

DESIGN STEPS for Work Zone Safety and Mobility

2015

Step 1 Identify/Confirm Project Significance Level

- Look at project setting (urban, rural, high traffic, Reservation, safety concerns, etc.)
- Go through Impact Level Checklist¹
- Consider potential construction impacts
- Determine corridor-wide implications (other construction projects, regional events)
- Think about time of year for construction
- Consider likely construction duration and type of work

Step 2 Identify Stakeholders

- Business owners
- Residents
- Highway users
- Local Government officials
- Tribal officials
- Law enforcement and Emergency Response teams
- Trucking industry

Step 3 Design the Project

- Fill out TMP Work Sheet¹, with help from Construction and design team as necessary
- Incorporate mitigation strategies to lessen impacts
- Alter design to optimize and balance construction needs with design criteria
- Include public involvement meetings and outreach
- Work with Construction and/or Maintenance staff
- Work with stakeholders

Step 4 Develop Transportation Management Plan (TMP Work Sheet and Help Guide¹)

- Traffic Control Plan
 - Sequencing and detour design, plan sheets and/or Special Provisions
 - Appropriate signage
 - Pedestrian, bicycle, and ADA accommodations
 - Acceptable level of service, delay, or queue lengths
- Transportation Operations component Special Provisions
 - Demand management
 - Corridor management
 - Construction zone safety management
 - Traffic/Incident management and enforcement
- Public Involvement component
 - Public outreach
 - Special Provisions and bid item selections
 - Target audience and appropriate media

Step 5 Follow-up with Construction

- Construction and Post-construction reviews
- Use lessons learned to improve future designs

¹ Refer to the [WZSM Toolbox](#) for links to documents and tools

Roles and Responsibilities

| Design stage | Staff responsible | Tasks |
|----------------------------------|-----------------------------------|---|
| Nomination | Nominator | Review Impact Level Checklist to determine project WZSM significance If significant, check the “Significant Work Zone Project” box in PPMS Review Appendices TMP Worksheet and Help Guide for potential WZSM strategies; include additional costs in nomination as necessary |
| Preliminary Field Review (PFR) | PDM, designer | Confirm project WZSM significance If significant, check the “Significant Work Zone Project” box in PPMS Start the TMP worksheet and save to DMS Review TMP worksheet with design team during PFR Document decisions and estimated costs in PFR report |
| Alignment and Grade Review (AGR) | PDM, TMP team | Determine level of TMP necessary for project Identify internal and external stakeholders Fill out or update TMP worksheet to identify applicable strategies to reduce WZSM impacts during construction Focus on traffic management issues and begin drafting Traffic Control and Sequence of Operations special provision. Discuss: <ul style="list-style-type: none"> • Specific treatments for addressing roadside construction hazards • Sequencing activities for realistic and efficient construction schedules • Signing and delineation during different stages of construction • Hauling and roadway crossing operations • Temporary advisory, regulatory, and warning signs • Needs for requesting project level law enforcement • Pedestrian, bicycle, and ADA accommodations • Traffic control and construction limitations during community events • Acceptable Level of Service (LOS), travel time delay goals and the acceptable queue lengths • Need to accommodate wide or oversized loads |
| Scope of Work (SOW) | PDM | Document traffic control, sequencing, detour proposals Request traffic information or modeling to determine LOS impacts for strategies such as lane closures Document feedback from public involvement information gathered |
| Plan-In-Hand (PIH) | PDM, Design team, TMP team | Review TMP worksheet Discuss and resolve issues related to WZSM strategies Review Special Provisions related to traffic control, sequencing, detours, night time work provisions/requirements, constructability Discuss wide load restrictions and placement of signing Define peak hours, allowed lane or road closures, LOS issues Address safety concerns related to construction work in High Crash Corridors or at locations with recorded crash incidents Address railroad involvement related to WZSM strategies |
| Final Plan Review (FPR) | PDM, Design team, TMP Coordinator | Focus on construction zone issues, safety concerns, traffic control and sequencing Ensure all identified strategies are included in the design or addressed specifically with Special Provisions or notes Ensure WZSM strategies are included in the bid items, as appropriate Contact MCS to ensure oversized loads are appropriately accommodated Answer the following questions: <ul style="list-style-type: none"> • Are the Special Provisions adequate? • Is adequate signing provided? • Is the appropriate traffic control included? • Is a public involvement plan included if necessary? • Does the plan set incorporate all of the construction strategies identified in the TMP Worksheet? |