

5.40 TRAFFIC QUALITY CONTROL

Contractor involvement in project traffic control was strengthened with the addition of the Traffic Quality Control requirements in the specifications. These additional specification responsibilities were added to emphasize the importance and need for direct contractor involvement in traffic control.

All contractors are required to have an American Traffic Safety Services Association (ATSSA) or International Municipal Signal Association trained traffic control technician on staff. This trained individual is intended to be in responsible charge of all traffic control duties for the contractor. Other contractor staff may perform the specific Traffic Quality Control responsibilities including completion of the daily traffic control diary, but overall management of the contractor's quality control program for traffic control shall be the responsibility of the traffic control technician. Agency staff should perform quality assurance traffic control checks on a random basis, including reviewing the daily traffic control diary. Contractors who fail to provide a trained technician or fail to provide the required daily traffic control diary documentation shall be price adjusted according to [Construction Manual Section 2.53.F](#).

When traffic control problems arise on a project, the Contractor's traffic control technician should be called for an on-site visit to review the traffic control issue(s) at hand. This individual is required to be in responsible oversight of the project's traffic control and should be the primary contractor contact for project staff relating to traffic control issues on the project. Continued traffic control problems may require a written letter to the contractor requesting a review by the traffic control technician. Copies of any correspondence regarding traffic control issues should also be sent to the Office of Construction.

~~One of the major responsibilities of the traffic control technician is to ensure that a daily traffic control diary is maintained. While the specific format and type of document is not specified in the contract documents, the following items should be included as information necessary for a complete diary:~~

- ~~• What traffic control Standard Road Plan or Design Detail Sheet is being used~~
- ~~• What weather conditions existed during the day (or night)~~
- ~~• Description of the traffic flow and lanes open or closed to thru traffic~~
- ~~• Documentation of incidents or crashes that occurred within the traffic control zone or in the queue approaching the traffic control zone~~
- ~~• Description of any modifications to the project's traffic control due to incidents, crashes, or operational problems, including information relating to the approval of these modifications.~~
- ~~• Date and name and signature of individual entering the information.~~

~~Entries in the traffic control diary should be made in ink. The diary should be completed on a daily basis and may be accompanied by photographs or videotape. The diary becomes the property of the contract authority upon completion of the project.~~

One of the more critical responsibilities of the traffic control technician is to ensure that a daily traffic control diary is maintained. [Article 2528.01.B](#) revised effective with the April 2009 letting, states that the daily traffic control diary shall be submitted to the Engineer in a format provided by the Contracting Authority. A sample format can be found in [Appendix 5-11](#). The portion of the form that includes the listing of flaggers may be submitted as a separate document, as long as the Engineer receives it on a daily basis.

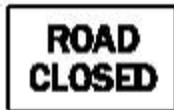
Entries in the traffic control diary should be made in ink. The daily traffic control diary becomes the property of the Contracting Authority upon completion of the project.

The interval which the diary needs to be submitted to the Engineer should be discussed at the preconstruction conference. A typical interval would be every two weeks for most projects.

5.41 ROAD CLOSED vs. ROAD CLOSED TO THRU TRAFFIC

There has been some confusion between the use of these two signs and what is appropriate traffic control when using either of these two regulatory signs.

The **ROAD CLOSED sign (R11-2)** should be used when the roadway is closed to all road users except contractors' equipment or officially authorized vehicles. No local traffic should need to use the road beyond the location of the sign. This sign should be accompanied by appropriate warning and detour signing and should be installed on a Type III barricade that physically closes the roadway and is included as part of a road closure per [Specification Article 2518](#). The ROAD CLOSED sign shall not be used where road user flow is maintained or where the actual closure is some distance beyond the sign.



The **ROAD CLOSED TO THRU TRAFFIC sign (R11-4)** should be used where road users follow detours to avoid a closure some distance beyond the sign, but where local road users can use the roadway to the point of actual physical closure using a road closure per [Specification Article 2518](#). Appropriate warning and detour signing should accompany these signs. Since the road is open to traffic, appropriate signs and warning devices should protect any work activity within the normal highway surface. Equipment parked within the normal highway surface should be protected by a minimum of a Type III barricade or two Type II barricades on each side for approaching traffic. When existing pavement remains or if traffic is allowed on new pavement, any work area within a paved surface should include appropriate flagging procedures according to the [Flaggers Handbook](#).



5.42 TEMPORARY WORK ZONE SPEED LIMITS

The Department's policy regarding speed limits in temporary traffic control zones is based on Part 6 of the MUTCD. See Sections 6B.01, and 6C.01 of the MUTCD for additional background information.

