# WisDOT TMP Documentation and Request for Approval

TMP ID: 2320
Version: Approved (60%)

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: This is a local project being done for the Waukesha Bypass with oversight by PDS. Future STH 318. |
| **Design ID:** | 2788-00-02 |
| **Project Title:** | West Waukesha Bypass Summit Ave (USH 18) to Rolling Ridge Drive |
| **County:** | WAUKESHA |
| **Highway:** | Other - County Highway |
| **Construction ID:** | 2788-00-72 |
| **Project Type:** | Reconstruction |
| **Project Limits:** | Summit Ave (USH 18) to Rolling Ridge Drive |
| **Project Length:** | 2.0 Mile(s) |
| **Project Duration:** | 300 Day(s) |
| **Engineer's Estimate:** | $3M-10M |
| **PS&E Date:** | 11/02/2015 |
| **LET Date:** | 03/08/2016 |
| **NHS Route:** | Yes |
| **AADT:** | 16100 |
| **AADT Year:** | 2012 |
| **Federal Oversight:** | Yes |
| **Construction ID:** | 2788-02-70 |
| **Project Type:** | Reconstruction |
| **Project Limits:** | USH 18 intersection |
| **Project Length:** | 0.5 Mile(s) |
| **Project Duration:** | 300 Day(s) |
| **Engineer's Estimate:** | $1M-3M |
| **PS&E Date:** | 11/02/2015 |
| **LET Date:** | 03/08/2016 |
| **NHS Route:** | Yes |
| **AADT:** | 16100 |
| **AADT Year:** | 2012 |

**Federal Oversight:** Yes

## 1B. Project Impacts:

**Anticipated Begin:** 04/2016
**Anticipated End:** 11/2016
**Delay:** Minor
**OSOW Route:** No

## 1C. Location:

**Local Road**

**Begin County:** WAUKESHA
**End County:** WAUKESHA
**Roadway Name:** CTH TT/Merrill Hills Road/Meadowbrook Road
**Begin Landmark (LR):** 600-ft North of Madison Street
**End Landmark (LR):** Rolling Ridge Drive

## 2. Brief description of work activities.

The proposed improvements consist of the expansion and construction of approximately 5.2 miles of roadway from WIS 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 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 two northern sections of the project. The South project is included under TMP ID 2321 for project I.D. 2788-00-01:

* South Project; ID 2788-00-01 WisDOT (STH 59/CTH X - 600ft north of Madison Street) - separate TMP ID 2321; Construction 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 this TMP and construction scheduled for 2016.

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

North Section 1 will construct a 4-lane divided roadway within the existing CTH TT/Merrill Hills/Meadowbrook corridor from approximately 600-ft north of Madison to US 18. From US 18 to Northview Road the project will add 2 lanes to the west of the existing 2 lanes of CTH TT. The existing lanes will be widened and the pavement replaced to create the new northbound lanes.

North Section 2 will construct a 4-lane divided roadway within the existing Meadowbrook Road corridor from Northview Road to Rolling Ridge Drive. The project will add 2 lanes to the west of the

existing 2 lanes of Meadowbrook Road. The existing lanes will be widened and the pavement replaced to create the new northbound lanes.

## 3. Briefly describe the staging planned for maintaining traffic.

North Section 1:

Project I.D. 2788-00-02/2788-02-00 North Project (600ft north of Madison St - north of Northview Rd); 2016 Construction

Construction will begin in the Spring of 2016 and end in the fall of 2016. Construction will be completed in four stages with Stages 2 and 3 split into two sub-stages as described below. (See Attachement A3 - ID 2788-00-02 & 2788-02-00 Conceptual Staging Plans)

Stage 1 (+/- 2 weeks) April 2016

Maintenance of Traffic:

* Traffic maintained on existing CTH TT/Merrill Hills Road/Meadowbrook Road and sideroads.

* Shoulderclosures will be used to construct temporary pavement.

