

## DB Section 141.31 - Temporary Traffic Control

**(a) Scope** - This Section covers the design and implementation of temporary traffic control measures, and the contents of the Temporary Traffic Control Plan that Design-Builder is required to develop. Design-Builder shall provide for temporary traffic control throughout the Project Site to maximize the safe and efficient movement of traffic while minimizing construction impacts to residents, commuters, and business. The traffic-control measures shall also provide for the safety of Design-Builder's forces and others engaged in performing Work or other activities on the Project Site.

**(b) Standards and References** – Design-Builder shall plan, design, construct and implement traffic-control measures (TCM) in accordance with the requirements of this Section 141.31.

### (1) Standards

- *Manual on Uniform Traffic Control Devices (MUTCD) and Oregon Supplements*
- *ODOT Traffic Control Plans Design Manual and appropriate Technical Bulletins: [www.oregon.gov/ODOT/HWY/TRAFFIC-ROADWAY/traffic\\_control.shtml](http://www.oregon.gov/ODOT/HWY/TRAFFIC-ROADWAY/traffic_control.shtml)*
- *ODOT Highway Design Manual*
- *AASHTO Roadside Design Guide*
- *ODOT Traffic Line Manual*
- *ODOT Sign Policy and Guidelines for the State Highway System*
- *ODOT Policy on the Use and Operation of Portable Changeable Message Signs*
- *ODOT Qualified Product List (QPL) at the following site: <http://egov.oregon.gov/ODOT/HWY/CONSTRUCTION/QPL/Docs/QPL.pdf>*
- *MUTCD Standard Highway Signs Policy*
- *ODOT Traffic Manual*
- *ODOT/APWA Oregon Standard Construction Drawings available online at: [www.oregon.gov/ODOT/HWY/ENGSERVICES/standard\\_drawings\\_home.shtml](http://www.oregon.gov/ODOT/HWY/ENGSERVICES/standard_drawings_home.shtml)*
- **DB Standard Special Provisions**
- **DB Standard Specifications**
- All appropriate **Unique Special Provisions**, under Sections 00220 and 00225 available on-line: [www.oregon.gov/ODOT/HWY/SPECS/unique.shtml](http://www.oregon.gov/ODOT/HWY/SPECS/unique.shtml)
- “Guidelines for the Operation of Variable Message Signs on State Highways, Supplement B: Use of Portable Variable Message Signs. Available at: [www.oregon.gov/ODOT/HWY/TRAFFIC/TEOS\\_Publications/PDF/Guidelines\\_for\\_FMS\\_on\\_State\\_Highway.pdf](http://www.oregon.gov/ODOT/HWY/TRAFFIC/TEOS_Publications/PDF/Guidelines_for_FMS_on_State_Highway.pdf)

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**(2) References**

- National Cooperative Highway Research Board (NCHRP) Report 350
- Corridor Level Traffic Management Plan (TMP)

**(c) Requirements** - Design-Builder shall prepare, submit and maintain a Project-level Transportation Management Plan (TMP) over the course of the Project. A TMP is a comprehensive collection of Traffic Control Plans (TCP) and staging design decisions, implementation strategies, and other documentation relating to how Design-Builder plans on handling traffic operations during the life of the Contract. The TMP shall include any documentation pertaining to Public Information (PI) campaigns that provide advance and active notification to the public about all traffic management strategies. The TMP shall include documentation pertaining to all Traffic Operation (TO) strategies discussed and implemented to help mitigate traffic volumes through the Work Zone during the Project. The TMP shall also be coordinated with the Agency's Corridor Management Plan.

Design for the TCP for each Work Zone shall be developed by an experienced Designer with exposure to the following:

- Temporary traffic-control features and devices
- Traffic safety and operations
- Construction staging and practices

and who has completed the following courses provided by ODOT:

- Traffic Control Plan Design Workshop
- Work Zone Traffic Analysis

The design for the TCPs must comply with the following elements at a minimum:

- Project-level TMP
- **DB Standard Special Provisions**
- **DB Standard Specifications**
- ODOT Standard Drawings applicable to the Project
- **Design-Builder Specifications**
- List of appropriate Traffic Control Devices (TCDs) to be used on the Project
- Protection and adequate guidance for traffic control during all phases of construction

Construction support for the management of the TCP shall include the following elements at a minimum:

- Management, Inspection, maintenance and protection of traffic control activities and devices
- Safe and efficient traffic control within the Project Site during construction and periods of suspension of Work, particularly at intersections with State or local Highways
- TCMs relating to access to private and public property within the Project Site, as well as adequate protection and mobility for bicycles and pedestrians, while meeting current ADA requirements.

