

GUIDELINES FOR TEMPORARY TRAFFIC CONTROL PLAN (TTCP) PREPARATION

These guidelines are for preparing Temporary Traffic Control Plans (TTCP) in Montgomery County. Closely following these guidelines will result in a more expeditious approval of a TTCP. Our experience indicates that these guidelines help develop an acceptable TTCP that minimizes inconvenience to the public while assuring safe conditions for personnel in work zones and all roadway users including pedestrians and bicyclists.

The purpose of Temporary Traffic Control Devices (TTCD) is to ensure roadway user safety by providing for the orderly and predictable movement of traffic and providing the guidance and warnings necessary for roadway users to get through or around work zones safely.

The safety and accessibility of roadway users and workers safety and accessibility in work zones should be and integral and high priority element of every project from planning through design and construction. Similarly, maintenance and utility work should be planned and conducted with safety and accessibility of all motorists, bicyclists, pedestrians (including those with disabilities), and work zone personnel being considered at all times. Additionally, if the temporary traffic control zone includes a railroad grade crossing, early coordination with the railroad company should be considered.

The involvement of the County's Traffic Control and Lighting Engineering Team in the development of a TTCP is limited to ***review and approval***. The ***preparation*** of a TTCP is the full responsibility of the preparer. A TTCP requires considerable engineering both in the field and office. A TTCP will be returned unapproved with only general comments if the TTCP cannot be implemented and is not professionally prepared.

1. The preparation and concepts of the TTCP shall follow those stipulated in the most recent edition of the Manual on Union Traffic Control Devices for Streets and Highways (MUTCD) and any supplements.
2. The determination of a suitable sequence of construction is the most difficult aspect of preparing a TTCP. It is expected that a logical, practical sequence be articulated based on realistic and up to date construction practices and methods. This may require consultation with experienced construction personnel as to the feasibility of a particular sequence of construction. Impacts of utility relocation, pedestrian movements, traffic delays, detours, roadway stability, capacity restrictions, minimum lane widths and safety must be considered. For roadway improvement projects, a proposed sequence of construction should be submitted and approved prior to fully developing a TTCP.
3. Field checks of the construction site are mandatory prior to and during the preparation of a TTCP. It is our experience that inadequate TTCP's are prepared in the office without a field investigation by the TTCP preparer. In addition, it must be recognized that many of the necessary traffic control devices are located upstream and downstream of the actual construction limits.
4. Specific drawing scales are required to adequately show the locations of advance construction signs, the dimensions for the placement of channelizing devices and pavement

markings, or other phases of construction as required. Acceptable scales are: 1"=20', 1"=30', 1"=40', and 1"=50'.

5. Any considerations for the closure of a road or sidewalk must be carefully reviewed and justified with respect to both the necessity as well as the impact of the closure to the public. Justification for closure, including a detailed analysis of alternatives considered, must be submitted in writing to the Traffic Engineering Design & Operations Section for review. If acceptable, the recommendation will be forwarded to the Chief, Division of Traffic Engineering and Operations for approval. The Chief must concur (in concept) with the proposed roadway and/ or sidewalk closure prior to the submittal of a TTCP that contains the details of how such a closure could be implemented.

The Contractor shall arrange and host a pre-phase traffic switch meeting at least two weeks prior to switching traffic. The following offices shall be notified of this meeting and of the impending traffic switch:

- Montgomery County Division of Traffic Engineering and Operations at 240-777-6000
- Montgomery County Transportation Systems Engineering Team at 240-777-2100
- Montgomery County Transit at 240-777-5800
- Montgomery County Public Schools, Local Depot Manager
- Montgomery County Fire and Rescue, Local Fire Department Captain
- Montgomery County Police, Local Traffic Sergeant.
- Montgomery County Department of Permitting Services, Permit Inspection Section at 240-777-6300

Prior to road closures, the Contractor shall notify the following offices a minimum of seventy- two (72) hours in advance:

- Montgomery County Division of Traffic Engineering & Operations at 240-777-6000.
- Montgomery County Emergency Operations Center at 240-777-0751.
- Montgomery County Police, Local Traffic Sergeant.
- Montgomery County Transportation Management Center at 240-777-2100.
- Montgomery County Fire and Rescue, Local Fire Department Captain.
- Montgomery County Public Schools, Local Depot Manager.