* Flagging operations will be used during off-peak weekday hours bewteen 9:00 AM to 3:00 PM and from 6:00 PM to 9:00 PM, or weekends at locations where temporary shoulders will be widened. Flaggers will be used to slow traffic and allow construction vehicle ingress and egress. All flagging operations shall conform to the MUTCD.

Construction Activities:

* Temporary pavement will be added in spot locations along the NB shoulder of Merrill Hills Road to accommodate 2-lane, 2-way traffic for Stage 2.

* Replace median with temporary pavement along US 18.

* Temporary pavement will be added in spot locations along US 18.

Stage 2 (broken into two sub-stages)

Stage 2A (+/- 3 months) May - July 2016

Maintenance of Traffic:

* CTH TT/Merrill Hills Road/Meadowbrook Road traffic on existing lanes and temporary widened shoulders.

* Maintain a minimum 8-foot buffer space between construction activities and live traffic on mainline.

* US 18 traffic on existing WB lanes west of CTH TT.

* All side road shall remain open to traffic.

Construction Activities:

* Construct proposed SB through and right turn lanes of the West Waukesha Bypass (CTH TT).

* Construct EB US 18 lanes of west leg of US 18/CTH TT intersection.

* Construct west leg of Fiddlers Creek Drive.

* Construct west leg of Coldwater Creek Drive.

* Construct west leg of Northview Road.

Stage 2B (+/- 1 month) July 2016

Maintenance of Traffic:

* US 18 traffic on proposed EB lanes

* Flagging operations will be used during off-peak weekday hours bewteen 9:00 AM to 3:00 PM and from 6:00 PM to 9:00 PM, or weekends at locations where temporary shoulders will be widened. Flaggers will be used to slow traffic and allow construction vehicle ingress and egress. All flagging operations shall conform to the MUTCD.

Construction Activities:

* Construct WB US 18 lanes of west leg of US 18/CTH TT intersection

* Connection at south project limit along CTH TT to be constructed between proposed SB lanes and existing roadway for use in Stage 3.

Stage 3 (broken into two sub-stages)

Stage 3A (+/- 3 months) August to October 2016

Maintenance of Traffic:

* CTH TT/Merrill Hills Road/Meadowbrook Road traffic will be shifted onto the proposed SB Waukesha Bypass lanes for 2-lane 2-way traffic.

* Maintain a minimum 8-foot buffer space between construction activities and live traffic on mainline.

* US 18 traffic on existing EB lanes.

* All side roads shall remain open.

Construction Activities:

* Construct proposed NB through and right turn lanes of Waukesha Bypass.

* Construct WB US 18 lanes of east leg of US 18/CTH TT intersection.

* Construct Kisdon Hill Drive.

* Construct east leg of Fiddlers Creek Drive.

* Construct east leg of Coldwater Creek Drive.

* Construct east leg of Northview Road.

* Connection at south project limit to be constructed between proposed NB lanes and existing roadway for one lane of traffic in each direction for use in Stage 4.

Stage 3B (+/- 3 weeks) October 2016

Maintenance of Traffic:

* Stage 3A continues on CTH TT/Merrill Hills Road/Meadowbrook Road.

* Flagging operations will be used during off-peak weekday hours bewteen 9:00 AM to 3:00 PM and from 6:00 PM to 9:00 PM, or weekends at locations where temporary shoulders will be widened. Flaggers will be used to slow traffic and allow construction vehicle ingress and egress. All flagging operations shall conform to the MUTCD.

* US 18 traffic on proposed WB lanes.

Construction Activities:

* Construct EB US 18 lanes of east leg of US 18/CTH TT intersection.

* Construction of mainline and side roads in Stage 3A continues.

Stage 4 (+/- 2 weeks) November 2016

Maintenance of Traffic:

* Waukesha Bypass traffic will be on the proposed outside Waukesha Bypass lanes in the SB and NB lanes. Two lanes of traffic will be maintained (same as existing) until the inside median work is complete.

