

TMP DOCUMENTATION AND 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 4. 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: 1517-07-77

PS&E Date: 2/1/2016

Project Title: USH 41 Interchange Bridges and LLBDM Structure Bridge B-70-61 Redecking

Let Date: Earliest: 5/10/2016
7/12/2016

Project Limits: USH 10/STH 441 between the I-41 system interchange and Racine Road interchange, including I-41 system ramps

Project Length: 0.98 miles

Highway: USH 10/STH 441 & I-41

Project Duration: 8/23/2016 to 11/15/2018

County: Winnebago

AADT: 24,900 USH 10 west of I-41
2013 count year 55,440 STH 441 east of I-41
 76,000 I-41 north of USH 10
 87,800 I-41 south of USH 10
 2,800 EB to SB ramp
 16,300 NB to EB ramp
 6,800 SB to EB ramp
 4,500 SB to WB ramp
 8,400 WB to NB ramp
 15,100 WB to SB ramp
 2,700 Racine WB exit ramp
 7,200 Racine WB entrance ramp
 7,700 Racine EB exit ramp
 2,700 Racine EB entrance ramp

Project type (recst., recondition, SHRM, etc.): reconstruction

Engineer's Estimate: ☐ < \$1 Million ☐ \$1M-3M ☐ \$3M-10M ☒ >\$10M

Is the project a National Highway System (NHS) route? ☒ Yes ☐ No

Is the project Federal Oversight? ☒ Yes ☐ No

OSOW Route? ☒ Yes ☐ No

2. Brief description of work activities:

Westbound bridges on USH 10/STH 441 will be constructed with 3 through lanes and an auxiliary lane, between the I-41 system interchange and the Racine Road ramps. This project will reconstruct the causeway and the westbound to northbound system ramp.

3. Briefly describe the staging planned for maintaining traffic:

Staging detail sheets are attached.

Stage 1 is scheduled for 8/23/2016 to 11/15/2016. Construction activities include:

- Begin off alignment pier construction of B-70-401 (Westbound USH 10/STH 441) & B-70-406 (westbound to northbound system ramp)
- Place toe trench and fill for west abutment of B-70-401
- Begin causeway and haul road reconstruction (coordinate with Project ID 1517-07-76)

During Stage 1 all traffic control is maintained by 1517-07-76, 1517-07-79 and 1517-75-75 contractors.

Traffic control for project 1517-07-76 maintains traffic on the B-70-61 bridge with a reduced width section. More details are included in the approved TMP form for this project.

Traffic control for project 1517-07-79 reduces eastbound USH 10/STH 441 to one lane west of the eastbound to southbound exit ramp. Westbound USH 10/STH 441 is reduced to one lane west of the westbound to southbound loop ramp, and a temporary westbound to southbound loop ramp will be in place. The last month of Stage 1 will switch traffic from the existing B-70-61 (westbound USH 10/STH 441) to the newly completed B-70-403 (eastbound USH 10/STH 441) under the 1517-07-79 and 1517-75-75 projects. **This switch will require the closure of the westbound to northbound system ramp. This ramp will be closed until the completion of 1517-07-77.** More details are included in the approved TMP form for the 1517-07-79 project.

Traffic control for project 1517-75-75 shifts eastbound USH 10/STH 441 to the outside shoulder between the Tayco Street overpass and the Racine Road overpass. Westbound USH 10/STH 441 is shifted to the inside shoulder of the eastbound lanes between the Tayco Street overpass and the Racine Road overpass. **The westbound entrance ramp from Racine Road will be closed until the completion of 1517-07-77.** More details are included in the approved TMP form for the 1517-75-75 project.

The traffic control switch from B-70-61 to B-70-403 is part of projects 1517-07-79 and 1517-75-75. This project will maintain the traffic control left in place.

- Eastbound USH 10 will be reduced to one lane from the eastbound to southbound exit ramp to B-70-400
- USH 10/STH 441 reduced lane widths to 11 feet
- The westbound to northbound system ramp will be closed
- The westbound to southbound system ramp will be on a temporary alignment
- I-41, including the CD Roadway, will require nighttime full closures. During the CD Road closures, the westbound to southbound and southbound to eastbound system ramps will require closure.

Stage 2 is scheduled for 11/15/2016 to 11/15/2018. Construction activities include:

- Construct causeway
- B-70-61 rehabilitation
- Continue B-70-401 construction
- Continue B-70-406 construction
- Remove fill between B-70-78 & B-70-79
- Remove fill between B-70-79 & LLBDM
- Remove existing structures B-70-78 and B-70-79

- Place polymer overlay on B-70-411 and B-70-421
- Construct S-70-206, S-70-209, S-70-254, and S-70-257

During this stage:

- Eastbound USH 10 will be reduced to one lane from the eastbound to southbound exit ramp to B-70-400
- USH 10/STH 441 reduced lane widths to 11 feet
- The westbound to northbound system ramp will be closed
- The westbound to southbound system ramp will be on a temporary alignment
- I-41, including the CD Roadway, will require nighttime full closures. During the CD Road closures, the westbound to southbound and southbound to eastbound system ramps will require closure.

