3A.?? Longitudinal Pavement Marking Retroreflectivity

Support:

Retroreflectivity is one of several assessments associated with maintaining providing pavement marking visibility

Standard:

Public agencies or officials having jurisdictions shall establish a method for maintaining the attainment of longitudinal pavement marking visibility with respect to the recommended minimum levels identified in Table XX-Xa.

Support: Compliance with the Standard above is achieved by having a method in place and using the method to maintain nighttime visibility of markings. Agencies and jurisdictions are deemed to be in compliance provided an assessment or management method is in use even though some sections of markings are below recommended minimum levels or methods cannot be employed for a time. These times include but are not limited to: weather (such as snow, ice, rainy seasons); resurfacing and replacement schedules, localized or abnormal wear (such as vehicular abrasion by heavy trucks or severe erosion), budgetary and other resource constraints

Guidance:

The jurisdiction's method should include, at a minimum, all markings required by a standard or recommended by a guidance statement in Sections 3B.01 or 3B.07 of this Manual.

One or more of the following assessment or management methods should be used to evaluate pavement marking retroreflectivity with respect to the recommended minimum levels:

a. Measured Marking Retroreflectivity - Pavement marking retroreflectivity is measured using a 30-meter retroreflectometer. b. Visual Nighttime Inspection - The retroreflectivity of existing markings are assessed by a trained inspector conducting a visual inspection from a moving vehicle during nighttime conditions.

c. Expected Marking Life - The replacement of markings is based on the experience of pavement marking retroreflectivity degradation. Degradation experience is based on such items as materials test results, traffic volumes, geographic area and roadway type.

d. Control Markings – The replacement of markings is based on the performance of a sample of control markings. The control markings are a small sample
located in typical roadway environments that are representative of the larger population of markings in the jurisdiction.

Support: Based upon the Support and Guidance Statements above, successful implementation of the assessment and management methods identifies markings in need of replacement. If the longitudinal pavement markings fall below the recommended minimum levels for the method(s) used, then the markings should be replaced or retraced as conditions and resources permit. Markings are replaced as resources permit.

Option:

Jurisdictions may use other methods where established and documented.

Option:

The recommended minimum retroreflectivity levels may be reduced if a longitudinal marking line is supplemented by retroreflective raised pavement markers in accordance with Section 3B or if continuous roadway lighting is present. The reduced minimum levels are shown in Table XX-Xb

Support:

Additional information on the measurement and assessment methods, including specifications for measurement taking, can be found in the FHWA publication, “Maintaining Pavement Marking Retroreflectivity.”

The following factors can also be used to help establish methods, process evaluations, and schedule replacement or retracing:

(1) Representative sample size for a roadway segment
(2) Presence of dirt, water, snow, etc. on the sections of markings
(3) Time or season of year for evaluation and replacement/retracing
(4) Width of line; type of material and retroreflective elements
(5) AADT including percentage of nighttime travel
(6) Typical roadway section and functional classification (including presence or absence of all-weather shoulder, rumble stripe, rumble strips, etc.)

Support:

Studies and research to date have shown no correlation between increased higher levels of retroreflectivity above the recommended minimum and accident reduction or safety.