Construction Activities:

* Proposed Bypass median and left-turn lanes in the SB and NB lanes will be constructed.

* Construct finishing items.

North Section 2:

Project I.D. - N/A City of Waukesha Project (north of Northview Road to Rolling Ridge Drive)

Construction will begin in Spring of 2016 and end in late 2016, coordinating with the construction timing of the North Section 1. Construction will be completed in four stages as described below. (See Attachment A4 - City Project Conceptual Staging Plans)

Stage 1 (+/- 2 weeks) April 2016

Maintenance of Traffic:

* Traffic maintained along Medowbrook Road.

* Temporary off-peak weekday, bewteen 9:00 AM to 3:00 PM and from 6:00 PM to 9:00 PM, or weekend shoulder closures will be utilized to add temporary pavement. Flaggers will be used to slow traffic

and allow construction vehicle ingress and egress. All flagging operations shall conform to the MUTCD.

Construction Activities:

* Temporary pavement will be added in spot locations along the NB shoulder to accommodate 2-lane 2-way traffic for Stage 1B.

* Replace median with temporary pavement at cross-over locations north of Rolling Ridge Drive.

Stage 2 (+/- 3 months) May to July 2016

Maintenance of Traffic:

* Meadowbrook Road traffic on existing lanes and temporary widened shoulders.

* Maintain a minimum 8-foot buffer space between construction activities and live traffic on mainline.

* All side roads shall remain open.

Construction Activities:

* Construct proposed SB lanes and right turn lanes of Waukesha Bypass.

* Construct Joanne Drive.

* Construct west leg of Woodridge Lane.

* Construct west leg of Rolling Ridge Drive.

Stage 3 (+/- 2.5 months) August to October 2016

Maintenance of Traffic:

* Meadowbrook Road traffic will be shifted onto the proposed SB Waukesha Bypass lanes for 2-lane 2-way traffic.

* Maintain a minimum 8-foot buffer space between construction activities and live traffic on mainline.

* All side roads shall remain open.

Construction Activities:

* Construct proposed NB lanes and right turn lanes of Waukesha Bypass.

* Construct Lancaster Drive.

* Construct east leg of Woodridge Lane.

* Construct east leg of Rolling Ridge Drive.

Stage 4 (+/- 2 week) November 2016

Maintenance of Traffic:

* Traffic on the proposed outside Waukesha Bypass lanes. Two lanes of traffic will be maintained (same as existing) until the inside median work is complete.

Construction Activities:

* Construct proposed median and left turn lanes on Waukesha Bypass.

* Replace median in cross-over locations.

* Construct finishing items.

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

☐ Yes ☑ No

## 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

## 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 construction.

**c) Minimum height (if less than typically available)**

Not less than what is typically available.

## 8. Will the project be detoured?

☐ 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 - Friday May 27th through Monday May 30th 2016, Fourth of July - Friday July 1st through Monday July 4th 2016, Labor Day - Friday September 2nd through Monday September 5th 2016, and Thanksgiving - Wednesday November 23rd through Sunday November 27th 2016.

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

* From noon Friday, May 27, 2016 to 5:00 AM Tuesday, May 31, 2016

* From noon Friday, July 1, 2016 to 5:00 AM Tuesday, July 5, 2016

* From noon Friday, September 2, 2016 to 5:00 AM Tuesday, September 6, 2016

* From noon Wednesday, November 23, 2016 to 5:00 AM Monday, November 28,

2016

## 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 calculated to be 1,380 vphpl per direction using FDM 11-50-30. See Attachment A5 - Lane Capacity Delay Calculations. Existing traffic volumes were reveiwed from available data and no delays are anticipated due to volumes not exceeding the 1,380 vphpl threshhold, therefore, no delay modeling is required. See question 11 for comparing the capacity to the hourly volumes.

