National Committee on
Uniform Traffic Control Devices

13236 North 7th Street, Suite 4-259, Phoenix, Arizona 85022
Phone/Text: 231-4-NCUTCD (231-462-8823)
E-mail: secretary@ncutcd.org Website: https://ncutcd.org

National Committee on Uniform Traffic Control Devices (NCUTCD)
Recommended Changes to Proposed Text for 11th Edition of the MUTCD
Docket Number: FHWA-2020-0001

Federal Register Item Number: 528-539
NPA MUTCD Section Number: Sections 8A.01-8A.14
Legend: Base text shown in proposal is the NPA "clean" proposed text.

- NCUTCD recommendation for text to be added in final rule.
- ~~NCUTCD recommendation for text to be deleted in final rule~~.
- NCUTCD recommendation for text to be moved/relocated in final rule.
- NPA text that was not previously approved by NCUTCD but is now approved.
- Explanatory note: [Note that explains purpose of recommended change.]

The following pages present NCUTCD recommendations for changes to the MUTCD NPA proposed text, tables, and figures for Chapter 8A. Below is a short summary of the NCUTCD position for each section of this chapter. A more detailed summary is provided at the beginning of each section.

- NPA #528: Section 8A.01: Changes recommended based on Council action in spring 2021.
- NPA #529: Section 8A.02: Changes recommended based on Council action in spring 2021.
- NPA #530: Section 8A.03: NCUTCD agrees with NPA content.
- NPA #531: Section 8A.04: NCUTCD agrees with NPA content.
- NPA #532: Section 8A.05: NCUTCD agrees with NPA content.
- NPA #533: Section 8A.06: NCUTCD agrees with NPA content.
- NPA #534: Section 8A.07: NCUTCD agrees with NPA content.
- NPA #535: Section 8A.08: Changes recommended based on Council action in spring 2021.
- NPA #536: Section 8A.09: NCUTCD agrees with NPA content.
- NPA #N/A: Section 8A.10: NCUTCD agrees with NPA content.
- NPA #N/A: Section 8A.11: NCUTCD agrees with NPA content.
- NPA #537: Section 8A.12: Changes recommended based on Council action in spring 2021.
- NPA #538: Section 8A.13: NCUTCD agrees with NPA content.
- NPA #539: Section 8A.14. Changes recommended based on Council action in spring 2021.

Section 8A.01 Comments: NCUTCD generally agrees with 8A.01 as presented in the NPA, but offers an editorial change to add "pathways or sidewalks" in the Standard statement about private at grade crossings because not all private at grade crossings are roadways.

Section 8A.01 Introduction

Support:

Whenever the acronym "LRT" is used in Part 8, it refers to "light rail transit."

Chapters 8A, 8B, 8C, and 8D describe the traffic control devices that are used at highway-rail and highway-LRT grade crossings. Unless otherwise provided in the text or on a figure or table, the provisions of Part 8 are applicable to both highway-rail and highway-LRT grade crossings. When the phrase "grade crossing" is used by itself without the prefix "highway-rail" or "highway-LRT," it refers to both highway-rail and highway-LRT grade crossings.

Chapter 8E describes the traffic control devices that are used at pathway and sidewalk grade crossings.

Traffic control for grade crossings includes all signs, signals, markings, other warning devices, and their supports along highways approaching and at grade crossings. The function of this traffic control is to promote safety and provide effective operation of rail and/or LRT and highway traffic at grade crossings.

For purposes of design, installation, operation, and maintenance of traffic control devices at grade crossings, it is recognized that the crossing of the highway and rail tracks is situated on a right-of-way available for the joint use of both highway traffic and railroad or LRT traffic.

Grade crossings and the traffic control devices that are associated with them are unique in that in many cases, both the highway agency or authority with jurisdiction, the regulatory agency with statutory authority (if applicable), and the railroad company or transit agency are jointly involved in the development of engineering judgment or the performance of an engineering study. This joint process is accomplished through the efforts of a Diagnostic Team.

In Part 8, the combination of traffic control devices selected or installed at a specific grade crossing is referred to as a "traffic control system."

