

National Association of County Engineers



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U.S Department of Transportation
Documents Management Facility
1200 New Jersey Avenue, S.E.
Washington, DC 20590

Re: Comments to Docket No. FHWA-2009-0139
National Standards for Traffic Control Devices; the Manual on Uniform Traffic
Control Devices; Maintaining Minimum Retroreflectivity of Longitudinal
Pavement Markings

In response to the notice of proposed amendments published in Docket No. FHWA-2009-0139 of the Federal Register issued on April 22, 2010, the National Association of County Engineers (NACE) is providing the following comments.

NACE continues to be very concerned that this proposed action creates yet another financial hardship to local agencies. No dedicated additional funding is being provided to help local highway agencies increase their level of service in pavement marking maintenance and replacement to meet these new requirements. Additionally, the on-going economic climate in the country is causing many of our member counties to continue to cut back on their existing services, staff, and levels of service year after year. We have seen the economic analyses and based on the assumptions and best case scenarios used we challenge the assertion that the proposed rule "does not impose unfunded mandates as defined by the Unfunded Reform Act of 1995 (Pub. L. 104-4, 109 Stat. 48, March 22, 1995)." We feel the resultant unfunded mandates will exceed the threshold outlined in the law. Additionally, certain costs were excluded from the analysis (labor, equipment and mileage costs for pavement marking replacement) assuming that the proposed implementation period of 6 years is long enough to allow replacement markings under current planned maintenance cycles. This is an erroneous assumption. Most local jurisdictions either do not have a current planned maintenance cycle for pavement and sign maintenance or if they do have one do not have funding to accomplish them. Finally, the rule asserts and assumes that because pavement marking replacement is eligible for up to 100% federal-aid funding that sufficient funding is available. This is also a false assumption because in reality the availability of federal-aid funding is frequently dictated by State DOT's many of which do not allow local government's sufficient access to the limited available dollars. The bottom line, therefore, that this proposed rulemaking does impose a serious unfunded mandate on local governments.

Overall, NACE supports the proposed changes to the NPA that the National Committee on Uniform Traffic Control Devices (NCUTCD) adopted on July 1, 2010. In this comment letter, NACE would like to reiterate our support of many of the NCUTCD changes, as well as request that portions of the NCUTCD's adopted changes be modified to be consistent with what we believe was their intent. Please note the attachment to this letter.

1. NACE strongly supports moving the reference to Table 3A-1 in Section 3A.03 from a Standard statement to a Guidance statement. This is particularly critical, given the FHWA's current position that Standard statements cannot be modified

or compromised. There is certainly the need for the use of engineering judgment in applying the methodology to try to maintain the minimum retroreflectivity level values shown in Table 3A-1, as it is widely recognized that in many instances it will not be feasible for highway agencies to maintain these minimum levels the year around. This will be particularly true for highway agencies in northern tier states who deal with snow and ice control, as well as all of those agencies who rely upon paint for their striping, as most of our member counties do.

The title of Table 3A-1 should be changed to “Recommended Minimum Maintained Retroreflectivity Levels for Longitudinal Pavement Markings,” to more accurately reflect the context and meaning of the numerical values in the table.

We realize that the NPA for pavement marking retroreflectivity is structured similarly to the language that was ultimately adopted for sign retroreflectivity. However, we feel this change to Guidance is necessary. Attempting to maintain minimum levels of retroreflectivity for pavement markings under traffic wear and snow and ice conditions, over a much shorter service life (particularly for paint, which most agencies use), is significantly different from the more predictable degradation characteristics that a typical traffic sign experiences over a longer service life.

