

KEY FACTS REGARDING STREET SIGN AND SIGN RETROREFLECTIVITY REQUIREMENTS

Street Signs

- There is no deadline set by the Manual on Uniform Traffic Control Devices (MUTCD) by which street name or other guide signs must be replaced for the sole purpose of changing them to a mix of upper-case and lower-case letters. The requirements for mixed case letters in street signs generally apply when signs are replaced because of normal wear and tear. Thus, there is no added cost associated with this requirement.
- There are no requirements to replace “perfectly good signs” with new signs because of the mixed case standard.
- Many media reports are **factually incorrect** when they state that signs must be replaced by January 2012. The only requirement for this date is that roadway owners have a *sign management plan* in place.
- In 2000, the MUTCD established recommendations for minimum letter heights on street name signs. The MUTCD recommends 6” initial letter height for roads with speed limits of 40 mph or less with an option of 4” initial letter height for streets with speed limit 25 mph or less. Agencies need to evaluate and decide by January 2012 whether or not to use the recommended letter height *or use an engineering study or engineering judgment to decide that a smaller letter height is acceptable.*
- In 2003, the MUTCD added a recommendation for letter heights of street name signs on multilane roads with speed limits greater than 40 mph. The MUTCD recommends 8” initial letter heights for post mounted and 12” letter height for overhead street name signs. Agencies need to evaluate and decide by December 2018 whether or not to use the recommended letter height *or use an engineering study or engineering judgment to decide that a smaller letter height is acceptable.*
- There is a requirement to upgrade signs to meet new retroreflectivity requirements, making them more visible to nighttime drivers, older drivers and in inclement weather. There is a timetable to do this (see below).

Timeline to Implement Minimum Levels of Retroreflectivity

In 2007 deadlines to implement minimum levels of retroreflectivity were established in the Manual on Uniform Traffic Control Devices (MUTCD).

- Maintaining Minimum Retroreflectivity
 1. January 22, 2012: By this date, roadway owners must adopt a plan to ensure that their signs meet Minimum Levels of Retroreflectivity by the dates cited below. The FHWA lists 5 options, among which are simple *visual inspection* and *blanket replacement* of groups of signs at the end of their “useful life” as stated by the manufacturer.
 2. January 22, 2015: Regulatory and Warning Signs and Post-Mounted Signs must meet retroreflectivity requirements.
 3. January 22, 2018: Overhead and Street Name signs must meet retroreflectivity requirements. If street name signs meet retroreflectivity requirements and are all CAPITAL letters, they may remain in service for the remainder of their useful life. They never have to be changed out only because of the capital letter/mixed case issue.
- FHWA estimated the cost for making these retroreflectivity improvements throughout the entire United States to be \$37 million dollars over a 10 year period. The reason that this figure is lower than some estimates reported in the media is that the implementation timetable detailed above was designed to roughly coincide with the useful life of existing signs. Thus, it is likely that most of them would have been replaced anyway.

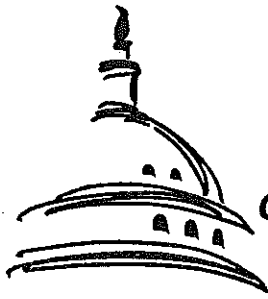
Key Reasons for the Requirements

- Aging population on U. S. roadways:
 - A 65 year old needs four times the amount of light to see at night as compared to a 25 year old.
 - The AAA Foundation for Traffic Safety projects that by 2025, *one in every four drivers will be 65 or older*.
 - Increased retroreflectivity and signage size allows for added decision time for older drivers
 - Allows faster response time by EMTs, police, and fire personnel to better allow them to read and understand signs and reduce travel time to the site.
- More than 50 percent of traffic accidents resulting in fatalities occur at night. Increased retroreflectivity addresses this issue.

Funding

- Surface Transportation Program (STP)
 - Used for a variety of transportation purposes, including:
 - Improvement of signing and pavement markings
 - These funds can be used on all public roads except those functionally classified as local or rural minor collectors.
- Highway Safety Improvement Program (HSIP)
 - \$1.25 billion annually goes to states
 - Twenty-one (21) states transferred money from HSIP to other programs when it could have been used for these vital safety improvements. Eight states have used only 50 percent of their funding to date.
- There are specific requirements to be able to use Highway Safety Improvement Program Funds for sign upgrades. To be eligible for HSIP funds, the improvement of highway signage must be:
 - Identified as a priority in the State's Strategic Highway Safety Plan, AND
 - Correct or improve a hazardous road location or feature or address a highway safety problem, AND
 - Locations for potential safety improvement must be identified through a data-driven process.

