

## 2.14 Traffic Control Procedure

### STATE OF ALABAMA DEPARTMENT OF TRANSPORTATION TRAFFIC CONTROL THROUGH CONSTRUCTION WORK ZONES

#### INTRODUCTION

This document, known as the Procedure for Traffic Control through Construction Work Zones, is prepared in compliance with the U.S. Department of Transportation FAPG, 23 CFR 630 Subpart J and Subpart K, issued under the authority of 23 U.S.C. 105, 106, 109, 115, 315, 320, and 402(a), 23 CFR 1.32; 49CFR 1.48(b) and the federal Highway Safety Improvement Program, 23 U.S.C., sections 130, 144, 148, 152, and 409 and implementing regulations.

This Procedure may also serve as a guideline for use by the Department for other construction and maintenance activities.

[Part VI of the Manual on Uniform Traffic Control Devices](#) and associated supplements and handbooks such as ATSSA's Quality Guidelines for Temporary Traffic Control Devices sets forth basic principles and prescribe standards for the design, application, installation, and maintenance of the various types of traffic control devices for highway and street construction, maintenance operations, and utility work. These manuals are not intended to address in depth the variety of situations that occur in providing traffic control in work zones. Although those responsible for traffic control and work area protection have attempted to develop some guidelines and measures, a coordinated and comprehensive effort to develop greater uniformity is desirable. It is the intent of this document to provide these guidelines and assist in the MUTCD being properly implemented.

GFO 3-61 and GFO 3-65 are hereby referenced as additional guidance documents. GFO 3-61 provides guidance for the Department to follow for the purpose of safely and efficiently accommodating traffic through work zones. This GFO includes processes for use in developing a Transportation Management Plan, a Traffic Control Plan, a Traffic Operations component, and a Public Information component. The GFO further defines a Significant Project and the process to follow when developing the previously mentioned plans and components for Significant Projects. GFO 3-65 provides guidance for the Department to follow in order to decrease the likelihood of fatalities and injuries to workers and road users within the work zone. This GFO addresses the use of positive protection devices, exposure control/other traffic control measures, uniformed law enforcement officers, and addresses work vehicles entering and exiting traffic lanes.

#### DEFINITIONS

Wherever the following terms or abbreviations are used in the document, the intent and meaning shall be interpreted as follows:

**Area** - An engineering organization of the Department within a Region charged with all functions of the Department as related to the operations of its respective location.

**Area Traffic Engineer** - The engineer in charge of traffic operations in a designated Area.

AUTCR - Alabama Uniform Traffic Crash Report.

[ATSSA](#) - American Traffic Safety Services Association.

**CARE** - (Critical Analysis Reporting Environment) a system developed through the Center for Advanced Public Safety (CAPS) at the University of Alabama and used to access crash data, analyze crash statistics, and locate crashes to improve traffic safety statewide on all public roads.

**Contractor** - The individual, partnership, firm, corporation, or any acceptable combination thereof, contracting with the State for performance of prescribed work.

**Department** - Alabama Department of Transportation (ALDOT), as constituted under the laws of Alabama for administration of highway work.

**Director** - The Chief Executive Officer of the Department as created by law, also referred to herein as Transportation Director.

**FAPG** - Federal-Aid Policy Guide.

**FHWA** - Federal Highway Administration.

**GFO** - (Guideline for Operation) the policies and procedures under which the Department operates.

**Highway Safety Improvement Program** - ALDOT Safety Program using Federal Safety Funds to identify high crash locations and develop counter measures for improvement using cost-benefit analysis procedures within budget limitations. The HSIP consists of three main components; the Strategic Highway Safety Plan (SHSP), the State HSIP or program of highway safety improvement projects, and the Railway-Highway Crossing Program (RHCP).

**MUTCD** - Manual on Uniform Traffic Control Devices for Streets and Highways, published by the U.S. Government Printing Office.

**Project** - The specific section of the highway together with all appurtenances and construction to be performed thereon under the contract.

**PM** - (Project Manager) The personnel in charge of a designated project for the Department.

**PTCI** - (Project Traffic Control Inspector) The person designated to be responsible for reviewing traffic control devices on a particular project for the Department.

**Region** - An engineering organization of the Department in a geographical area of the State charged with all functions of the Department as related to the administration of its respective location.

**Region Engineer** - The engineer in charge of a designated Region of the Department.

**State** - State of Alabama.

**State Construction Engineer** - The engineer in charge of general administration of the Department's contract construction work.

**State Design Engineer** - The engineer in charge of establishing design policy and standards as well as overseeing the development of roadway plans for the Department.

**State Traffic Operations Engineer** - The engineer in charge of traffic engineering, traffic control, and traffic control devices for the Department.