The combination of railroad or LRT active traffic control devices used to inform road users at a grade crossing of the approach or presence of rail traffic and the necessary control equipment for the devices are referred to as a "grade crossing warning system." Part 1.1.1 of the "AREMA Communications & Signals Manual" (see Section 1A.05) published by the American Railway Engineering & Maintenance-of-Way Association (AREMA) contains further information about grade crossing warning systems.

Standard:

Except at grade crossings of privately-owned roadways, pathways, or sidewalks, the traffic control devices, systems, and practices described in this Manual shall be used at all grade crossings open to public travel, consistent with Federal, State, and local laws and regulations. (add "pathways or sidewalks" to be more accurate)

Section 8A.02 Comments: NCUTCD generally agrees with 8A.02 as presented in the NPA, but offers editorial corrections to change "all types of road users" to "road users" because "road users" is already defined in Section 1C.02.

Section 8A.02 Highway-LRT Grade Crossings

Support:

Part 8 also describes the traffic control devices that are used in locations where light rail transit (LRT) vehicles are operating along streets and highways in mixed traffic with ~~all types of~~ road users. (add the leading parenthesis around the acronym LRT and delete "all types of" because the term "road users" is already defined in section 1C.02)

LRT is a mode of public transportation that employs LRT vehicles (commonly known as light rail vehicles, streetcars, or trolleys) that operate on rails in streets in mixed traffic, and LRT traffic that operates in semi-exclusive rights-of-way, or in exclusive rights-of-way. Grade crossings with LRT can occur at intersections or at midblock locations, including public and private driveways.

An initial educational campaign, along with an ongoing program to continue to educate new drivers is beneficial when introducing LRT operations to an area and, hence, new traffic control devices. (add comma)

LRT alignments can be grouped into one of the following three types (see definitions in Section 1C.02):

A. Exclusive: An LRT right-of-way that is grade-separated or protected by a fence or traffic barrier. Motor vehicles, pedestrians, and bicycles are prohibited within the right-of-way. This type of alignment does not have grade crossings and is not further addressed in Part 8.
B. Semi-exclusive: An LRT alignment that is in a separate right-of-way or along a street or railroad right-of-way where motor vehicles, pedestrians, and bicycles have limited access and cross at designated locations only, such as at grade crossings where road users must yield the right-of-way to the light rail transit or the bus rapid transit traffic.
C. Mixed-use: An alignment where LRT operates in mixed traffic with all types of road users. In a mixed-use alignment, the light rail transit traffic does not have the right-or-way over other road users at grade crossings and intersections. If the LRT traffic is controlled by traffic control signals or LRT signal faces at an intersection with a roadway, the alignment is considered to be mixed-use even if some of the approaches to the intersection are used exclusively by LRT traffic.

Guidance:

If a highway-LRT grade crossing is equipped with a flashing-light signal system and is located within 200 feet of an intersection or midblock location controlled by a traffic control signal, a pedestrian hybrid beacon, or an emergency-vehicle hybrid beacon, the highway traffic control signal should be provided with preemption in accordance with Section 4F.19 and 8D.10 unless otherwise determined by a Diagnostic Team.

Option:

Where LRT vehicles are operating in a mixed-use alignment, traffic signal priority or preemption may be used as determined by a Diagnostic Team.

Standard:

Where LRT and railroads use the same tracks or adjacent tracks, the traffic control devices, systems, and practices for highway-rail grade crossings shall be used.

Section 8A.03 Comments: NCUTCD agrees with 8A.03 as presented in the NPA.

Section 8A.03 Use of Standard Devices, Systems, and Practices at Grade Crossings

Support:

Because of the large number of significant variables to be considered, no single standard system of traffic control devices is universally applicable for all grade crossings.

Standard:

Before any new grade crossing traffic control system is installed or before modifications are made to an existing system, approval shall be obtained from the highway agency with jurisdiction the regulatory agency with statutory authority(if applicable), and from the railroad company and/or transit agency.

The Diagnostic Team members shall reach a determination, documented in an engineering study (see Section 8A.05), on new grade crossing traffic control systems and on proposed changes to an existing grade crossing traffic control system. The Diagnostic Team determination shall be made after the Diagnostic Team members reach a consensus during site visits, meetings, conference calls, or a combination of some or all of these methods.

