



Work Zone Safety Bulletin

July 2005

WORK ZONE DESIGN STRATEGY DEVELOPMENT

The Work Zone Safety Task Force Technical Sub-Committee has identified the issue of work zone design strategy development as an emphasis area in an effort to ultimately improve safety and mobility in our work zones.

Work Zone Design Strategy

The work zone design strategy is the key element in establishing an effective work zone design, yet is often overlooked or underestimated in its value. Only through the development of a comprehensive work zone design strategy is it reasonable to expect the development of an effective set of work zone Plans, Specifications & Estimate (PS&E) that addresses all safety, mobility and constructability impacts associated with maintaining traffic during project construction. Too often work zone PS&E's are limited by poor work zone design strategies with missing components or lack of a constructible concept. The following list represents a few of the strategy elements that have been identified as requiring more consideration on some projects, especially those projects with complex designs or at project locations with substantial traffic impacts.

- Oversize load impacts – those projects with temporary height, width or weight restrictions must be identified and addressed. Project locations with high truck volumes or that may already be part of an oversize load restriction route may require additional effort to ensure that conflicts are eliminated. Signs and active warning devices are not always adequate. Physical warning or protection may be needed. This effort must be coordinated with the bridge design office early to identify potential conflicts that could quickly become a constructability and safety issue and possibly require a bridge design change.
- Side roads, crossroads, business access and local roadway system – some projects do not fully consider the traffic impacts on these roadways. The primary focus is usually on the mainline construction and sometimes these roadways are not considered because there may be no obvious or direct construction impact. Signing, traffic delays and work area protection are some of the missing elements to consider.
- Existing roadway features and systems – signs, illumination, signals, sidewalks, drainage, pavement markings and other features are not always fully considered but construction may cause considerable impact to these existing features and they need to be considered.
- Transit routes, bus stops and school bus routes that are impacted due to construction staging need to be considered. Coordination with the impacted agencies for possible adjustments is recommended.
- Work zone bid item estimate – (scoping & design), are all the potential items accounted for? An estimate that is too low or that does not contain all the items could become an issue later during design or construction.
- Work zone mobility impacts – work zone traffic analysis to establish potential work hour restrictions by using analysis software such as QuickZone and QUEWZ.

- Pedestrian and bicycle access – are routes and paths designated for pedestrians and bikes provided for? Coordinate with local agencies and bicycle organizations if the route is a known bike route and where pedestrians may be routed. ADA needs may also need to be addressed.
- Work zone ingress and egress – how will materials be delivered to the project while minimizing impacts to traffic. A traffic control plan may be required to provide safe access.
- Specifications – any restrictions or requirements not routinely covered by the standard specifications should be identified ASAP. Examples: Noise restrictions and abatement, detour/alternate route, etc.

It may not be feasible to fully address these and other issues early in the design or scoping process, but the most important aspect is to identify all of the potentially conflicting issues and address them as soon as possible in an effort to adapt the project design as needed to provide the best solution. Overlooking or postponing identification or action on these issues may not allow for project design considerations, adequate PS&E preparation or an accurate cost estimate.

Contact your Region Traffic Office for more information and assistance.



Washington State
Department of Transportation
Work Zone Safety Task Force