

Maintenance of traffic (MOT) plans, also known as traffic control plans or temporary traffic control (TTC) plans, should provide an overview of the traffic controls needed during the construction phases for an impacted area. Provide at least one plan-view illustration for each phase of construction and provide general notes to clarify and expand information on plan-view illustrations. Include all field deviations in the final inspection package.

The following guidance and plan-view illustration example should be used in designing MOT plan submittals for all types of transportation and traffic disruptions. Transportation and traffic refer to vehicles, bikes, transit, pedestrians, and any other forms of mobility. A/E's shall design to minimize impact and detours for everyone traveling through the impacted area. Designs for pedestrian pathways shall be in compliance with the 2010 ADA Standards for Accessible Design.

See DCSM sections 2.6.5.12, 4.8, 7.7, and 7.8 for additional information on transportation and parking requirements. Provide all required site plan checklists during phase submittals.

When preparing MOT plans and plan-view illustrations, A/E's shall follow the latest editions of the Federal Highway Administration (FHWA) Manual on Uniform Traffic Control Devices (MUTCD), the Virginia Supplement to the MUTCD, the Virginia Work Area Protection Manual (WAPM), and Virginia Department of Transportation (VDOT) requirements.

The following items should be considered and may be included in the MOT plan:

- Provide a description of the sequence of construction.
- Indicate if any property lines are crossed within the work area. If so, confirm that all property owners have been contacted about the MOT plan.
- Provide the location of work zone (on the roadway, on the shoulder, beyond the shoulder, etc.).
- Provide the anticipated time duration of the work (long-term, short-term, or mobile).
- Indicate the type of roadway involved.
- Indicate the traffic volume and speed for the roadway.
- Indicate if the traffic type will change during the construction project.
- Provide the plan for controlling traffic. Indicate if controls include temporary lane closures, reduced speeds, or detours.
- Indicate if flaggers are required.
- Indicate the type of signage required and identify if the signage will be used for day, night, or both (24-hour usage).
- Indicate if cones, drums, barricades, or arrow panels will be needed for traffic channelization.
- Indicate if a detour is needed for culvert replacement or for a major alignment and grade change.
- Indicate if a detour requires the use of local roads. Provide the daytime closure hours.
- Provide the creation date of MOT plan, the name of the MOT engineer or designer, and the name of the reviewer for the MOT plan.

MOT plans should address the needs of all types of traffic that travel across or through the area marked for future construction work.

#### ADA/Pedestrian:

- Pedestrian routes shall be designed to avoid conflicts with moving or parked construction vehicles and equipment, and with ongoing construction operations.
- Proper sight distance shall be maintained at all road crossings.
- No construction objects, machinery, personnel, or anything from the construction project shall be above or protrude into a pedestrian walkway. Walkways shall be detoured or scaffolding or barricades shall be constructed to protect pedestrians from objects.
- Pedestrian routes shall be designed to accommodate grade specifications (running grade, maximum grade, and cross-slope percentage), minimum clear widths, and passing spaces as provided in the ADA Standards.
- Cracks, grates, grooves in concrete, heaving and settlement, and other uneven transitions in the level of pedestrian routes shall be minimized.

#### Bicycle and all types of personal wheeled mobility:

- Bikeway continuity through the construction area should be maintained if possible. If a detour is necessary, advance warning signs, detour signs, and traffic control devices should be used to guide and protect bicyclists from both construction activity and motorized vehicle activity.
- On-road bicyclists should not be routed onto unpaved shoulders and should not be routed onto paths or sidewalks unless they are designated for shared use and sufficient passing space is available.
- Debris should be removed regularly from the bikeway. Surface grade changes and bumps in the bikeway should be minimized.
- Advance warning construction signs should be placed so that they do not obstruct either the path or the vision of bicyclists, vehicles, or pedestrians.

#### Motorcycle:

- Degradation and discontinuity of roadway pavement surface quality, friction, or elevation should be minimized in the construction area to aid safe travel for both motorcycles and bicycles.

#### Vehicle/Truck/Transit:

- If temporary transit stops are necessary to avoid conflict with the construction project, then Accessible routes shall be provided to those transit stops.

Plan-view illustrations are overhead views of the construction project areas that have been marked to show the location of the work zone, signage, traffic controls, and safety devices. See the plan-view illustration example.

In the plan-view illustrations:

- Indicate the phase of construction.
- Show area in scale sufficient to understand markings on illustration.
- Indicate sign placement using MUTCD sign graphics.
- Indicate advance warning sign distance and spacing of multiple signs.
- Indicate safety divider placement and types.
- Show locations of temporary pavement markings, arrow boards, flaggers, and channelization devices.
- Show the locations and indicate distances to the work zone for advance warning signs and detour signs for non-vehicle traffic.
- Show taper lengths, lane shift lengths, lane widths, sign spacing, barricade or cone spacing, and signal locations.
- Include temporary signs not addressed in the WAPM in the appropriate location.
- Illustrate any unusual situations not covered by a standard by using a detail or a typical to clearly show how traffic is to be maintained at entrances, intersections, etc.
- Show turning radii for existing traffic and turn lane dimensions.
- Denote the work area to the construction limits.
- Show the items being constructed in the current phase.
- Include items constructed in a previous phase with the items being constructed in the current phase.
- Show changes in speed limits.

In the general notes included with the plan-view illustrations:

- State speed limit for work area.
- List number of lanes closed to traffic, number of lanes open to traffic, and total number of lanes.
- List lane width changes.
- Indicate taper distance to road impact.
- Schedule of allowable hours for lane closures.
- Indicate frequency of day and night inspections of temporary traffic control zone.
- Indicate if additional lighting is required. If required, indicate type of lighting and angle of placement (indicate area illuminated).

## Plan-View Illustration Example