Engineering for the TMP and the associated TCPs must be performed under the direction of the Traffic Control Design Engineer (TCDE).

If required in the **DB Special Provisions**, the TMP, TCMs, and the Work Zone TCPs shall be based on the Passenger Car Equivalent (PCE) capacity charts provided by Agency. Design-Builder shall be responsible for developing the traffic-control system that best meets these requirements and the construction activities. Traffic analysis and lane closure charts are all bi-products and tools used by Design-Builder to develop comprehensive TCPs. Each TCP must go through Agency review and Acceptance prior to commencement of construction activities on the applicable Work Zone.

**(1) Key Personnel for Design, Management and Inspection** - Design-Builder shall provide the following Key Personnel for traffic control development and maintenance for the duration of the Project.

**a. Traffic Control Design Engineer (TCDE)** - Design-Builder shall provide a TCDE to implement and manage the development of the Project-level TMP, the design of the TCPs, and any modifications throughout the management and Inspection of temporary traffic control.

**1. Duties** - The TCDE shall:

- Serve as Design-Builder's point of contact with Agency for all TCP traffic management related issues and design coordination
- Lead the development of the Project-level TMP
- Lead and approve the design of the TCP for the appropriate construction sequence
- Confirm TCP requirements and details with Agency PM
- Be present in the field at the time of implementation to certify that the temporary traffic-control measures are in compliance with the TCP
- Identify deficiencies in the TCP and report findings to Design-Builder's Project Manager and Agency PM
- Lead in making necessary corrections to the TCP prior to implementation
- Attend all Project meetings where traffic control measures and construction staging are discussed
- Work with the Traffic Control Supervisor (TCS) to coordinate traffic-control operations of contractors, Subcontractors, Utility owners, and other Entities to ensure that their operations satisfy the following:
  - ◇ Their individual traffic-control needs and activities have been addressed
  - ◇ Their TCPs are coordinated with other measures in place within the Project Site
  - ◇ The same design Standards are used in the design of the individual TCPs

**2. Certifications** – The TCDE must be a Professional Engineer (PE) registered in the state of Oregon, and shall have completed the ODOT Traffic Control Plans Design Workshop training class. The TCDE who provided the direct

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supervision of the Work shall stamp all TCP plan sheets, reports, maps, drawings and calculations.

**b. Traffic Control Supervisor (TCS)** - Design-Builder's TCS shall provide traffic-control management in the field.

**1. Duties** - The TCS must have readily available at all times the most current version of the:

- TCP
- **DB General Provisions**
- All applicable **DB Special Provisions**
- Applicable **DB Standard Special Provisions**
- **Plans and Design-Builder Specifications**
- *Oregon Standard Specifications for Construction*
- ODOT/APWA Oregon Standard Construction Drawings
- *MUTCD*, including Part VI

The TCS shall:

- Manage and supervise the implementation of the Traffic Control Plan
- Manage and supervise the installation, moving, inspection, maintenance, replacement and removal of all temporary traffic control devices on the Project according to the TCP
- Serve as Design-Builder's point of contact with Agency for all TCP field coordination
- Implement and revise the TCP when directed by the TCDE
- Confirm TCP requirements and details with the TCDE
- As necessary, appoint a certified Traffic Control Technician to perform TCS duties in the temporary absence of the TCS
- Conduct routine inspections to identify deficiencies in the TCP and report findings to the TCDE for correction
- Work with the TCDE to coordinate traffic-control operations of contractors, Subcontractors, Utility owners, and other Entities for adherence to Contract requirements and Standards
- Notify Agency PM of all traffic flow problems and crashes within the Project Site within 24-hours of occurrence; record crash details, time and date of notification, and provide to Agency PM
- Attend all Project meetings where traffic-control measures and construction staging are discussed

**2. Availability** - Maintain a 24-hour telephone number at which the TCS can be contacted. Make arrangements so that a TCS can be available for every work shift, on call at all times, and available upon Agency's request at other than normal working hours. During non-work periods a TCS shall report to the Project Site within 45 minutes after notification. The TCS shall have appropriate

manpower, Equipment, and Materials available at all times to expeditiously correct any deficiency found in the TCP.