Except as provided in Paragraph 5, operational changes made to a grade crossing traffic control system requiring the use of engineering judgment or an engineering study shall be conducted and approved by a Diagnostic Team. Among the types of changes at a grade crossing for which a Diagnostic Team shall conduct an engineering study are additions to or modifications of the lanes approaching or traversing the grade crossing; additions or modifications to sidewalks; additions or modifications to bicycle lanes, especially if a counter-flow bike lane is added on a one-way street; changes to roadway use, including conversion to or from one-way operation or reversible lanes; implementation of quiet zones; and the installation of or significant operational changes to traffic control signals that might affect the grade crossing.

Option:

When determined by the responsible public agency, the railroad company, and/or the transit agency, general maintenance activities or minor operational changes to the grade crossing traffic control system that do not have a negative impact on the overall operation of the traffic control system may be made without a review and determination by a Diagnostic Team.

Support:

Many other details of grade crossing traffic control systems that are not set forth in Part 8 are contained in the publications listed in Section 1A.05, including the latest version of the "AREMA Communications & Signals Manual" published by the American Railway Engineering & Maintenance-of-Way Association (AREMA) and the latest version of "Preemption of Traffic Signals Near Railroad Crossings" published by the Institute of Transportation Engineers (ITE).

Section 8A.04 Comments: NCUTCD agrees with 8A.04 as presented in the NPA.

Section 8A.04 Use of Standard Devices, Systems, and Practices at Highway-LRT Grade Crossings

Support:

The combination of devices selected or installed at a specific highway-LRT grade crossing is referred to as a "Light Rail Transit Traffic Control System."

The normal rules of the road and traffic control priority identified in the "Uniform Vehicle Code" and its successor documents govern the order assigned to the movement of vehicles at an intersection unless the local agency determines that it is appropriate to assign a higher priority to LRT vehicles. Examples of different types of LRT priority control include separate traffic control signal phases for LRT movements, restriction of movement of roadway vehicles in favor of LRT operations, and preemption of highway traffic signal control to accommodate LRT movements.

Standard:

Highway-LRT grade crossings in semi-exclusive alignments outside of a roadway shall be equipped with flashing-light signals, with or without automatic gates, unless a Diagnostic Team determines that the use of Crossbuck Assemblies, STOP signs, or YIELD signs alone would be adequate.

Section 8A.05 Comments: NCUTCD agrees with 8A.05 as presented in the NPA.

Section 8A.05 Engineering Studies at Grade Crossings

Standard:

The appropriate traffic control system to be used at a grade crossing shall be determined by an engineering study conducted by a Diagnostic Team involving he highway agency with jurisdiction, the regulatory agency with statutory authority (if applicable), and the railroad company and/or transit agency (as applicable).

Guidance:

Among the factors that should be considered in the determination by a Diagnostic Team of which traffic control devices would be appropriate to install at a grade crossing are road geometrics, stopping sight distance, clearing sight distance, the proximity of nearby roadway intersections (including the traffic control devices at the intersections), adjacent driveways, traffic volume across the grade crossing, extent of queuing upstream or downstream from the grade crossing, train volume, pedestrian volume, operation of passenger trains, presence of nearby passenger station stops, variable train speeds, accelerating and decelerating trains, multiple tracks, high-speed train operation, number of school buses or hazardous material haul vehicles, and the crash history at or near the location.

Option:

The engineering study may include the Highway-Rail Intersection (HRI) components of the National Intelligent Transportation Systems (ITS) architecture, which is a USDOT accepted method for linking the highway, vehicles, and traffic management systems with rail operations and wayside equipment.

Support:

More detail on Highway-Rail Intersection components is available from the USDOT's Federal Railroad Administration, 1200 New Jersey Avenue, SE, Washington, DC 20590, or www.fra.dot.gov.

Section 8A.06 Comments: NCUTCD agrees with 8A.06 as presented in the NPA.

Section 8A.06 Uniform Provisions

Standard:

All signs used in grade crossing traffic control systems shall be retroreflective or illuminated as described in Section 2A.20 to show the same shape and similar color to an approaching road user during both day and night.