## 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 calculated to be 1,380 vphpl per direction using FDM 11-50-30. The existing roadway of CTH TT/ Meadowbrook Road primarily functions as a 2 lane roadway with the exception of north of Rolling Ridge Drive where Meadowbrook Road is currently a four lane divided roadway. The 2012 existing hourly traffic volume counts on Meadowbrook Road between IH 94 and Northview Road (WisDOT Site #671771) were compared to the work zone capacity. A directional split was taken from the 2009 turning movement counts and applied to the 2012 WisDOT count.

A summary of the peak periods are found below:

Meadowbrook Road between IH 94 & Northview Road

WisDOT Count Site # 671771

Hours | Pos Dir | Neg Dir | Total

06:00-06:59 | 1,246 | 461 | 1,707

07:00-07:59 | 994 | 386 | 1,380

08:00-08:59 | 660 | 283 | 943

15:00-15:59 | 542 | 780 | 1,322

16:00-16:59 | 696 | 1,135 | 1,831

17:00-17:59 | 600 | 1,217 | 1,817

The existing lane drop for southbound Meadowbrook Road takes place at the intersection of Rolling Ridge Drive as a result of a right turn only lane drop. The existing counts show that no direction exceeds the 1,380 vphpl single lane capacity, therefore minimal queuing and no additional delay due to construction is expected as a result of the lane drop. Since one lane in each direction with left turn lanes will be provided at all major intersections at all times during construction it is expected that there will be no additional delay due to construction activities along CTH TT/ Meadowbrook Road.

## 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

North Project:

North Section 1: Stages:

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

CTH TT & Kisden Hill Drive | One-way Stop | OW | OW | OW | OW | OW | OW | OW

CTH TT & Fiddlers Creek Drive | Two-way Stop | TW | TW | TW | TW | TW | TW | TW

CTH TT & USH 18 | Signalized | TS | TS | TS | TS | TS | TS | PS

CTH TT & Coldwater Creek Drive | Two-way Stop | TW | TW | TW | TW | TW | TW | TW

CTH TT & Northview Road | Signalized | TS | TS | TS | TS | TS | TS | TS

North Section 2:

Intersection | Existing | 1 | 2 | 3 | 4 | FINAL

Meadowbrook Road & Lancaster Drive | Two-way Stop | TW | TW | TW | TW | TW

Meadowbrook Road & Woodridge Lane | Two-way Stop | TW | TW | TW | TW | TW

Meadowbrook Road & Rolling Ridge Drive | Signalized | TS | TS | TS | TS | PS

## 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).

No other projects are anticipated.

## 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 | Coordination needed at US 18/Sunset Drive and Northview intersections. |
| ☑ Coordination with adjacent projects | Coordinate with adjacent south bypass project. |
| ☐ 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 2320 are listed below.**

- [f] Attachment A1 - Project Location Map.pdf
- [f] Attachment A2 - Project Overview.pdf
- [f] Attachment A3 - ID 2788-00-02 & 2788-02-00 Conceptual Staging Plans.pdf
- [f] Attachment A4 - City of Waukesha Conceptual Staging Plans.pdf
- [f] Attachment A5 - Lane Capacity Calculation_Bypass.pdf
- [f] Attachment A6 - West Waukesha Bypass Hourly Traffic Volume.pdf
- [f] Attachment A7 - Forecast Report.pdf
- [f] West Waukesha Bypass - Transportation Operations Plan.pdf
- [f] West Waukesha Bypass Public Information Outreach Plan.pdf

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

## Approvals:

### 60% Approval

| Signature Role | Signature Status | Signatory | Signed On |
|---|---|---|---|
| Project Manager (PM) | Signed | Douglas Cain | 04/13/2015 07:04 AM |
| Regional Traffic (RT) | Signed | Rebecca Klein | 04/29/2015 09:09 AM |
| Regional Project Development Chief (RPDC) | Signed | Bunmi Olapo | 04/30/2015 10:09 AM |
| Bureau of Project Development (BPD) | Signed | Richard Herrick | 04/30/2015 12:23 PM |
| Federal Highway Administration (FHWA) | Signed | Dave Platz | 05/04/2015 15:34 PM |