If Design-Builder provides multiple TCS for TCP management, Design-Builder shall provide a weekly schedule to Agency PM or designee identifying who will be providing TCP management each day (or shift if multiple shifts are scheduled) of the coming week at each Work Location and Work Zone.

**3. Certification** - Any TCS utilized by Design-Builder shall possess a current official ODOT TCS card. A TCS with a current card from another State Department of Transportation or from the American Traffic Safety Services Association may obtain an ODOT TCS card upon completion of ODOT’s one-day Recertification Class. The TCS shall have at least three (3) years of Work Zone safety supervision experience.

**c. TCP Diary** - Design-Builder shall maintain a Project TCP Diary for each Work Zone and Work Location in a format acceptable to Agency PM, and shall ensure that they are kept current on a daily basis and are signed each day by the TCS. Photographs may be included to supplement the written text. Design-Builder shall make TCP Diaries available upon request by Agency PM.

**d. TCP Inspection Details** - Design-Builder shall inspect traffic control devices as necessary, but at a minimum, according to the following schedule:

Traffic Control Device	Inspection Frequency
Pavement Markings	Weekly
Temporary Signs (fixed)	Weekly
Signs on Temporary Supports	Daily
Drums, Tubular Markers, Cones and Barricades	Beginning and end of each shift and as necessary dictated by weather and site conditions
Temporary Traffic Signals	Daily
Temporary Concrete Barriers, Guardrail	Weekly
Temporary Impact Attenuators	Daily
Temporary Roadway Lighting	Nightly
Electrical Signs (PCMS and Sequential Arrows)	Daily

Design-Builder shall immediately repair or replace damaged or malfunctioning traffic-control devices.

**(2) Project-Level TMP Organization** - Design-Builder shall prepare and submit a Project-level Transportation Management Plan (TMP). The TMP will serve as a stand-alone document, but shall reference the TCPs, where appropriate, who can clarify information on Project phasing and construction sequences. Design-Builder shall deliver the draft TMP to Agency PM for Review and Comment followed by finalization of the TMP prior to any construction commencing. Design-Builder shall work with Agency in the development of the TMP as it relates to the Corridor Management Plan and overall mobility policy.

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**a. TMP Structure** - The supporting documentation for the TMP shall consist of all correspondence, meeting minutes, calculations, models, and agreements. The supporting documentation shall demonstrate how the TCP will provide the best solution for mobility within the Project Site and corridor. A TMP Guidance Document, including additional explanation and document structure information, is available at: [http://www.oregon.gov/ODOT/HWY/TRAFFIC-ROADWAY/traffic\\_control.shtml](http://www.oregon.gov/ODOT/HWY/TRAFFIC-ROADWAY/traffic_control.shtml)

**b. Stakeholder Identification and Input** - Stakeholders may provide input by identifying other projects, events, or mobility concerns. Design-Builder shall evaluate such information in the TMP. Those concerns that may impact mobility shall be identified and mitigation measures described.

Coordinate any on and off ramp closures and construction activities in the vicinity of weigh stations with the Motor Carrier District Manager responsible for the area where the closures and activities are located.

**(3) TCP Organization** - Design-Builder shall prepare and provide to Agency PM for review and acceptance a Work Zone TCP prior to commencement of construction activities and before installing temporary traffic control devices. The TCP shall identify stages and phases for the Work Zone and each Work Location, and provide appropriate operating procedures. Design-Builder shall update the TCP, as necessary throughout the construction activities. Design-Builder shall use the TCP to identify the location, quantity, and type of temporary traffic-control devices to be used in the Work Zone and in each Work Location. Plan sheets shall demonstrate the sequencing of construction. The TCP shall identify detours or diversions required for each construction stage. Designating a stage as “construct under traffic” shall not be used.

