Mobility and Safety Mitigations by Work Type

Design Manual
Chapter 9
Traffic Control
Originally Issued: 03-14-19

Mobility and safety mitigations vary across work types as a result of how long traffic control needs to be in place. This section provides mitigation strategies that can be used to address mobility and safety for a variety of project types:

- Short term (one day or less) temporary traffic controls.
- Long term (more than one day) temporary traffic controls.
  - Bridge repair.
  - Bridge replacement.
  - Adding a lane(s).
  - Total reconstruction.

Short Term (One Day or Less) Temporary Traffic Controls

Work types typically associated with short term temporary traffic controls consist of:

- Joint and Crack Saw and Seal
- HMA Resurfacing
- Microsurfacing
- PCC Patching
- Pavement Marking
- Shoulder Strengthening or Paving
- Shoulder Replacement or Widening – short term traffic controls only

The following are lists of mobility and safety mitigations for Traffic Critical Projects (TCP) that use short term (daylight hours) or night time temporary traffic controls allowing traffic to return to its normal condition during non-work and peak hours.

Typical mitigations include (by priority):

1. Schedule – Time-of-Day Restrictions including night work
2. Schedule – Day-of-Week Restrictions
3. Schedule – Seasonal Restrictions
4. Design – Number of Open Lanes
5. Intelligent Work Zone – Speed Feedback
6. Traffic Operations – Contractor Ingress/Egress to Work zone
7. Intelligent Work Zone – Truck Entering
8. Traffic Operations– Extra Enforcement
9. Traffic Incident Management Plan – Communications Plan
10. Intelligent Work Zone – Sensors for Monitoring
11. Innovative Contracting – Lane Rental

Assistance with these and other traffic mobility and safety mitigations is available by contacting DOT-TCP@iowadot.us.

Non-typical mitigations include (request assistance for application):

- Innovative Contracting – Accelerated Schedule
- Innovative Contracting – Early Completion Incentive/Disincentive

- Innovative Contracting – No Excuse Road Opening Bonus
- Design – Open Lane and Shoulder Requirements
- Traffic Operations – Maximum Allowable Delay
- Intelligent Work Zone – End-of-Queue Warning
- Intelligent Work Zone – PDMS with Radar Warning
- Intelligent Work Zone – Signal Timing/Preemption
- Intelligent Work Zone – Travel Time
- Intelligent Work Zone – Alternate Route
- Traffic Incident Management Plan– Diversion Route Plan
- Traffic Incident Management Plan– Diversion Route Signing Improvements
- Traffic Incident Management Plan– Additional PDMS and CCTV on Diversion Route
- Traffic Incident Management Plan– Traffic Monitoring with Incident Response
- Public Information – Communication Strategies
- Public Information – Stakeholders Meetings
- Public Information – Project Website
- Design – Lane Width
- Design – Shoulder Width
- Design – Barrier Location
- Traffic Operations – On-site/Off-site Detour
- Traffic Operations – Contra-Flow Design

Long Term (More than One Day) Temporary Traffic Controls

Bridge Repair

Work types typically associated with long term temporary traffic controls for bridge repair consist of:

- Thin Repairs
- Joint Repair
- Deck Repair
- Barrier Rail

The following are lists of mobility and safety mitigations for TCP that use intermediate (up to three days) or long term (four days or longer) temporary traffic controls that must remain in place for several days or more and do not allow traffic to return to its normal condition during non-work and peak hours on a daily basis.

Typical mitigations include (by priority):

1. Traffic Incident Management Plan– Diversion Route Plan
2. Traffic Incident Management Plan– Communications Plan
3. Traffic Incident Management Plan– Diversion Route Signing Improvements
4. Traffic Incident Management Plan– Additional PDMS and CCTV on Diversion Route
5. Traffic Incident Management Plan– Traffic Monitoring with Incident Response
6. Schedule – Seasonal Restrictions
7. Design – Barrier Location
8. Innovative Contracting – Accelerated Schedule
9. Innovative Contracting – Early Completion Incentive/Disincentive
10. Innovative Contracting – No Excuse Road Opening Bonus
11. Traffic Operations – Extra Enforcement
12. Traffic Operations – On-Site/Off-Site Detour
13. Traffic Operations – Contra-Flow Design
14. Intelligent Work Zone – End-Of-Queue Warning

Assistance with these and other traffic mobility and safety mitigations is available by contacting DOT-TCP@iowadot.us.

Non-typical mitigations include (request assistance for application):

- Intelligent Work Zone – Travel Time
- Intelligent Work Zone – Alternate Route

- Design – Number of Open Lanes
- Design – Lane Width
- Design – Shoulder Width
- Innovative Contracting – Lane Rental
- Traffic Operations – Open Lane and Shoulder Requirements
- Traffic Operations – Contractor Ingress/Egress to Work zone
- Traffic Operations – Maximum Allowable Delay
- Intelligent Work Zone – Sensors for Monitoring
- Intelligent Work Zone – Speed Feedback
- Intelligent Work Zone – Truck Entering
- Intelligent Work Zone – PDMS with Radar Warning
- Intelligent Work Zone – Signal Timing/Preemption
- Public Information – Communication Strategies
- Public Information – Stakeholders Meetings
- Public Information – Project Website
- Schedule – Time-of-Day Restrictions (night work)
- Schedule – Day-of-Week Restrictions

Bridge Replacement

The following are lists of mobility and safety mitigations for TCP that use long term (four days or longer) temporary traffic controls that must remain in place for long durations and do not allow traffic to return to its normal condition during non-work and peak hours on a daily basis.

Typical mitigations include (by priority):

1. Traffic Operations – On-site/Off-site Detour
2. Traffic Operations – Contra-Flow Design
3. Design – Barrier Location
4. Traffic Incident Management Plan – Diversion Route Plan
5. Traffic Operations – Open Lane and Shoulder Requirements

Assistance with these and other traffic mobility and safety mitigations is available by contacting DOT-TCP@iowadot.us.

Non-typical mitigations include (request assistance for application):

- Intelligent Work Zone – Travel Time
- Intelligent Work Zone – Alternate Route
- Traffic Incident Management Plan – Additional PDMS and CCTV on Diversion Route
- Traffic Incident Management Plan – Communications Plan
- Traffic Incident Management Plan – Diversion Route Signing Improvements
- Traffic Incident Management Plan – Traffic Monitoring with Incident Response
- Design – Shoulder Width
- Design – Number of Open Lanes
- Design – Lane Width
- Innovative Contracting – Lane Rental
- Traffic Operations – Extra Enforcement
- Traffic Operations – Contractor Ingress/Egress to Work zone
- Traffic Operations – Maximum Allowable Delay
- Intelligent Work Zone – End-of-Queue Warning
- Intelligent Work Zone – Sensors for Monitoring
- Intelligent Work Zone – Speed Feedback
- Intelligent Work Zone – Truck Entering
- Intelligent Work Zone – PDMS with Radar Warning
- Public Information – Communication Strategies
- Public Information – Stakeholders Meetings
- Public Information – Project Website
- Schedule – Time-of-Day Restrictions (night work)
- Schedule – Day-of-Week Restrictions

Adding a Lane(s)

The following are lists of mobility and safety mitigations for TCP that use long term (four days or longer) temporary traffic controls that must remain in place for long durations and do not allow traffic to return to its normal condition during non-work and peak hours on a daily basis.

Typical mitigations include (by priority):

1. Schedule – Seasonal Restrictions
2. Design – Shoulder Width
3. Traffic Operations– Contra-Flow Design
4. Innovative Contracting – Accelerated Schedule
5. Innovative Contracting – Early Completion Incentive/Disincentive
6. Innovative Contracting – Lane Rental
7. Innovative Contracting – No Excuse Road Opening Bonus
8. Traffic Operations – Contractor Ingress/Egress to Work zone
9. Intelligent Work Zone – End-of-Queue Warning
10. Intelligent Work Zone – Alternate Route
11. Intelligent Work Zone – Speed Feedback
12. Intelligent Work Zone – Sensors for Monitoring
13. Traffic Incident Management Plan – Diversion Route Signing Improvements
14. Traffic Incident Management Plan – Additional PDMS and CCTV on Diversion Route

Assistance with these and other traffic mobility and safety mitigations is available by contacting DOT-TCP@iowadot.us.

Non-typical mitigations include (request assistance for application):

- Design – Number of Open Lanes
- Design – Lane Width
- Design – Barrier Location
- Traffic Operations – On-site/Off-site Detour
- Traffic Operations – Open Lane and Shoulder Requirements
- Traffic Operations – Extra Enforcement
- Traffic Operations – Maximum Allowable Delay
- Intelligent Work Zone – Truck Entering
- Intelligent Work Zone – PDMS with Radar Warning
- Intelligent Work Zone – Signal Timing/Preemption
- Intelligent Work Zone – Travel Time
- Traffic Incident Management Plan – Diversion Route Plan
- Traffic Incident Management Plan – Traffic Monitoring with Incident Response
- Traffic Incident Management Plan – Communications Plan
- Public Information – Communication Strategies
- Public Information – Stakeholders Meetings
- Public Information – Project Website
- Schedule – Time-of-Day Restrictions (night work)
- Schedule – Day-of-Week Restrictions

Total Reconstruction

The following are lists of mobility and safety mitigations for TCP that use long term (four days or longer) temporary traffic controls that must remain in place for long durations and do not allow traffic to return to its normal condition during non-work and peak hours on a daily basis.

Typical mitigations include (by priority):

1. Traffic Operations – On-site Detour (TLTWO)
2. Traffic Operations – Off-site Detour (traditional detour on another route)
3. Traffic Incident Management Plan – Diversion Route Plan (TLTWO)
4. Traffic Incident Management Plan – Diversion Route Signing Improvements
5. Traffic Incident Management Plan – Traffic Monitoring with Incident Response
6. Schedule – Seasonal Restrictions

7. Innovative Contracting – Accelerated Schedule
8. Innovative Contracting – Early Completion Incentive/Disincentive
9. Innovative Contracting – Lane Rental
10. Innovative Contracting – No Excuse Road Opening Bonus
11. Design – Lane Width
12. Design – Shoulder Width
13. Design – Barrier Location
14. Traffic Operations – Contra-Flow Design
15. Design – Open Lane and Shoulder Requirements
16. Intelligent Work Zones – End-of-Queue Warning
17. Intelligent Work Zones – Speed Feedback
18. Intelligent Work Zones – Sensors for Monitoring
19. Intelligent Work Zones – PDMS with Radar Warning
20. Public Information – Communication Strategies
21. Public Information – Stakeholders Meetings
22. Public Information – Project Website

Assistance with these and other traffic mobility and safety mitigations is available by contacting DOT-TCP@iowadot.us.

Non-typical mitigations include (request assistance for application):

- Design – Number of Open Lanes
- Traffic Operations – Extra Enforcement
- Traffic Operations – Contractor Ingress/Egress to Work zone
- Traffic Operations – Maximum Allowable Delay
- Intelligent Work Zones – Truck Entering
- Intelligent Work Zones – Signal Timing/Preemption
- Intelligent Work Zones – Travel Time
- Intelligent Work Zones – Alternate Route
- Traffic Incident Management Plan – Additional PDMS and CCTV on Diversion Route
- Traffic Incident Management – Communications Plan
- Schedule – Time-of-Day Restrictions (night work)
- Schedule – Day-of-Week Restrictions

Chronology of Changes to Design Manual Section:

009F-002 Mobility and Safety Mitigations by Work Type

3/14/2019	NEW New