6. References to typical drawings, taper tables and illustrations in the MUTCD are usually insufficient for use on a site specific TTCP. Specific sign messages, sign sizes, taper lengths, barricade or traffic drum spacing, types of barricades, typicals for barrier connections, etc., must be site specific and shown on the TTCP drawings. Special coding of signs (other than MUTCD numbers R1-1, etc.) will not be accepted. *Typical* urban situations are difficult to find in the "real world." Closely spaced intersections, auxiliary turn lanes, restricted turn lanes, turn prohibitions, short road lengths, short block lengths, traffic signals, the presence of high volume commercial driveways, parking meters, and variable road widths are never illustrated on *typical* drawings. These urban conditions require the careful attention to site specific construction sequence phasing and traffic control device application.
7. All special traffic signs (non-standard MUTCD signs) must be designed. Design details required are typical of those shown in the MUTCD supplement Standard Highway Signs. If

you are not intimately familiar with the MUTCD, the MUTCD Standard Highway Signs supplement and the MUTCD Standard Alphabets for Highway Signs, then you shall obtain the services of those who are qualified to do this type of work.

8. Pavement marking changes must be specific with respect to crosswalks, lane widths, edge line widths, stop line widths, lane line widths and locations, color of lines, length of solid lines, taper lengths, length of line removals, placement of arrows and ONLY's, and other dimensions necessary to assure the proper installation of the pavement markings. In addition, if temporary pavement markings are to be removed rather than paved over, the use of "removable detour grade pavement marking tape" must be specified on the drawings. The TTCP must specify that the contractor shall be responsible for all pavement marking removal and installation. Any work that is expected from Montgomery County crews must be requested and approved in writing in advance of being shown on the TTCP.
9. The Temporary Traffic Control Requirements in the Montgomery County Work Zone Temporary Traffic Control Standards Book is required for permit work and should be shown on the TTCP drawings. These requirements may be modified as necessary by the Traffic Engineering Design & Operations Section.
10. Special provisions (additions and/or deletions to the Maryland Department of Transportation, State Highway Administration's Standard Specifications for Construction and Materials, 2003) are required for all Montgomery County Capital Improvement Project contracts. These special provisions must contain any working restrictions such as days contractor may not work, days detours may not be implemented, hours that lane restrictions are allowed or not allowed, or other restraints that must be considered based on the volume of peak or off peak hours of traffic. A method of measurement and basis of payment must be established for various items of maintenance of traffic.
11. Modifications to traffic signals during construction must be specific with respect to the work to be done and as to who will be doing the work. Any work that is expected from Montgomery County crews must be requested and approved in writing in advance of being shown on the TTCP.
12. It is expected that the required engineering will be completed for a successful TTCP prior to the submittal for review by Montgomery County. For a submittal of a TTCP to be reviewed by Montgomery County DOT, Division of Traffic Engineering and Operations, it must include a complete set of construction plans, TTCP special provisions or temporary traffic control requirements and two (2) sets of appropriate TTCP drawings with a Professional Engineer's stamp and signature.