The TCP shall address, but not be limited to:

- Lane geometry, including alignment and superelevation compatible with the design speed
- Posted speed(s)
- Signing (information, guidance, warning, regulatory)
- Channelization
- Bicycle, Pedestrian and ADA accommodations
- Worker safety
- Motorist safety
- Construction vehicle and equipment traffic ingress and egress

The TCP will be measured against the TMP. No TDC may be installed or utilized, or element of the TCP implemented, without the concurrence of Agency PM.

The Plan shall identify the sequence for mobilization, construction staging, and diversion of traffic (if necessary) for the Work Zone and each Work Location, and shall include contingency plans for working with utility companies, railroad, and other third parties that have potential to disrupt the traffic flow.

Fourteen Calendar Days prior to commencing construction, Design-Builder shall notify all affected property owners, tenants, and public and emergency service providers in writing. Design-Builder shall make adjustments to the TCP necessary to address specific access issues.

Design-Builder shall maintain access at all times to all businesses, residences, institutions, and properties adjacent or in close proximity to the Work Zone. If short-term closures of driveways or approaches are necessary for construction, those affected shall be identified in **Design-Builder Specifications**. The TCP shall include a maximum closure duration for each.

Design-Builder shall include in the TCP any special access needs of property owners and tenants, such as business hours, delivery schedules, circulation patterns and residential access. Design-Builder shall maintain a record of all negotiations between Design-Builder and the affected businesses and residences, and shall submit to Agency PM prior to Acceptance of Definitive Design any written documentation that supports residents' or business owners' approval to temporarily or permanently close a current driveway.

Driveways and Access Roads requirements / limitations:

Item	Requirement / Limitation
Roadway surface	Temporary gravel or Pavement
Grade	Not to exceed existing
Alignment	Not to be more restrictive than existing
Temporary combined access	Acceptable with concurrence of affected parties
Gates and fences	Maintain existing features or replace-in-kind
Access width	Not less than 14 feet unless otherwise agreed upon by affected parties
Drainage	Maintain existing drainage
Notice of Change in access	At least 24-hours by personal contact with affected party
Maintenance of access road surface	Required to the limits of Agency ROW
Design vehicle	Largest vehicle likely to use access including emergency vehicles

Design-Builder shall maintain access for essential non-emergency services, such as trash collection, mail delivery, and school bus stops. Design-Builder shall provide and implement a Sign Plan for temporary traffic control identifying access with a Type "B" "BUSINESS ACCESS" (CG20-11-610) sign. Locate and install these signs as required.

**(4) TCP Processes** - Design-Builder shall prepare and submit to Agency PM for Agency review and Acceptance a TCP for each Work Location and Work Zone prior to commencement of construction activities, so as to maintain safe and efficient traffic operations during construction activities. The TCP, including any plan sheets, the applicable **DB General Provisions, DB Special Provisions, DB Standard Special**

**Provisions, DB Standard Specifications**, and a list of applicable Standard Drawings, shall be submitted in accordance with the submittal schedule set out in Subsection (d), below. Design-Builder shall coordinate the review of the TCP with the review of applicable designs. Design-Builder shall use the TCP to identify the appropriate location, quantity, and type of temporary traffic-control devices to be used in the Work Zone, TCP plan sheets shall be used to describe the construction staging sequence. The TCP shall also be used to identify on-site diversions and/or detours required for each stage of construction.

Design-Builder shall update the TCP as necessary throughout the construction activities. Unless emergency circumstances exist or unforeseen conditions develop, if revisions to the TCP are necessary, Design-Builder shall provide proposed TCP revisions to Agency PM for Review and Comment at least 14 Calendar Days in advance of implementing the revisions. In the case of emergency circumstances, Design-Builder shall provide as quickly as possible to Agency PM for review and Acceptance changes to the TCP necessitated by the circumstances.

Design-Builder shall have all appropriate signs in place advising the public of scheduled detours, closures and alternate routes, and their durations, prior to implementing the provisions of the TCP. Design-Builder shall provide sufficient signing for each detour, closure, and/or alternate route. The TCDE shall inspect all signs and sign placement before the signs are uncovered for the public. The TCDE shall review in the field, with the installer and TCS, all temporary Pavement marking locations immediately prior to installation.