In general, attempts to reduce speeds increase the likelihood of accidents. Signing alone does not compel most motorists to drive at the posted speed limit. The few drivers who do slow down create a speed differential in the traffic stream and thus increase the likelihood of rear-end accidents. Drivers must perceive a reason to slow down. Some of these reasons include enforcement of the posted speed limit, work activity near the open lane, adverse weather conditions, and roadway geometry. To the extent possible, the Iowa Department of Transportation designs a temporary traffic control zone to accommodate the normal operating speed of traffic traveling on the roadway segment.

The most dangerous aspect of a temporary traffic control zone is not speed but inattentiveness. By making work areas more visible, drivers will be more alert to changing conditions and have time to respond appropriately. Signs, flaggers, and other traffic control devices alert motorists and guide them safely through the temporary traffic control zone. The safest traffic control zone is where everyone pays attention and travels at the same speed.

That said, it is not always possible to design temporary traffic control zones to accommodate the normal operating speed. Therefore the following guidelines are meant to provide uniformity when it is necessary to reduce speeds in temporary traffic control zones.

Regulatory Speed Limit Changes Necessary During Construction:

The contract documents shall include a temporary traffic control plan that adheres to the following guidelines:

Two Lane Highways:

- Maintain existing regulatory speed limit.
- Post appropriate advisory speeds. On-site detours should be designed as close to the existing speed limit as practical. Often available right of way and roadway geometry make it impractical to maintain the existing operating speed. At locations where lower design standards for vertical and horizontal alignment are necessary, temporary advisory speed signing informs motorists of the recommended safe speed.

Multi Lane Divided Highways:

Four Lane Divided Highways:

- Existing regulatory speed limit (65 mph, 60 mph, or 55 mph) maintained if all existing lanes are open to traffic and the width between barriers (other than spot locations) is 30' or greater.
- Regulatory 55 mph speed limit where the roadway width between barriers is less than 30' (TBR, 3' shoulder, 12' lane, 12' lane, 3' shoulder, TBR) other than spot locations such as bridges.
- Regulatory 55 mph speed limit with single lane closure only when workers are present.
- Regulatory 55 mph speed limit where construction vehicles must frequently merge into high volume traffic lanes.
- Regulatory 55 mph speed limit with single lane closure using temporary barrier rail due to potential side friction from use of barrier rail.
- Regulatory 55 mph speed limit for two-lane, two-way operation (TLTWO).

Six Lane or More Divided Highways:

- Existing regulatory speed limit (65 mph, 60 mph, or 55 mph) maintained if all existing lanes are open to traffic.
- Existing regulatory speed limit (65 mph, 60 mph, or 55 mph) maintained if at least two existing lanes are open to traffic per direction and the cross section configuration is 30' or greater.
- Regulatory 55 mph speed limit when cross section configuration is less than 30' (TBR, 3' shoulder, 12' lane, 12' lane, 3' shoulder, TBR).
- Regulatory 55 mph speed limit with only single lane available to traffic.

Procedure for Changing Regulatory Speed Limit:

If field conditions warrant a reduced regulatory speed limit not contained in the plans for an active construction project, the following steps shall be used to obtain a Staff Action concurrence. A Staff Action is necessary to provide legal backing for the requested speed limit change.

1. The Resident construction Engineer, after consultation with the District Construction Engineer, will contact the Office of Construction to review the request for statewide uniformity using appropriate engineering judgment.
2. Electronically submit to the Office of Construction the following information for the proposed speed limit Staff Action:
 - Project Number and project type
 - County
 - Proposed location of reduced regulatory speed limit signs
 - Calendar duration of the proposed reduced regulatory speed limit
 - Discussion of reasons for reduced regulatory speed limit
 - Timeframe required to obtain approval of Staff Action
3. The Office of Construction will forward its comments and concurrence along with the above information to the Office of Traffic and Safety.
4. The Office of Traffic and Safety will prepare and track the Staff Action.

Upon approval the Office of Traffic and Safety will forward a copy of the Staff Action to the Office of Construction and the appropriate RCE and DCE Offices.

5.43 FLAGGER AND WORKER SAFETY APPAREL (ANSI 107)

The 2006 Flagger's Handbook Article 2528.11 of the specifications, and the 2003 Manual on Uniform Traffic Control Devices (MUTCD) ~~adopted November 2005~~ all reference the American National Standards Institute (ANSI) standard ANSI 107. This is a national standard that details requirements for worker safety apparel. ANSI 107-1999 was the first standard for high visibility safety apparel developed. ANSI-107-2004 is an updated version which also incorporates additional information regarding headwear and pants. ANSI 107-2004 also contains requirements that all ANSI certified apparel include a label that identifies what Class the garment meets and a care tag.

These standards provide a uniform, authoritative guide for the design, performance specifications, and use of high-visibility apparel including vests, jackets, bib/jumpsuit coveralls, pants and harnesses. Garments that meet these standards can be worn 24 hours a day to provide users with a high level of conspicuity through the use of combined fluorescent and retroreflective materials.

