WisDOT TMP Documentation and Request for Approval

TMP ID: 2321
Version: Current

This is a request for approval of the Transportation Management Plan (TMP) for the project detailed below. Impacts resulting from project activities meet the current work zone policies of the Wisconsin Department of Transportation.

1A. Project Information:

TMP Type:	Type 2
Region:	SE
Local Program:	No
Created Comment:	Created from Scratch. User comment: WisDOT section of the Waukesha Bypass
Design ID:	2788-00-01
Project Title:	West Waukesha BypassGenesee Road (STH 59) to Summit Ave (USH 18)
County:	WAUKESHA
Highway:	US 18
Construction ID:	2788-00-71
Project Type:	Reconstruct/New alignment
Project Limits:	Genesee Road (STH 59) to Summit Ave (USH 18)
Project Length:	3.0 Mile(s)
Project Duration:	400 Day(s)
Engineer's Estimate:	more than $10M
PS&E Date:	05/01/2016
LET Date:	08/09/2016
NHS Route:	Yes
AADT:	10200
AADT Year:	2012
Federal Oversight:	Yes

1B. Project Impacts:

Anticipated Begin:	11/2016
Anticipated End:	11/2017
Delay:	Minor
OSOW Route:	No

1C. Location:

Local Road

Begin County:	WAUKESHA
End County:	WAUKESHA

Roadway Name: CTH TT/Merrill Hills Road
Begin Landmark (LR): WIS 59
End Landmark (LR): 600-ft North of Madison Street

2. Brief description of work activities.

The proposed improvements consist of the expansion and construction of approximately 5.2 miles of roadway from STH 59/CTH X to IH 94 in the City of Waukesha, the Town of Waukesha and the Town of Pewaukee in Waukesha County. The Waukesha Bypass project will widen CTH TT/Merrill Hills Road/Meadbrook Road from Kame Terrace to Rolling Ridge Drive and be located along new alignment from WIS 59 to Kame Terrace. See Attachments A1 for a Project Location Map and A2 for Project Overview. The West Waukesha Bypass project will be separated into three segments and this TMP includes the one southern section of the project. The North projects are included under TMP ID 2320 for projects I.D. 2788-02-00/2788-00-02 which received 60% approval on May 4, 2015.

* South Project; ID 2788-00-01 WisDOT (STH 59/CTH X - 600ft north of Madison Street) - Included in this TMP and construction scheduled to begin in Fall 2016 and last through 2017

* North Project, Section 1; ID 2788-02-00/2788-00-02 WisDOT and Waukesha County (600ft north of Madison Street - north of Northview Road) Included in TMP 2320 and construction scheduled for 2016.

* North Project, Section 2; City of Waukesha Project (north of Northview Rd to Rolling Ridge Dr) Included in TMP 2320 and construction scheduled for 2016.

The South Section will construct a 4-lane divided roadway on new alignment from STH 59 to approximately 600-ft north of Madison Street. The STH 59 and CTH X intersections with the proposed West Waukesha Bypass will also be reconstructed as part of this project. Structure work included in this project consists of the replacement of two parrallel CTH X structures crossing Pebble Creek (B-67-315/316), two parallel landbridges located between Sta. 126+00 and 129+00 (B-67-352/353) and the addition of two West Waukesha Bypass structures (B-67-354/355) crossing Pebble Creek along the proposed alignment which are located west of the existing CTH TT structure crossing Pebble Creek. An existing culvert crossing will also be replaced 242+50 (C-67-91) with a new box culvert and a retaining wall (R-67-129) will be constructed from Sta. 256+10 to Sta. 260+50 RT.

3. Briefly describe the staging planned for maintaining traffic.

South Section:

Project I.D. - 2788-00-01 South Project (WIS 59/CTH X - 600ft north of Madison Street); 2016 - 2017 Construction

Construction will begin in the Fall of 2016 and continue through the end of 2017. The North project and City of Waukesha project will be completed prior to Stage 2 work commencing. Saylesville Road is to remain open while school is in session. Construction will be completed in four stages with Stage 2 being split into three sub-stages as described below. (See Attachment A3 - South Project Staging

Overviews)

Stage 1 (+/- 5 months) November 2016 - March 2017

Maintenance of Traffic:

o No change to existing traffic patterns.