**(5) TMP and TCP Compliance** - Design-Builder shall be responsible for TMP and TCP compliance and implementation. Agency PM may suspend all or part of Design-Builder's operations for failure to implement and comply with the TMP or any TCP. Agency PM may also suspend all or part of Design-Builder's operations for failure to immediately initiate corrective measures for unsafe traffic conditions and complete their implementation in the shortest practicable time. If Design-Builder does not promptly take appropriate action to bring the deficient condition(s) into compliance or to correct unsafe traffic conditions, Agency PM may proceed with corrective action, using Agency forces or other forces, and deduct such costs from monies due or to become due Design-Builder under the Contract.

**(6) Specific Technical Requirements / Limitations** - The Project has unique and specific requirements that must be considered when developing both the Project-level TMP and the TCP for each Work Zone and Work Location.

The following table delineates the standard mainline and intersecting Highway requirements / limitations:

Item	Requirement / Limitation
Number of Traffic Lanes	The times and number of Traffic Lanes required to be operational during construction are based on lane capacities and the outcome of Design-Builder's traffic analysis. The number of lanes to be operational will vary based on time of day, day of week and time of year. Given the Measured Volume-to-Projected Volume Ratio and guidance from the ODOT <i>Traffic</i>

Item	Requirement / Limitation
	<p><i>Control Design Manual</i> and the Work Zone Traffic Analysis Guide, Design-Builder will be able to determine a traffic control plan that will work with the staged construction and the traffic capacities required to be maintained at various times during the day of a given month and year.</p>
Lane Closures	<p>Lane Closure Chart(s) for each Work Location shall be developed by Design-Builder and delivered to Agency PM with the TMP and TCP submittals. Lane Closure restrictions shall be modified to account for any additional restrictions due to events or other activities identified in the TMP and as described in the <b>DB Standard Specifications</b>, Section 00220.40. Approved Lane Closures shall be subject to <b>DB Standard Special Provisions</b>, Section 00220.40(f) "Liquidated damages" and will apply should any closure continue beyond the authorized lane closure period.</p>
Ramp Closures	<p>May be allowed if alternate routing is available for the traveling-public. Ramps that must remain open may be granted short-term closures (less than three consecutive days) at certain times of day, but will be based on the results of Design-Builder's traffic analysis and the approval of Agency.</p> <p>Design-Builder shall notify the MCTD Technical Coordinator, 550 Capitol Street NE, Salem, OR 97301-2530, in writing, through the use of the online, electronic submittal of Highway Restriction Notice – Size and/or Weight Form # 734-2357 (electronic version), at least 28 Calendar Days before conducting the closure. Design-Builder shall provide an electronic copy of the notification to Agency PM, Agency Corridor Mobility Manager and Agency CPM. Contact information for these individuals will be made available at the pre-construction conference.</p> <p>On-and off-ramp closures will not be permitted until Agency approves it and the area is adequately signed according to the TCP and <b>DB Standard Specifications</b>, Sections 00220 and 00225. As soon as the restriction is lifted, Design-Builder shall send notification to the same individuals on a revised copy of the original Highway Restriction Notice – Size and/or Weight Form # 734-2357 (electronic version).</p>
On- / Off-Ramp Closures in Vicinity of Weigh Stations	<p>Design-Builder shall coordinate any on- or off-ramp closures as a result of construction activities in the vicinity of weigh stations with the Motor Carrier District Manager responsible for the area where the closures and activities are located. Design-Builder shall notify the MCTD Technical Coordinator, 550 Capitol Street NE, Salem, OR 97301-2530, in writing, through the use of the online electronic submittal of Highway Restriction Notice – Size and/or Weight Form # 734-2357 (electronic version) at least 28</p>