TEMPORARY TRAFFIC CONTROL (TTC) REQUIREMENTS

1. The permittee shall refer to the attached Temporary Traffic Control Plan (TTCP) drawings to select the appropriate work zone temporary traffic controls for each phase of construction. Work zone situations which are not addressed in the attached TTCP shall conform to the guidelines set forth in Section 6 of the MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAY (MUTCD), most recent edition.
2. The permittee must have a “certified” traffic control manager on site during all phases of construction at all times.
3. Each phase of construction, including the follow up restoration operations shall be provided with appropriate work zone traffic controls.
4. Road closures of any duration shall require the submittal of a written request to the Traffic Engineering Design and Operations Section with justification as to why work activity cannot occur while traffic is being maintained. Road closure shall require additional temporary traffic controls including advance notification, approach, and detour signage, as approved by Traffic Engineering Design and Operations Section.
5. All sidewalk closures shall require the approval of the Traffic Engineering Design and Operations Section. Any sidewalk closure greater than two (2) weeks shall require the submittal of a written request to the Division of Traffic Engineering and Operations and may require additional temporary traffic controls and/ or temporary sidewalk by-pass. Any work affecting sidewalk shall be specified and a proper pedestrian detour shall be shown on plans and submitted for review. Sidewalk closures shall be limited to occur only during the actual work activity. During closure, sidewalks shall be barricaded to physically prevent pedestrian passage and appropriate pedestrian detours shall be posted. During all other times, provisions for safe pedestrian access through the work area, via a temporary walkway shall be provided.
6. Any work within the traveled portion of roadways shall be restricted to the hours of 9:00 AM to 3:30 PM, Monday through Friday. Work on holidays and weekends shall not occur unless an exception is granted in writing by the County's DPS Inspector.
7. Construction activity, loading or unloading of equipment shall not block any traffic lane other than those delineated within the work zone.
8. Exclusive of emergency work, the permittee shall contact occupants of all adjoining properties and inform them of the scope and the timing of construction. A minimum of 24 hours notification shall be required prior to the commencement of any activity on the site.
9. Access shall be maintained to all driveways unless permission for closure is granted by the property owner/manager. However, accessibility for emergency vehicles shall be maintained at all times.
10. Pavement excavation shall be limited to a maximum of one travel lane at any time unless otherwise specified on the TTCP.

11. If any temporary traffic control signs are to be placed along a MSHA roadway or within the limits of an incorporated area, the permittee shall notify the appropriate agency of signage to be installed.
12. No hazardous materials shall be stored within public right-of-way. No materials or equipment shall be stored on the roadway surfaces or sidewalk during non-work hours.
13. All existing traffic control devices (i.e. signs, marking, etc.) that must be removed shall be replaced in their proper location prior to the completion of the project. Cost for the replacement and/or repair of devices damaged as a result of the project shall be assessed to the permittee.
14. For merging, shifting, shoulder taper, the **MAXIMUM** spacing between devices equals the posted speed in feet.
15. All temporary traffic control devices shall conform to the most recent edition of the MUTCD. All signs, traffic drums and cones shall be fully reflectorized with high intensity, reflective sheeting as per the MUTCD.
16. Provision shall be made for safe maintenance of pedestrian and bicycle traffic, subject to approval of the County's DPS Inspector. At least one 10-foot travel lane shall be available for traffic at all times.
17. Signage, traffic drums, traffic cones, and arrow panels shall be placed in accordance with the appropriate typical and spacing chart. Work Area Ahead (W20-1 modified) signs must be installed at the end of each workday when temporary aggregate ramping is implemented. Channelizing devices shall be placed along excavations at ten (10) foot intervals. Arrow Panels (flashing mode only) shall be used at the beginning of any lane closure on a multi-lane roadway.
18. Appropriate distances for sign legends are "AHEAD", "500 FT", "1000 FT", "1500 FT", or "1/2 MILE". For distances less than 500 feet, "AHEAD" shall be used.
19. All warning signs, unless otherwise specified, shall be a minimum of 48" X 48", black symbol or legend on orange background and diamond shaped. All warning signs not applicable to the actual situation shall be removed or covered during non-applicable periods. All portable signs shall be mounted a minimum of one (1) foot above the level of the roadway, with higher mounting heights desirable.
20. During nighttime operations traffic drums shall be used. However, for emergency work activities where traffic drums are not readily available, reflectorized traffic cones that are a minimum of twenty eight (28) inches in height and having six (6) inch and four (4) inch reflective collars within the top sixteen (16) inches of the cone may be used. All work areas left unattended at night shall be delineated with traffic drums.
21. When temporary concrete barrier (TCB) is used, reflectorized markers are required as per TTCP 109.02. Also, a 12" X 36" object marker (vertical panel as per TTCP 109.01) shall be installed.
22. When pavement markings have been obliterated by the work activity, the permittee shall install any critical interim pavement markings prior to the end of the workday as specified by the county's DPS Inspector and/or the Division of Traffic Engineering and Operations. On road