Construction Activities:

o Begin constructing the land bridge structures south of CTH D and the structures over Pebble Creek.

o Construct temporary roadway utilizing proposed NB lane location of Waukesha Bypass from Sta 215+00 to Sta 245+00.

o Temporary pavement where widening is needed at project limits along STH 59 and CTH X, to be determined in final design.

Stage 2 (broken into three sub-stages)

Stage 2A (+/- 4.5 months) March - August 2017

Maintenance of Traffic:

o CTH TT/Merrill Hills Road traffic remains on existing roadway from STH 59 to south of Kame Terrace and uses temporary bypass constructed in Stage 1.

o CTH X has 2-way traffic on existing NB lanes.

o STH 59 has 2-way traffic on existing EB lanes.

o CTH D to remain open.

o Saylesville Road to remain open.

o All side roads shall remain open.

o Maintain connection to Merrill Hills Court.

o Coordinate work with railroad.

Construction Activities:

o Replace median islands with temporary pavement in areas of temporary traffic at the STH 59/CTH X intersection.

o Construct off-alignment Waukesha Bypass segments from beginning of project to approximately Sta 215+00.

o Construct SB Waukesha Bypass lanes from Sta 215+00 to end of project.

o Construct STH 59/CTH X intersection, gaps to remain.

o Construct WB lanes of STH 59.

o Construct SB lanes of CTH X.

o Construct Saylesville Road from Sta 15+15 to STH 59, gaps to remain.

o Construct Green Lane, MacArthur Road, Kame Terrace and Merrill Hills Court.

o Construct west leg of Madison Street.

o At-grade railroad crossing will be constructed.

o Construction of bridges in Stage 1 continues.

o Begin construction of culvert at Sta 242+50.

Stage 2B (+/- 1 months) June - July 2017 (restricted to when school is out)

Maintenance of Traffic:

o Stage 2A MOT continues with the exception of Saylesville Road.

o Flagging operations or short-term detour of Saylesville Road, to be determined in final design.

Construction Activities:

o Construct remaining Saylesville Road.

Stage 2C (+/- 2 months) July - August 2017

Maintenance of Traffic:

o Stage 2A MOT continues from beginning of project to Sta 215+00.

o CTH TT/Merrill Hills Road traffic remains on existing roadway from STH 59 to south of Kame Terrace and uses SB Waukesha Bypass lanes from Sta 215+00 to end of project constructed in Stage 2A.

o CTH D detoured.

o Glacial Drumlin State Trail on temporary connection due to bypass box culvert construction. Construction staging in final design to determine if temporary trail connection is detoured using existing roadway or temporary connection between trail and railroad. Proper slopes must be maintained.

Construction Activities:

o Construct NB Waukesha Bypass lanes from Sta 215+00 to end of project.

o Construction of Waukesha Bypass in Stage 2A from beginning of project to Sta 215+00 continues.

o Complete bridges and culvert structures started in previous stages.

o Construct retaining wall north of Madison Street.

o Construct east leg of Madison Street.

o Construct CTH D.

o Construct portion of Glacial Drumlin State Trail box culvert outside of existing Merrill Hills Road.

Stage 3 (+/- 2 months) August - October 2017

Maintenance of Traffic:

o Traffic on proposed Waukesha Bypass lanes. Single lane, short term lane closures may be necessary to complete miscellaneous work. Specific traffic routing of southbound lane at location of Glacial Drumlin State Trail Box Culvert construction to be determined in final design.

o Glacial Drumlin State Trail on temporary connection due to bypass box culvert construction. Construction staging in final design to determine if temporary trail connection is detoured using existing roadway or temporary connection between trail and railroad. Proper slopes must be maintained.

o STH 59 has 2-way traffic on proposed WB lanes.

o CTH X has 2-way traffic on proposed SB lanes.