Item	Requirement / Limitation
	<p>Calendar Days before the Work begins. Design-Builder shall provide an electronic copy of the notification to Agency PM, Agency Corridor Mobility Manager, and Agency CPM. (Contact information for these individuals will be made available at the pre-construction conference.) The on- and off-ramp closures will not be permitted until Agency approves it and the area is adequately signed according to the TCP and <b>DB Standard Specifications</b>, Sections 00220 and 00225. As soon as the restriction is lifted, Design-Builder shall send notification to the same individuals on a revised copy of the original Highway Restriction Notice – Size and/or Weight Form # 734-2357(electronic version).</p>
<p>Roadway Surface</p>	<p>Traffic Lanes must have an AC or PCC surface at all times unless the ADT is less than 200 and the roadway is not a State Highway</p>
<p>Pavement Markings</p>	<p>All temporary markings must be in place prior to opening to traffic.</p>
<p>Temporary Speed Zone Reductions</p>	<p>Temporary Speed Zone Reduction Orders shall be submitted through the State Traffic Engineer’s Office to reduce the pre-construction posted speed. Agency will determine appropriate amounts of reduction in speed. Speed reductions shall not be implemented until authorized in writing by the State Traffic Engineer. Approved speed zone reductions do not equate to a reduction in the design speed for the TCP</p>
<p>Portable Temporary Traffic Signals</p>	<p>Obtain approval from the State Traffic Engineer for use. Traffic Signals.</p> <p>Use portable temporary traffic signals from the QPL.</p> <p>When in use, protect them according to the “Portable Changeable Message sign (PCMS) Installation” detail shown on Standard Drawing TM700. Unless otherwise indicated in the TCP, provide and install portable temporary traffic signals according to; (1) location and set-up, (2) vehicle detection, and (3) testing and turn-on found in Unique Specification 00220-00225 – Portable Temporary Traffic Signals. Provide all required maintenance during operation of the portable temporary traffic signal. Maintain a log for each portable traffic signal that contains at least the following information:</p> <ul style="list-style-type: none"> <li>• Dates and times when service and maintenance is performed</li> <li>• A description of equipment that was serviced and a brief description of why the service was performed</li> <li>• All operational and equipment failures of the unit</li> <li>• Repairs made to the unit</li> </ul>

Item	Requirement / Limitation
	<ul style="list-style-type: none"> <li>• Past operational history of the unit</li> <li>• All timing parameters input into the controller</li> </ul> <p>The log shall remain with the corresponding portable temporary traffic signal at all times. Agency will not replace or repair any part of portable temporary traffic signals. If the portable temporary traffic signal fails during operation for any reason, immediately provide flaggers to control traffic until the portable traffic signal is operational. If the portable temporary traffic signal fails a second time within 30 Calendar Days of the first failure, remove it from the Project and control traffic with flaggers until a replacement portable temporary traffic signal is installed, activated, and working properly. No additional payment will be made for flagging as a result of a portable temporary traffic signal failure.</p>
<p>On-Site Diversions</p>	<p>“On-Site Diversions” (e.g. median crossovers) shall mean temporarily-widened Pavement, and/or additional Pavement and related improvements associated with diverting traffic from the existing freeway or Highway lanes to Temporarily widened and/or additional Pavement to facilitate staged construction while the ultimate freeway or Highway improvements are constructed. On-Site Diversions include crossovers and temporary lanes in the Median and/or adjacent to either the existing Pavement or finished Pavement. On-Site Diversions may be used, provided that other Project requirements from this table are met.</p>
<p>Holidays / Special Events</p>	<p>Design-Builder shall use the standard language included in <b>DB Standard Special Provisions</b>, Section 00220.40(e) Lane Restrictions, to identify these times to avoid construction conflicts.</p>
<p>Business Access Signing</p>	<p>Standard signing shall be used to indicate temporary access points for businesses within Work Locations.</p>
<p>Traffic Lane and Shoulder Widths</p>	<p>Minimum shoulder, lane and cross-section widths between positive barriers are given in Chapter 4 of the Traffic Control Plans Design Manual. When narrowing the Roadway to less than 22-feet for one (1) Traffic Lane between positive barriers or 28-feet for two (2) Traffic Lanes, Design-Builder shall notify the MCTD Technical Coordinator, 550 Capitol Street NE, Salem, OR 97301-2530, in writing, through the use of the online electronic submittal of Highway Restriction Notice – Size and/or Weight Form #734-2357 (electronic version), at least 28 Calendar Days before the restriction occurs. Design-Builder shall provide an electronic copy of the notification to Agency PM, CPM and Corridor Mobility Manager. (Contact information for Corridor Mobility Manager will be made available at the pre-construction conference.) The reduction will not be permitted until Agency</p>