**State Traffic and Safety Operations Engineer** - The engineer in charge of safety engineering, safety infrastructure elements, and highway safety evaluations for the Department.

**TCP** - (Traffic Control Plan) A plan that describes Temporary Traffic Control (TTC) measures to be used for handling traffic through a specific highway or street work zone or project.

**Traffic and Safety Operations Section** – The office within the Traffic Engineering Division of the Design Bureau charged with administration of the Highway Safety Improvement Program pursuant to 23 U.S.C., Sections 130, 144, 148, 152 and 409 and implementing regulations.

**Work Zone** - An area of highway with construction, maintenance, or utility work activities.

**Work Zone Crash** - A traffic crash in which the first harmful event occurs within the boundaries of a work zone or on an approach to or exit from a work zone, resulting from an activity, behavior, or control related to the movement of the traffic units through the work zone.

**Work Zone Impacts** - Work zone-induced deviations from the normal range of transportation systems safety and mobility. These impacts may extend beyond the physical location of the work zone itself and may occur on the roadway on which the work is being performed as well as other highway corridors.

## **IMPLEMENTATION**

### **General**

After a project is placed under contract, the Contractor may be permitted to develop a TCP to be used in lieu of the TCP provided in the construction plans. The Contractor's plan will be approved for use only if the Department and FHWA find that the Contractor's plan is as good as or better than the plan provided in the construction plans. The Contractor may also be permitted to offer a revision to only a portion of the existing TCP. To receive approval for changes to the TCP, the Contractor must submit a detailed alternate plan, or revision, to the Region Engineer, through the Project Manager.

The Region Engineer shall submit the proposed revisions, along with recommendations, to the State Construction Engineer for review and approval and further handling with FHWA.

The Contractor will not be permitted to implement any part of an alternate plan, or revision, until written approval has been given by the Department.

For proposed TCP revisions initiated by Department personnel, the PM shall submit the revision to the Region Engineer. The Region Engineer shall submit the revision, along with recommendations, to the State Construction Engineer for review and approval and further handling through FHWA.

The PM may approve minor TCP changes for immediate implementation as deemed necessary.

**Project Traffic Control Inspector**

Before work begins on a project, the PM shall designate, in writing, a qualified person to be responsible for reviewing the traffic control devices on the project. This person shall have received training as provided by the [Training](#) section of this Procedure and shall be known as the Project Traffic Control Inspector. The PTCI shall report to the PM and have the principal duty of keeping the PM informed of the adequacy and effectiveness of the traffic control devices on the project. The PM may serve as the PTCI.

All traffic control devices should be inspected prior to installation for compliance with plans and specifications. The PTCI shall inspect the installation of the devices and make regular inspections of the in-place traffic control devices to determine if they are being properly maintained ([ALDOT Traffic Control Device Quality Guide](#)). The PTCI shall document each inspection by completing, [Form C-25, Daily Inspection of Traffic Control Devices](#). The PTCI shall also perform periodic nighttime inspections to confirm that proper maintenance is being performed on the devices. These nighttime inspections shall also be documented on Form C-25. The Form C-25 shall be submitted to the PM for review.

The PM will be responsible for notifying the Contractor of any deficiencies and administering the contractual enforcement requirement. Dates of such notification and dates of corrective action by the Contractor should be noted on Form C-25.

**Contractor Liability**

This Procedure does not relieve the Contractor of the prime responsibility to continually inspect and maintain the traffic control items and to safely handle traffic through the work area. The Contractor is responsible for traffic safety on the project. The Department's responsibilities are limited to identifying acceptable control levels and taking measures to effectively enforce contract provisions. The Contractor's responsibilities shall not be relieved by the Department's failure to enforce any provision.

**Assistance from Local Law Enforcement Officers**

The PM should establish a cooperative relationship with the law enforcement agency responsible for traffic crash investigation. The PM should request to be notified of all traffic crashes that occur within the project limits. The PM should also be aware of any [agreements with the Alabama Law Enforcement Agency](#) concerning the use of State Troopers on construction projects. When needed, arrangements should be made through the Area Construction Engineer's office for Trooper assistance with traffic handling and speed control through the construction project.

**TRAINING**

Training on temporary traffic control in work zones appropriate to the job decisions each individual is required to make will be offered periodically. Training may include the need for traffic safety, traffic control planning, quality standards for traffic control devices, and training in application and techniques utilized and prescribed by the MUTCD. Training should also include human factors, proper attire, attitude, and appearance of workers.