Construction Activities:

o Construct EB lanes of STH 59.

o Construct NB lanes of CTH X.

o Complete construction of Glacial Drumlin State Trail box culvert.

o Construct Merrill Hills Road cul-de-sacs.

o Complete side road connections.

o Complete median work in North project area that remains from Stage 2A and 2B cross-overs.

o Construct finishing items in median.

Stage 4 (+/- 6 weeks) October - November 2017

Maintenance of Traffic:

o Traffic on proposed Waukesha Bypass lanes. Single lane, short term lane closures to complete gaps on Waukesha Bypass.

o Flagging operations or short-term detour of STH 59, to be determined in final design.

Construction Activities:

o Construct Waukesha Bypass gaps.

o Construct STH 59 at south project limit.

4. Will there be restrictions on pedestrian/bicycle access?

☑ Yes ☐ No

If Yes:

a) Will sidewalk/multiuse path be closed?

☑ Yes ☐ No

b) Describe how pedestrian and bicyclists will be accommodated

To accommodate bicyclists and pedestrians utilizing the Glacial Drumlin Trail, a temporary on-road detour may be utilized and temporary path connection to the Glacial Drumlin Trail may be constructed. The Glacial Drumlin trail cannot be closed for any length of time and must be maintained.

South of Fiddlers Creek Drive there are currently no existing bicycle or pedestrian accomodations.

c) Will crosswalks be provided? What is the spacing of crosswalks?

Accomodations will be made for any temporary trail crossings needed as part of this project.

d) Are the strategies in compliance with ADA?

Temporary trail crossings and temporary surface material will be installed to meet ADA requirements.

5. Briefly describe how access to traffic generators, businesses, school buses, garbage trucks, postal services, and transit impacts will be mitigated (alternate routes, etc.).

a) Are the strategies in compliance with ADA?

Access to traffic generators will be mitigated through the standard detours, temporary connections and lane shifts throughout the project. The contractor will be required to provide 48 hour notice to businesses when access points will be reconstructed. Access points will be constructed in stages to allow access to businesses throughout construction. Several access points will temporarily become right-in/right-out access points. All access shall take ADA into consideration.

b) Is access to bus stops affected?

☐ Yes ☑ No

6. Will the project have lane closures?

☑ Yes ☐ No

If Yes:

a) Are there restrictions on when lane closures are allowed?

☑ Yes ☐ No

b) What hours/days are lane closures permitted?

The existing roadway of CTH TT/Merrill Hills Road functions as a 2 lane roadway and lane closures are not permitted. During Stage 3 and 4 when traffic is on the proposed Waukesha Bypass (4 lane roadway), single lane, short term lane closures may be used. Lane closures will be permitted on Saylesville Road (with flagging operation) and STH 59 during off-peak timeframes and during periods when school and other events are not scheduled.

c) How were traffic counts used in determining permitted lane closure times?(For multi-lane road, indicate typical peak hour volume per direction of travel.For two-lane, two-way road indicate AADT)?

The anticipated work zone capacity of the roadway during construction was estimated to be 1,380 vph per direction using FDM 11-50-30 (See Attachment A4).

Single lane closures are proposed along STH 59 east of the intersection with CTH X within the south project limits. The 2012 existing counts on STH 59 at this location (WisDOT Site #671744, see Attachment A5) were used to compare to the work zone capacity. A summary of the peak periods are found below:

STH 59 East of CTH X

WisDOT Count Site # 671744

Hour | Pos Dir | Neg Dir | Total

06:00-06:59 | 613 | 417 | 1,030

07:00-07:59 | 826 | 639 | 1,465

08:00-08:59 | 719 | 519 | 1,238

09:00-09:59 | 628 | 686 | 1,313

10:00-10:59 | 713 | 891 | 1,604

11:00-11:59 | 850 | 964 | 1,814

From the existing counts no direction exceeds the 1,380 vphpl single lane capacity, therefore minimal queuing and delay is expected as a result of the lane drop.