sections that are not scheduled to be overlaid, all temporary pavement markings shall be (removable) detour grade marking tape. Any conflicting markings, which need to be temporarily removed, are to be masked using "3M Removable Black Lane Mask" or an approved equal. On road sections that are to be overlaid, temporary markings can be either tape or paint. Any conflicting markings should be removed with a pavement grinder.

Flagging Operations

1. When possible, two-way traffic shall be maintained, otherwise, flaggers shall be used to control traffic.
2. Flaggers shall be Maryland State Highway Administration or AATSA approved flaggers and shall be used at the direction of the County Inspector. Flaggers shall use STOP/SLOW paddles to direct traffic.
3. Radio communication shall be required between flaggers at the discretion of the County Inspector or under the following conditions:
 - If the flaggers cannot see each other.
 - If the lane closure exceeds 200 feet.

Pavement Drop-Off

1. Any excavation(s) in the roadway shall be paved to level grade or plated and the roadway reopened to its full cross-section prior to the end of each workday. "STEEL PLATES" (W95-5(1)) signs shall be placed approximately 250 feet in advance of any steel plate. Any excavations in the sidewalk shall be backfilled or plated prior to the end of each workday and sidewalk reopened to its full cross section.
2. Traffic shall not be permitted within ten (10) feet of any excavation that results in a vertical drop-off of more than five (5) inches in the level of pavement during non-working hours unless protected by temporary concrete barriers or ramped with aggregate material at a 3:1 or flatter slope from the edge of pavement. When ramping is utilized, Temporary Traffic Control drums shall be positioned adjacent to the edge of the work area on the traffic side of the slope.
3. Traffic shall not be permitted within two (2) feet of any excavation that results in a vertical drop-off of more than two (2) inches but no more than five (5) inches in the level of pavement during non-working hours unless either ramped with aggregate material at a 3:1 or flatter slope, provided with an abutting wedge of bituminous material at a 3:1 or flatter slope or protected by traffic drums.
4. In areas where a drop-off in the level of pavement is two (2) inches or less, traffic may be allowed to freely cross under the following conditions:
 - Where longitudinal paving joints of two (2) inches or less are exposed to traffic, warning signs shall be posted indicating "UNEVEN LANES" (W8-11). These signs should be placed 250 feet in advance of the uneven joint and be spaced at appropriate intervals throughout the area of the uneven joint.
 - Where lateral paving joints of two (2) inches or less are exposed to traffic, a "BUMP" (W8-1) sign shall be posted 100 feet in advance of the joint.

- When milled pavement is left exposed to traffic a "ROUGH ROAD"(W8-8) or "GROOVED PAVEMENT" (W8-8a) sign shall be placed 250 feet in advance of the milled area.

