Design Mitigations

Design Manual
Chapter 9
Traffic Control
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The most effective mobility and safety mitigations involve providing temporary designs that meet all the traffic demand and safety needs during construction and maintenance operations. These designs should be considered for every project. Other sections in Chapter 9 present possible designs. If selected, these designs are intended to be included in the plans. However, these mitigations can be impractical or cost prohibitive, necessitating the need for additional mitigations.

Number of Open Lanes

Mobility and safety needs can often be met if the number of open lanes can be maintained during construction activities. This may be accomplished by reducing shoulder width, providing a suitable detour, or reducing lane widths as detailed below.

Lane Width

On some projects, it may be advisable to reduce the width of travelled lanes to facilitate maintaining the number of lanes or providing an additional lane through the project. Consideration must be given to commercial vehicle traffic and general geometric design of the roadway and temporary alignment to ensure that all vehicles can safely negotiate these reduced lane widths. The location and condition of construction joints and milled in rumble strips in relation to vehicle wheel paths must also be considered before selecting this mitigation.

Shoulder Width

Reduced shoulder widths to maintain the number of lanes through a project can be a good method to maintain traffic flow. Consideration must be given to safety if a traffic incident occurs and there are no shoulders to allow for safely leaving the driving lanes. This can be in the form of emergency pull-off periodically through the project. Consideration must be given to load width restrictions. It should also be given to provision for increased surveillance or modifications to the Traffic Incident Management (TIM) plan. The location and condition of construction joints and milled in rumble strips in relation to vehicle wheel paths must also be considered before selecting this mitigation.

Barrier Location

When using Temporary Barrier Rail (TBR) to protect the work or separate opposing directions of traffic, consideration should be given to the impact of placing TBR too close to the edge of the traffic lane. This may reduce the traffic carrying capacity of the lane, and if placed on both the right and left sides, extra consideration must be given to load width restrictions and to the Traffic Incident Management (TIM) plan. When using TBR to separate opposing directions of traffic, consideration should be given to using glare screen to mitigate the effects of headlight glare, especially when the TBR is close to the edge of the traffic lane.

Open Lane and Shoulder Requirements

It is imperative to define and communicate in the project PS&E and the temporary traffic control plan which lanes and shoulders must be open and when.

Chronology of Changes to Design Manual Section:

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