

DEVELOPING SUCCESSFUL TRANSPORTATION MANAGEMENT PLANS FOR WORK ZONES

Wisconsin DOT Incident Management and Safety-related Strategies

Tom Notbohm, P.E., PTOE
State Traffic Engineer of Design
Wisconsin DOT
Bureau of Traffic Operations
May 3, 2011



OUTLINE

- ✘ Wisconsin DOT TMP Process
- ✘ Guidance on Work Zone Incident Management Plans
- ✘ Additional Safety-related Strategies
- ✘ Project Examples



TRANSPORTATION MANAGEMENT PLANS (TMPs)

DEFINITION

1. A set of coordinated transportation management strategies
2. A description of how the strategies will be used to manage work zone impacts

Components include:

- + Traffic Control Plans
- + Public Information and Outreach
- + Transportation Operations
- + Incident Management



WISDOT TMP PROCESS

- ✘ Includes all phases of project development
 - + Planning
 - + Design
 - + Construction

- ✘ Adjust at various construction stages

- ✘ Identify issues and impacts
 - + Work Zone Impacts Assessment



WISDOT TMP PROCESS

- ✘ Determine TMP Type
- ✘ Identify and Evaluate Strategies
- ✘ Develop TMP Report
- ✘ Include with Design Study Report (DSR)
- ✘ Approval Process



TMP DOCUMENTATION & APPROVAL WORKSHEET

TMP DOCUMENTATION & REQUEST FOR APPROVAL

We are requesting approval of the Transportation Management Plan (TMP) for the project detailed below. This project is categorized as TMP type . Impacts resulting from project activities meet the current work zone policies of the Wisconsin Department of Transportation.

TMP/Project Type	Action
A. Project that requires a DSR and is TMP Type 1, 2 or 3.	Complete and submit this document and any attachments to BPD project services liaison.
B. Project that requires a DSR and is TMP Type 4.	Complete this document as the TMP Executive Summary and submit along with separate TMP report to BPD project services liaison.
C. Project does not require DSR and is TMP Type 1, 2 or 3.	Complete and submit this document and any attachments to BPD project services liaison.
For Federal Oversight projects, coordinate early in TMP development with BPD & FHWA project liaisons.	

1. Project Information

Design ID:	PS&E Date:	
Project Title:	Let Date:	
Project Limits:	Project Length	Miles
Highway:	Project Duration	Days
County:	AADT	
Project type (recst., recondition, SHRM, etc.):		



Transportation Management Plan

INCIDENT MANAGEMENT PLAN CONTENT

- ✘ Project Summary
- ✘ Checklists
 - + Statewide Traffic Operations Center (STOC)
 - + Law Enforcement
 - + Project Leader
 - + Regional Incident Management Coordinator and Duty Officer



Transportation Management Plan

INCIDENT MANAGEMENT PLAN CHECKLISTS

✘ Law Enforcement

- + Contact dispatch to report incident or backups
- + Identify incident classification based on duration
- + Initiate traffic control as appropriate
- + Inform media of highway incident
- + Dispatch contacts Statewide Traffic Operations Center (STOC)
- + Need for specialized equipment
- + Notifications at conclusion of incident



Transportation Management Plan INCIDENT MANAGEMENT PLAN CHECKLISTS

- ✘ Project Leader

- + Function as liaison for contractors
- + Contact project manager and/or supervisor if backups reach 5 miles



Transportation Management Plan

INCIDENT MANAGEMENT PLAN CONTENT

- ✘ Emergency contact list
- ✘ Alternate routes
- ✘ Queue backup levels
- ✘ Available barricade locations for ramp closures
- ✘ Activation of traveler information systems



