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## 16.0 Maintenance of Traffic

The Contractor shall conduct all Work necessary to meet the requirements associated with Maintenance of Traffic (MOT), including provisions for the safe and efficient movement of people, goods and services through and around the project while minimizing impacts to local residents and business and commuters.

### 16.1 Administrative Requirements

The Contractor shall comply with the requirements of the following manuals or most current version at time of advertisement and standards for the design and construction of the work of this section.

- 2009 MUTCD
- 2012 CDOT M&S Standard Plans
- 2011 Standard Specifications for Road and Bridge Construction
- AASHTO Roadside Design Guide
- CDOT Roadway Design Guide
- 2008 Traffic Incident Management Program – I-25 and US 50 Through Pueblo County
- 2008 CDOT Region 2 Lane Closure Strategy – Technical Report
- CDOT Guidelines for Developing Traffic Incident Management Plans for Work Zone
- CDOT Region 2 Lane Closure Strategy – Second Edition 2013

### 16.2 Traffic Operations

#### 16.2.1 Maintenance of Traffic Task Force

The Contractor shall establish a MOT task force to assure proper coordination with affected agencies. The MOT task force shall include, as a minimum, the Contractor's Public Information Officer, Traffic Control Supervisor, Superintendent, representatives from CDOT, and the City and County of Pueblo. The Contractor shall submit the proposed list of task force members to CDOT for Acceptance within 30 days after NTP1.

The MOT Task Force shall meet weekly and shall be an integrated element of the Public Information Plan (PIP).

#### 16.2.2 Traffic Management Plan

The Contractor shall prepare a Traffic Management Plan (TMP) which defines the strategic plan for traffic management on the Project. The TMP shall address major aspects of the Work for individual construction areas, phases, and stages as defined herein. These aspects shall include, but are not limited to, I-25 closures, bridge closures, interchange closures, local streets, construction phasing and staging, numbers and type of major traffic shifts, detours, typical section requirements, pull out requirements and emergency access. The TMP shall be submitted to CDOT for Approval at least 30 days prior to beginning the first phase or stage of construction. All operations components shall be coordinated with CDOT Region 2 Traffic Engineer, currently Terry Shippy or his designee, and the City of Pueblo Traffic Engineer, currently Pepper Whitliff.

Within 30 Days after NTP1 the Contractor will convene a TMP kick off meeting with CDOT and Local Agency representatives. The meeting will be used to develop agreement upon the level of detail required for the TMP as identified in this Section. The TMP is a planning and policy guide which shall be used by the Contractor to develop and execute the project MOT program.

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Key components of the TMP shall include the following:

1. Overview and description of the proposed construction, subdivided, as applicable, into the following components:
  - A. Area: a specific grouping of Work along the Project defined by the Contractor which creates segments of the Project for the purpose of planning and executing the Work consistent with segments identified and included in the Contractor's Proposal, if any.
  - B. Phase: a specific sequence of the construction Work in an area during which a major traffic movement is redirected (e.g., a detour) and left in place until the Work is complete and traffic is redirected to another location. This is the level for each specific Traffic Control Plan (TCP). In some cases, multiple TCPs may be required at this level.
  - C. Stage: a subdivision of Work within a phase which combines similar components of Work to maintain efficiency. Sub-division below this level is at the Contractor's convenience. This is the level for individual (or sets) of Method of Handling Traffic (MHT) plans.
2. Detailed approach to the development of TCPs and MHTs on the Project.
3. List of known or potential I-25, bridge, ramp, lane, and local street closures including:
  - A. Description of traffic shift
  - B. Description of detour
    - (1) Identification of detour limits to be used in construction phase
    - (2) Contractors' identification and coordination with other construction projects within the vicinity of the proposed detour route. The impact of these construction projects shall be incorporated into the detour route planning and scheduling.
  - C. Number of shifts expected
  - D. Duration of shifts and detours
4. An approach to the use of Intelligent Transportation System/Variable Message Sign (ITS/VMS) boards and traffic signals, including coordination with the Local Agency or the CDOT Traffic Operations Center (TOC), and the Contractor's representative.
5. The Contractor's plan for coordinating TMP Activities the Activities required under Book 2, Section 4 - Public Information.
  - A. The TMP shall include a checklist identifying specific items that shall be provided to both the Contractor's Public Information Officer and the CDOT Public Information Officer weekly (day and time to be determined) for public information data collection and management Activities on the Project. The checklist shall provide the inclusion of supporting information relevant to coping messages and public awareness and shall be included in the Public Information Plan (PIP) as required in Book 2, Section 4 - Public Information.
  - B. The Contractor plan for coordinating the TMP Activities with those Activities required under the Public Information Section.
6. Additional Elements.
  - A. Approach to coordination and cooperation with construction being performed by Utility Companies or other utility relocations, as required in Book 2, Section 7 - Utility Relocations.
  - B. Approach to coordination and cooperation with construction being performed by local agency projects.

