

Maintenance of Traffic Control Devices and Pavement Markings

While the Code of Iowa allows considerable latitude in establishing traffic control, once signs and markings are installed, jurisdictions accept a duty to maintain those traffic control devices and markings. This duty is further discussed in the article “Inspection Procedures” (I1) in this manual. Maintenance of signs and markings can be divided into three major areas: preventative, routine, and emergency response.

Preventative maintenance is a useful concept involving replacement of aging devices, supports, and markings on a regularly scheduled basis. This practice can be very cost-effective and, because of the predictability of needs, quite simple to budget.

Routine maintenance involves minor repairs, straightening of devices, cleaning, and removing vegetation and debris, as well as many other necessary daily requirements. These activities are more difficult to estimate for budgeting, but past experience can be helpful.

Emergency maintenance is important for providing a safe environment for motorists. Damaged, missing, or vandalized signs and markings can be a potential hazard, which supports a need for established guidelines to properly address this situation. Budgeting for this activity can be based on past requirements.

Preventative Maintenance

Exposure to environmental conditions and traffic as well as normal aging will cause all signs and markings to deteriorate and fade. Programmed replacement of large groups of signs and markings can be adopted using data from an inventory system. (See “Inventory Systems for Traffic Control Devices” (J1) in this manual.) Whether automated or manual, an established inventory database can be searched to identify age, location, and quantity of traffic control devices, supports, and pavement markings that should be considered for replacement. This information then can be used for budget estimation.

Routine Maintenance

Field observations will determine the type and schedule for much of the daily routine maintenance necessary to keep signs and markings in acceptable condition. These activities are important, although they are not always viewed in this manner. Visibility of devices is mandatory for proper performance. Routine maintenance can involve the following activities.

Repairs. Signs and devices should be repaired in a timely manner primarily to provide safe driving conditions for the public. Poorly maintained signs and markings may result in lessened respect for these devices and their messages. These routine repairs might also include sign supports.

Vegetation. Signs and other devices are visible when installed, but often trees, shrubs, and even ground vegetation can obstruct visibility during certain times of the year. Need for vegetation control can be identified by regular inspections, work crew reports, and even input from the public.

Cleaning. This activity might be based on localized need and budget considerations. Dusting conditions in certain areas, mud splashing in construction areas, and snow and ice buildup in the winter can adversely affect sign and marking visibility. Rain can act to naturally clean traffic control devices, but certain signs and markings, particularly regulatory, may merit extra attention. Many times need for special cleaning is confined to specific locations and conditions.

Replacements. Replacement of signs and markings can be accomplished on a routine basis as needed. After identification, aging and deteriorated devices can be scheduled and replaced in an efficient manner. Supports can also be replaced, considering such conditions as rusting or oxidation of metal or rotting and deterioration of wood supports.

Whenever replacing Stop or Yield signs, it is good practice to use temporary signs or flaggers to control traffic during the operation. Adequate supports for these temporary signs will be needed and many agencies have developed their own designs. Refer to “Temporary Traffic Control During Operations” (K1) in this manual for more in-depth discussion of this topic.

Emergency Maintenance

This activity can be a challenging aspect of a management program. Emergency response can include replacing a missing sign or other device due to vandalism, storm, or accident. Installation of necessary traffic control in response to a major catastrophe also can be included in this category.

Development of a priority system for response in emergencies is important, particularly for certain regulatory signs, such as Stop, Yield, and Do Not Enter. In addition, the need for emergency maintenance can occur at any hour, so an established program for response is highly suggested. This system might include carrying an inventory of possibly needed devices, adoption of a response priority, and designation of an individual to receive notice from law enforcement and the public during nonworking hours. See “Responding to a Deficiency Notice” (K1) in this manual.

Recycling signs can be a cost-efficient practice for road agencies. Bent signs can be straightened and sheeting replaced, usually at a cost much less than a new purchase. When replacing devices from vandalism or even normal aging, this service should be considered as part of a good management program. Refer to “Signs” (C1) in this manual for more information.

Pavement Marking Maintenance

Appropriate maintenance, including monitoring, cleaning, and periodic replacement, should be a major factor in the pavement marking management program. The following are suggested replacement guidelines to assure reasonable visibility and retroreflectivity levels for pave-

ment markings. (Note: These guides apply only to water-based paint markings. Durable markings and tape should be replaced when necessary or as recommended by the manufacturer.)

Center Lines. Center-line markings should be considered for repainting once in each 12-month period or as needed.

Edge Lines. Edge-line markings should be considered for repainting once in each 12-month period or as needed.

Transverse Lines. These markings should be considered for repainting once in each 12-month period or as needed.

Symbols and Miscellaneous Markings.

Symbols and all other pavement markings should be considered for repainting once in each 12-month period or as needed.

Individual agencies should use replacement schedules most appropriate for local needs.

Public Response and Documentation

To provide expected service to the public, agencies may want to adopt a procedure to handle public contacts, including recording of names, phone numbers, dates, and the information presented. A follow-up with the public on any actions taken is also important for good relations.

With all types of maintenance, complete documentation is recommended. Whether routine or emergency in nature, recording maintenance activities can be extremely valuable. Documentation can be included in an established inventory system for major work or placed in a diary with minor routine activities. See “Inventory Systems for Traffic Control Devices” (J1) in this manual.

With any maintenance activity, be sure to check for utilities by using One Call (1-800-299-8989) whenever digging is anticipated.