Incident Management Plan

TRAFFIC VOLUMES, DELAY & QUEUE BACKUP LEVELS

SUMMARY OF TRAFFIC MODEL OUTPUT

MON-THUR

WESTBOUND DIRECTION

TIME OF DAY	FLOWS AND CAPACITY IN VEH/HR							TOTAL DIVN FLOW	AV.DEL PER VEH (MINS)	AVERAGE QUEUE (VEH)
	MAIN ROUTE		ALTERNATE ROUTE		SITE CAPA CITY	FLOW MAIN ROUTE	FLOW DIVER -TING			
	DEMAND FLOW	PCT HEAVY	NORMAL FLOW	PCT HEAVY						
MID-1 AM	230	0.0	50	0.0	1500	230	0	50	0.44	0
1-2 AM	161	0.0	36	0.0	1500	161	0	36	0.44	0
2-3 AM	144	0.0	31	0.0	1500	144	0	31	0.44	0
3-4 AM	132	0.0	28	0.0	1500	132	0	28	0.44	0
4-5 AM	218	0.0	47	0.0	1500	218	0	47	0.44	0
5-6 AM	464	0.0	101	0.0	1500	464	0	101	0.47	0
6-7 AM	1112	0.0	243	0.0	1499	1112	0	243	0.61	0
7-8 AM	1572	0.0	343	0.0	1499	1572	0	343	1.72	20
8-9 AM	1612	0.0	352	0.0	1499	1612	0	352	5.57	125
9-10 AM	1660	0.0	362	0.0	1500	1660	0	362	10.62	263
10-11 AM	1642	0.0	358	0.0	1499	1642	0	358	16.39	417
11A-NOON	1574	0.0	343	0.0	1499	1572	2	345	20.53	527
NOON-1PM	1491	0.0	325	0.0	1499	1482	9	334	21.37	548
1-2 PM	1495	0.0	326	0.0	1500	1495	0	326	20.92	536
2-3 PM	1519	0.0	332	0.0	1500	1519	1	332	21.01	539
3-4 PM	1673	0.0	365	0.0	1499	1570	103	468	22.90	591



Incident Management Plan

ACTIVATION OF TRAVELER INFORMATION SYSTEMS

✘ Scenarios

- + Normal conditions
- + Operational backups due to work zone congestion
- + Backups due to incident
- + Blocked highway



CONSIDERATIONS FOR LAW ENFORCEMENT OR FREEWAY SERVICE TEAM SUPPORT SERVICES

For projects with:	Law Enforcement	Freeway Service Team
Recurring delay	X	X
Type 3-4 TMP	X	X
Challenging geometrics	X	X
Reduced lane capacity or shoulder width	X	X
Escorts for oversize loads	X	
Interstate/freeway	X	X
Reduced speed limit	X	
Speed management needed	X	



IMPLEMENTING TMPS IN WISCONSIN

- ✘ Marquette Interchange
- ✘ I-94 North-South Freeway
- ✘ USH 41/STH 29 Interchange



MARQUETTE INTERCHANGE

TMP SAFETY STRATEGIES

- ✘ Local Road Traffic Operations
 - + Intersection Improvements
 - + New Signals and Signal Upgrades
 - + Temporary No Parking Zones

- ✘ Freeway Traffic Operations and Safety
 - + Statewide Traffic Operations Center (STOC)
 - + Emergency Responders
 - + Incident Crisis Communication Plan (ICCP)



I-94 NORTH-SOUTH FREEWAY

TMP SAFETY STRATEGIES

- + Traffic Control and Operations
 - × Construction Vehicle Ingress and Egress
 - × Traffic Responsive Signal System
 - × Free Bus Routes



