**INSTRUCTIONS**

**ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES**

**CENTRAL REGION**

**TRANSPORTATION MANAGEMENT PLAN TEMPLATE**

**BASED ON:**

**Oregon DOT Transportation Management Plan Template,**

**FHWA Sample Transportation Management Plans and Templates &**

**Alaska Highway Preconstruction Manual,**

**Alaska Department of Transportation & Public Facilities, 2023 (as amended)**

The DOT&PF Central Region has created this electronic Transportation Management Plan (TMP) template to help develop your project's TMP. It’s designed to guide you through the development process and ensure your TMP addresses all the necessary elements listed in the Alaska Highway Preconstruction Manual (HPCM) Chapter 14.

This template covers the TMP elements required by HPCM; **however,** **you must customize this template to reflect the conditions of your site. Provided text is for example only and should be replaced with specific project information.**

**Using This Template in Design**

Each section of this template includes “instructions” and space for “project information.” You should read the instructions (Designer & Designer/Construction) for each section to help complete the document.

Designer Instructions are shown as:

Instruction Text: To be deleted by the designer as sections are filled in.

Designer/Construction Instructions are shown as:

Instruction Text: To remain as sections are filled out and are for both the designer and construction staff.

View this document in All Markup mode (under the Review tab in Word). Comments are included on how you might fill in a section.

Deleting “Template” watermark: To delete the “Template” watermark, go to the Design tab, click on Watermark dropdown menu, and select remove Watermark.

**Tips for completing your TMP:**

READ HPCM Chapter 14 first!!!

**General Information**

* The goal of the TMPs is to address the traffic-related impacts of construction projects in a cost-effective, timely manner with minimal interference to the traveling public through the effective application of traditional and innovative traffic mitigation strategies.
* The TMP is not a standalone document and is developed in conjunction with the Temporary Traffic Control Plan (TTCP), and, if applicable, the Transportation Operations Plan (TOP) and Public Information & Outreach Plan (PIOP). This document is intended to be a parent document to the TTCP, TOP, and PIOP, providing an overall narrative and direction for the project’s traffic management.
* This is a living document and should be **started early in project development** and updated throughout design/construction.
  + The TTCP should start in the planning phase and continue through the design, construction, and restoration phases. The TTCP and devices should follow the principles set forth in Part 6. The management of traffic incidents should follow the principles set forth in Chapter 6I. (2009 MUTCD, Part 6, pg. 548)
  + The TMP is intended to be used after project completion as a reference for future projects as well as in project review or “lessons learned”. To assist in this and promote better future TMPs, please document changes as thoroughly as possible.
* “Significant Projects”, as defined in HPCM 1400.2, fall into two categories and require a more thorough TMP.
  + Category 1: Project occupies a location for more than three consecutive days with either intermittent or continuous lane closures on Interstate Highways within a Transportation Management Area (TMA).
    - Currently Anchorage is the only TMA and coincides with the [AMATS boundary](https://www.muni.org/departments/ocpd/planning/amats/pages/gismaps.aspx).
  + Category 2: Project that alone or in combination with other concurrent projects nearby, is anticipated to require greater than normal attention to traffic control to eliminate sustained work zone.
    - Examples of this would be projects in high traffic areas, critical traffic areas (schools, hospitals, etc.), projects with a large footprint, or projects with unusual circumstances.
* The Project Manager is responsible for determining whether the project is “significant”. When a project may be significant under Category 2, seek concurrence in the determination from the Preconstruction Engineer. **Document whether a project is significant or not in the *Preliminary Work Zone Traffic Control* section of the DSR or memo to file if no DSR is required.**
* When projects are “significant”, prepare a full TMP, including TTCP, PIOP, and TOP unless exempted.
* “Exempt Significant Projects”, as defined in HPCM 1400.3.1: Some significant projects may be exempt from requiring a full TMP as anticipated traffic impacts are minimal or insignificant. For an exempt significant project, a TTCP is still required, but the TOP and PIOP (HPCM Chapter 14 uses Public Information Plans) are optional. For a significant project, an exemption is requested in accordance with 23 CFR 630.1010 (d) by the Preconstruction Engineer. The Preconstruction Engineer sends a memo to the FHWA Division Administrator requesting an exemption and includes a discussion of the justification. If approved, copy the exemption request and FHWA approval memos to the Chief Engineer.