Item	Requirement / Limitation
	<p>approves it and the area is adequately signed according to the TCP and <b>DB Standard Specifications</b>, Sections 00220 - Accommodations for Public Traffic, and 00225 – Work Zone Traffic Control. As soon as the restriction is lifted, Design-Builder shall send notification to the same individuals on a revised copy of the original Highway Restriction Notice – Size and/or Weight Form # 734-2357 (electronic version).</p>
<p>Vertical Clearances</p>	<p>Design-Builder shall maintain vertical clearances on existing routes or detours unless approved by MCTD for the clearance and duration at that location. If clearance reductions are approved by MCTD, Design-Builder must notify the MCTD Technical Coordinator, 550 Capitol Street NE, Salem, OR 97301-2530, in writing, through the use of the online electronic submittal of Highway Restriction Notice – Size and/or Weight Form #734-2357 (electronic version), at least 28 Calendar Days before the restriction occurs. Design-Builder shall provide an electronic copy of the notification to Agency PM, Corridor Mobility Manager, and Agency CPM. (Contact information for these individuals will be made available at the pre-construction conference.) Design-Builder shall include in the notification the reduced vertical clearance lowest dimension of each stage and the anticipated duration of the reduction. The reduction will not be permitted until Agency approves it and the area is adequately signed according to the TCP and <b>DB Standard Specifications</b>, Sections 00220 and 00225. As soon as the restriction is lifted, Design-Builder shall send notification to the same individuals on a revised copy of the original Highway Restriction Notice – Size and/or Weight Form # 734-2357 (electronic version).</p>
<p>Off-Site Detours or Alternate Routes</p>	<p>“Off-Site Detours” or “Alternate Routes” are defined as any state, county or local Roadway(s) that is used to divert traffic from the existing designated freeway or Highway lanes for the purpose of facilitating staged construction while the ultimate freeway or Highway improvements are constructed as part of the Project. Off-Site Detours or Alternate Routes exclude On-Site Diversions.</p> <p>If Off-Site Detours or Alternate Routes are used, Design-Builder shall notify the MCTD Technical Coordinator, 550 Capitol Street NE, Salem, OR 97301-2530, in writing, through the use of the online electronic submittal of the Highway restriction Notice – Size and/or Weight Form #734-2357 (electronic version), at least 28 Calendar Days before implanting the detour or alternate route. Design-Builder shall provide an electronic copy of the notification to Agency PM, Agency Corridor Mobility Manager, and Agency CPM. (Contact information for these individuals will be made available at the pre-construction conference.) The Off-Site Detour or Alternate Route will not be permitted until Agency approves it and the area is adequately signed according to the</p>

Item	Requirement / Limitation
	<p>TCP and <b>DB Standard Specifications</b>, Sections 00220 and 00225. As soon as the restriction is lifted, Design-Builder shall send notification to the same individuals on a revised copy of the original Highway Restriction Notice – Size and/or Weight Form # 734-2357 (electronic version).</p> <p>Design-Builder shall also give written advance notice at least 28 Calendar Days' prior to using Off-Site Detours or Alternate Routes by publication, web-posting or broadcasting through local media and portable changeable message signs.</p>
<p>Construction Activity Over Live Travel Lanes Not Allowed</p>	<p>Construction activity over live travel lanes shall not be allowed. Design-Builder shall consider separate construction access to a Work Location or use of “rolling slowdowns” to facilitate construction adjacent to or over the traveling public. The use of rolling slowdowns must be pre-approved by Agency and in concert with the TMP and TCP. Additional instructions for conducting a Rolling Slowdown are found in Chapter 4 of the TCP Design Manual.</p>
<p>Design Vehicle</p>	<p>Unless otherwise determined, the TCPs must accommodate the AASHTO WB-62 design vehicle. Personal vehicles may not be parked within the Clear Zone or outside the Project ROW.</p>

**Note 1:** No long-term (greater than three (3) consecutive Calendar Days) lane closures shall be allowed unless special circumstances are approved by Agency. Intermediate-term (more than one (1) daylight period up to three (3) consecutive Calendar Days), short-term (daytime work of more than one (1) hour), and short-duration (work in place for less than one (1) hour) lane closures are only allowed if, and to the extent, authorized in the Accepted TCP or **DB Special Provisions**.

**(7) PCE Capacity Charts and V/C Ratio** - When required, Projected Volume Charts will be provided in the **DB Special Provisions** for designated times of the day, for each month of the year. It is these charts and the guidance from the ODOT *Traffic Control Design Manual* and the ODOT *Work Zone Traffic Analysis Manual* that Design-Builder shall use to conduct traffic analysis, determine strategies, and propose TCMs to meet these stated volumes.