No sign or signal shall be located in the center of an undivided highway, unless it is crashworthy (breakaway, yielding, or shielded with a longitudinal barrier or crash cushion) or unless it is placed on a raised island.

Guidance:

Any signs or signals placed on a raised island in the center of an undivided highway should be installed with a clearance of at least 2 feet from the outer edge of the raised island to the nearest edge of the sign or signal, except as permitted in Section 2A.15.

Where the distance between tracks, measured along the highway between the inside rails, exceeds 100 feet, additional signs or other appropriate traffic control devices should be used to inform approaching road users of the long distance to cross the tracks.

Where a raised median island is installed supplemental to an automatic gate to discourage road users from driving around a lowered gate, the Diagnostic Team should consider the length of the vehicle queues that typically form on the approach to the grade crossing when determining how far in advance of the grade crossing to extend the island.

If the roadway at a grade crossing includes a two-way left-turn lane (see Section 3B.05), the two-way left-turn lane should be discontinued in the immediate vicinity of the grade crossing by installing median islands, by designating the lane for left turns in one direction only, or by installing yellow diagonal markings in the lane (see Figure 3B-5). If yellow diagonal markings are used, the use of channelizing devices (see Section 3I.01), such as supplemental tubular markers, should also be considered.

Section 8A.07 Comments: NCUTCD agrees with 8A.07 as presented in the NPA.

Section 8A.07 Minimum Track Clearance Distance

Support:

The upstream point of the minimum track clearance distance is determined in the following manner:

A. If an automatic gate is present on the approach, the upstream point is the portion of the automatic gate arm that is farthest from the nearest rail.
B. If an automatic gate is not present on the approach, the upstream point is the portion of the stop line that is farthest from the nearest rail.

C. If the roadway is not paved, the upstream point is the point that is farthest from the nearest rail that is 10 feet measured perpendicular from the nearest rail.

The downstream point of the minimum track clearance distance is 6 feet beyond the track(s) measured perpendicular to the farthest rail, along the center line or edge line of the highway, as appropriate, to obtain the longer distance. Where an Exit Gate system (see Section 8D.05) is present, the downstream point is the point where the rear of the vehicle would be clear of the exit gate arm. In cases where the exit gate arm is not perpendicular to the highway, the distance is measured either along the center line or edge line of the highway, as appropriate, to obtain the longer distance.

Where two adjacent grade crossings are located within 200 feet of each other as measured along the highway, the minimum track clearance distance is measured from a point that is upstream of the first grade crossing to a point that is downstream from the second grade crossing.

Where a highway-highway intersection is located beyond a grade crossing, the clear storage distance defines on a lane-by-lane basis the area of the roadway between the downstream point of the minimum track clearance distance and the intersection stop line, yield line, or normal stopping point on the highway.

The minimum track clearance distance and the clear storage distance are used by the Diagnostic Team to determine the appropriate traffic control devices and/or roadway treatments to be used at the grade crossing, and to determine the queue start-up and queue clearance time necessary where a traffic signal or hybrid beacon is interconnected with a grade crossing active warning system.

Section 8A.08 Comments: NCUTCD agrees with 8A.08 as presented in the NPA, but offers editorial changes to change "distance" to "shortest distance" to clarify the proper measurements if grade crossings are not parallel to each other, and to clarify the property measurement between adjacent grade crossing is between the inside rails.

Section 8A.08 Adjacent Grade Crossings

Support:

Adjacent grade crossings sometimes exist within 200 feet of each other as measured along the highway. These closely-spaced grade crossings sometimes result from separate railroads or from a railroad and an LRT alignment operating in parallel corridors.

Guidance:

Where adjacent grade crossings are located within 200 feet of each other along the highway, the Diagnostic Team should consider the possibility that rail traffic might arrive at a grade crossing when rail traffic is already occupying the adjacent grade crossing.

