayed effective date based on funding. Laws 2005, 1st spec. sess., ch. 6, art. 3, sec. 89. In 2007, the legislature appropriated $2.5 million to MnDOT for the program. Laws 2007, ch. 143, art. 1, sec. 3, subd. 6. MnDOT added that money to some available federal aid for road signs, amounting to approximately $2.5 million, and created a $5 million pilot program (this approach was authorized under the enabling legislation). The state funding constituted part of the local match required of the federal funding.

The scope of the pilot program includes inventorying county and town road signs, evaluating signs for compliance with technical standards, replacing signs as necessary, and providing for ongoing maintenance. In establishing the pilot, MnDOT consulted with county and township representatives and performed a solicitation for participation. MnDOT selected six counties (with another six identified for a potential second round), which was based on selection criteria such as the estimate of costs in the applying counties and finding a mix of county situations and locations.

The pilot program has funded identification, repair, and replacement of all town regulatory and warning signs in the six selected counties, bringing those signs up to meet all state signing standards and specifications. As part of the pilot, MnDOT contracted with a consultant to perform a town road sign inventory in each of the counties. Towns must then maintain this inventory in an ongoing basis.

The first round of the pilot is nearly completed, with sign replacements expected to be finished at the end of the 2009 construction season. There remains about $1.8 million in available federal

[1] For additional information, see: http://safety.fhwa.dot.gov/roadway_dept/night_visib/sign_visib/

[2] Federal Highway Administration, "Know Your Retro 2007: New MUTCD Sign Retroreflectivity Requirements, <http://safety.fhwa.dot.gov/roadway_dept/night_visib/policy_guide/fhwasa07020/ > Accessed 21 Sept 2009.

funding for a second round in the pilot program (which requires a 20 percent match from state or local sources). MnDOT is currently working with the townships to identify an approach for the second round.

Based on the inventory in the pilot, MnDOT estimates that the sign replacement costs for towns in all remaining counties in the state is in the range of roughly $55 to $76 million. This estimated range might under-represent total costs as it does not include possible cost escalations such as with inflation and risk factors, and the low end of the range is possibly affected by the current state of the economy.

MB/ks