## PROCESS REVIEW AND EVALUATION

### Project Review

#### Crash Evaluation

The PTCI will report all known work zone crashes to the PM. The PTCI will review the circumstances involved in the crash and, if immediate changes in traffic control are warranted, will recommend those changes to the PM. Subsequently, the PTCI shall complete [Form C-25A, Crash Report](#), and should obtain AUTCRs from the appropriate law enforcement agency. This information, as well as information required of the Contractor by [Subarticle 107.14\(c\) of the Standard Specifications](#), will be used for Departmental purposes only to evaluate the TCP consistent with the [Introduction](#) and [Coordination with the Highway Safety Improvement Program](#) sections of this Procedure.

#### Crash Reporting

The PM will submit the documentation gathered/compiled for each known work zone crash, including any additional comments, to the District and Area offices for review as soon as possible following the crash.

Notification of crashes occurring in work zones will be made available to the offices of the State Construction Engineer, State Traffic Operations Engineer, and State Traffic and Safety Operations Engineer through the CARE reporting system. Hard copies of crash reports will also be made available to these offices upon request by contacting the Safety Program Administrator in the Safety Planning Section of the Design Bureau. The State Traffic Operations Engineer may review this information and submit a copy of the report with recommendations or comments to the State Construction Engineer and the State Design Engineer. The State Design Engineer may distribute TCP improvement recommendations to all offices within the Department having responsibility for preparation and/or review of TCPs.

#### Field Observations

During the daily course of work, all Project personnel will be observant of the work zone for the purpose of identifying work zone impacts and, when possible, taking action toward the alleviation of those impacts. Observations may include occurrences of vehicular congestion, pedestrian impediments, hindrances to emergency vehicles, and crash patterns. Actions to alleviate these impacts may include modification of the traffic control plan in accordance with the [Implementation, General](#) section of this Procedure, adjustments to the contractor's operations, or other changes as deemed appropriate.

These observations will be documented in CAMMS on the DWR under the Traffic Control remark type and will include information such as date, time, location of impact, length or duration of impact, TCP phase, and any action taken as a result of the occurrence.

### Region Review

The Area Traffic Engineer shall periodically review traffic control devices and traffic operations on Federal aid construction projects. Reviews should be conducted a reasonable time after initial setup and following major phase changes. Any deficiencies shall be reported to the PM. Any report prepared may be submitted to the State Traffic Operations Engineer when deemed appropriate by the Region Engineer.

**Statewide Review**Review Team

A Review Team consisting of the State Construction Engineer, State Design Engineer, State Traffic Operations Engineer, Region Engineer, or their designees, shall annually review selected projects throughout the State. The State Construction Engineer shall serve as the chairman of the Review Team. An FHWA representative may accompany the Review Team and provide input. A significant project as defined by 23 CFR 630 Subpart J, will be included when available.

Procedure Review

The Review Team will assess the effectiveness of the Procedure on a state wide basis and recommend revisions to the Procedure when deemed appropriate. All revisions to the Procedure shall be approved by the Transportation Director and the FHWA.

Project Specific Review

The Review Team will make field observations and review available work zone crash data and operational information for the purpose of recommending improvements or modifications to the work zone.

Reporting

The Chairman of the Review Team shall provide a written report to the FHWA, the Design Bureau, the Maintenance Bureau, the Region, and other Departmental offices as appropriate.

**Disposition of Records**

After the Department accepts a construction project for maintenance, as defined in [Item 105.15\(c\)1. of the Standard Specifications](#), all records and reports generated and distributed as part of the Department's review and evaluation of traffic crashes shall be forwarded to the Traffic and Safety Operations Section of the Design Bureau for appropriate processing. Copies of these records and reports will not be filed or maintained in other offices or locations by the Department.

**COORDINATION WITH THE HIGHWAY SAFETY IMPROVEMENT PROGRAM**

All activities of the Department, its employees, contractors, agents and assigns conducted pursuant to this procedure including, but not limited to, record gathering and retention, inspection, evaluation, review, and reporting, shall be deemed and are a part of the Highway Safety Improvement Program as administered by the Traffic and Safety Operations Section of the Design Bureau.



**ALDOT TRAFFIC CONTROL DEVICE QUALITY GUIDE**

**Construction Signs**

**Examples of Acceptable (✓) and Unacceptable (X)**



✓ Good Condition and Visibility



X "1/2" is Wrong Size (Too Small)



X Scratched and Damaged Sheeting



X Old Legend Still Visible



X Damaged Panel



X Cleaning Needed

Construction Signs (continued)

Examples of Acceptable (✓) and Unacceptable (X)



X Inadequate Space Between Signs



X Excessively High Mounting



✓ Proper Sign Cover



✓ Proper Sign Cover



X Improper Sign Cover



X Improper Sign Cover



Construction Signs (continued)

Examples of Acceptable (✓) and Unacceptable (X)



X Conflicting Speed Limit Signs



X Missing Sign Cover



X Out of Plumb



X Damaged Posts

Channelizing Drums

Examples of Acceptable (✓) and Unacceptable (X)



