Location of Temporary Median Cross-overs and Exit Ramps During Construction Guidance

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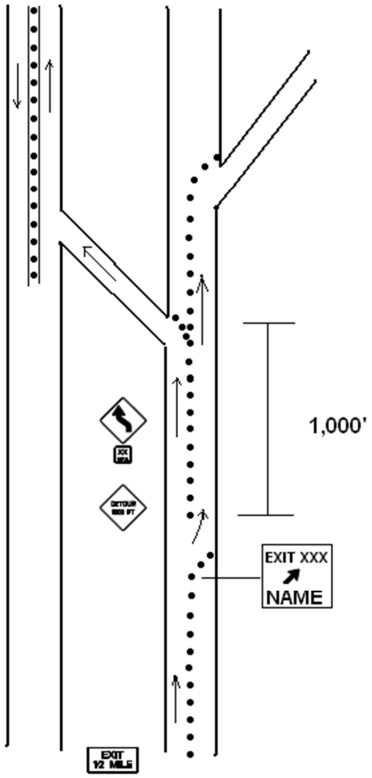
The purpose of this guidance is to provide MDT field crews and Transportation Management Plan (TMP) teams with assistance in locating temporary median cross-overs and exit ramps during construction.

Traffic control reviews over the past few years have indicated that the location of temporary median crossings used for sequencing construction activities are sometimes placed too close to existing exit ramps. Drivers too often become confused when confronted with multiple driving maneuver decisions at these locations. A certain amount of time is necessary to process information, decide what action must be taken, and actually take the appropriate action. The American Association of State Highway and Transportation Officials, AASHTO, assumes a perception-reaction time of 2.5 seconds for the typical or average driver. As the number of simultaneous decisions increases, the perception-reaction time also increases. Therefore, the time and distance relationship becomes very significant in the perception-reaction process for drivers to make decisions.

As shown in the pictures below, the current practice of placing temporary median cross-overs at the same location or in close proximity of exit ramps causes drivers to make multiple decisions simultaneously. Observations made at these locations confirm that drivers make incorrect decisions and then compound the incorrect decision with potentially hazardous driving maneuvers. Nighttime driving could potentially increase the number of wrong decisions drivers make. The reflectivity from the high number of traffic control devices delineating the cross-over and the exit ramp may add to the confusion of multiple driving maneuver decisions.

Drivers were witnessed taking the exit ramp and then driving through the median to return to the mainline at the location of the picture in the left above. In the picture on the right above, the car is actually backing up in the exit lane in order to return to the mainline.

Drivers require a decision sight distance in order to make proper driving maneuvers. This is a distance at which a driver can detect information (advanced warning signage), recognize and process that information, select the appropriate action, and then perform the required maneuver safely and efficiently. In order to be consistent with Detailed Drawing 618-30, a minimum of 1,000 feet should separate the exit lane from the median cross-over. The layout for the median cross-over and the exit ramp lane should look similar to the drawing below:



Another advantage to separating the decision points is the opportunity for corrective action should a driver make the wrong decision to exit. As discussed above, drivers who made an incorrect decision to exit further compounded the situation by engaging in hazardous driving maneuvers. The 1,000 foot buffer zone will give drivers the chance to return to mainline if that is their desire. A larger spacing of the plastic drums separating mainline and the exit lane in the buffer zone may also facilitate correct driving maneuvers.

Cross-overs specified in contracts normally have the locations and geometrics chosen during the design process. The TMP team may also provide input as to the cross-over specifics and to the associated traffic control. Therefore, field crews need to recognize that, before any location changes to the cross-overs are made in the field, the design team and the TMP team should be consulted. Specific reasons and objectives may govern the decision making process. Changes made in the field need to be consistent with the intentions of the contract.

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