2. We concur with the NCUTCD changes to Table 3A-1, including the lowering of the highest value from the proposed 250. It is clear that the value of 250 is not realistic for paint (which most agencies use for roadway striping) by just looking at several state DOT specifications that require initial retroreflectivity levels that are lower. We feel that more actual retroreflectivity field measurements of in-service painted longitudinal roadway lines are needed in order for the FHWA to determine what is realistically feasible to maintain as a minimum level. If this field data can be compiled within a relatively short time, we feel it would be beneficial to delay the issuance of the final rule a few months to provide the opportunity to incorporate those findings.
3. NACE **strongly** supports the FHWA’s proposal that the proposed minimum retroreflectivity values only apply to longitudinal lines that are required or recommended by the Manual. This is important because agencies who are concerned about risk management and spending additional resources in monitoring retroreflectivity could easily be discouraged from providing longitudinal lines on other roadways that they would otherwise consider striping as an option. **This language must remain in the rule.**
4. We also support the FHWA’s proposal that the proposed minimum levels not be applicable to roads with a posted speed limit of 30 mph or less. There are thousands of miles of roads in local agencies that have a speed limit of 25 or 30 mph that have never had any center lines or edge lines and have never experienced a traffic crash history of concern.

5. NACE supports the exceptions listed in the footnotes of Table 3A-1, as amended by the NCUTCD proposal. Specifically, the use of RRPMS, continuous roadway lighting, and the use of delineators are viable exceptions that we believe provide enhanced nighttime conspicuity in lieu of needing to adhere to the proposed minimum retroreflectivity values in the table. In fact, by providing these exceptions, it may very well result in increased use of RRPMS, lighting, or delineators, which should have an overall general safety benefit. The addition of delineators as an exception is particularly important and provides a more viable alternative for highway agencies that experience snow, ice, sanding, and increased wear on their painted roadway striping.
6. NACE recommends a change to Table 3A-1. The term “All other roads” is confusing and misleading and we recommend the language “All other road markings covered in Standard 3A.03” be inserted to help clarify that “All other roads” does not mean any and all roads.
7. NACE also supports the NCUTCD’s proposal to move the compliance “Support” statement to a “Standard,” to further emphasize that compliance with the new requirements is in having a method in place while at the same time recognizing that there are inevitable occurrences when some markings will not meet the recommended minimum retroreflectivity values.

However, we feel that the NCUTCD inadvertently left the phrase “and using the method to maintain the recommended minimum levels established in Table 3A-1” in the compliance statement when they moved the paragraph from Support to a Standard, and for this reason, NACE believes that the above phrase be deleted.

This would be consistent on the NCUTCD’s action to delete the original reference to the Table from Section 3A.03 (i.e., the phrase, “...at or above the minimum levels in Table 3A-1), and refer to the table values in Guidance... all due to the concern that Standard statements are not to be modified or compromised, even with engineering judgment or study.

NACE feels that the compliance statement, as it would appear in the Standard section, should read as follows: “Compliance with the above standard is achieved by having a method in place and using the method to manage pavement marking retroreflectivity levels in the manner described in the Guidance section below. Provided that a method is being used, an agency or official having jurisdiction would be in compliance even if there are occurrences when pavement markings do not meet the minimum retroreflectivity levels at a particular location or at a particular point in time.”

Similarly, we believe that for the new language to be added to Table 1-2, Target Compliance Dates, the NCUTCD inadvertently left the phrase, “at or above the established minimum levels,” in the table. NACE feels that the phrase, “at or

above the established minimum levels” should be deleted from the four year compliance language to be shown in Table 1-2. We believe that this action would be consistent with the NCUTCD’s intent, based on their action to delete the similar phrase from the Standard in Section 3A.03 and their concern about Standards not being able to be modified or compromised using engineering judgment or study.

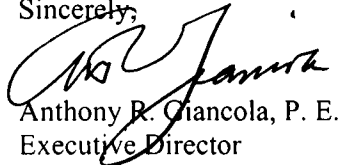
Please see the attached revised language that NACE is recommending which supports the comments above.

8. We recommend that FHWA commit to prompt and extensive training on this topic in each state through additional appropriations to the Local Technical Assistance Program (LTAP) for this topic. Very few of our members have been able to participate in meetings on this topic. However, this rule has a significant impact on every county, township, city, village, and community with pavement maintenance responsibilities. These local units of government collectively are responsible over 3 million miles of roads or about 77 % of the nation’s public highways. Many small communities will very likely be caught off guard by this rule.