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Revised Federal Standards for Traffic Signs: Frequently Asked Questions

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Summary

In 2007, the Federal Highway Administration of the Department of Transportation (DOT) completed a rulemaking to revise the Manual of Uniform Traffic Control Devices (MUTCD) standard for night-time visibility (retroreflectivity) of street signs. The new standard set a minimum measured value for the retroreflectivity of street signs and required state and local agencies to adopt a method to maintain the retroreflectivity of their signs. Communities are required to comply with this standard by 2018.

In 2010, several press reports conflated this new standard with a 2009 MUTCD revised street sign standard—one having to do with the lettering style of street sign names, which had no compliance deadline—and became controversial, as the press reports made it appear that the federal government was requiring communities to replace street signs just to change their lettering style. This issue has come to the attention of Congress. In 2011 the DOT proposed to amend the target compliance date for the retroreflectivity standard (and several other MUTCD standards) to alleviate possible financial burdens the deadlines may create for highway agencies. Agencies will still be required to comply with the retroreflectivity standard. This report answers a number of questions that are frequently asked about this issue.

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Since 2007, the Federal Highway Administration (FHWA) of the U.S. Department of Transportation has updated certain national standards for signs on streets and highways. Recent press reports on this subject have prompted congressional interest. This report addresses some of the questions that have been raised about these standards.

What Standards Have Been Changed?

The FHWA's Manual of Uniform Traffic Control Devices (MUTCD) is a compilation of standards for signs, signals, and design elements of traffic control devices intended to ensure a level of uniformity across the nation.¹

In 2007, FHWA updated the MUTCD standard governing the maintenance of the night-time visibility (retroreflectivity) of traffic signs (Section 2A.08). Retroreflectivity refers to the reflection of light back from an object. With respect to traffic signs, this involves reflecting the light from car headlights so that the sign is visible to drivers at night. The 2007 standard set a minimum level of retroreflectivity for signs and required state agencies to adopt methods to ensure that signs met that minimum.

Separately, in the 2009 edition of the MUTCD, FHWA updated the standard concerning the sign lettering style for names of places, streets, and highways (Section 2D.05). Formerly, names on signs could either be in all capital letters or have only the first letter capitalized. The new standard eliminated the option of using only uppercase letters because studies indicate that mixed-case lettering is easier to read.

Why Was the Retroreflectivity Maintenance Standard Changed?

Due to exposure to the elements and other factors, the retroreflectivity of sign materials degrades over time, resulting in signs becoming less visible after dark. In 1992, Congress directed DOT to revise the MUTCD to include "a standard for a minimum level of retroreflectivity that must be maintained for traffic signs and pavement markings which apply to all roads open to public travel."² The purpose was to promote public safety by ensuring that traffic signs and pavement markings are visible to drivers after dark.

For many reasons, including the limited visibility of drivers after sunset, driving at night is much more dangerous than driving during the daytime. Nighttime crash rates are estimated to be three

¹ States may adopt the national MUTCD as the state MUTCD, adopt the national MUTCD with a state supplement, or adopt a state MUTCD. The supplement or state MUTCD must substantially conform to the national MUTCD; this allows for local exceptions that do not create a safety concern.

² P.L. 102-388, Department of Transportation and Related Agencies Appropriations Act, 1993, section 406. FHWA initiated rulemaking on the pavement marking standard in 2010. DOT is implementing the congressional directive in two parts: the traffic sign standard was finalized in 2007, and the rulemaking to implement the pavement marking standard began in 2010.

times higher than daytime rates, and the fatality rate for nighttime driving is also higher than for daytime driving.³

At night, when visual cues available to drivers are much more limited, the assistance provided by street signs becomes more important. For this reason, ensuring that traffic signs are easily seen at night is an important safety consideration. This is of the greatest benefit to older drivers: as people age, the lenses of their eyes typically become less transparent, with the result that more light is needed in order to see objects. The proportion of older drivers is growing as the Baby Boomer cohort ages, making it more important to ensure that signs are easily visible at night.

How Was the Retroreflectivity Standard Set?

The process of developing the new standard included FHWA-sponsored research and the development of a proposed standard based on that research by a task force appointed by the American Association of State Highway and Transportation Officials (AASHTO), which represents state and local transportation agencies. FHWA held workshops for members of state and local transportation agencies to publicize the proposed standard, and then revised the proposal through the formal federal rulemaking process from 2004 through 2007, with repeated opportunities for public comment. The new standard took effect on January 22, 2008.

What Does the Retroreflectivity Standard Require?