- C. Approach to coordination with Runyon Field and local businesses.
  - D. Approach to coordination with transit and bus stop relocations.
  - E. Approach to traffic access management, including commercial vehicles and restrictions, bicycles, pedestrians, and potential impacts to handicapped mobility.
  - F. Relevant portions of the Incident Management Plan, described below.
  - G. Approach to special event coordination.
8. Typical section requirements
9. Emergency requirements
- A. Emergency access
  - B. Pull-out locations
10. Temporary closure scenarios
- A. Location
  - B. Time and Duration
11. Access
- A. Pedestrian/bike
  - B. Business
  - C. Work Site (area)
  - C. Bus/Transit
12. Construction Zone Temporary Speed Reduction: Temporary speed reduction, if warranted, must be authorized by a Form 568 approved by the R2 Traffic Engineer or designee. Temporary speed reduction may be authorized during the construction phasing of the Project when the following conditions exist:
- A. Restricted shoulder widths and TCD placement within 2' of the travel way
  - B. Lane closures adjacent to live traffic
  - C. Traffic phasing where corridor geometrics restrict design speed to less than posted speed
  - D. Other safety concerns as documented by construction engineer

No Work that impacts traffic shall commence until the TMP is Approved.

### **16.2.3 Traffic Operation Center Coordination**

The existing traffic signals, VMS boards and ITS system within the Project are available to assist the Contractor in completing the Work. Any physical work required for the existing traffic signals, VMS boards and the ITS system shall be the Contractor's responsibility.

The Contractor shall submit written requests for review 14 days prior to requested date for modification for all support Activities, including the following information:

1. Traffic signals to be modified, either by Local Agencies or the Contractor.
2. VMS message text and board location.
3. Implementation dates, times and duration of modifications.
4. Reference TCP or MHT approval date.
5. Name, title and contact information of person requesting the modification.

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**16.2.4 CDOT Traffic Operations Center (TOC)**

The Contractor may coordinate directly with the CDOT TOC in Denver for after-hours operation of VMS boards and ITS information only. The TOC is available to the Contractor to modify VMS messages 24 hours a day, 7 days per week, and may be contacted at (303) 512-5826.

**16.2.5 Incident Management Plan (IMP)**

The Contractor shall develop a detailed IMP as a companion to the TMP to manage traffic incidents and operations on the Project. The IMP shall, at a minimum, comply with the CDOT Guidelines for Developing Traffic Incident Management Plans for Work Zones.

As a minimum the IMP shall include the following components:

1. Coordination with the Public Information Plan (PIP)
2. Incident detection and identification
3. Incident response
4. Incident site management
5. Incident clearance (including but not limited to accidents and disabled vehicles)
6. Dissemination of traveler information and notification regarding incidents
7. Emergency services notification, including Local Police Departments, Colorado State Patrol (CSP), Local Fire Departments, ambulance services, and other emergency response providers
8. Notification of school Districts with possible impacts to their school bus routes, student drop-offs and/or pedestrian facilities
9. Geographic and other special constraints
10. Available resources
11. Operational procedures

The IMP shall be submitted to CDOT for Acceptance within 30 Days after NTP1. No Work that impacts traffic shall commence until the IMP is Accepted.