✓ Good Spacing and Alignment



✓ Good Condition and Visibility



X Poor Spacing



X Sheeting in Poor Condition



X Damage to Drum Shape



X Poor Visibility at Night (Drum on Right)



Channelizing Drums (continued)

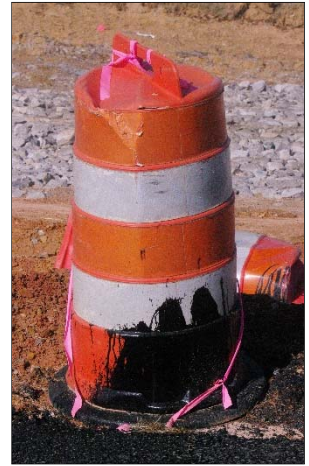
Examples of Acceptable (✓) and Unacceptable (X)



X Sheeting Too Narrow (6" Minimum Required)



X Covered with Dirt or Asphalt



Type III Barricades

Examples of Acceptable (✓) and Unacceptable (X)



✓ Good Condition



✓ Proper Labeling



X Noticeably Faded Sheeting



X Broken Rail



Type III Barricades (continued)

Examples of Acceptable (✓) and Unacceptable (X)



X Sheeting Peeling Off Top Rail



X Missing Rail



X Placed at Point of Hazard

Cones

Examples of Acceptable (✓) and Unacceptable (X)



✓ Good Condition



✓ Good Condition

**Cones (continued)**

**Examples of Acceptable (✓) and Unacceptable (X)**



**X** Sprayed with Asphalt



**X** No Sheeting



**X** Dirty and Poor Sheeting



**X** Orange Color Required

**Portable Concrete Barrier Rail**

**Examples of Acceptable (✓) and Unacceptable (X)**



**✓** Good Condition (Bolt and Loop Type)

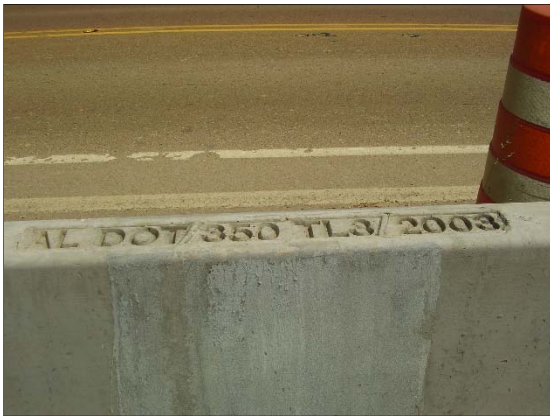


**✓** Good Condition (J-J Hook Type)



Portable Concrete Barrier Rail (continued)

Examples of Acceptable (✓) and Unacceptable (X)



✓ Info Properly Embossed On Top of Rail



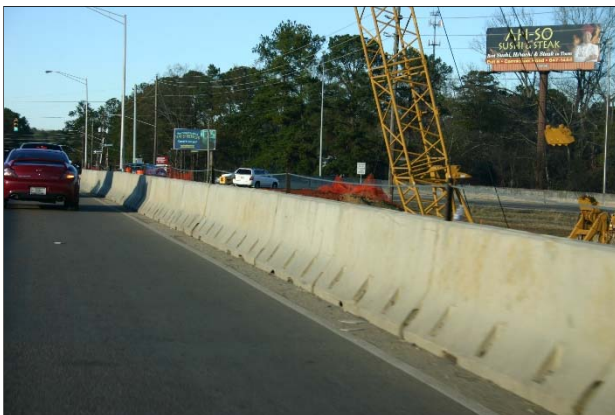
X Bolt Too Small (Minimum Diameter 1 1/4" Required)



X No Nut on Bolt



X Not Bolted at Bottom



X No Reflectors On Top of Rail



X Physical Damage

Striping

Examples of Acceptable (✓) and Unacceptable (X)



✓ Thorough Removal



✓ Thorough Removal



X Incomplete Removal



X Incomplete Removal



X Incomplete Removal



X Conflicting Stripe



Striping (continued)

Examples of Acceptable (✓) and Unacceptable (X)



X Conflicting Stripe



X Re-Striping Needed

Portable Changeable Message Signs

Examples of Acceptable (✓) and Unacceptable (X)



✓ Good Visibility and Delineation



✓ Good Visibility and Delineation



X Too Low, Not Levelled, Blocking Other Sign



X Not Delineated with Drums

Portable Changeable Message Signs (continued)

Examples of Acceptable (✓) and Unacceptable (X)



X Numerous Pixels Not Working



X Pixel Board Not Working

Vertical Panels

Examples of Acceptable (✓) and Unacceptable (X)



✓ Good Alignment and Condition



✓ Good Alignment and Condition