**(8) Traffic Queuing** – For freeway applications, Design-Builder shall monitor the length of traffic queues, and if extended traffic queues develop during construction activities, protect traffic by providing appropriate advance warning signing, including the use of additional PCMS(s), upstream of where the end of the queue is anticipated (based on traffic engineering data or previous observations) or observed in the field. For all non-freeway applications, in addition to monitoring traffic queue lengths, provide extended traffic queue signing and Advance Flaggers according to the **DB Special Provisions** and the “Extended Traffic Queues Detail” shown on the ODOT/APWA Standard Drawing TM710.

If necessary, relocate the initial advance warning sign (e.g. ROAD WORK AHEAD, BRIDGE WORK AHEAD, etc.) so it is the first sign visible to oncoming traffic. The sign shall be located at least 1000 feet upstream of the anticipated traffic queue.

A portable changeable message sign (PCMS) shall be placed approximately 0.75 - 1 mile upstream of the end of the anticipated queue. When the queues begin to develop or are anticipated, the PVMS shall be activated displaying two (2) panels of warning:

SLOWED	PREPARE
TRAFFIC	TO
AHEAD	SLOW

All PCMS's shall be operated in accordance with the current "Guidelines for the Operation of Variable Message Signs on State Highways, Supplement B: Use of Portable Variable Message Signs."

**(9) Measurement and Reporting** - Design-Builder shall measure traffic volumes and speeds every hour at one or more locations mutually determined, and provide weekly reports to Agency PM. Design-Builder shall calculate a Measured Volume to Projected Volume (MV/PV) Ratio and compare it to the MV/PV Ratio set for the Project by Agency. Should the actual MV/PV Ratio differ significantly ( $\pm 10\%$ ) from the ratio set by Agency, Design-Builder shall submit to Agency PM a written explanation and additional mitigation measures, if Agency determines that they are warranted.

Measured Volume (MV) equals the volume measured in the field by Design-Builder during construction activities.

Projected Volumes (PV) are the volumes provided by Agency in tables, if any, found in the **DB Special Provisions, Attachment A**. These may be adjusted based on field measurements using Design-Builder's system taken prior to implementation of any traffic control measures for the Project with the agreement of Agency.

The MV/PV goal, if any, will be set out in the **DB Special Provisions, Attachment A**, together with the required average speed for vehicles. If reports indicate a consistent deviation from the stated goal and required speed, Agency may elect to withhold payment or suspend all or part of Design-Builder's operations until traffic volumes and travel speeds are in compliance. The measurements and reports will be closely monitored by Agency. Special meetings may be conducted to review performance and discuss alternate mitigation measures with Agency's mobility and traffic-control staff.

Design-Builder shall install an automated traffic monitor / recorder system capable of recording the volume and speed on the section of Roadway impacted by construction. Such recorders shall be installed for each direction of the Highway, should Design-Builder be authorized to work both directions of travel at the same time.

**(10) Submittals** - Design-Builder shall submit the following to Agency PM for Review and Comment or as otherwise specified:

- Draft TMP that provides an overall plan of general traffic operations during construction – within 75 Calendar Days of NTP or 15 Calendar Days prior to Definitive Design, whichever occurs first
- **Final TMP incorporating Agency comments, if any** – prior to commencing construction
- **Conceptual TCP** – at Definitive Design
- **Final TCP** – at Readiness-for-Construction
- **Proposed revisions to the TCP** – at least 14 Calendar Days in advance of implementation of revisions
- Weekly schedule identifying who, other than the TCS identified in the DB Agreement, will be providing TCP management each shift of the coming week
- Weekly Traffic Volume and Speed Measurements Report
- **Updated Emergency Vehicle Access Plans** – at least seven (7) Calendar Days prior to starting construction activities in any Work Zone after consulting with emergency service providers, and updated plans immediately upon plan revision
- Temporary Traffic Control Sign Plans for non-emergency services
- **Updated property access information** - at least 30 Calendar Days prior to commencement of construction activities
- Business and residence written documentation for temporary and permanent access closures – prior to acceptance of Readiness-for-Construction plans
- **Project TCP Diaries** – available upon request by Agency PM and as part of the final Project Records