**16.2.6 Business and Private Access**

The contractor shall maintain business and private access to the local street system, unless otherwise approved by CDOT.

Traffic Control Plans (TCPs) and Methods of Handling Traffic (MHTs) shall be developed incorporating stakeholder information from the PIP, available surveys and other pertinent studies relating to business and private access to the local street system and the interstate facility. The PIP identifies communication efforts to be used by the Contractor. At a minimum, the Contractor shall communicate and document the following information relevant to business and private access:

1. Identify access points impacted by a particular construction phase or stage
2. Notify affected businesses and land owners and document all communications
3. Schedule of closures and estimated durations (if allowed)
4. Identify site-specific access or delivery requirements for local businesses (deliveries, wide load vehicles, etc.)
5. Identify proposed mitigation efforts

**16.2.7 Maintenance of Traffic Variance Process**

The Contractor may request a MOT variance for any closure, detour or other restriction beyond the specified limits defined herein. Variance requests should be submitted when safety is a concern and/or other project goals and criteria can be maximized. The following information shall be included in each MOT variance request:

1. Summary of the variance request
2. Justification for the variance request including a list of the criteria which cannot be met and the reasons for not meeting that criteria
3. Public notification methods and schedule
4. List of emergency services and the schedule for their notification, if required
5. List of affected agencies or private owners and the method(s) and schedule for their notification, if impacted
6. Description of additional public information surveys to be performed, if required
7. List of potential safety hazards to which motorists and citizens may be exposed, if any
8. Proposed revisions to the Accepted TCP or current MHT, if required
9. Proposed duration of closure, detour, or phasing change for which a variance is requested

The Contractor shall allow CDOT a minimum of 7 Days for review and Approval of any MOT variance requests. CDOT may extend the review time if additional public information surveys are required or if revisions are requested. Local Agency approval will be required for detours utilizing local streets not specified within this section. MOT variance requests shall be approved by the CDOT Region 2 Traffic Engineer or designee.

#### **16.2.8 Contractor Response Time**

The Contractor shall have at least one employee on call, via cellular phone, that can respond to an incident within 30 minutes, 24 hours a day, 7 days a week. Upon arrival at the incident site, that employee shall assess the situation and immediately notify the appropriate personnel to implement the IMP. Upon notification of the incident, the Contractor shall immediately undertake actions necessary to restore full traffic operations.

#### **16.2.9 Special Events**

The Contractor shall coordinate with CDOT, the local agencies, and the Public Information Officer as specified in Book 2, Section 4 – Public Information to develop a list and schedule of special events. The Contractor shall update the list as events are identified or scheduled. The special event calendar shall be a standing agenda item at the Maintenance of Traffic Task Force meetings.

The Contractor shall identify and implement necessary changes in Work progress to accommodate traffic to and from special events. No lane closures on I-25, Ramps, US 50C, and local roads shall be permitted on any day(s) of the event unless Approved by CDOT. Work outside the travel lanes, ramps and shoulders will be permitted during special events, including but not limited to the following:

1. Colorado State Fair
2. Pueblo Chile and Frijole Festival
3. Pueblo Wild West Fest
4. Runyon Field Special Events
5. Other events as determined by the PIP

#### **16.2.10 Coordination with Adjacent Projects**

The Contractor shall coordinate with CDOT, local agencies, and their contractors to coordinate construction traffic and detour impacts and minimize simultaneous closures or impacts to adjacent or alternate routes.

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**16.2.11 Coordination with Adjacent Neighborhood**

No construction traffic will be allowed in the Moffat, Grove, Eilers, Goat Hill, Bessemer, and other neighborhoods adjacent to the work sites.

**16.3 Design Requirements**

The Contractor's Professional Engineer in Responsible Charge of the MOT design shall prepare, Review, and Approve field design changes, Released for Construction documents, and TCP and MHT plans.