7. Please provide the following.

a) Minimum lane width to be maintained.
11-ft lanes

b) Minimum lane width plus shoulder width to accommodate OSOW.
11-ft lanes plus shoulder width of not less than 3-ft. OSOW vehicles are currently not allowed on this route and will be restricted during coonstruction.

c) Minimum height (if less than typically available)
Not less than what is typically available.

8. Will the project be detoured?

☑ Yes ☐ No

a) Explain length of detour, travel times, improvements required for signaltiming, surface and shoulder conditions, capacity, etc

Two roadway detours of CTH D/DE and CTH X and one trail detour of the Glacial Drumlin Trail are expected during the construction of the Waukesha Bypass South project.

CTH D/DE is expected to require a detour for the realignment of the Waukesha Bypass during Stage 2C of the South project. This detour is required because of tight right-of-way and profile changes at the proposed CTH D intersection with the Waukesha Bypass. The detour is expected to be long term (> 1month). The final duration of the detour shall be analyzed during final design. The anticipated detour route is to the south on STH 83 to STH 59 to CTH X as shown in Attachment A6 - Detour Routes. The detour is an additional 2.2 miles with a delay of approximately 5 minutes. The existing CTH DE/ CTH D roadway has a volume of 5,400 vpd. It is anticipated that the majority of this traffic is local traffic, expecting high diversion on other parallel roadways. The detour roadways of STH 83, STH 59 and CTH X should be able to accommodate the detour traffic. The only mitigation measure anticipated is signal timing changes at the intersection of CTH DE (Sunset Drive) & CTH X (Genesee Road), which should be monitored during construction. The other intersections along the detour route are either unsignalized or roundabout controlled. The specifications shall require that the detour is not permitted while there are lane restrictions at the STH 59 & CTH X intersection.

CTH X (south of STH 59) is expected to require a detour for the reconstruction during Stages 2A & 2B of the South project. This detour is required because of tight right-of-way at the match limits. The detour is expected to be short term (< 1 week). The final duration of the detour shall be analyzed with final design. The anticipated detour route is east onto CTH H to CTH I to CTH XX (Oakdale Road) to STH 59 as shown in Attachment A6. The detour is an additional 1.9 miles with a delay of approximately 3 minutes. The existing CTH X roadway has a volume of 13,100 vpd. The CTH X detour should be limited to non-peak periods (weekends). If the detour is required during peak periods temporary signals would be required at CTH XX (Oakdale Dr.) & CTH I (Lawnsdale Rd) and CTH I (Lawnsdale Rd) & CTH H (River Rd) along with signal timing changes to the intersection of STH 59 & CTH XX (Oakdale Drive). Waukesha West High School is located on CTH X south of the project limits, but within the detour route. The roadway work on CTH X should take place in summer when school is not in session.

The Glacial Drumlin Trail will be detoured during construction of the box culvert that will route the trail under the roadway in proposed conditions. The anticipated trail detour route will utilize the local roads and the existing connection at Poplar Dr. North on Poplar Dr, west on MacArthur Rd and south on Merrill Hills Road with a temporary connection to access the Glacial Drumlin Trail as shown in Attachment A6 - Detour Routes. The detour is an additional 2,150 feet. Coordination with WDNR to occur during final design.

b) Are there width and height restrictions on the detour?

☐ Yes ☑ No

9. List major special events and holidays, and how traffic disruptions will be minimized.

The Holiday work restrictions shown in the FDM will be implemented around holidays:

Memorial Day, Labor Day, and Thanksgiving.

Work will be restricted during the following holidays in order to avoid disruptions:

* From noon Wednesday, November 23, 2016 to 6:00 AM Monday, November 28,

2016

* From noon Friday, May 26, 2017 to 6:00 AM Tuesday, May 30, 2017

* From noon Friday, September 1, 2017 to 6:00 AM Tuesday, September 5, 2017

* From noon Wednesday, November 22, 2017 to 6:00 AM Monday, November 26,

2017

CTH X detour is restricted during the following time periods (school session):

October 2016 - June 2017

September 2017 - November 2017

10. Describe the method(s) (LCAT, Quadro, FDM 11-50-30, etc.) used to estimate motorist delays or queue length? (Applicable only for freeways, expressways, and signalized corridors).