In conclusion, the Federal Highway Administration is to be commended for its substantial research activities, outreach efforts, and receptiveness for input and involvement from a wide range of stakeholders. It is evident to us that this rule will have significant impacts on local agencies.

We appreciate the opportunity to provide these comments to this NPA, and ask that you incorporate these concerns into the Final Rule.

Sincerely,



Anthony R. Giancola, P. E.
Executive Director

1 **NACE Recommended Changes to the MUTCD NPA (Docket No. FHWA-2009-0139)**
2 **Maintaining Minimum Retroreflectivity of Longitudinal Pavement Markings**
3

4 Note: Additions to the FHWA NPA language are shown as underlined blue font and deletions
5 are shown as ~~double strikethrough red font~~.
6

7 Add to Table I-2 Target Compliance Dates Established by the FHWA:

8 **Section 3A.03 Maintaining Minimum Retroreflectivity of Longitudinal Pavement Markings—new**
9 **section—from the effective date of the Final Rule for Revision 1 of the 2009 MUTCD:**

- 10 • **4 years from date of Final Rule for implementation and continued use of a maintenance**
11 **method that is designed to maintain pavement marking retroreflectivity at or above the**
12 **established minimum levels; and**
- 13 • **6 years from date of Final Rule for replacement of pavement markings that are identified**
14 **using the maintenance method as failing to meet the established minimum levels.**

15
16 Add new reference document to Section 1A.11 Relation to Other Publications:

17 **Section 1A.11**

18 **“Summary of the MUTCD Pavement Marking Retroreflectivity Standard,” Report No. FHWA-SA-**
19 **10-015.**

20
21 Revise Section 3A.03 as follows:

22 **Section 3A.03 Maintaining Minimum Retroreflectivity of Longitudinal Pavement**
23 **Markings**

24 **Standard:**

25 **Public agencies or officials having jurisdiction shall use a method designed to maintain**
26 **retroreflectivity of the following white and yellow longitudinal pavement markings, at or above the**
27 **minimum levels in Table 3A-1:**

- 28
- 29 1. **Center line markings on roads where they are required or recommended by in Section**
30 **3B.01. This shall include any no-passing zone markings, longitudinal two-way left-turn**
31 **lane markings, and yellow markings used to form flush medians on such roads.**
- 32 2. **Lane line markings on roads where they are required or recommended by in Section**
33 **3B.04. This shall include any dotted lane lines, lane drop markings, and longitudinal**
34 **preferential lane markings on such roads.**
- 35 3. **Edge line markings on roads where they are required or recommended by in Section**
36 **3B.07. This shall include any channelizing lines delineating gores, divergences, or**
37 **obstructions on such roads.**
- 38 4. **Any optional edge line markings that are used to qualify for the lower minimum**
39 **retroreflectivity values in the “All other roads” row of Table 3A-1.**
40

41 Except for the optional edge line markings described in item #4, markings which are not
 42 required or recommended in 3B.01, 3B.04 or 3B.07 are not subject to this Standard, but shall
 43 comply with the requirements of Section 3A.02.
 44

45 Support:

46 **Compliance with the above standard is achieved by having a method in place and using the**
 47 **method to** maintain the minimum levels established in Table 3A-1 manage pavement marking
 48 retroreflectivity levels in the manner described in the Guidance section below. Provided that a method
 49 is being used, an agency or official having jurisdiction would be in compliance with the above
 50 Standard even if there are occurrences when pavement markings that do not meet the minimum
 51 retroreflectivity levels at a particular location or at a particular point in time.

52 Support:

53 These occurrences include, There are many factors for agencies to consider in developing a method of
 54 maintaining minimum pavement marking retroreflectivity including, but are not limited to, winter weather
 55 and the deterioration of markings due to snow and ice control, environmental conditions, reconstruction,
 56 and pavement resurfacing, and localized or abnormal wear.