Additional Requested Elements (AREs): The Contractor shall submit proposed compliance of all MOT design requirements in this Section 16 – Maintenance of Traffic for AREs to CDOT for Approval.

**16.3.1 Traffic Control Plans**

The Contractor shall prepare a TCP to control traffic on the Project. The TCP shall conform to the requirements specified herein and the CDOT Standard Specifications for Road and Bridge Construction and the most current version of the MUTCD. The TCP shall generally describe all lane and shoulder configurations, including widths, traffic control signing, pavement markings, traffic control devices, temporary signalization, construction access, construction parking, emergency access, work areas, and pedestrian/bicycle requirements necessary for each construction phase. Temporary traffic signals shall be installed in conformance with standards set forth in Book 2, Section 14 - Signing, Pavement Marking, Lighting and ITS.

The TCPs shall be submitted to CDOT for Acceptance 14 Days prior to implementation of the particular TCP.

Any major revision to the TCP, as determined by CDOT, shall require submission of a new TCP for Acceptance.

**16.3.2 Method of Handling Traffic (MHT)**

The Contractor shall prepare MHTs in accordance with the Special Provisions included in Book 2, Sections 19 and 20.

Temporary traffic signals shall be installed in conformance with standards set forth in Book 2, Section 14 - Signing, Pavement Marking, Lighting and ITS.

**16.3.3 Design Vehicle**

The design vehicle shall be as described in Book 2, Section 13 - Roadways, Exhibit 13-1.

**16.3.4 Temporary Work Zone Design Speed and Posted Speed**

Minimum design and posted speeds for Work zones shall conform to Table 16.1.

TABLE 16.1

Location	Design Speed (mph)	Posted Speed (mph)
I-25 Mainline	55	45
I-25 Ramps	25	25
Local Streets	25, 30, 35**	25, 30, 35**

\*\* Contractor shall provide for existing design and posted speed whenever it can be reasonably maintained on the local system.

### 16.3.5 Minimum Lane Requirements

#### Lane Restrictions

Before any travel lanes or shoulders are closed, the Contractor shall submit an appropriate MHT or TCP to CDOT for Acceptance. The MHT/TCP shall be developed in accordance with CDOT Region 2 Lane Closure Strategies and Local Agency guidelines.

Lane restrictions shall be submitted to CDOT and the City of Pueblo by the Contractor by Thursday 10:00 a.m. of the week in advance of the work (for work Sunday through Saturday), unless required by construction emergencies or other reasonably unforeseen events.

#### Mainline I-25 at the bridges over Ilex and Union Pacific Railroad

Minimum lane widths for travel lanes on the mainline shall be 11 feet. Minimum inside and outside shoulder widths on mainline shall be a minimum of 2 feet.

When lane closures are Approved, and mainline lanes are reduced to a single lane in one direction, the Contractor shall provide a minimum clear width of 15 feet.

Minimum lane widths for ramps shall be 11 feet. Minimum shoulder width is 2 feet. A minimum of one lane shall remain open on all ramps.

#### Mainline I-25 between 1<sup>st</sup> Street and Ilex (bridges over Gruma and the BNSF and UPRR)

Minimum lane widths for travel lanes on the mainline shall be 11 feet. Minimum inside and outside shoulder widths on mainline shall be a minimum of 2 feet.

When lane closures are Approved, and mainline lanes are reduced to a single lane in one direction, the Contractor shall provide a minimum clear width of 15 feet.

Minimum lane widths for ramps shall be 11 feet. Minimum shoulder width is 2 feet. A minimum of one lane shall remain open on all ramps.

#### Mainline I-25 at the bridges over Indiana (Structures L-18-M and L-18-W)

I-25 South of Indiana, there are no lane closure time restrictions. I-25 North of Indiana to Central Avenue, lane closure time restrictions are applied. See CDOT Region 2 Lane Closure Strategy Report. Minimum lane widths in each direction shall be 11 feet. Minimum inside and outside shoulder widths shall be 1.5 feet.