Example justification for exemptions may be:

* lane-closures occur only at night,
* lane-closures occur only during off-peak and weekend hours,
* roadway capacity under construction conditions substantially exceeds traffic volumes; or
* alternate routes and intersections are available and provide reserve capacity without unreasonable delay.

Include a discussion and documentation of exemptions in the *Preliminary Work Zone Traffic Control* section of the DSR or memo to file if no DSR is required.

**Electronic Version of TMP**

Design will provide the TMP electronically (.docx format) to Construction as a digital attachment to the Transfer-to-Construction Memo.

**References to help fill out this document:**

Alaska Highway Preconstruction Manual, DOT&PF Chapter 14

<https://dot.alaska.gov/stwddes/dcsprecon/assets/pdf/preconhwy/chapters/chapter14.pdf>

Alaska Construction Manual, DOT&PF

<https://dot.alaska.gov/stwddes/dcsconst/constructionmanual.shtml>

Highway Work Zone Safety and Mobility, DOT&PF Policy & Procedure 05.05.015

<https://dot.alaska.gov/admsvc/pnp/local/dot-jnu_123033.pdf>

Alaska Traffic Manual, Part 6, FHWA & DOT&PF   
<https://dot.alaska.gov/stwddes/dcstraffic/resources.shtml>

FHWA Work Zone Safety and Mobility Rule

<https://ops.fhwa.dot.gov/wz/resources/final_rule.htm>

FHWA Transportation Management Plan Framework  
<https://ops.fhwa.dot.gov/publications/fhwahop16062/fhwahop16062.pdf>

FHWA TMP Development Resources  
<https://ops.fhwa.dot.gov/wz/resources/final_rule/tmp_examples/tmp_dev_resources.htm>

FHWA Example TMPs  
<https://ops.fhwa.dot.gov/wz/resources/final_rule/tmp_examples/sample_tmps.htm>

FHWA Work Zone Impacts Assessment: An Approach to Assess and Manage Work Zone Safety and Mobility Impacts of Road Projects <https://ops.fhwa.dot.gov/wz/resources/final_rule/wzi_guide/wzi_guide.pdf>

Oregon DOT Work Zone Traffic Control

<https://www.oregon.gov/odot/engineering/pages/work-zone.aspx>

**Template Revision History:**

July 2024

* Original Version

**Comments, Questions, Frustrations**:

This is a dynamic document, and your comments are welcome. Please send any comments or questions to:

Template Manager: Chris Post, P.E. (907) 269-7885 or [chris.post@alaska.gov](mailto:chris.post@alaska.gov)

**Transportation Management Plan**

**For**

**Project Title**

**Project Number (State / Federal)**

**Project Location, Alaska**



**Alaska Department of Transportation & Public Facilities  
Central Region**

**P.O. Box 196900**

**Anchorage, Alaska USA 99519-6900**

**Prepared By: Enter Name**

**Company Name: Delete if prepared by DOT&PF**

**Phase:** Choose an item.

**Preparation Date:** Click or tap to enter a date.

The following Transportation Management Plan (TMP) has been prepared for/by the Alaska Department of Transportation and Public Facilities (DOT&PF) to assist contractors in successfully planning for project transportation impacts in accordance with 23 CFR 630, Subparts J & K, and DOT&PF Policy and Procedure 05.05.015 “Highway Work Zone Safety and Mobility”.

This document lays out a set of strategies for managing the work zone impacts and is required by the [Work Zone Safety Mobility Rule](https://ops.fhwa.dot.gov/wz/resources/final_rule.htm). This TMP was developed from the Oregon DOT Transportation Management Plan Template, FHWA Sample Transportation Management Plans and Templates, and DOT&PF Highway Preconstruction Manual.

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[Appendix A: Temporary Traffic Control Plan](#_Toc171517987)

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[Appendix C: Traffic Operations Plan](#_Toc171517989)

The regional design section working in conjunction with the regional construction and traffic sections, and in coordination with external agencies, events, projects, and systems, as necessary, should prepare a project specific TMP. (DOT&PF Highway Preconstruction Manual, Section 1400.3, pg. 1400-2)

# Introduction

Provide a brief Project overview including an overview of the existing conditions, proposed improvements, the proposed work zone traffic control strategies, the anticipated construction schedule, and timeline, and the TMP goals.

Include TMP Roles and Responsibilities. It may include pertinent project specific information that may have a large impact on the project, i.e. extremely high traffic volumes, closures, etc.

Example:

This project proposes to rehabilitate the bridge decks of three bridges in the Municipality of Anchorage. The repair of the Knik River & Peters Creak bridges on the Glenn Highway are expected to create significant impacts in the project’s vicinity. This Transportation Management Plan (TMP) shows the analysis of alternate traffic control schemes, the anticipated construction impacts, and the strategies that will be deployed to mitigate the impacts.

The purpose of this TMP is to provide the details regarding the development of TTCP and other measures recommended during the construction phase of this project. During construction, it is desired that disruptions and delays to travelers and freight be minimized without compromising public or worker safety and the quality of the work being performed. This TMP is considered a living document and will be subject to additions and modifications throughout the project’s life.

## TMP Roles and Responsibilities

|  |
| --- |
| **Design Manager** |
| **DOT&PF / Consultant** |
| Name/Title: |
| Unit: |
| Phone: |
| Email: |
| **Roles and Responsibilities**: |

|  |
| --- |
| **Design Engineer** |
| **DOT&PF / Consultant** |
| Name/Title: |
| Unit: |
| Phone: |
| Email: |
| **Roles and Responsibilities**: |

The Construction Project Manager is responsible for overseeing TMP components and other safety and mobility aspects of the project. They may delegate to traffic control representatives. Personnel require training in accordance with P&P 05.05.015. (DOT&PF Alaska Construction Manual, Section 3.10, pg. 3-8)

|  |
| --- |
| **Construction Manager** |
| **DOT&PF / Consultant** |
| Name/Title: |
| Unit: |
| Phone: |
| Email: |
| **Roles and Responsibilities**: |

|  |  |
| --- | --- |
| **Construction Project Engineer** | |
| **DOT&PF / Consultant** |  |
| Name/Title: |  |
| Unit: |  |
| Phone: |  |
| Email: |  |
| **Roles and Responsibilities**: |  |

|  |  |
| --- | --- |
| **TMP Implementation/Monitoring Staff** | |
| **DOT&PF / Consultant** | **Contractor** |
| Name/Title: | Name/Title: |
| Unit: | Unit: |
| Phone: | Phone: |
| Email: | Email: |
| **Roles and Responsibilities:** | |
| **Public Information Officer** | |
| **DOT&PF / Consultant** | **Contractor** |
| Name/Title: | Name/Title: |
| Unit: | Unit: |
| Phone: | Phone: |
| Email: | Email: |
| **Roles and Responsibilities:** | |

|  |  |
| --- | --- |
| **Emergency Service Contacts** | |
| **Fire and Emergency Medical Services (FEMS)** | **Police Department (PD)** |
| Name/Title: | Name/Title: |
| Unit: | Unit: |
| Phone: | Phone: |
| Email: | Email: |
| **Roles and Responsibilities:** | |

# Project Description

Include the scope and background including the purpose and need. Information included may be project background, type, limits/corridor, goals and constraints, schedule and timeline, vicinity map, and related projects – add, delete, and/or modify as needed.

## Goals and Objectives

## Proposed Improvements

## Project Schedule

## Nearby Projects

## Project Stakeholders

Table 1. Project Stakeholders

|  |  |  |  |
| --- | --- | --- | --- |
| Agency/  Organization | Name | Title | Phone Number |
| Agency Representatives | | | |
| DOT&PF | Elmer Fudd | Design Project Manager | 907-269-XXXX |
|  |  |  |  |
|  |  |  |  |
| Schools | | | |
|  |  |  |  |
| Emergency Services |  |  |  |
|  |  |  |  |
| Hospitals |  |  |  |
|  |  |  |  |
| Other |  |  |  |
|  |  |  |  |

# Existing Roadway & Traffic Conditions

Describe the existing and proposed conditions within project limits, as related to the temporary traffic control. Include traffic information, roadway information, land use, stakeholder input, and other information pertinent to the TMP.

Include the following sections. If a section doesn’t apply, mark it as Not Applicable – this ensures each section was considered.

## Roadway & Traffic Characteristics

Include existing conditions:

- Roadway characteristics (history, roadway classification, number of lanes, geometrics, urban/suburban/rural).

- Historical traffic data (volumes, truck percentage, speed, peak hours, speed).

- Traffic operations (traffic controls).

- Crash Data, if necessary.

Include conditions of nearby affected roadways as needed, not just the project corridor and direct approaches. This includes potential detour routes or locations where traffic may be altered significantly due to project impacts.

Modify table as needed.

Table 2. Roadways Affected by Project

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Roadways Affected by TMP – Summary** | | | | | |
| **Roadway/Street Name** | **Classification** | **ADT** | **Truck Percentage** | **Peak Hour Volume** | **Posted Speed** |
|  |  |  |  |  |  |
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## Pedestrian/Bicycle Facilities

## Transit Facilities

## Freight

## Land Use

## Stakeholder Outreach & Input

Comments/concerns regarding traffic operations, delays, access/egress, etc., that have been received from community, business representatives, and stakeholders during the planning and design stages of the project development. Document specific concerns on pedestrian, bicycle, transit facilities, etc. impacts. This will help in assessing the impacts and assist in developing appropriate strategies to alleviate the identified issues and concerns.

Include how traffic impacts were relayed to project stakeholders. Provide information on potential construction impacts on traffic mobility during public hearings and/or meetings. An example would be if you’re proposing a detour or road closure, how were project stakeholders made aware of this during design? How was this received?

# Preliminary Work Zone Impact Assessment

As challenges vary greatly from one project to another, a preliminary assessment of work zone impacts developed in the early planning stages of the project will help identify issues or uncover problem areas that should be considered during project development. For projects where major impacts are readily apparent, you may choose to conduct a detailed analysis directly (skip to Section 5.0), rather than go through a preliminary assessment.

Refer to Work Zone Impacts Assessment: An Approach to Assess and Manage Work Zone Safety and Mobility Impacts of Road Projects: <https://ops.fhwa.dot.gov/wz/resources/final_rule/wzi_guide/wzi_guide.pdf>

Some projects (e.g., on low volume rural roads) may need only a simple screening tool such as a checklist, while others (e.g., in congested urban areas) may need quantitative analysis (level of service analysis, signal timing, etc.) to determine the impact levels. Quantitative analysis may indicate the need for some additional analysis and/or strategies to assess and manage the impacts, or it may indicate that impacts are relatively low and few strategies are required beyond the temporary traffic control plan.

Table 3. Preliminary Work Zone Impacts

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Does the project include long-term closures/extended weekend closures?** | | | | | | **Significant Project Rating:** | | | | | | | |
|  | | | | | | Doesn’t Meet Significant Project Criteria | | | | | | | |
| Yes | | | | | | Significant – Category 1 | | | | | | | |
| No | | | | | | Significant – Category 2 | | | | | | | |
| If Yes, check all applicable types of facilities | | | | | | Significant – Exempt | | | | | | | |
| Principal Arterial | | | | | |  | | | | | | | |
| Minor Arterial | | | | | |  | | | | | | | |
| Collector | | | | | |  | | | | | | | |
| Local | | | | | |  | | | | | | | |
| **Can traffic be detoured?** | | | Yes | | No | | | | | | | | |
|  | Is the local alternate detour route in good condition? | | | | | | | | | | Yes | | No |
|  | Will the detour route have a detrimental impact on emergency vehicles, school buses, or other sensitive traffic? | | | | | | | | | | Yes | | No |
|  | Are there load limit restrictions on the detour? | | | | | | | | | | Yes | | No |
|  | Are there bridge/culvert height or width restrictions on the detour? | | | | | | | | | | Yes | | No |
| Is the existing shoulder sufficient to support traffic during construction? | | | | | | | | | | | Yes | | No |
| Is additional width required on culverts or bridges to maintain traffic? | | | | | | | | | | | Yes | | No |
| Is there a pedestrian/bicycle facility that must be maintained? | | | | | | | | | | | Yes | | No |
| Would a temporary structure(s) be required? | | | | | | | | | | | Yes | | No |
| Would a median crossover be needed? | | | | | | | | | | | Yes | | No |
| Would there be a need to maintain railroad traffic? | | | | | | | | | | | Yes | | No |
| Could maintenance of traffic have an impact on existing or proposed utilities? | | | | | | | | | | | Yes | | No |
| Does it appear that maintenance of traffic will require additional right-of-way? | | | | | | | | | | | Yes | | No |
| Can the contractor restrict the roadway during the time periods listed? | | | | | | | | | | | | | |
|  | | a.m. peak hours, one direction | |  | | | p.m. peak hours, one direction | | | | |  | |
|  | | a.m. peak hours, both directions | |  | | | p.m. peak hours, both directions | | | | |  | |
|  | | Overnight | |  | | | Local celebrations | | | | |  | |
|  | | Holidays or weekends | |  | | | Special events | | | | |  | |
| Will project timing (for example, start or end date) be affected by special events: | | | | | | | | | | | | | |
|  | | School closings or openings | |  | | | | Holidays |  | Special Events | |  | |
| Are there any projects to be considered along the corridor or in the area? | | | | | | | | | | | | | |
|  | | Roadwork in the immediate area that may affect traffic or the contractor’s operations? | | | | | | | | | Yes | No | |
|  | | Roadwork on other roads that may affect the use of alternate routes? | | | | | | | | | Yes | No | |
| Are there other maintenance of traffic issues? | | | | | | | | | | | Yes | No | |
| **Does the project need operational analysis to assess impacts?** | | | | | | | | | | | | | |
| Yes | | | | | |  | | | |  | | | |
| No | | | | | |  | | | |  | | | |
| **TMP Components Included** | | | | | | **Location** | | | | **Appendix (if included)** | | | |
| Traffic Operation Analysis | | | | | |  | | | |  | | | |
| Temporary Traffic Control Plan | | | | | | TMP | | | | A (TTCP) | | | |
| Public Information & Outreach | | | | | | TMP | | | | B (PIOP) | | | |
| Traffic Operations Strategies | | | | | | TMP | | | |  | | | |
| Traffic Operation Plan | | | | | | TMP | | | | C (TOP) | | | |
| Other Impact Assessment | | | | | |  | | | |  | | | |
| Incident Management Plan | | | | | |  | | | |  | | | |

Expand on your answers in the following subsections. Discuss the potential impacts the project will have on public, other projects, and the stakeholders, as related to the temporary traffic control.

Discuss other adjacent projects (borough, municipal, utility, etc.) that may affect the current project. Information collected from affected stakeholders may help identify or further clarify additional issues - including special events, seasonal or daily restrictions, local property developments, local ordinances (such as noise-related ordinances that may restrict night work), and access issues.

## Traffic

## Pedestrian & Bicycle

Consider safety and accessibility impacts on pedestrians and bicyclists with respect to sidewalk/crosswalk closures, ADA compliance, feasibility, safety of pedestrian detours, temporary crosswalks, etc.

## Environmental

Consider anticipated temporary construction impacts are consistent with the relevant section in the Environmental Document. A consideration in this section may be if a detour is planned and necessary permits have been obtained.

## Utilities

Work with your Utility lead on determining what TTC impacts may existing within the project. Major utility projects could impact the roadway traffic. It is important to identify the utility projects scheduled to take place during the construction period.

## Right-of-Way (Public Access)

Consider impacts on access/egress of the community and businesses around the work zones (if any).

Consider whether there is adequate room and ROW to perform the work with the size and types of equipment expected. Consider access requirements for the contractor, inspectors, and other agency stakeholders to get in and out of: work zones; storage and stockpile areas; and the project office, if known.

## Public Transportation

Provisions for effective continuity of transit service should be incorporated into the TTCP planning process because often public transit buses cannot efficiently be detoured in the same manner as other vehicles (particularly for short-term maintenance projects). Where applicable, the TTCP should provide for features such as accessible temporary bus stops, pull-outs, and satisfactory waiting areas for transit patrons, including persons with disabilities, if applicable (see Section 8A.08 for additional light rail transit issues to consider for TTCP). ATMS, pg. 143

## Commercial Vehicles (including the Alaska Railroad)

Consider reduce/detouring commercial vehicles (in case of significant impact operating in and around the work zones).

Has the Division of Measurement Standards and Commercial Vehicle Enforcement (MSCVE) been coordinated with to identify existing and pending oversize/overweight vehicle permits that will require accommodation on the project?

This should address any oversized vehicles used for the project (if known) as well as any oversized permits MSCVE is aware of. This provides a ‘heads up’ to MSCVE about the upcoming project and future permit requests.

Provisions for effective continuity of railroad service and acceptable access to abutting property owners and businesses should also be incorporated into the TTCP planning process. ATMS, pg. 143

## Navigable Waters

## Other

NOTE: If the project is expected to create moderate-to-major impacts, continue filling out the following 5.0 Operational Analysis. For lower impacts projects, you may remove Section 5.0; however, some lower impact projects may benefit from including this section.

# Operational Analysis

Provide information on safety and mobility aspects within the project influence area, including traffic safety, data collection and modeling approach, traffic analysis, and other issues and concerns. This operational analysis will help identify potential work zone impacts and guide selection of TMP strategies.