Where the shortest distance between the tracks at adjacent grade crossings, measured along the highway between the inside rails, is 100 feet or less, the grade crossings should be treated as one individual grade crossing.(add "shortest" to clarify the proper measurements if the grade crossings are not parallel to each other)

Where the shortest distance between the tracks at adjacent grade crossings, measured along the highway between the inside rails, is more than 100 feet, additional signs or other appropriate traffic control devices should be used to inform approaching road users of the long distance to cross the tracks.(add "shortest" to clarify the proper measurements if the grade crossings are not parallel to each other)

Where active traffic control devices are installed between adjacent grade crossings that are less than 200 feet apart between the inside rails, the operation of the devices should provide additional time for vehicles to clear the extended minimum track clearance distance (see Section 8A.07) that results from the closely-spaced grade crossings. (add "between the inside rails" to clarify where the measurements should be made)

Where the shortest distance between the tracks at adjacent grade crossings, measured along the highway between the inside rails, is more than 200 feet, the grade crossings should be treated as individual grade crossings and traffic control devices should be installed between the grade crossings. (add "shortest" and "between the inside rails" to clarify the proper measurements)

Support:

Part 3.1.11 of the "AREMA Communications & Signals Manual" (see Section 1A.05) published by the American Railway Engineering & Maintenance-of-Way Association (AREMA) contains further information and recommendations about the location and operation active traffic control devices at adjacent grade crossings that are located within 200 feet of each other.

Section 8A.09 Comments: NCUTCD agrees with 8A.09 as presented in the NPA.

Section 8A.09 Grade Crossing Elimination

Option:

If a particular grade crossing appears to be redundant or unnecessary, an engineering study may be conducted to determine the costs and benefits of eliminating the crossing.

Guidance:

If an engineering study is conducted, the costs associated with any necessary improvements to adjacent grade crossings and the surrounding roadway network to accommodate diverted traffic should also be included in the analysis.

If the conclusion of the engineering study is that the grade crossing should be eliminated, a Diagnostic Team should use the engineering study to determine the appropriate steps that need to be taken to accomplish the grade crossing elimination.

When a grade crossing is eliminated, the traffic control devices for the crossing should be removed.

If the existing traffic control devices at a multiple-track grade crossing become improperly placed or are no longer applicable because of the removal of some of the tracks, the existing devices should be relocated and/or modified.

Where a roadway is removed from a grade crossing, the roadway approaches in the railroad or LRT right-of-way should also be removed and appropriate signs and object markers should be placed at the roadway end in accordance with Section 2C.71.

Where a railroad or LRT is eliminated at a grade crossing, the tracks should be removed or covered.

Option:

Based on engineering judgment, the TRACKS OUT OF SERVICE (R8-9) sign (see Figure 8B-1) may be temporarily installed until the tracks are removed or covered. The length of time before the tracks will be removed or covered may be considered in making the decision as to whether to install the sign.

Section 8A.10 Comments: NCUTCD agrees with 8A.10 as presented in the NPA.

Section 8A.10 Illumination at Grade Crossings

Support:

Illumination is sometimes installed at or adjacent to a grade crossing in order to provide better nighttime visibility of trains or LRT equipment and the grade crossing (for example, where a substantial amount of railroad or LRT operations are conducted at night, where grade crossings are blocked for extended periods of time, or where crash history indicates that road users experience difficulty in seeing trains or LRT equipment or traffic control devices during hours of darkness).

Recommended types and locations of luminaires for illuminating grade crossings are contained in the American National Standards Institute's (ANSI) "Practice for Roadway Lighting RP-8," which is available from the Illuminating Engineering Society (see Section 1A.05).

Section 8A.11 Comments: NCUTCD agrees with 8A.11 as presented in the NPA.

Section 8A.11 Quiet Zone Treatments at Highway-Rail Grade Crossings

Support:

49 CFR Part 222 (Use of Locomotive Horns at Highway-Rail Grade Crossings; Final Rule) prescribes Quiet Zone requirements and treatments.

Standard:

Any traffic control device and its application where used as part of a Quiet Zone shall comply with all applicable provisions of the MUTCD.

Section 8A.12 Comments: NCUTCD recommends restoring the Standard statements from the 2009 MUTCD to require an engineering study of a circular intersection within 200 feet of a grade crossing. NCUTCD also recommends adding a Guidance statement so that the Diagnostic Team is involved in reviewing the findings of the engineering study to determining the measures to clear queues from the grade crossing.