#### Mainline I-25 Northbound over US 50C (Santa Fe Ave)

Minimum lane widths for travel lanes on the mainline shall be 11 feet. Minimum inside and outside shoulder widths on mainline shall be a minimum of 2 feet.

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When lane closures are Approved, and mainline lanes are reduced to a single lane in one direction, the Contractor shall provide a minimum clear width of 15 feet.

US 50C (Santa Fe Ave) over the Arkansas River

The Santa Fe Avenue Structure L-18-R may be closed completely. This shall be accomplished by detouring traffic to the adjacent structure. Minimum lane widths for travel lanes shall be 11 feet. Minimum inside and outside shoulder widths shall be a minimum of 2 feet.

Mesa Avenue over I-25 (Structure L-18-AU)

The Mesa Avenue Structure L-18-AU may be closed completely. This shall be accomplished using local detour route approved by the City of Pueblo (see detour routes below). Work on this structure shall not be performed concurrently with work on the Northern Avenue Structure L-19-AQ. If lane closures are necessary, minimum lane width shall be 10 feet.

Northern Avenue over I-25 (Structure L-18-AQ)

Northern Avenue Structure L-18-AQ may be reduced to two lanes, one lane each direction (east and west), during construction. Minimum lane widths shall be 10 feet. Work on this structure shall not be performed concurrently with work on Mesa Avenue Structure L-18-AU.

Indiana Avenue (Under I-25)

Indiana Avenue shall have one 10 foot lane in each direction (east and west) open between the hours of 6:30 AM and 7:30 PM. Between the hours of 7:30 PM and 6:30 AM there shall be one 10 foot lane open west bound (exiting Evraz).

Local Roads

For the purpose of this Section, local roads are defined as any portion of roadway excluding mainline and ramps.

Minimum lane widths for local roads shall be 10 feet. One lane in each direction shall remain open at all times.

**16.3.6 Lane Closures**

Before any lanes are closed, an appropriate MHT shall be Approved by the Contractors Professional Engineer and Accepted by CDOT. Lane restrictions below must be acknowledged and Accepted by CDOT at least 5 working days in advance of the closure, unless required by construction emergencies or other reasonably unforeseen events.

Any changes to closures, restrictions, and/or times to the requirements herein shall be submitted to CDOT. Contractor Request shall be prior to the Final submittal due date for all ACC and ATC's. CDOT Approval or Denial of request shall occur prior to Final RFP addendum.

Mainline I-25 at the bridges over Ilex and the Union Pacific Railroad

Two (2) lanes in each direction of I-25 mainline shall remain open between the hours of 7:00 AM and 7:00 PM, unless otherwise allowed herein. This Work time window shall allow for permitted I-25, ramp and lane closures and progressive lane closures as identified herein.

Mainline I-25 between 1<sup>st</sup> Street and Ilex (bridges over Gruma and the BNSF and UP RR)

Two (2) lanes in each direction of I-25 mainline shall remain open between the hours of 7:00 AM and 7:00 PM, unless otherwise allowed herein. This Work time window shall allow for permitted I-25, ramp and lane closures and progressive lane closures as identified herein.

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Mainline I-25 at the bridges over Indiana

The southbound Structure L-18-W may be closed completely. This will be facilitated with a reduction to one travel lane each for southbound and northbound I-25 traffic. Two crossovers shall be built, one to shift the one lane of southbound traffic to the northbound lanes and one to shift southbound back to the southbound lanes. Bidirectional traffic, separated with Temporary Type 7 Concrete Barrier, will travel across Structure L-18-M between the crossovers. Access to all on and off ramps shall remain open at all times. No closures allowed from May to October.

Mainline I-25 Northbound over US 50C (Santa Fe Ave)

Two (2) lanes of northbound I-25 mainline shall remain open between the hours of 7:00 AM and 7:00 PM, unless otherwise allowed herein.

US 50C (Santa Fe Ave) over the Arkansas River

The Structure K-18-R, eastbound US 50C (Santa Fe Ave) over the Arkansas River, may be closed completely. This will be facilitated with a reduction to one travel lane each for east and westbound US 50C traffic. Two crossovers shall be built, one to shift the one lane of eastbound traffic to the westbound lanes and one to shift eastbound back to the eastbound lanes.

