

DELAWARE TRAFFIC CONTROL
A - INTRODUCTION AND GENERAL SPECIFICATIONS

A-1 Need for Standards

In order to have maximum effectiveness, traffic control devices must be applied in a consistent manner to similar type situations. The use of nonstandard devices or the nonstandard use of standard devices may evoke unusual driver behavior.

When traffic must be moved through or around road or street construction, maintenance operations, utility work or any other operation which interferes with normal traffic patterns, problems can occur. Maximum safety for both the road user and the workers can be obtained by providing clear communications for the driver in a logical fashion. The treatment of similar situations in a consistent pattern is the foundation of good communications.

A-2 Scope

This manual sets forth basic principles and prescribes standards for the design, application, installation, and maintenance of the various types of traffic control devices required for all operations which interfere with normal traffic patterns including construction, maintenance or utility operations. For simplicity, the references to these traffic control devices will be to "construction and maintenance" signs, signals, etc. It is understood that the referenced includes all operations of any type which interfere with normal traffic patterns. The traffic control devices include signs, signals, lighting devices, markings, barricades, hand signaling devices, arrowpanels, and dynamic message signs. Minimum standards of application are illustrated for a number of typical situations, and for methods of controlling traffic through work areas.

A-3 Application of Standards

All traffic control devices used on construction, maintenance, or utility work in both rural and urban areas shall conform to the applicable sections of this manual and the National Cooperative Highway Research Program (NCHRP) Report 350 and the memorandum issued August 28, 1998 by the USDOT Federal Highway Administration.

In brief, certification of compliance with NCHRP Report 350 is required for the following categories of traffic control devices:

Category I contains small and lightweight channelizing and delineating control devices which includes cones, tubular markers, flexible delineator post and drums, all without any accessories or attachments.

Category II includes traffic control devices that are not expected to produce significant vehicular velocity changes to impacting vehicles. These devices, which shall weigh 100 lbs (45 kg) or less, include Type I, II, and III barricades, portable sign supports with signs, and intrusion alarms. Also included are drums, cones, and vertical panels with accessories or attachments.

Category III includes traffic control devices that are expected to cause significant vehicular velocity changes to impacting vehicles. These devices, which usually weigh more than 100 lbs (45 kg), include temporary barrier, temporary impact attenuators, and truck-mounted attenuators.

Category IV includes portable or trailer-mounted devices, such as arrow panels, variable message signs, temporary traffic signals, and temporary area lighting.

The schedule for implementation of certification is as follows:

Category I – Effective October 1, 1998, all devices shall be certified as conforming to NCHRP Report 350 criteria.

Category II – Effective October 1, 2000, all new devices shall be certified as conforming to NCHRP Report 350 criteria. Prior to October 1, 2002, devices acquired before October 1, 2000 that have not been crash tested in accordance with NCHRP Report 350 criteria can be used provided that it can be certified that the devices were acquired prior to October 1, 2000. Effective October 1, 2002, all devices shall be certified as conforming to NCHRP Report 350 criteria.

Category III – Effective October 1, 1998, all impact attenuators shall be certified as conforming to NCHRP Report 350 criteria.

Category III – Effective October 1, 2000, all temporary barrier devices shall have tensile and moment resistance. After October 1, 2002, all new temporary barrier devices shall be certified as conforming to NCHRP Report 350 criteria.

Category IV – Certification of compliance to NCHRP Report 350 criteria is not required.

For DelDOT administered projects, the certification shall be submitted to the Engineer prior to installation of use of traffic control devices. For Category I devices, the manufacturer or owner may self-certify that the devices meet NCHRP Report 350 criteria. For Category II and Category III devices, the contractor shall supply the Federal Highway Administration's NCHRP Report 350 acceptance letter for each type of device.

NCHRP Report 350 certified traffic control devices are required for all other activities occurring on or within all highways open to public travel within this State. It is the responsibility of the device owner or user to insure that all traffic control devices meet the above requirements. Unless specified above, it is the traffic control device owner or user's responsibility to retain copies of certification documents. To validate device certification, these documents must be available for inspection by the Chief Traffic Engineer or his/her designee.

Since it is not practical to prescribe detailed standards of application for all the situations that may conceivably arise, the standards presented here are for the most common situations. It is emphasized that these are standards for normal situations. Additional protection must be provided when special complexities and hazards prevail. Less protection may be warranted under special conditions as well. The variety of conditions encountered makes the establishment of inflexible arrangements totally impractical. Nothing in this manual shall be interpreted as precluding the application of engineering judgement. In all questions of interpretations, the judgement of the Chief Traffic Engineer shall be final. The protection prescribed for each situation shall be based on the speed and volume of traffic, duration of operation and exposure to hazards. The term street refers to all the streets in any municipality, including cities, towns, villages, or other local jurisdictions.

A-4 Responsibility

These standards have been adopted by the Delaware Department of Transportation as provided for in Title 17, of the laws of Delaware. These standards are incorporated into the specifications for all Department of Transportation contracts.

Therefore, traffic control devices shall be maintained and shall not be removed or altered in any way without the authority of the Traffic Engineer. The provisions for public, pedestrian and worker protection established herein are for application by (1) Department of Highways, County Utility and Municipal forces performing construction or maintenance operation on roads or streets, (2) Contractors employed in road or street construction or maintenance under contract to any governmental authority, and (3) all other, including employee and contractor working for public or private Utility companies, fire department and enforcement officer, performing any operation on highway or so closely adjacent as to create hazard for the public or for themselves.

On projects where the reflectorized device is to remain in place not more than 7 calendar days, the photometric brightness values may be as low as 70% of the values stated in the referenced specification. In all cases where the measured brightness is 60% or less than the referenced specifications reflectorized device is no longer considered reflectorized and shall be illuminated or removed from the work site. Illumination here refers to providing sufficient ambient light from roadway lighting to compensate for lost reflectivity.

A-5 Incident Management

Incident Management operations on rural and urban highways are diverse, involving responses to fires, accidents, stalled vehicles, fallen power lines, etc. They often must be carried out under difficult lighting, weather and traffic conditions.

All traffic control devices used on streets and highways construction, utility, maintenance, and incident management operations shall conform to the applicable specifications of this manual.

A traffic control plan, in detail appropriate to the complexity of the work project or incident, should be prepared and understood by all responsible parties before the site is occupied. Any changes in the traffic control plan should be approved by an official trained in safe traffic control practices.

A-6 Traffic Control Plans The Traffic Control Plans present a concept of the relationship between roadway construction or maintenance work and traffic control. Any revision to the details or sequence of work shall require a revised traffic control plan. The revised traffic control plan shall be prepared in accordance with the current revisions to this manual. The contractor shall note that revisions to the traffic control plans, as well as review time by DelDOT, shall not justify a delay in the construction schedule. All costs involved in preparing the plan revision documents shall be the responsibility of the contractor.

A-7 Training

Each person whose actions affect construction, maintenance, utility and incident management zone safety, from the upper-level management personnel through field personnel, should receive training appropriate to the job decisions each individual is required to make. Only those individuals who are qualified by means of adequate training in safe traffic control practices and have a basic understanding of the principles established by applicable standard and regulations, including those of the manual, should supervise the selection, placement, and maintenance of traffic control devices in work and incident management areas. An ATSSA certified work site supervisor meets all of these training requirements.