## Safety Analysis

A safety analysis will help identify the potential locations for monitoring and/or other strategy deployments during construction to help manage work zone safety. Ongoing monitoring of the potential locations for any increase in crashes is important while the TTCP, PIOP, and TOP are implemented.

The table below can be used to summarize crash data (at least for the previous three years) by intersection or control section. The table can be modified depending on needs/standards.

Crash data may include:

* Number of crashes by location.
* Percentage of crashes by type or contributory factors.
* Crashes per million vehicles, etc.

Table 4. Summary of Crashes

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Summary of Crashes** | | | | | | | | | |
| **Intersection Name/Control Section** | **Total** | **Injuries** | **Fatalities** | **Work Zone** | **Type of Crashes** | | | | |
| **Pedestrian** | **Bicycle** | **Rear-End** | **Right Angle** | **Left-Turn** |
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## Traffic Analysis

### Data Collection and Traffic Modeling

More complex or detailed projects may want to use this section as a summary of traffic data/models and include detailed analysis as an appendix. Based on the type and complexity of the analysis to be conducted, data collection/gathering may include:

* Traffic counts (vehicles, bicycles, pedestrians, trucks).
* Speed survey (counts, posted and 85th percentile speeds, etc.)
* Intersection control.
* Land use.

Measures of effectiveness (MOEs) are usually determined for the primary/critical roadway segments. The type of analysis greatly depends on agency policies and practices, and complexity of the project.

MOEs can include: Delay, Queue Lengths, LOS, Travel Time, V/C Ratio, Congestion/User Cost

The use of traffic analysis tools depends on the roadway classification (corridor/freeway/freeway surface street interchange) and level of complexity of the project.

Specific tools available for use in modeling include the following:

* SYNCHRO (Studio)
* HCS
* PTV VISSIM
* TSIS-CORSIM

A single tool may be used in modeling, or for some projects a combination of tools may be helpful.

Additional Considerations:

Model adjacent roadways impacted by the construction in the overall analysis, as traffic can detour from a congested construction route.

The FHWA Traffic Analysis Tools program provides information on traffic analysis tools. (<https://ops.fhwa.dot.gov/trafficanalysistools/index.htm>)

### Alternatives/Impact Assessment

A work zone impact assessment is the process of understanding the safety and mobility impacts of a road construction, rehabilitation, or maintenance projects. The analysis compares and documents various work zone options and associated maintenance of traffic constraints, including staging/phasing options as well as temporary traffic control options, for each project and work zone design alternative. Performing an alternatives analysis during the preliminary stages of the project helps in selecting the best option going forward.

An alternative assessment may involve a high-level qualitative analysis or a detailed quantitative analysis using various models, as described in section 5.2.1. It involves a comparison between existing and future traffic operations for different alternatives. These comparisons should be evaluated in conjunction with agency thresholds to determine whether the impacts are acceptable or not. For unacceptable impacts, agencies should follow their safety and mobility policy guidelines for reducing the impacts.

To assess the impacts, traffic analysis is usually conducted for existing conditions and proposed work zone alternatives, and the results compared. Traffic analysis helps to:

Provide a baseline to compare with future work zone alternatives.

Identify the extent of possible traffic backups, which can then be used to determine potential detour routes or where traffic may naturally reroute itself, or locations that may need additional monitoring.

Additional Considerations:

If the Maintenance of Traffic alternative analysis is prepared during the design process, and is referenced in the TMP, consider including it as an appendix for easy reference and access.

The sample table template below provides an easy comparison of MOEs for different alternatives. You can modify the table to meet your needs.

Table 5. Summary of Alternatives

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Summary of Measures of Effectiveness (MOEs) for Alternatives – Existing with Construction Conditions** | | | | |
| **MOEs** | **Existing** | **Alternative 1** | **Alternative 2** | **Alternative 3** |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| **Legend** | | | | |
|  | Indicates Selected Alternative | | | |

Additional Considerations:

It is recommended to include a short narrative on the reason for the selected alternative.

# Work Zone Impact Management Strategies

Discuss the preferred Work Zone Impact Management Strategies, including the TTCP, PIOP, and TOP, as required. This section should document when work zone standards will not be met and discuss justification for not meeting the standard.

## Work Zone Traffic Control Narrative

Discuss the work zone traffic control strategies used, including the following sections – add, delete, and/or modify as needed.

Include TTCP details in appendices.