The anticipated work zone capacity of the roadway during construction was estimated to be 1,380 vphpl per direction using FDM 11-50-30. Existing traffic volumes were reviewed from available data and no delays are anticipated due to volumes not exceeding the 1,380 vphpl threshhold, therefore, no delay modeling is required at this time. See Attachments A4 and A5.

11. What is the anticipated travel delay during peak travel periods (also indicate frequency, e.g. daily and duration). Please compare the peak hour volumes per lane with the work zone capacity criteria in 11-50-30. If it exceeds the estimated capacity, a delay calculation is required. If the delay is more than 15 minutes, the TMP will be a type 3 and if less than 15 minutes, it generally will be a type 2. The Regional Work Zone Engineer can assist you in determining your delay.

The anticipated work zone capacity of the roadway during construction was estimated to be 1,380 vphpl per direction using FDM 11-50-30. The existing roadway of CTH TT/Merrill Hills Road functions as a 2 lane roadway. Since one lane in each direction with left turn lanes will be provided at all major intersections during construction it is expected that there will be no additional delay due to construction activities along CTH TT/Merrill Hills Road. Existing 2012 counts at WisDOT Sites #671744 and #672618 (see Attachment A5) show that no direction exceeds the 1,380 vphpl single lane capacity. The signalized intersection of CTH X and WIS 59 will have additional delay as a result of single lane closures. This intersection should be analyzed using Synchro during final design once the staging of the intersections has been completed; however it is expect that delays will be less than 15 minutes.

12. Identify alternate routes anticipated, and any alternate route improvements or signing planned.

There are several alternate routes that the locals will use to maneuver around construction. It is

also anticipated that local truck drivers within the city of Waukesha will utilize alternate routes such as CTH X, Grandview Blvd, and Moreland Blvd. These routes are local and town roads therefore they will not be marked as alternative routes.

13. Are any intersection traffic control changes proposed such as temporary signals, temporary changes to an all way stop, etc?

The anticipated intersection control of each intersection per stage is identified in the tables below using the following designations:

TS - Temporary Signal, PS - Install Permanent Signal after Construction, AW - All Way Stop, TW - Two-Way Stop, OW - One-Way Stop, P - Signal Phasing Change, T - Update Signal Timing, N/A - No Action

South Project: Stages:

Intersection | Existing | 1 | 2A | 2B | 2C | 3 | 4 | FINAL

STH 59 & CTH X/Saylesville Road | Signalized | TS | TS | TS | TS | - | - |

STH 59 & Saylesville Road | - | - | - | - | - | T | T | PS

STH 59/CTH X & Waukesha Bypass | - | - | - | - | - | TW(1) | TW(1) | TW(1)

CTH D/Sunset Drive & CTH TT | Signalized | T | T | T | T | T | TW (1) | TW (1) | TW (1)

CTH D/Sunset Drive & Waukesha Bypass | - | - | - | - | - | PS | PS | PS

CTH TT & Green Lane | One-way Stop | OW | OW | OW | OW | OW | OW | OW | OW

Green Lane & Waukesha Bypass | - | - | - | - | - | OW | OW | OW

CTH TT & Railroad | RR Signal | N/A | N/A | N/A | N/A | - | - |

Waukesha Bypass & Railroad | - | - | - | - | - | RR Sig(2) | RR Sig(2) | RR Sign(2)

CTH TT & McArthur Drive | One-way Stop | OW | OW | OW | OW | TW (3) | TW | TW (3)