Bidirectional traffic, separated with Temporary Type 7 Concrete Barrier, will travel across Structure K-18-FF between the crossovers. The intersection of Santa Fe Drive and Santa Fe Avenue shall remain fully functional, including traffic signals. Any removed median required for traffic shifts shall be replaced.

Mesa Avenue over I-25

The Mesa Avenue Structure L-18-AU may be closed completely. This shall be accomplished using local detour route approved by the City of Pueblo (see detour routes below). Work on this structure shall not be performed concurrently with work on the Northern Avenue Structure L-19-AQ.

Northern Avenue over I-25

Northern Avenue Structure L-18-AQ may be reduced to two lanes, one lane each direction (east and west), during construction. Minimum lane widths shall be 10 feet. Work on this structure shall not be performed concurrently with work on Mesa Avenue Structure L-18-AU.

Indiana Avenue (Under I-25)

Indiana Avenue shall have one 10 foot lane in each direction (east and west) open between the hours of 6:30 AM and 7:30 PM. Between the hours of 7:30 PM and 6:30 AM there shall be one 10 foot lane open west bound (exiting Evraz).

**16.3.7 Queue Lengths During Construction**

The Contractor shall monitor queue lengths and durations on all roads within the Project limits whenever a lane closure is in effect. If the queue times exceed 15 minutes (at Indiana Avenue (Under I-25) the queue time cannot exceed 5 minutes) the Contractor shall adjust the detours, lane closures, traffic control devices, including advanced signing, to minimize delay. If lengths extend beyond advance warning the Contractor shall adjust the detours, lane closures, traffic control devices, including advanced signing, and provide advance warning to motorists, of stopped traffic.

If the Contractor is not monitoring queue lengths and durations CDOT reserves the right to Stop Work until the Contractor can resolve the excessive queues.

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**16.3.8 Working Time Violations Incidents (WTVI)**

If there is a violation of the working time limitations for traffic control as allowed for in this Section 16, a written notice to stop Work will be imposed on the Contractor at the start of the next Working Day. Work shall not resume until the Contractor assures CDOT, in writing, that there will not be a reoccurrence of the working time violation. If more violations take place, CDOT will notify the Contractor in writing that there will be a price reduction charge for each WTVI. This WTVI price reduction charge shall be reflected on the Contractor's monthly invoice. This price reduction will not be considered a penalty, but will be a price reduction for failure to perform traffic control in compliance with the Contract.

A WTVI is any violation up to 30 minutes in duration. Each 30 minutes or increment thereof will be considered as a WTVI. A price reduction will be assessed for each successive or cumulative 30-minute period in violation of the working time limitations, as determined by CDOT. A 15-minute grace period will be allowed at the beginning of the second WTVI on the Project before the price reduction is applied. This 15-minute grace period applies only to the second WTVI.

WTVI charges shall be as follows:

1. I-25 - \$4,600 per WTVI
2. Santa Fe Avenue (US 50C) and all local streets - \$1,750 per WTVI

**16.3.9 Detour Routes**

Unless otherwise specified, only state highways shall be used for detour routes. Local Agency routes available for use as detours must be Approved by the Local Agency. Detour routes shall be the shortest length possible. Detour routes shall be video recorded prior to and after construction. The Contractor shall submit the video(s) to CDOT for review within 24 hours. Contractor, CDOT and City of Pueblo shall be present for video recording. Any damage to the routes as a result of the use of the route shall be repaired by the Contractor as negotiated with CDOT, the City of Pueblo, and the Contractor.

The Contractor may propose alternate detour routes within the MOT variance process.

Mainline I-25 at the bridges over Ilex and Union Pacific Railroad and 1<sup>st</sup> Street to Ilex

Detour route options are as follows:

1. Northbound I-25 exit at north SH 45 (Pueblo Boulevard) continue to east SH 96 (Thatcher Avenue, Lincoln Avenue, 4th Street) to north I-25.
2. Northbound I-25 exit at north SH 45 (Pueblo Boulevard) continue to east US 50 to north I-25.
3. Northbound I-25 exit at Abriendo Avenue, north to Main Street, east to 1<sup>st</sup> Street, east to north I-25.

Ilex Street/D Street

Detours on Locust Street for access to Runyon Field are not allowed. One travel lane in each direction must be open for Ilex Street/D Street at all times.

Mainline I-25 at the bridges over Indiana

No detours allowed.

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Mainline I-25 Northbound over US 50C (Santa Fe Ave)

Detour route options are as follows:

1. Northbound I-25 exit at north SH 45 (Pueblo Boulevard) continue to east SH 96 (Thatcher Avenue, Lincoln Avenue, 4th Street) to north I-25.
2. Northbound I-25 exit at north SH 45 (Pueblo Boulevard) continue to east US 50 to north I-25.
3. Northbound I-25 exit at Abriendo Avenue, north to Main Street, east to 1<sup>st</sup> Street, east to north I-25.

US 50C (Santa Fe Ave) over the Arkansas River

No detours allowed.

Mesa Avenue over I-25

Westbound over Mesa shall be detoured south on Santa Fe Avenue to west on Northern Avenue to north on Evans Avenue to west on Mesa Avenue.

Eastbound over Mesa shall be detoured south on Evans Avenue to east on Northern Avenue to north on Santa Fe Avenue to Mesa Avenue.

Northern Avenue over I-25

No detours allowed.

Indiana Avenue (Under I-25)

No detours of Indiana Avenue traffic will be allowed between the hours of 6:30 AM to 7:30 PM. Between the hours of 7:30 PM and 6:30 AM, when closure of the eastbound lane (entrance to Evraz) is necessary, eastbound Indiana Avenue shall be detoured south on I-25 to Exit 94 then to northbound I-25.

**16.3.10 Emergency Pullouts**

The Contractor shall provide emergency pullouts on I-25 for disabled vehicles, staging of incident management, and law enforcement vehicles after traffic has been shifted from the existing configuration and when shoulder widths are less than 8 feet. Emergency pullouts shall be provided between Ilex and 1<sup>st</sup> Street. The minimum pullout length shall be 150 feet, not including transitions. Transitions shall be made at 15:1 or greater. The minimum pullout width shall be 12 feet measured from 2 feet beyond the travel lane. The pullouts shall be signed for emergency parking only, shall have a paved surface, shall include advance signing in compliance with the Manual on Uniform Traffic Control Devices (MUTCD), and shall not be subject to ponding or other weather-related conditions that could render them unsafe or ineffective. Snow removal in emergency pullouts is the responsibility of the Contractor.

**16.3.11 Trail and Pedestrian Impacts**

Existing trail systems, temporary trails, sidewalks, and pedestrian routes must be maintained at all times. The Contractor shall meet all requirements of ADA as specified in Book 1, Section 2.2 and OSHA.

The following restrictions shall apply to existing trail systems in the vicinity of the Project:

1. No trail closures shall be allowed from 5:00 a.m. to 8:00 p.m. any day of the week.
2. Temporary trail detours will be allowed under the following conditions:
  - A. PIP requirements shall be identified and appropriate public notifications provided.
  - B. The Contractor shall comply with the CDOT Construction Detour Standards for Multi-Use Trails.

- C. Approval by Railroad if on Railroad ROW
- D. Approval by land owner if on private property

## 16.4 Construction Requirements

The Contractor shall provide installation, maintenance, and removal of all temporary traffic control devices.

### 16.4.1 Temporary Traffic Control Devices

#### Construction Signing

Construction signing within the Project limits and all detours shall comply with CDOT M&S Standards, the MUTCD and all other applicable standards set forth herein.

The Contractor shall install a minimum of two FASTER Safety signs at each Project segment per CDOT sign layout.

All signs in place for more than three (3) days shall be post mounted.

