



# Traffic Guidelines Manual

ORIGINATOR State Traffic Engineer	2-15-51
CHAPTER 2	Signing
SECTION 15	Comprehensive Policies
SUBJECT 51	Routine Sign Replacement Criteria

## A. Purpose

Over time the visual characteristics of signs deteriorate as a result of weather, age and ultraviolet radiation, resulting in reduced legibility performance day and/or night. As a result, signs have to be changed periodically as part of a routine sign replacement. There are a number of mechanisms to accomplish the replacement of signs on the WisDOT system. Often times questions arise as to when signs *should* be changed, who *should* change the signs and what criteria *should* be used in determining replacement. Therefore, it is necessary to have clear, consistent guidelines for the routine replacement of signs on state highways.

## B. Federal Highways Minimum Sign Retroreflectivity Values

Section 2A.08 of the 2009 MUTCD requires all units of government to use an assessment or management method that is designed to maintain the retroreflectivity of signs at or above the levels prescribed in the MUTCD Table 2A-3. To maintain compliance with the minimum sign retroreflectivity values in the MUTCD, WisDOT utilizes the following approved assessment and management methods:

1. Blanket Replacement. All signs in an area/corridor are replaced at specified intervals. This commonly takes place during improvement projects.
2. Expected Sign Life. Age of the sign is tracked and the sign is replaced when it meets its expected life. Current WisDOT expected sign life period is 12 years.
3. Control Signs. Replacement of signs in the field is based on the performance of a sample of control signs. The data from the control signs can provide engineering support to the Expected Sign Life method. Over time the Expected Sign Life replacement cycle *may* be revised based on data from the Control Signs test deck, which is located at the Madison Sign Shop yard.

## C. Detailed Sign Replacement Policy

### General Sign Replacement due to age/condition of sign

1. The Department's Sign Inventory Management System (SIMS) **shall** be used to track inventory data on signs that include manufacture date of sign, sign sheeting code and condition of sign.
2. Sign date and sheeting code tags **shall** be placed on the upper right corner on the back of Type II signs by the sign manufacturer or contractor. Type I signs **shall** have the sign date and sheeting code tag placed on the lower right corner on the back of the sign. The WisDOT Central Sign Shop provides all date and sheeting code tags to sign manufacturers and contractors.
3. In general, signs *should* be replaced on a twelve year cycle, following the priority established by the Bureau of Traffic Operations on an annual basis.
4. In general, signs needed for let projects will not be supplied through the Region Sign Shops or Central Sign Shops. The exception to this would be if there is an unexpected lack of signs by the contractor that *may* otherwise cause a delay in the completion of the project or needed for safety or operational issues. Detailed guidance is given below on the sign replacement criteria for let projects.
5. County Highway Departments, through Traffic Maintenance Agreements, *should* handle all of the other routine Type II sign replacements where a let project is not anticipated any time soon.
6. WisDOT **shall** provide all signs to the County Highway Departments. There are statewide procurement contracts to handle this. Counties **shall not** furnish signs, other than TODS or TRANS 200 arrow boards that are covered by other policies.
7. Routine Type I sign replacements *should* be performed by Let Contract. The statewide open-end signing contractor *should* only be used for knock-down repairs and replacements of Type I signs, Type I or Type II Supplemental Traffic Generator sign installations or for safety or operational issues where the county cannot get to the site in the timeframe needed.
8. Any signs or posts that are damaged, illegible, leaning, not in proper orientation to the roadway *should* be repaired or replaced as soon as opportunities permit.

### Sign Replacement Due to Changes in Sign Standards

1. Signs no longer meeting mounting height, size, message, letter size or sheeting material criteria *may* be replaced through the following methods:
  - a. Let Project or refurbishment project in the area.

- b. Knockdown, storm or vandalism damage that would cause the sign and/or posts to be replaced.
2. Examples of signs not meeting standards would include:
  - a. Too low of mounting height.
  - b. Too close to roadway.
  - c. Wrong size sign used for roadway.
  - d. Wrong letter size used on sign.
  - e. Signs containing Engineer Grade sheeting.
  - f. Change of Standard in the MUTCD or Wisconsin MUTCD Supplement resulting in a compliance period.
  - g. Change of Signing Policy in the Traffic Guidelines Manual.
3. If there is a safety issue/concern due to a sign not conforming to standards, the sign **shall** be replaced or removed as soon as practical. An example would be a restriction of motorist visibility due to an improper mounting height.
4. Analysis of intersection crash data *may* be used to help determine if sign standards attributed to any safety issues.
5. The methods of sign replacement *should* be followed as explained in the General Sign Replacement due to age/condition of sign part of this policy.

### **Sign Replacement as part of Let Projects**

When a Let project will take place in the area in the near future, the Region *should* strive to include all Type I and Type II sign replacements as part of the project. Typical Let projects *may* include roadway reconstruction, pavement overlays, base patching, joint repair and slurry seal projects. Typically the signs on the whole segment of the project would be replaced; however engineering judgment will have to be exercised on the part of the Region to determine the feasibility of this type of replacement.

Below are guidelines that *should* be followed to help determine if replacement of signs on a let project is feasible.

#### **Type I signs**

1. Overhead Type I guide signs *should* be replaced in all let projects. The recently published FHWA minimum sign retroreflectivity standards do not permit the usage of Engineer Grade or Encapsulated Lens high intensity sheeting for overhead guide signs. Exceptions to replacement of overhead mounted Type I guide signs can be made if the overhead Type I guide signs are prismatic high intensity sheeting or above and there is another let project programmed or scheduled on the same roadway segment within the next five years. Any signs not conforming to WisDOT and MUTCD policies **shall** be replaced in the let project. **Any exceptions to replacement of Type I signs shall be coordinated with the Region Traffic Engineering Supervisor.**

All lighted overhead signs **shall** be replaced in the let project unless the signs already contain Type SH reflective sheeting.

2. In general, ground mounted Type I guide signs *should* be replaced in all let projects. Exceptions to replacement of ground mounted Type I guide signs *may* be made if signs that will be replaced in another let project that is programmed or scheduled on the same roadway segment within the next five years. Any signs not conforming to WisDOT and MUTCD policies **shall** be replaced in the let project. **Any exceptions to replacement of Type I signs shall be coordinated with the Region Traffic Engineering Supervisor.**
3. Galvanized steel I-beams *should* only be replaced if Type I sign is not at the proper offset (30 foot desirable / 17.5 foot minimum from edge line to edge of sign) or if the new Type I sign is larger. All corten steel I-beams and bases **shall** be replaced.
4. Steel I-beams and bases that are re-used *should* have the base bolts replaced by utilizing bid item 635.0300 (Sign Supports Replacing Base Connection Bolts).

### Type II signs

1. All Type II signs *should* be replaced in all let projects. The recently published FHWA minimum sign retroreflectivity standards do not permit the usage of Engineer Grade on warning and guide signs. It is also WisDOT policy to not use Engineer Grade on any signs, including regulatory signs.
2. **Any exceptions to replacement of Type II signs shall be coordinated with the Region Traffic Engineering Supervisor.** Exceptions for replacement of Type II signs *may* be made if all the following criteria are met:
  - a. If signs that will be replaced in another let project that is programmed or scheduled on the same roadway segment in the next five years.
  - b. If existing Type II signs are not damaged or do not have any other material defects.
  - c. If sign size, mounting height and lateral offset still meet WisDOT standards.
  - d. If sign message still conforms to WisDOT and MUTCD policies and minimum FHWA/MUTCD retroreflectivity requirements.