McArthur Drive & Waukesha Bypass | - | - | - | - | - | OW | OW | OW

CTH TT & Kame Terrace | One-way Stop | OW | OW | OW | OW | - | - | --

Kame Terrace & Waukesha Bypass | - | - | - | - | - | OW | OW | OW

Merrill Hills Court & Waukesha Bypass | - | - | - | - | OW | OW | OW | OW

CTH TT & Madison Street | All-Way Stop | AW | AW | AW | AW | PS | PS | PS

Notes:

1 Intersection of CTH D/Sunset Drive & CTH TT to become stop control with opening of Waukesha Bypass in Stage 3

2 Waukesha Bypass & Railroad signal to be coordinated during final design

3 TW stop changes from MacArthur Dr. to Merrill Hills (Old CTH TT) with Cul-de-sac of CTH TT in Stage 3

14. Are there anticipated traffic impacts from the proposed project on other roads/routes in the region/corridor? Identify other projects in the corridor (only if delay anticipated on this project).

The following roads will have traffic impacts due to being used as detour routes for sideroad closures:

STH 83, STH 59, CTH X, CTH H, CTH I, CTH XX (Oakdale Road)

No delays are anticipated on mainline.

Not aware of any other construction projects in the area.

15. Does the project affect other regions/states?

☐ Yes ☑ No

16. Check mitigation strategies planned

STRATEGY	COMMENTS
☑ Public information campaigns	There is currently a website to obtain project information at www.waukeshabbypass.org
☑ Off-peak lane closures	Lane closures will be restricted while school is in session.
☐ Temporary widening to maintain traffic lanes	
☑ Changeable message signs (PCMS)	PCMS will be placed at the begin and end of the project.
☐ Ramp closures	
☑ Temporary signals/timing revisions	At numerous intersections, see Seciton 13.
☑ Coordination with adjacent projects	Coordinate with adjacent Project ID 2788-00-72, Waukesha Bypass, CTH TT, USH 18 to Northview Rd, Waukesha County and Project ID 2788-02-70, Waukesha Bypass, USH 18, Summit Ave, Waukesha County.
☐ Innovative contracting, (lane rental, A+B, etc)	
☐ Temporary Emergency Pullouts	
☐ Motorist service patrols	

- ☐ Nighttime Work
- ☑ Enhanced Traffic control devices (Wet reflective pavement marking, temp concrete barrier, etc) — These will be explored during the final design phase.
- ☐ Reduced regulatory speed limit (requires declaration approved by Regional Traffic Engineer, & by BTO if 65-mph hwy.)

17. Describe public information strategies planned (coordinate this activity with your Regional Communications Manager).

Public information meetings will be held to solicit input from the public. A press release will be prepared and distributed prior to construction. Utilize local media, WisDOT website (511) and project website (www.waukeshabypass.org). Portable changeable message boards will be used to warn traffic of any lane closures and delay. Construction updates will be provided to local and emergency officials.

18. Describe incident management strategies planned.

The Regional Incident Management Plan will be utilized. Coordination with the State Traffic Operations Center, State Patrol, local patrol and other emergency services will be used to provide real time direction and guidance. Local units of government and first responders will be invited to the pre-construction conference. Coordination with emergency officials will continue throughout construction, with the contractor required to provide 24 hour notice prior to making any traffic control changes.

19. Describe how transit impacts will be mitigated.

There are currently no bus or transit stops located along the project.

Attachments:

Attachments for TMP ID 2321 are listed below.

- [f] Attachment A6 - Detour Routes.pdf
- [f] Attachment A7 - Forecast Report.pdf
- [f] Attachment A4 - Lane Capacity Calculation_Bypass.pdf
- [f] Attachment A2 - Project Overview.pdf
- [f] West Waukesha Bypass_South_Public Outreach Plan.pdf
- [f] West Waukesha Bypass_South_Transportation Operations Plan.pdf
- [f] Attachment A1 - Project Location Map.pdf
- [f] Attachment A5 - West Waukesha Bypass Hourly Traffic Volume.pdf
- [f] Attachment A3 - South Project Staging Overviews.pdf

*** [F] represents folder and [f] represents file.**

Approvals: