

TEMPORARY TRAFFIC CONTROL

GENERAL GUIDELINES

INDIVIDUAL RESPONSIBILITIES

Before beginning work, you should familiarize yourself with this manual, the definitions, principles and the following General Responsibilities. Qualified individuals who have adequate training in temporary traffic control and have a basic understanding of the MN MUTCD should supervise the selection, placement and maintenance of traffic control devices in temporary traffic control zones.

GENERAL RESPONSIBILITIES

Except where otherwise specified, any public or private agency performing work within the right-of-way of streets or highways open to public travel shall be responsible for:

- supplying, installing, and maintaining all necessary traffic control devices outlined in this manual and as stipulated by the governing road authority to protect the work space and safely direct traffic around the temporary traffic control zone.
- supplying their own flagger(s) when required.
- informing occupants of abutting properties, either orally or by written notice, of parking prohibitions or access limitations.
- notifying the governing road authority when existing traffic signs need to be removed or relocated or any regulatory sign must be installed for construction or maintenance work.
- replacing or reimbursing the governing road authority for any damage to or loss of existing traffic signs.
- keeping all traffic control devices clean and in proper position to ensure optimum effectiveness.
- removing traffic control equipment when it is no longer required or appropriate.
- keeping proper records of traffic control that contain starting and ending times, location, names of personnel, traffic controls used, etc. The method of record keeping may vary from a log entry to a complete Traffic Control Plan.

PERMISSION TO WORK WITHIN THE RIGHT-OF-WAY

Prior to starting work, permission shall be obtained from the governing road authority. In addition, contact Gopher State One Call, 1-800-252-1166 outstate or 612-454-0002 in the Minneapolis/St. Paul Metro area before excavation begins.

The governing road authority may limit the hours of work. Peak traffic periods vary by hour or day of week and all work should be scheduled during non-peak hours.

When working in or near an intersection with a traffic control signal system, the road authority with jurisdiction over the signal should be contacted to ensure proper operation of the signal while the work is in progress.

SELECTING AN APPROPRIATE TEMPORARY TRAFFIC CONTROL LAYOUT

This Field Manual, which is Temporary Traffic Control Zone Layouts, Part 6K of the Minnesota Manual on Uniform Traffic Control Devices (MN MUTCD), has been organized such that field personnel are able to determine the proper temporary traffic control layout(s) for the work zone they need. The layouts are divided primarily by the type of roadway and type of work space. The roadway designations are:

- Two-Lane, Two-Way Roads (with and without continuous left-turn lanes). These roads are further divided by traffic volume (low, intermediate, high),
- Multi-Lane Undivided Roads (with and without continuous left-turn lanes), and
- Multi-Lane Divided Roads

After determining the type of roadway upon which the work space will be located, the type of work space needs to be determined. The work space is the area within the right-of-way that will be closed from normal usage. It includes all the area needed by support equipment, materials, workers and vehicles. It may require the closing of a roadway lane(s), the shoulder of the road, or a turn lane within an intersection. The work space may even be completely off the roadway shoulder such as on side-slopes or along sidewalks. The layouts are listed by the typical work space areas.

Within some layouts, there are TTC options that may be omitted based upon several factors. These may include: duration of the operation, volume of the road, speed limit on the road, and departmental (or company) policy. TTC supervisors should be fully aware of the variations in the layouts due to the various factors, and when and how the layouts may be modified. See the Checklist for Establishing a TTC Zone on page 6K-xii.

All distances shown on the layouts and charts are approximate. In general, all chart distances vary based upon the posted speed limit. Adjustments in these distances should be made based on traffic entry points and decision sight distance. As stated previously, not all situations could be addressed and engineering judgment should be exercised. Features from several layouts may need to be combined together for one project. For example, work in or near an intersection may require a layout for a lane closure, a layout for work in the intersection and a layout for a crosswalk closure.

In some situations, a TTC layout usually required for a longer duration may be needed due to the nature of the work or the traffic. For example, patching a pothole on a high-volume, high-speed freeway may require less than 15 minutes of time (mobile operation) but a stationary lane closure may be needed because of the high volumes of traffic.

Additional layouts have been placed in the manual for unique operations and special signing conditions. These layouts may have special restrictions and guidelines contained within their notes.

