

DATE: Date

TO: Name
Position
Transportation Service Center

FROM: Name
Position
Transportation Service Center

SUBJECT: Transportation Management Plan
Job Number(s)
Control Section(s)
Route Details
County

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I. Executive Summary:

The Executive Summary should provide details about the project, including location, work type, etc. A sample is shown below.

The proposed project consists of a two course HMA overlay, drainage, guardrail, and right-of-way fence in conjunction with ramp extensions on ramp B at exit #77 (eastbound off ramp) and ramp C at exit #77 (eastbound on ramp). All other interchange ramps will be resurfaced and the M-77 bridge over I-99 will consist of a deep concrete overlay.

The following sample language is provided for projects that exceed the Work Zone Safety and Mobility Policy thresholds or the 25 percent Transportation Management Plan cost. The threshold that has been exceeded and the primary contact must be provided.

This Transportation Management Plan (TMP) will require a Safety and Mobility Peer Team (SMPT) review as the travel time delay threshold has exceeded the Work Zone Safety and Mobility Policy. The primary contact for this TMP is Sally Safety at 123-456-7890.

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Specific project data is to be provided to familiarize project staff and any applicable reviewers with the project.

Specific Project Data:

1. Letting Date
2. Anticipated Project Duration (*Construction Start Date and Construction Completion Date*)
3. Existing Lane Widths (*both directions*)
4. Existing Paved Shoulder Widths (*both directions, median and outside dimensions*)
5. Existing Aggregate Shoulder Widths (*both directions, median and outside dimensions*)
6. Threshold Criteria
 - a. Describe which threshold criteria were exceeded in conjunction with the specific values that were calculated OR describe the TMP costs that exceed 25 percent of the total project costs.
 - b. How was delay calculated?
 - c. What is the source of traffic volumes?
 - d. If the work zone is active 24 hours per day the travel time should be based on an additional 10 minutes of delay analyzed throughout the day and most likely the peak travel time delay would be used. If the work zone is active from 9:00 a.m. to 3:00 p.m. then the am and pm rush travel times would most likely not come into play. The travel time delay is to be analyzed based on when the work zone will be active.
 - e. *Sample: The travel time delay has exceeded the 10 minute threshold as described in the Work Zone Safety and Mobility Policy. The Construction Congestion Cost (CO3) program was used to calculate delay, queues and user costs. The detailed CO3 output is attached for review. The traffic count data was obtained from the web-based Traffic Monitoring Information System (TMIS). Traffic volumes peak on this route during summer weekday movements with Friday afternoons being the heaviest travel time. Weekend traffic volumes are significantly lower. The weekend commercial traffic percentage was reduced to 10.6 percent based on current trends and permanent traffic recorders on M-77.*

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7. Facility Details

- a. Providing a table of this information is extremely helpful.

Control Section, Roadway		
Road Type (<i>i.e. number of lanes, freeway, arterial, etc.</i>)		
Existing Lane Configuration (<i>i.e. 2 NB, 3SB, 1 CLTL</i>)		
Work Zone Lane Configuration (<i>i.e. 1 NB, 1 SB, restricted turns</i>)		
ADT		
Percent Commercial		
Existing Hourly Capacity per Direction		
Existing Peak Hour Volume		
Existing Peak Hour Volume, Volume to Capacity Ratio		
Existing Peak Hour Volume Time Period per Direction		
Work Zone Hourly Capacity		
Expected Diversion Rate (percentage)		
Work Zone Peak Hour Volume		
Work Zone Peak Hour Volume, Volume to Capacity Ratio		
Average Delay (minutes)		
Peak Hour Delay (minutes)		
Work Zone Maximum Backup Length (miles)		
Existing Average Level of Service		
Work Zone Average Level of Service		
Existing Peak Hour Level of Service		
Work Zone Peak Hour Level of Service		

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8. Crash Analysis and Safety Review

- a. Provide information on when crash data was sampled and the source of the data.
- b. Crash specifics should be provided and a table may be the best format.
- c. *Sample: A crash analysis and safety review was conducted for the work zone to determine the baseline crash history. This will allow project staff to effectively monitor work zone crashes which may be experienced during construction. Four years of crash data (2004 through 2007) during the proposed work zone dates (June 1 through October 15) was analyzed. The analysis revealed the following yearly average crash values.*

Control Section, Roadway		
Yearly Crashes		
Fatalities		
Serious Injuries		
Minor Injuries		
Fixed Object		
Head-On Left Turn		
Angle		
Sideswipe		
Rear End		
Animal		
Dual Right Turn		
Dual Left Turn		

- d. The example chart above depicts a representative sample of accidents and types. The TMP author should include all the accident types that they feel are appropriate to include in the TMP.
- e. It may be appropriate to include a map or maps of accident locations and type to give project staff a flavor of the accident history.
- f. Provide a discussion of the crash data and safety review analysis in conjunction with what actions may or will be taken during project delivery. Provide comparisons to other similar projects or work zones and what actions were taken to mitigate the accidents which did occur.
- g. *Sample: Crash data will be monitored while the TTCP and TOP are implemented and active to ensure that the work zone does not increase crash frequency or injury type. If crash frequencies or injury types increase, project staff will make every effort to reduce the crash potential by adjusting the TTCP and TOP to improve work zone safety and mobility. The project temporary traffic control configuration has been used on several other similar projects throughout the TSC area. After further analysis of similar projects, it was determined that fixed object crashes may be reduced by providing additional shoulder width for northbound traffic that is shifted to the southbound side of the roadway during stage I, therefore, additional temporary shoulder width was designed into the project.*

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II. Temporary Traffic Control Plan

The temporary traffic control plan section will provide specifics that will be included in the project bidding documents and general information for project staff. This section will provide details on the specifics of staging, the work zone typical sections and traffic control measures to maximize work zone safety and minimize impacts on user mobility. Ensure that mitigation techniques are discussed. Sample consideration items are described below.