Section 8A.12 Grade Crossings Within of In Close Proximity to Circular Intersections

Support:

At circular intersections, such as roundabouts and traffic circles, that include or are within close proximity to a grade crossing, a queue of vehicular traffic could cause highway vehicles to stop on the grade crossing.

~~*Guidance:*~~

Standard:

Where circular intersections include or are within 200 feet of a grade crossing, an engineering study ~~should~~ shall be made to determine if queuing could impact the grade crossing. If traffic queues impact the grade crossing, provisions ~~should~~ shall be made to

clear highway traffic from the grade crossing prior to the arrival of rail traffic. (restore Standard statements from the 2009 MUTCD)

Guidance:

The Diagnostic Team should review the findings of the engineering study and determine the appropriate measures to clear traffic from the grade crossing. (add Guidance statement to involve the Diagnostic Team in determining treatments based on the engineering study)

Support:

Among the actions that can be taken to keep the grade crossing clear of traffic or to clear traffic from the grade crossing prior to the arrival of rail traffic are the following:

A. Grade crossing regulatory and warning devices,
B. Highway traffic signals,
C. Traffic metering devices,
D. Activated signs,
E. Geometric design revisions, including reconstruction or elimination of the circular intersection, or
F. A combination of these or other actions.

Section 8A.13 Comments: NCUTCD agrees with 8A.13 as presented in the NPA.

Section 8A.13 Busway Grade Crossings

Support:

A busway can be operated either as an exclusive or as a semi-exclusive alignment. An exclusive alignment does not have grade crossings and is not further addressed in Part 8.

Because the design and operation of a busway in a semi-exclusive alignment is similar to light-rail transit in a semi-exclusive alignment, all of the provisions in Part 8 that pertain to the traffic control devices used at LRT grade crossings in semi-exclusive alignments also pertain to the traffic control devices used at busway grade crossings in semi-exclusive alignments unless otherwise specified in this Manual. The primary difference between a busway and an LRT system is that a busway is used by transit vehicles with rubber tires on pavement and an LRT system is used by transit vehicles with steel wheels that operate on rails.

Busway grade crossings can occur at intersections or at midblock locations, including public and private driveways.

Guidance:

Highway-busway grade crossings should be equipped with an active busway grade crossing warning system unless an engineering study indicates that the use of STOP signs or YIELD signs alone would be adequate.

Standard:

Where a busway grade crossing and a railroad or LRT grade crossing are adjacent to one another such that the active railroad or LRT grade crossing warning system and the active busway grade crossing warning system share common grade crossing traffic control devices, the warning system for the railroad or LRT grade crossing shall control the operation of all grade crossing traffic control devices, and the warning system for the busway shall be interconnected with the active railroad or LRT grade crossing warning system to provide notification of an approaching bus to the active grade crossing warning system.

Option:

Automatic gates may be used at highway-busway grade crossings.

DO NOT BLOCK INTERSECTION (R10-7) signs (see Section 2B.63) may be installed at highway-busway grade crossings.

Standard:

Busway automatic gates, if used, shall comply with the provisions set forth in Section 8D.03 for automatic gates and shall be standard railroad size, striped with 16-inch alternate vertical, fully retroreflective red and white stripes. Flashing red lights shall be included on the gate arm and they shall only be operated if the gate is closed or in the process of being opened or closed. In the horizontal position, the top of the gate shall be approximately 4 feet above the pavement.

Busway automatic entrance gates shall be designed to fail-safe in the down position unless other provisions, such as activated blank-out signs or LRT Signals, are used to ensure the bus operator is alerted to slow down and proceed with caution when gates are malfunctioning.

Four-Quadrant Busway automatic gates shall comply with the provisions set forth in Section 8D.05.

If an active busway grade crossing warning system is used at a pathway-busway or sidewalk-busway grade crossing, a bell or other audible warning device shall be provided for each pathway or sidewalk approach to the crossing.

BUSWAY CROSSING (W10-21) signs with SIGNAL AHEAD (W10-21aP) supplemental plaques shall be used in advance of busway crossings.