The new standard involved two elements of maintaining adequate reflectivity. One element was the establishment of numerical standards measuring the minimum acceptable retroreflectivity of signs. Since it was not considered feasible for communities to regularly measure the retroreflectivity of every sign, the second element of the new standard was a requirement that communities adopt a method to maintain the retroreflectivity of their street signs. The standard lists several methods that communities can use to meet this requirement, including

- visual nighttime inspection from a moving vehicle by a trained sign inspector;
- measurement of sign retroreflectivity using a retroreflectometer;
- replacement of signs based on their expected life above the minimum standard for retroreflectivity;
- replacement of all signs in an area, or of a given type, at specified intervals, based on the expected life above the minimum standard for retroreflectivity of the shortest-life material used on the signs in that area or of that type;
- replacement based on the performance of sample signs that are monitored for loss of retroreflectivity; or
- other methods that are developed based on engineering studies.

An agency using a retroreflectivity assessment or management method would be in compliance with the standard even if at times there are individual signs that do not meet the minimum

³ FHWA, *Maintaining Traffic Sign Retroreflectivity: Impacts on State and Local Agencies*, April 2007, p. 2.

retroreflectivity levels. Finally, this standard requires that communities comply with the new standard by certain deadlines. There are three deadlines:

- January 22, 2012 (four years after adoption of the new standard)—the deadline for communities to have adopted one of the methods to systematically maintain the retroreflectivity of their street signs.
- January 22, 2015 (seven years after adoption)—the deadline for communities to bring all of their regulatory, warning, and post-mounted guide signs (except street name signs and overhead guide signs) into compliance with the new standard.
- January 22, 2018 (10 years after adoption)—the deadline for communities to bring all street name signs and overhead guide signs into compliance.

Was the Retroreflectivity Standard Controversial?

Generally, highway safety groups supported the standard, while state and local transportation agencies opposed the establishment of numerical minimum levels of retroreflectivity due to concerns about potential tort liability due to failure to maintain a specific minimum level of retroreflectivity. They preferred that the standard be limited to establishing a management process that agencies would follow to maintain adequate nighttime visibility of signs.

FHWA's final retroreflectivity standard tried to satisfy both the congressional directive, by including a table of minimum numerical standards in the MUTCD, and the preferences of the state and local transportation agencies, by saying that not every sign needs to meet the minimum standard so long as agencies have a management process in place to maintain the nighttime visibility of their signs. Regarding tort liability, FHWA noted that having formally implemented a method for maintaining retroreflectivity would appear to put an agency in a better position to defend lawsuits in which inadequate sign retroreflectivity is an issue. Also, the final standard provided that agencies that have adopted an assessment or management method will be in compliance even if every individual sign does not meet the minimum retroreflectivity standard.⁴

There appear to be two reasons for the standard's sudden notoriety beginning in the fall of 2010. One is concern on the part of communities about the cost of compliance. The other, and perhaps more important, reason for the standard's notoriety was that several press reports conflated the retroreflectivity maintenance standard with the entirely unrelated standard concerning lettering, which was modified in the 2009 update of the MUTCD.

What About the Lettering Standard?

There is no compliance deadline for the standard on lettering. The lettering standard applies only to signs with names of places, streets, and highways. State and local transportation agencies must implement the new lettering style only as they install new signs or replace existing signs. Some press reports gave the impression that the federal government was requiring communities to immediately begin replacing all street signs just to comply with the new lettering style standard, but this is incorrect.

⁴ FHWA, Final Rule, 72 *Federal Register* no. 245, December 21, 2007, p. 72578.

Why Must State and Local Agencies Comply?

Generally, federal and state laws require that each state adopt a manual of traffic control devices that meets or exceeds the standards in the federal MUTCD. The reason for these requirements is the belief that uniformity in signs and signals promotes public safety.

Most MUTCD standards, such as the lettering standard, do not have compliance deadlines. The case of the retroreflectivity maintenance standard is unusual in this respect. The state and local officials on the AASHTO task force that helped develop the retroreflectivity maintenance standard considered its safety impact to be so significant that they recommended a six-year compliance deadline to ensure that communities implemented the new standard promptly.

Why Must Perfectly Good Signs Be Replaced?

If a traffic sign meets the MUTCD standard for retroreflectivity, it does not have to be replaced. If it does not meet the minimum retroreflectivity standard, then it may create a safety hazard after dark, although it may appear to be perfectly good during daylight hours.

How Much Will Compliance Cost?