1. Have there been any transportation management plan meetings? Document the number of meetings and any key findings.
2. Will lateral and/or longitudinal buffers be provided during active work periods?
3. How are entrance/exit ramps and interchanges being addressed by the temporary traffic control plan?
4. Provide the existing speed limit and the proposed work zone speed limit.
5. The following items should be attached to the TMP.
 - a. Temporary traffic control plan sheets
 - b. Maintaining traffic typical sheets (cross section view including lane widths, shy distances, barrier placement, etc.)
 - c. Reference which work zone maintaining traffic typicals apply to this project and provide the specific plan number (i.e. M0020, M1700, etc.). There is no need for each typical to be placed in the TMP. Ensure the use of the Where Worker Present signs as appropriate.
 - d. Staging sheets
 - e. Detour sheets
 - f. Special Provision for Maintaining Traffic. It is very valuable for design or traffic and safety staff to include a detailed narrative in addition to the special provision. This narrative is very beneficial to other project staff and should be included in the TMP as the where, how, what details versus any generic statements in the special provision.

III. Transportation Operations Plan

The TOP section should contain strategies and procedures for operations and management of the work zone. Sample information to include is shown below. Rationale on why things were and were not included should be provided.

1. Ensure that discussion is included on projects that are bundled or packed with this project.
2. How will pedestrian and non-motorized traffic be handled?
3. How will transit operations be handled?
4. Are there any special freight considerations that were taken into account?
5. Is the project on an expedited schedule?
6. If a local agency route is utilized as detour then a traffic analysis is recommended on that route as appropriate. The Data Collection in the Bureau of Transportation Planning will provide traffic volume counts as requested. MDOT form 1776 should be submitted for

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this request and any requests to obtain traffic volume data.

7. Does the project need the Special Provision for Wrecker Service; is a preferred towing service or contract already in place? Provide details as appropriate.
8. Are there special provisions for lane rentals, incentive/disincentive, etc.?
9. Are there any special requirements and/or penalties for the lack of temporary sign removal?
10. Contractor work restrictions should be listed or referenced in the Special Provision for Maintaining Traffic (weekend work, night work, daytime work hour restrictions, etc.)
11. Will work be suspended for any holiday periods, parades, local events, etc.?
12. Will portable changeable message signs (PCMS) be utilized? If yes, provide locations and verbiage for each sign.
13. How will access for emergency response, law enforcement, fire response vehicles, etc. be maintained?
14. How will permanent emergency routing signs be handled?
15. Provide a description of how access for construction vehicles will be conducted.
16. Provide a description or considerations for the contractor internal traffic control plan.
17. Will state and/or local law enforcement agencies be engaged for work zone patrols, work zone traffic stoppages for overhead work, etc.?
18. Will turning movements, ramp access, etc. be restricted within the work zone?
19. Was a corridor or network analysis completed?
20. Were adjacent projects in a different region taken into consideration?
21. Has coordination occurred with local agencies to ensure that system mobility has been maintained? Are there construction activities that have been taken into account on parallel or detour routes?
22. What ITS strategies were included or considered for the project?

IV. Public Information Plan (PIP)

This section should contain strategies and activities that will be utilized to inform project stakeholders and the traveling public.

1. Will regular press releases be issued? Describe any scheduling or specific plans.
2. What project information will be published and how will it be distributed (visor cards, brochures, radio, television, billboard, etc.)? Describe any specifics.
3. Will the MI Drive Site (MDOT lane closure database) be updated with lane closure information?
4. Will information be provided to any groups via email, fax, telephone, etc. on a regular basis? Who will receive the information law enforcement, emergency services, local agencies, local businesses, other contractors?
5. Will PCMS signs be available for emergency notices or used to advise travelers of upcoming work?
6. Will DMS signs be utilized for any messaging?
7. A list of project stakeholders should be provided along with discussion on how they have been and will be engaged.

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V. Delay Calculation Details

This section should include details on the delay calculations, what program was utilized and any appropriate narrative discussion.

1. Reference the attachment of any program output sheets (i.e. QuickZone, CA4PRS, CO3, etc.)
2. CO3 users are to ensure that the final CO3 model run matches the Special Provision for Maintaining Traffic. If the special provision dictates restricted work hours the CO3 model should analyze the appropriate time period.
3. Describe the rationale behind the selected diversion rates used in any program. Why were they used, have you seen these on similar or adjacent projects, how has diversion been measured, etc. The Project Planning section in the Bureau of Transportation Planning can assist with the determination of diversion routes, percentages, etc. They can also provide what software is available for modeling diversion routes.

VI. Alternative Traffic Control

This section may include any alternative traffic control schemes that were evaluated and/or considered. A brief description on what the specifics were and why the scheme was not selected should also be included (i.e. night work was eliminated as a possibility because of reason A, weekend work was eliminated because of reason B, etc.).

1. Were any of the following items considered? Were the items considered versus the user delay costs and justification of the final decision provided? A sample of items to evaluate is listed below.
 - a. Night work
 - b. Temporary widening
 - c. Weekend work
 - d. Part-width construction
 - e. Daytime work hour restrictions (9:00 a.m. to 3:00 p.m., etc.)
 - f. Split merge system
 - g. Temporary bridge placement
2. Were any innovative construction techniques considered (i.e. design/build, self propelled modular transport for bridge construction, etc.)

VII. Vicinity Map or Location Diagram

Provide or attach a vicinity map or location diagram that depicts the project area relative to any local cities, natural landmarks, etc. The map or diagram should allow a person from outside your area to easily identify the location and what transportation facilities are involved with the project.