#### Truck Mounted Attenuators

Truck mounted attenuators shall be used within the Project limits when the MUTCD and M&S Standard applications suggest.

#### Temporary Traffic Signals

Temporary Traffic Signals shall comply with the MUTCD and Section 14 - Signing, Pavement Marking, Lighting and ITS. Upon discovery of a signal malfunction, the Contractor shall have a representative on site within 30 minutes to resolve the malfunction. Signal timing shall satisfy the queue requirements.

#### Temporary Marking Paint and Signs

The Contractor shall furnish, apply and remove temporary pavement marking paint in accordance with the Standard Specifications. Temporary paint striping shall meet the conformity of lines, dimensions, patterns, locations and details established in the Contractor's TCP and MHT.

1. Temporary pavement paint striping shall be re-striped a minimum of once a month, and as required to maintain safe traffic operations.
2. Epoxy-based paint shall not be allowed on concrete pavement surfaces for temporary striping.
3. Hydro blasting, or other methods that do not result in scaring of permanent pavements shall be used for removal of temporary striping.

#### Glare Shields

The Contractor shall evaluate the applicability of glare shields in all cross overs as part of the MHTs.

### 16.4.2 Maintenance of Temporary Traffic Control Devices

The Contractor shall be responsible for the maintenance of all temporary traffic control devices within the Project limits, including the local street system.

**16.4.3 Detour and Crossover Pavement**

The Contractor shall provide a paved surface for all detours of I-25, US 50C, local streets, and accesses. Detour and crossover pavement locations shall be generally described in the Contractor's TMP and detailed in the Accepted TCP. The Contractor shall determine the type and thickness of pavement that shall be used to accommodate existing traffic loadings.

The Contractor shall maintain the detour and crossover pavement for the entire period that it is open to the traveling public, including all temporary approaches, accesses, crossings and intersections with adjacent Roads and Streets. Detour and crossover pavements shall be maintained in good operating condition devoid of potholes, uneven surfaces and rutting. CDOT may direct the Contractor to repair or replace detour and crossover pavements if, in their sole discretion, detour and crossover pavements are determined to be in poor condition. Detours and crossovers that use existing streets pavements shall be subject to pavement repair or replacement where it is determined that the condition of the existing pavement has noticeably deteriorated over the duration of its use as a detour or crossover.

Cross slope breaks between existing pavement, detours, and crossovers shall not exceed 4.0%.

No milled surface shall remain uncovered for more than 5 days. All milled surfaces shall be overlaid with new asphalt within 5 days. Milled surfaces not overlaid within 5 days shall be assessed a lane rental fee of \$12,500.00 per occurrence for each day or fraction thereof.

The Contractor shall be responsible for the complete removal and disposal of all temporary detour or crossover pavement.

**16.4.4 Temporary Lighting**

The Contractor shall maintain temporary lighting at a level equivalent to existing lighting provided within the Project Limits, including I-25 mainline, ramp gores, ramp intersections and local streets.

**16.5 Deliverables**

At a minimum, the Contractor shall submit the following to CDOT for review, Approval and/or Acceptance:

<b>Deliverable</b>	<b>review, Acceptance or Approval</b>	<b>Schedule</b>
List of MOT task force members	Acceptance	Within 30 Days following NTP1
Traffic Management Plan (TMP)	Approval	30 Days prior to start of 1 <sup>st</sup> phase or stage of work
Request to CDOT TOC and Local Agencies for modifications to traffic signals, timing, and VMS messages	Review	14 Days prior to the requested date for modifications
Incident Management Plan (IMP)	Acceptance	Within 30 Days after NTP1
MOT variance request	Approval	7 Days prior to the requested date for the change
Traffic Control Plans (TCPs)	Acceptance	14 Days prior to implementation of the TCP
Method of Handling Traffic (MHT)	Acceptance	5 Days prior to implementation of the MHT requiring a lane closure
Detour route video(s)	review	Within 24 hours of videoing

All deliverables shall also conform to the requirements of Section 3 - Quality Management.