57 Guidance:

58 The method should be designed to maintain retroreflectivity of the white and yellow longitudinal
 59 markings described in items 1-4 of the preceding Standard at or above the minimum levels in Table 3A-1.
 60

61 **Table 3A-1 Recommended Minimum Maintained Retroreflectivity Levels^① for**
 62 **Longitudinal Pavement Markings**

	Posted Speed (mph)		
	≤ 30	35 – 50	≥ 55
Two-lane roads with centerline markings only ^②	n/a	100	250 150
All other roads ^② markings covered in Standard 3A.03	n/a	50	100

① Measured at standard 30-m geometry in units of mcd/m²/lux for clean and dry pavement markings
 ② Exceptions:
 A. When RRPMs supplement or substitute for a longitudinal line (see Section 3B.13 and 3B.14), minimum pavement marking retroreflectivity levels are not applicable as long as the RRPMs are maintained so that at least 3 are visible from any position along that line during nighttime conditions.
 B. When continuous roadway lighting assures that the markings are visible, minimum pavement marking retroreflectivity levels are not applicable.
 C. When delineators are placed along the roadway according to Section 3F.04, minimum pavement marking retroreflectivity levels are not applicable.

63 Support:

64 Except for those pavement markings specifically identified in the Option below, one or more of the
 65 following methods, as described in the 2010 Edition of FHWA's "Summary of the MUTCD Pavement
 66 Marking Retroreflectivity Standard (see Section 1A.11), " should be used to maintain retroreflectivity of
 67 longitudinal pavement markings at or above the levels identified in Table 3A-1:
 68

- 69 A. *Calibrated Visual Nighttime Inspection* – Prior to conducting a nighttime inspection from a
70 moving vehicle and in conditions similar to nighttime field conditions, a trained inspector
71 calibrates his eyes to pavement markings with known retroreflectivity levels at or above those in
72 Table 3A-1. Pavement markings identified by the inspector to have retroreflectivity below the
73 minimum levels are replaced or re-marked.
- 74 B. *Consistent Parameters Visual Nighttime Inspection* – A trained inspector at least 60 years old
75 conducts a nighttime inspection from a moving vehicle under parameters consistent with the
76 supporting research. Pavement markings identified by the inspector to have retroreflectivity
77 below the minimum levels are replaced or re-marked.
- 78 C. *Measured Retroreflectivity* – Pavement marking retroreflectivity is measured using a
79 retroreflectometer. Pavement markings with retroreflectivity levels below the minimums are
80 replaced or re-marked.
- 81 D. *Service Life Based on Monitored Markings* – Markings are replaced or re-marked based on the
82 monitored performance of similar in-service markings with similar placement characteristics.
83 All pavement markings in a group/area/corridor are replaced when those in the representative
84 monitored control set are near or at minimum retroreflectivity levels. The control set markings
85 are monitored on a regular basis by the visual nighttime inspection method, the measured
86 retroreflectivity method, or both.
- 87 E. *Blanket Replacement* – All pavement markings in a group/area/corridor or of a given type are
88 replaced or re-marked at specific intervals. The replacement interval is based on when the
89 shortest-life material in that group/area/corridor approaches the minimum retroreflectivity level.
90 The interval is also based on historical retroreflectivity data for that group/area/corridor.
- 91 F. *Other Methods* – Other methods developed based on engineering studies that determine when
92 markings are to be replaced or re-marked based on the minimum levels in Table 3A-1.

93 Option:

94 Public agencies or officials having jurisdiction may exclude the following markings from their
95 minimum pavement marking retroreflectivity maintenance method(s) and the minimum maintained
96 pavement marking retroreflectivity levels, but not from any requirements in Section 3A.02 to be
97 retroreflective.

- 98 A. Words, symbols, and arrows,
99 B. Crosswalks and other transverse markings,
100 C. Black markings used to enhance the contrast of pavement markings on a light colored pavement,
101 D. Diagonal or chevron markings within a neutral area of a flush median, shoulder, gore, divergence,
102 or approach to an obstruction,
103 E. Dotted extension lines that extend a longitudinal line through an intersection or interchange area,
104 F. Curb markings,
105 G. Parking space markings, and
106 H. Shared use path markings