Parking Restrictions

1. The permittee shall contact the MCDOT, Division of Parking Management at 240-777-6000 a minimum of 48 hours in advance to arrange for payment and the bagging of all parking meters within the work zone. Meter numbers and location must be specified.
2. Bagging agreement shall be kept available by the contractor/permittee for inspection by the DPS inspector at any time. Prohibiting the use of metered spaces by the contractor/permittee without receipt of 'bagging agreement' is subject to fines.
3. Contractor/permittee shall coordinate with Division of Parking Management to make payment for additional bagging and removal whenever more spaces are temporary required.
4. All existing Montgomery County "Parking" signs shall be covered or bagged by the contractor/permittee for the duration of work; and a temporary "No Parking Anytime" (R7-4) sign shall be installed in the affected parking space(s). Existing Montgomery County parking meter pipes/poles shall not be used for temporary installation.
5. When it is necessary to restrict parking in a non-metered area to facilitate work activity, the permittee shall contact the appropriate County Police Station for temporary "No Parking" signs.
6. The contractor/permittee shall restore all affected Montgomery County parking signage to their previous condition.

Inspector Authority

1. The County's Department of Permitting Services (DPS) Inspector has the authority to modify the TTCP as deemed necessary. The Inspector has the authority to order the permittee to stop work and vacate the public right-of-way if the TTCP is not complied with.
2. The implementation date and continuance of work activities may be altered at the discretion of the County's DPS Inspector in the event of conflicts with previously approved or emergency activities.

Miscellaneous

1. The permittee will be solely responsible for all accidents and/or damage to persons and/or property damage resulting from his operations.
2. Hazardous materials shall not be stored within public right-of-way. No materials or equipment shall be stored on the roadway surface or sidewalk during non-work periods. All stored materials and equipment shall be set back at least six (6) feet behind the curb along a closed section roadway and at least twelve (12) feet from the edge of an open section roadway.
3. **All Temporary Traffic Control (TTC) devices shall be removed as soon as practical when they are no longer needed. When work is suspended for short periods of time, TTC devices that are no longer appropriate shall be removed or covered.**
4. At the completion of work activities, conditions within the public space shall be fully restored to those that existed prior to the work activity.

Contact Information

1. Contact the MCDOT Transportation Management Center at 240-777-2100 between 5:00 AM and 11:00 PM to inform them of temporary lane closures in the vicinity of any traffic signals.
2. The permittee shall contact the Transportation Systems Engineering Team at 240-777-2100 at least two weeks in advance to coordinate any minor traffic signal work. Major traffic signal work shall be coordinated a minimum of thirty (30) days in advance of the project. The permittee shall contact the Montgomery County Transportation Management Center at 240-777-2100 a minimum of 72 hours prior to beginning work to have existing traffic signal equipment marked.
3. The permittee shall contact the Traffic Engineering Design & Operations Section (TEDO) at 240-777-6000 at least ten (10) working days in advance of the final paving operation to schedule the installation of permanent pavement markings and signs.
4. The permittee shall contact the Director of the Bethesda Urban Partnership at 301-215-6660, the Director of the Bethesda – Chevy Chase Regional Services Center at 301-986-4325, and the Bethesda Traffic Sergeant of the Montgomery County Police Department at 301-657-9200, a minimum of one week prior to the beginning of any work activities within the Bethesda Business District.
5. The permittee shall contact the Director of the Upcounty Regional Services Center at 240-777-8000 and the Germantown Traffic Sergeant of the Montgomery County Police Department at 301-840-2650, a minimum of one week prior to the beginning of any work activities within the Germantown Business Area.
6. The permittee shall contact the Director at 301-565-7300 of the Silver Spring Regional Services Center and the Silver Spring Traffic Sergeant at 301-565-7740 of the Montgomery County Police Department, a minimum of one week prior to the beginning of any work activities within the Silver Spring Business District.
7. The permittee shall contact the Director at 240-777-8100 of the Mid-County Regional Services Center and the Wheaton Traffic Sergeant at 301-217-4400 of the Montgomery County Police Department, a minimum of one week prior to the beginning of any work activities within the Wheaton Business District.
8. Field assistance by the MCDOT, Division of Traffic Engineering and Operations is available upon request. Contact Traffic Engineering Design & Operations Section (TEDO) at 240-777-6000.