A study sponsored by the U.S. Department of Transportation estimated the total additional cost to state and local governments to be \$37.5 million over a 10-year period. Of this, \$27.5 million would be borne by local governments, which are responsible for most traffic signs, and \$11.8 million by state governments.⁵ The total cost was estimated to represent a 0.5% increase in annual sign maintenance costs for states; data to estimate the incremental impact on local government budgets were not available. The maximum cost in any one year was estimated at \$4.5 million. Up to 100% of the cost of replacing traffic signs is eligible for federal funding.

Most larger communities already have sign maintenance and replacement programs; for these communities, the impact of the retroreflectivity maintenance standard is likely to be modest. The impact may be greater in smaller communities that may never have instituted sign maintenance and replacement programs.

Press reports indicate that a number of state and local highway agencies have stated that they estimate their costs to comply with the new standard are much higher than the estimate in the DOT study. The methodologies by which these estimates were generated has not been reported.

⁵ FHWA, *Maintaining Traffic Sign Retroreflectivity: Impacts on State and Local Agencies*, FHWA-HRT-07-042, April 2007, p. 25.

Is the Retroreflectivity Standard an Unfunded Mandate?

Several comments submitted during the rulemaking process described the rule as an unfunded mandate, as it would impose additional costs on state and local governments for developing sign inventories, training personnel to examine signs, and replacing signs without providing additional resources for this purpose. Up to 100% of the cost of installing and replacing traffic signs can be covered by federal-aid highway funding. The annual level of federal-aid highway funding provided to states and localities through the annual DOT appropriations act rose from \$33.9 billion in FY2004 to \$41.1 billion in FY2010, in addition to \$27.5 billion provided to states and localities for highway infrastructure investment in the American Recovery and Reinvestment Act of 2009 (P.L. 111-5). Thus, while states did not receive additional federal funding solely for the purpose of implementing the retroreflectivity maintenance standard, the amount of federal highway funding provided to states and localities, from which sign replacement costs could be covered, has increased far more than the estimated increase in cost that the standard would impose.

What if States and Local Governments Do Not Comply by the Deadlines?

There are two potential enforcement mechanisms for the standards in the MUTCD. First, states and local governments that are not in compliance with the standards are potentially subject to having a portion of their federal transportation funding withheld. However, there is no formal enforcement mechanism to ensure compliance. In fact, one report noted that “It is not uncommon for MUTCD principles to be violated (knowingly or unknowingly) in actual practice.”⁶

The more significant potential enforcement mechanism for MUTCD standards is the tort liability that communities may face in the event of a lawsuit involving, in this case, a nighttime car crash in which the visibility of a street sign may be a factor.

Can the Deadlines be Changed or Eliminated?

The deadlines were established through the federal regulatory process, and thus are now regulations. To change or eliminate the deadlines would require either a new rulemaking process or congressional action. DOT has issued a notice of proposed amendments to the compliance deadlines for the retroreflectivity maintenance standard (and numerous other MUTCD standards with compliance deadlines).⁷ This could lead to postponement of the compliance deadlines.

⁶ FHWA, *Minimum Retroreflectivity Levels for Overhead Guide Signs and Street-Name Signs*, FHWA-RD-03-082, December 2003, p. 28.

⁷ FHWA, 76 *Federal Register* no. 169, August 31, 2011, 54156

DOT proposed to extend the deadline for highway agencies to implement an assessment or management method for ensuring that their signs comply with the retroreflectivity standard, and to limit the scope of that required assessment to regulatory and warning signs, rather than all street signs. DOT also proposed to eliminate the compliance deadlines for replacement of signs that are identified as not meeting the minimum retroreflectivity level standards. Communities are still required to replace any signs that do not meet the standards.

DOT said it was proposing to change the deadlines to reduce the costs and impacts of the compliance deadlines on state and local highway agencies. It noted that the original deadlines had been based on standard useful-life cycles for signs, but that varying environmental conditions meant that the actual useful life of signs varied in different areas of the country.

Table I. Proposed Changes to Retroreflectivity Rule

Current Requirements	Proposed Change
Agencies must implement a sign retroreflectivity assessment or management method by January 22, 2012	Deadline extended to two years after effective date of revised Final Rule [approximately January 2014]
Retroreflectivity assessment or management method must be implemented for all traffic signs	Only regulatory and warning signs (e.g. stop signs) must be assessed/managed by the new deadline; other signs must also be assessed, but no deadline.
Noncompliant regulatory, warning, and post-mounted guide signs must be replaced by January 22, 2105	No deadline, though noncompliant signs must be replaced
Noncompliant street name signs and overhead guide signs must be replaced by January 22, 2018	No deadline, though noncompliant signs must be replaced

Source: Federal Highway Administration, National Standards for Traffic Control Devices; MUTCD; Revision, 76 Federal Register 54156, August 31, 2011.

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