On paved roadways, pavement markings in advance of a busway grade crossing shall consist of a word message BUS XING and a no-passing zone marking (on two-lane, two-way highways with center line markings in compliance with Section 3B.01). The symbol X and the transverse lines used in advance of a railroad or LRT grade crossing shall not be used for a busway grade crossing.

Section 8A.14 Comments: NCUTCD recommends deleting the Guidance statement about temporary traffic control near a grade crossing because it duplicates an existing Standard statement in Section 6N.17, deleting the Guidance statement about prolonging the closure of a grade crossing because it is ambiguous, and deleting the Guidance statement about the grade crossing surface because it does not deal with traffic control devices. NCUTCD also recommends revising Guidance statements to clarify the situations at an active grade crossing when a uniformed law enforcement offer should be used and to involve the railroad company or transit agency in the traffic control planning process.

Section 8A.14 Temporary Traffic Control Zones

Support:

Temporary traffic control planning provides for continuity of operations (such as movement of traffic, pedestrians and bicycles, transit operations, and access to property/utilities) when the normal function of a roadway at a grade crossing is suspended because of temporary traffic control operations. Temporary traffic control planning is also needed when traffic is detoured over an existing passive grade crossing.

Standard:

Traffic controls for temporary traffic control zones that include grade crossings shall be as provided in Part 6.

Guidance:

~~*When a grade crossing exists either within or in the vicinity of a temporary traffic control zone, lane restrictions, flagging (see Chapter 6D), or other operations should not be performed in a manner that would cause highway vehicles to stop on the tracks, unless a flagger or uniformed law enforcement officer is provided at the grade crossing to minimize the possibility of highway vehicles stopping on the tracks, even if automatic warning devices are in place.*~~ (delete Guidance statement because it duplicates the existing Standard statement in Section 6N.17)

*When a temporary traffic control zone extends over a*n active *grade crossing (see Section 6N.17)* ~~*equipped with automatic gates and either one-lane two-way or reversible lane operation is used*~~*, and where the direction of traffic in any lane is reversed over the grade crossing,* ~~*any improperly located gate arms that might cause vehicles to stop within the minimum track clearance distance (see Section 8A.07) should be removed*~~ *the railroad company or transit agency should be part of the temporary traffic control planning process*. ~~*At locations where a gate arm is removed*~~ *Where a grade crossing warning system is not modified to support the temporary traffic control operation*, ~~*a railroad company or transit agency employee serving as a flagger and*~~ *at least one uniformed law enforcement officer should be in place at all times that rail traffic might approach or occupy the grade crossing.*(edit Guidance statements to clarify the situations when the Guidance applies and the involvement of the railroad company or transit agency)

When traffic is detoured over an existing passive grade crossing, a temporary traffic control plan (see Section 6B.01) should be prepared.

Public and private agencies, emergency services, businesses, and railroad companies or transit agencies should meet to plan appropriate traffic detours and the necessary signing, marking, signalization, and flagging requirements for operations during temporary traffic control zone activities or during the period when traffic is being detoured over an existing passive grade crossing. Consideration should be given to the length of time that the grade crossing is to be closed, the length of time that a detour is to be in place, the type of rail or LRT and highway traffic affected, the time of day, and the materials and techniques of repair.

The agencies responsible for the operation of the LRT and highway should be contacted when the initial planning begins for any temporary traffic control zone that might directly or indirectly influence the flow of traffic on facilities where LRT vehicles operate on a mixed-use alignment.

Temporary traffic control operations should minimize the inconvenience, delay, and crash potential to affected traffic. Prior notice should be given to affected public or private agencies, emergency services, businesses, railroad companies or transit agencies, and road users before the free movement of road users or rail traffic is infringed upon or blocked.

~~*Temporary traffic control zone activities should not be permitted to extensively prolong the closing of a grade crossing.*~~ (delete Guidance statement because it is ambiguous)

~~*The width, grade, alignment, and riding quality of the highway surface at a grade crossing should, at a minimum, be restored to correspond with the quality of the approaches to the grade crossing.*~~ (delete Guidance statement because it does not relate to traffic control devices)

Support:

Section 6N.17 contains additional information regarding temporary traffic control zones in the vicinity of grade crossings, and Figure 6H-46 shows an example of a typical situation that might be encountered.