### Construction Stages and Phases

### Construction Schedule

### Lane Use

### Work Zone Traffic Analysis/Lane Restriction Hours

### Holidays, Local and Special Events

### Detours

### Other Information

Any other pertinent information related to decisions on work zone traffic control strategies.

## Temporary Pedestrian & Bicycle Accessible Routing

Discuss pedestrian & bicycle specific work zone traffic control strategies used. Include ADA accommodations where needed.

## Property Access

## Freight Mobility

## Public Information and Outreach

Discuss the communications strategies that seek to inform affected road users, the general public, area residences and businesses, and appropriate public entities about the project, the expected work zone impacts, and the changing conditions on the project. This may include traveler information strategies. The scope of the public information should be determined by the project characteristics and the public information and outreach strategies identified. Public information should be provided through methods best suited for the project, and may include, but not be limited to, information on the project characteristics, expected impacts, closure details, and commuter alternatives. Depending on the traffic impacts of the project, this section may suffice, or a more developed PIOP may be developed and included as an appendix.

## Traffic Operations

Discuss any traffic operations employed by the Project to lessen temporary traffic control impacts of the project. Items may include work zone ITS strategies, demand management strategies, work zone safety strategies, and incident or enforcement management strategies. Depending on the traffic impacts of the project, this section may suffice, or a more developed TOP may be developed and included as an appendix.

Definition (Highway Preconstruction Manual, pg. 1400-1)

Transportation Operations Plan (TOP): A Department plan to minimize project impacts through activities not covered under Public Information Plans or TCPs. In general, these activities consist of coordination with external agencies, events, projects, and other traffic systems. TOP activity may include:

- Plans for on-project enforcement and other activities by external agencies.

- Coordination with other projects to minimize cumulative impact.

- Coordination with agencies that manage signal operations.

- Plans to maintain access for emergency vehicles, school buses, transit, etc.

- Plans to minimize impacts to major traffic-generating events.

- Travel demand management.

## Work Zone Strategies Checklists

Table 6. Temporary Traffic Control Strategies Checklist

| **Temporary Traffic Control** | | | |
| --- | --- | --- | --- |
| **Traffic Control Devices** | | | |
| Temporary signs |  | Flaggers |  |
| Sequential arrow boards |  | Flaggers station lighting |  |
| Channelizing devices (tubular markers, drums) |  | Radar speed trailers |  |
| Pedestrian channelizing devices (PCD) |  | Temporary barrier glare screen |  |
| Bicycle channelization devices (BCD) |  | Surface mounted tubular markers |  |
| Temporary pavement markings |  | Uniformed traffic control officers |  |
| Temporary traffic signals |  |  |  |
| **Project Coordination Strategies** | | | |
| Other area projects |  | Right-of-Way |  |
| Utilities |  | Other transportation infrastructure |  |
| **Innovative Contracting Strategies** | | | |
| Alternative Contracting Procurement |  | Performance specifications |  |
| Incentive / Disincentive clauses |  |  |  |
| **Innovative or Accelerated Construction Techniques** | | | |
| Prefabricated / precast elements |  | Rapid cure materials |  |
| **Traffic Control Strategies** | | | |
| Construction phasing / staging |  | Day work |  |
| Full roadway closures / detour |  | Weekend work |  |
| Lane shifts or closures |  | Work hour restrictions for peak travel |  |
| Two-way, one-lane closures |  | Pedestrian accommodation |  |
| Ramp closures |  | Bicycle accommodation |  |
| Night work |  | Business access improvements |  |

Reduced speed limits should be used only in the specific portion of the TTC zone where conditions or restrictive features are present. However, frequent changes in the speed limit should be avoided. A TTCP should be designed so that vehicles can travel through the TTC zone with a speed limit reduction of no more than 10 mph.

A reduction of more than 10 mph in the speed limit should be used only when required by restrictive features in the TTC zone. Where restrictive features justify a speed reduction of more than 10 mph, additional driver notification should be provided. The speed limit should be stepped down in advance of the location requiring the lowest speed, and additional TTC warning devices should be used.