I-94 NORTH-SOUTH FREEWAY

TMP SAFETY STRATEGIES

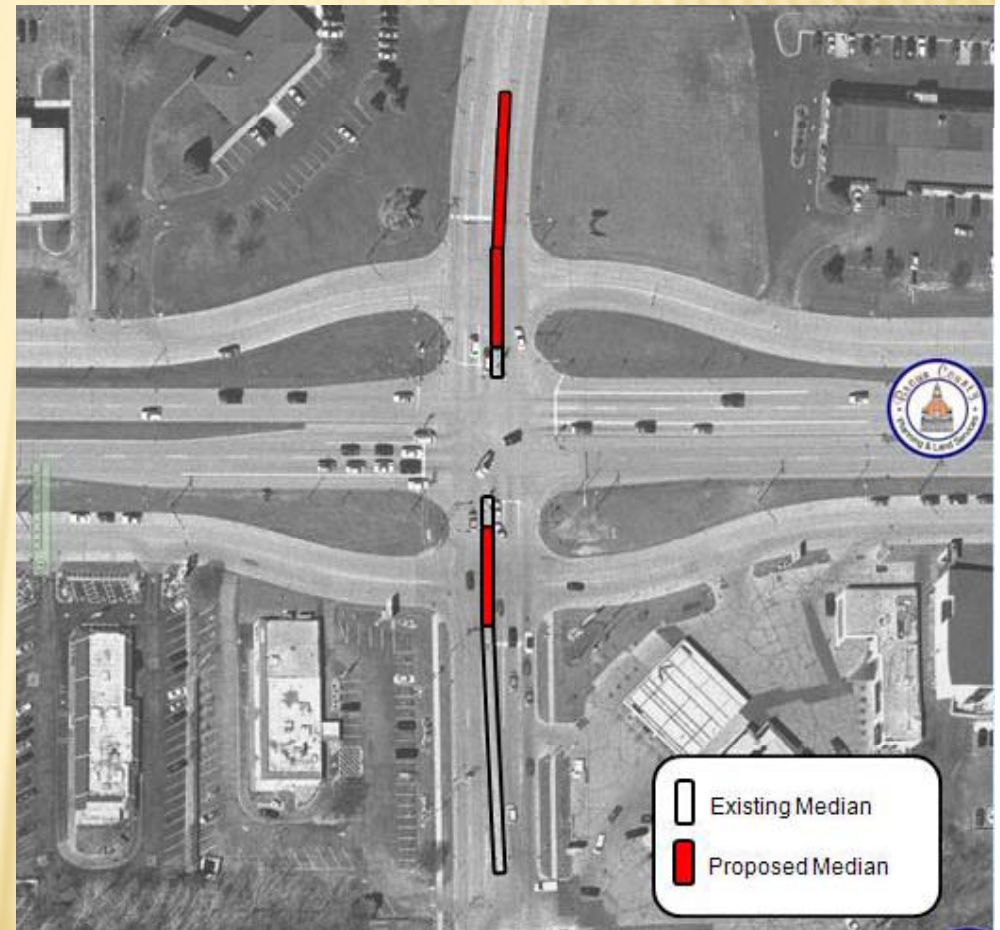
- + Incident Management and Crisis Communication
 - × Freeway Service Team
 - × Incident Crisis Communication Plan
 - × Tunnel Emergency Response Plan



USH 41/STH 29 INTERCHANGE

TMP SAFETY STRATEGIES

- + Traffic Control
 - × Temporary and Permanent Signals
- + Traffic Operations
 - × Radar Speed Display Boards
 - × Improvements to Intersection Geometry



USH 41/STH 29 INTERCHANGE

TMP SAFETY STRATEGIES

- + Public Information
 - × Outreach and Task Force Meetings
 - × Construction Staging Diagrams
 - ★ Road Users
 - ★ Traffic Shifts
 - ★ Mitigation Concepts

- + Incident Management
 - × Rapid Intervention Vehicle (RIV)



CONTACTS

Tom Notbohm, State Traffic Engineer of Design
Wisconsin DOT Bureau of Traffic Operations
(608) 266-0982

thomas.notbohm@dot.wi.gov

Peter Amakobe Atepe, State Work Zone Traffic Safety Engineer
Wisconsin DOT Bureau of Traffic Operations
(608) 261-0138

peter.amakobeatepe@dot.wi.gov