ENHANCEMENT OF THE TEMPORARY TRAFFIC CONTROL LAYOUTS

To improve safety, typical layouts contained in this manual may need to be modified to fit more complex roadway conditions or operations. When conditions are more complex, modifications may incorporate devices and practices from the following list:

1. Additional Devices:
 - a. more signs or enhanced signs (using LEDs, flags, beacons, etc.)
 - b. “flashing” arrow board
 - c. more channelizing devices at close spacing
 - d. temporary raised pavement markers
 - e. high-level warning devices
 - f. portable changeable message signs
 - g. portable traffic signals
 - h. portable barriers
 - i. impact attenuator crash cushions
 - j. glare screens
 - k. temporary rumble strips
 - l. more delineation
2. Upgrading of Devices
 - a. a complete set of standard pavement markings in high hazard areas
 - b. brighter and/or wider pavement markings
 - c. larger and/or brighter signs
 - d. more visible channelizing devices with greater conspicuity
 - e. temporary traffic barriers in place of channelizing devices
3. Improved Geometrics at Diversions or Crossovers
4. Increased Distances
 - a. longer advance warning area
 - b. longer tapers
5. Lighting
 - a. temporary roadway lighting
 - b. steady burn lights used with channelizing devices
 - c. flashing lights for isolated hazards
 - d. illuminated signs
 - e. work space lighting
6. Work zone speed limits

See *Work Zone Speed Limit Guidelines* at the following website for details:

<http://www.dot.state.mn.us/speed/pdf/WZSpeedLimitGuideline.pdf>

INSTALLING THE TEMPORARY TRAFFIC CONTROL ZONE

Traffic control devices shall be installed in the order that drivers will see them, starting with the sign or device that is furthest from the work space. If traffic in both directions will be affected, such as work in the center lanes, the devices may be placed in both directions at the same time. When one direction of traffic will be directed into the opposing lanes of traffic, all traffic controls for the opposing traffic should be installed first.

The devices should be removed as soon as the work is completed and are no longer needed. Devices should be removed in the opposite order from which they were installed. Devices which the driver sees last should be removed first.

A clear lane at least 10 feet wide shall be maintained at all times. After the temporary traffic control zone is in place, it should be inspected by driving through the zone. Motorists' actions and reactions should be noted and if any problems are encountered, they should be quickly corrected. Any modifications to the Traffic Control Plan or standard layouts and the reasons for the modifications should be documented.

During the life of a temporary traffic control zone, maintenance of devices is frequently needed. On short term operations, vehicles may knock over cones which then need to be placed upright. If problems are encountered, they should be corrected immediately and documented.

CHECKLIST FOR ESTABLISHING A TEMPORARY TRAFFIC CONTROL ZONE

COMPLETED	ITEM
<input type="checkbox"/>	Obtain permit from governing road authority.
<input type="checkbox"/>	Determine the type of roadway
<input type="checkbox"/>	Determine the type of work space
<input type="checkbox"/>	Determine the duration of work.
<input type="checkbox"/>	Select hours of work to avoid peak periods.
<input type="checkbox"/>	Select the appropriate layout(s) using type of roadway, type of work, duration, traffic volume, speed and impact on pedestrian and bicycle travel. (See the appropriate Index Chart at the start of each section)
<input type="checkbox"/>	Determine any modifications to typical layout(s). (See the Enhancement of the TTC Layouts on page 6K-x)
<input type="checkbox"/>	Check decision sight distance.
<input type="checkbox"/>	Advance signing distance.
<input type="checkbox"/>	If possible, maintain access to intersections, parking areas, and driveways (public and private).
<input type="checkbox"/>	Allow for buffer space free of obstructions.
<input type="checkbox"/>	Contact the proper road authority if the work zone interferes with normal signal operation in the area.
<input type="checkbox"/>	Check the condition of devices. (See the Quality Standards on pages 6K-91 thru 6K-106)
<input type="checkbox"/>	Install devices beginning with the first device the driver will see.
<input type="checkbox"/>	Conduct a drive thru to check for problems. (See the Enhancement of the TTC Layouts on page 6K-x)
<input type="checkbox"/>	Document temporary traffic control zone, problems and major modifications to the layouts.
<input type="checkbox"/>	Traffic should be observed to see if the taper is working correctly.
<input type="checkbox"/>	Remove the devices as soon as work is completed, beginning with the last device seen by the motorist.

Figure 6K-1