These standards establish three Performance Classes for high-visibility safety apparel based on the wearer's activities, and determined by the total area of background and reflective materials used. The Flagger's Handbook references Class 2, Class E, and headwear requirements, the specifications reference Class 2 apparel, and the 2003 MUTCD references most classes of safety apparel.

To comply with ANSI 107-1999 or 107-2004, a garment's background material, and retroreflective or combined-performance material, must be tested and certified by an independent, accredited third-party laboratory. The manufacturer of the finished item then verifies that the garment or headwear meets all the requirements of the standard and provides a certificate of compliance for each model. All ANSI 107-2004 certified garments are required to be marked showing their performance class.

~~Three~~ **Two** examples of these markings follow. The performance class is circled.



For example, Iowa DOT purchased safety vests, pants, and soft hats meet the appropriate ANSI/ISEA requirements.

The current *American National Standard for High-Visibility Safety Apparel and Headwear (ANSI 107-2004)*, can be purchased from International Safety Equipment Association at telephone number (703)525-1695.

A brochure that provides additional information regarding hi-visibility safety apparel is available as a download from the American Traffic Safety Services Association's (ATSSA) website at the following URL:

<http://www.atssa.com/galleries/default-file/HighVisibilityApparelBrochure.pdf>

5.44 MONITORING OF TRANSPORTATION MANAGEMENT PLANS FOR SIGNIFICANT PROJECTS

Projects on high volume roadways that involve lane restrictions can result in undesirable delay and inconvenience to road users. The Federal Highway Administration has adopted a rule on work zone safety and mobility that applies to certain Iowa DOT projects, which are defined as

“significant projects”. For projects designated as significant in the contract documents, additional responsibilities may need to be undertaken by the contractor and resident construction engineer. These projects will include a special provision that outlines these responsibilities.

All projects let by the Iowa DOT require a Transportation Management Plan (TMP). For most projects the TMP will consist of only a Temporary Traffic Control (TTC) plan. Other projects may also include elements relating to Transportation Operations (TO) and Public Information (PI). Significant projects however will require the development, implementation, and monitoring of a complete TMP with the intent of minimizing impacts on traffic mobility and convenience, while providing maximum safety for workers and road users. A complete description of the Iowa DOT program for accommodating safety and mobility in work zones can be found in PPM 500.18.

Monitoring the TMP at the Project Level

For projects designated as significant, a team will develop details of the TMP and a manager will be selected to provide oversight for implementation of the TMP at the project level. Included in the implementation plan may be verification of temporary traffic control, assessment of TMP performance considering such factors as queue length, traffic delay times, public complaints, etc., tracking of implementation costs, documentation of revisions and corrective action, and designation of responsibilities for each task.

Following the award of contract, administration and monitoring of a significant project TMP will become the responsibility of the resident construction engineer with oversight provided by the District TMP manager.

Duties of the resident construction engineer as stated in the project specific special provision may include some of the following, depending on the specific project requirements:

- Carefully review and be familiar with the details of the TMP in the contract documents.
- Assign TMP monitoring responsibilities to trained inspection staff.
- Review TMP details and responsibilities with the contractor at the pre-construction meeting.
- Record contract information for the contractor's trained representative with TMP monitoring responsibilities.
- Maintain close liaison with the contractor to assure compliance with TMP provisions and assure that traffic restrictions, especially lane closures, are promptly removed when not needed.
- Review the need for and request law enforcement officers to provide for extra enforcement for the project.
- Document the use of extra enforcement, including costs, impacts, and opinions of effectiveness.
- Review the need for public information dissemination, and provide timely news releases, and consider the use of changeable message signs.
- Document public information activities.
- Document any approved revisions to the TMP.
- Maintain a log of performance related issues for the TMP, such as incident response, extraordinary delays and long queues, and complaints from the public.
- Record and maintain a detailed description of crashes that occur in the work zone in compliance with [Section 5.23](#).
- Assist the TMP manager in preparation of a final TMP effectiveness report at the completion of the project.

Duties of the contractor relating to significant projects will also be included in the same special provision. It is the responsibility of the resident construction engineer to assure that these duties are completed in a satisfactory manner.

5.45 EXTRA ENFORCEMENT GUIDELINES FOR CONSTRUCTION PROJECTS

The use of Extra Enforcement (paid law enforcement) on Iowa DOT construction projects is encouraged for high volume projects and / or those with high complexity where the driver may be confused. These guidelines have been developed to promote uniformity in the planning, operation, and payment for extra enforcement. The document can be found on the LAN at the following location:

W:\Highway\Construction\Work Zone Safety\Extra Enforcement\Extra Enforcement Policy Paper 2008.