Reduced speed zoning (lowering the regulatory speed limit) should be avoided as much as practical because drivers will reduce their speeds only if they clearly perceive a need to do so. (ATMS, Part 6, pg. 143)

Table 7. Transportation Operations Strategies Checklist

| **Transportation Operations** | | | |
| --- | --- | --- | --- |
| **Demand Management Strategies** | | | |
| Transit service improvements |  | Variable work hours |  |
| Transit incentives |  | Telecommuting |  |
| Shuttle services |  | Ridesharing / carpooling incentives |  |
| Parking supply management |  | Park-and-Ride promotion |  |
| **Corridor/Network Management Strategies** | | | |
| Signal timing / coordination improvements |  | Coord with adjacent construction site(s) |  |
| Bus turnouts |  | Reversible lanes |  |
| Turn restrictions |  | Dynamic lane closure system |  |
| Parking restrictions |  | Railroad crossing controls |  |
| Truck / heavy vehicle restrictions |  |  |  |
| **Work Zone ITS Strategies** | | | |
| Late lane merge (zipper merge) |  | Smart work zone system(s) |  |
| Portable changeable message signs |  |  |  |
| **Work Zone Safety Management Strategies** | | | |
| Speed limit reduction |  | Temp sign supplemental warning light |  |
| Temporary traffic barrier |  | Automated flagger assistance devices |  |
| Mobile / Movable barrier |  | Traffic control supervisor |  |
| Impact attenuators |  | Temporary widening |  |
| Temporary transverse rumble strips |  | Road safety audits |  |
| Intrusion alarms |  |  |  |
| **Incident Management and Enforcement Strategies** | | | |
| ITS for traffic monitoring/management |  | Local detour routes |  |
| Surveillance (e.g., CCTV) |  | Contract for Incident Management |  |
| Increased penalties for work zone violations |  | Incident/Emergency management coord |  |
| Call boxes |  | Incident/Emergency response plan |  |
| Mile-post markers |  | Dedicated (paid) police enforcement |  |
| Tow/freeway service patrol |  | Cooperative police enforcement |  |
| Total station units |  | Automated enforcement |  |
| Photogrammetry |  | Traffic Screen |  |
| Media coordination |  | Emergency pull-offs |  |

Table 8. Public Information and Outreach Strategies Checklist

| **Public Information and Outreach** | | | |
| --- | --- | --- | --- |
| **Public Awareness Strategies** | | | |
| Branding |  | Project website |  |
| Press kits |  | Public meetings, hearings, workshops |  |
| Brochures and mailers |  | Community task forces |  |
| Work zone education and safety campaigns |  | Coordination with media/schools/business/EMS |  |
| Mass media (earned and/or paid) |  | Press releases / media alerts |  |
| Paid advertisements |  | Work zone safety highway signs |  |
| Project Information Center |  | Rideshare promotions |  |
| Telephone hotline |  | Visual information |  |
| Planned lane closure website |  |  |  |
| **Motorist Information Strategies** | | | |
| Radio traffic news |  | Traveler information systems |  |
| Variable message signs (VMS) |  | Live traffic camera(s) on a website |  |
| Temporary motorist information signs |  | Project information hotline |  |
| Trip Check |  | Email alerts |  |

# Construction Monitoring

Construction staff should monitor the work zone and if necessary, make changes. Any changes to the work zone strategies, including Contractor proposed modifications, should be consistent with the decisions and commitments made during the design of the project. All changes to the Work Zone Strategies should be documented in the TMP.

The changes to the project temporary traffic control may include the following sections – add, delete, and/or modify as needed.

## Traffic

## Pedestrian & Bicycle

## Environmental

## Utilities

## Right-of-Way (Property Access)

## Public Transportation

## Commercial Vehicles (including Alaska Railroad)

## Navigable Waters

## Other

# TMP Evaluation

The TMP should include an evaluation report upon completion of construction to document the temporary traffic control lessons learned and provide recommendations on how to improve the TMP process and/or modify guidelines.

The evaluation report should include an overall statement reflecting the usefulness, suggested improvements or changes for similar future projects, and incidents related to the TMP.

For a small project, a TMP evaluation could be a discussion with the TMP designer regarding what elements of the TMP went well and which could be further improved.

For larger projects, an actual evaluation report should be developed. The evaluation report not only helps the designer with lesson learned but could also help policy makers improve the overall design process.

Appendix A: Temporary Traffic Control Plan

Standard: The needs and control of all road users (motorists, bicyclists, and pedestrians within the highway, or on private roads open to public travel (see definition in Section 1A.13), including persons with disabilities in accordance with the Americans with Disabilities Act of 1990 (ADA), Title II, Paragraph 35.130) through a TTC zone shall be an essential part of highway construction, utility work, maintenance operations, and the management of traffic incidents. (2009 MUTCD, Part 6, pg. 547)

Appendix B: Public Information & Outreach Plan

Appendix C: Traffic Operations Plan