4. Will there be restrictions on pedestrian/bicycle access? ☐ Yes ☒ No

There are no pedestrian or bicycle accommodations within the project area.

If Yes:

- Will sidewalk/multiuse path be closed? ☐ Yes ☐ No
- Describe how pedestrian and bicyclists will be accommodated (e.g., temporary paths, surface material, separation and protection from construction activities and drop-offs, etc.)
- Will crosswalks be provided? ☐ Yes ☐ No
What is the spacing of crosswalks (measured in blocks or feet)? Consideration should be made for adequate spacing (measured in blocks or feet)
- Describe how the strategies are in compliance with ADA?

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

USH 10/STH 441 will remain open to traffic throughout the project. I-41 will require nighttime full closures. Signed detour routes will be in place during I-41 closures, the southbound to eastbound system ramp closures, and the westbound to northbound and westbound to southbound system ramp closures. Detour signing plans are attached.

6. Will the project have lane closures? ☒ Yes ☐ No

The following roadways will require closures as part of this project:

- I-41 NB – lane closures and nighttime full closures
- I-41 SB – lane closures and nighttime full closures
- I-41 SB collector distributor road – nighttime full closures
 - Also requires closure of the westbound to southbound and southbound to eastbound system ramps
- I-41 SB to EB USH 10 ramp
- USH 10 WB to I-41 NB ramp – full closure duration of project
- USH 10 WB to I-41 SB ramp – weekend full closure
- Lake Street – nighttime full closures

If Yes:

- Are there restrictions on when lane closures are allowed? ☒ Yes ☐ No
- What hours/days are lane closures permitted?
Temporary lane closures on I-41 and USH 10/STH 441 are permitted during non-peak periods as identified:

Freeway/Expressway Lane Requirements																									
Limits:	Eastbound and Westbound USH 10: CTH CB – I-41																								
	AM												PM												
From Hour to Hour	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Monday through Thursday	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Fridays	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Saturdays	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Sundays	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Legend																									
1	Provide at least one through freeway lane open in each direction of travel																								
2	Open all USH 10/STH 441 lanes to travel																								
REMARKS: See Prosecution and Progress exceptions to these closure timeframes. 2 lanes required for WB direction of travel during the Westbound to Southbound ramp closure through project limits to CTH CB. 2 lanes required prior to WB to SB loop ramp for WB direction.																									

Freeway/Expressway Lane Requirements																									
Limits:	Eastbound/Northbound USH 10/STH 441: I-41 – CTH P																								
	AM												PM												
From Hour to Hour	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Monday through Thursday	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1
Fridays	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1
Saturdays	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1
Sundays	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1
Legend																									
1	Provide at least one through freeway lane open in each direction of travel																								
2	Open all USH 10/STH 441 lanes to travel																								
REMARKS: See Prosecution and Progress exceptions to these closure timeframes																									

Freeway/Expressway Lane Requirements																									
Limits:	Westbound/Southbound USH 10/STH 441: CTH AP – I-41																								
	AM												PM												
From Hour to Hour	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Monday through Thursday	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1
Fridays	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1
Saturdays	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1
Sundays	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1
Legend																									
1	Provide at least one through freeway lane open in each direction of travel																								
2	Open all USH 10/STH 441 lanes to travel																								
REMARKS: See Prosecution and Progress exceptions to these closure timeframes																									

Freeway/Expressway Lane Requirements																									
Limits:	Eastbound/Northbound USH 10/STH 441: CTH P – CTH KK																								
	AM												PM												
From Hour to Hour	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Monday through Thursday	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1
Fridays	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1
Saturdays	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1
Sundays	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1
Legend																									
1	Provide at least one through freeway lane open in each direction of travel																								
2	Open all US 10/STH 441 lanes to travel																								
REMARKS: See Prosecution and Progress exceptions to these closure timeframes																									

Freeway/Expressway Lane Requirements																									
Limits:	Northbound I-41: CTH II – CTH BB																								
	AM												PM												
From Hour to Hour	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Monday through Thursday	1	1	1	1	1	1	O	O	O	3	3	3	3	3	O	O	O	O	2	2	1	1	1	1	1
Fridays	1	1	1	1	1	1	O	O	O	O	O	O	O	O	O	O	O	2	2	1	1	1	1	1	
Saturdays	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	
Sundays	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	1	1	1	1	1	
Legend																									
1	Provide at least one through freeway lane open																								
2	Provide at least two through freeway lanes open																								
3	Provide at least three through freeway lanes open																								
O	Open all I-41 lanes to travel including auxiliary lanes																								
REMARKS: During the CTH II ramp closure, provide at least 3 lanes between CTH II and USH 10/STH 441 during peak hours																									

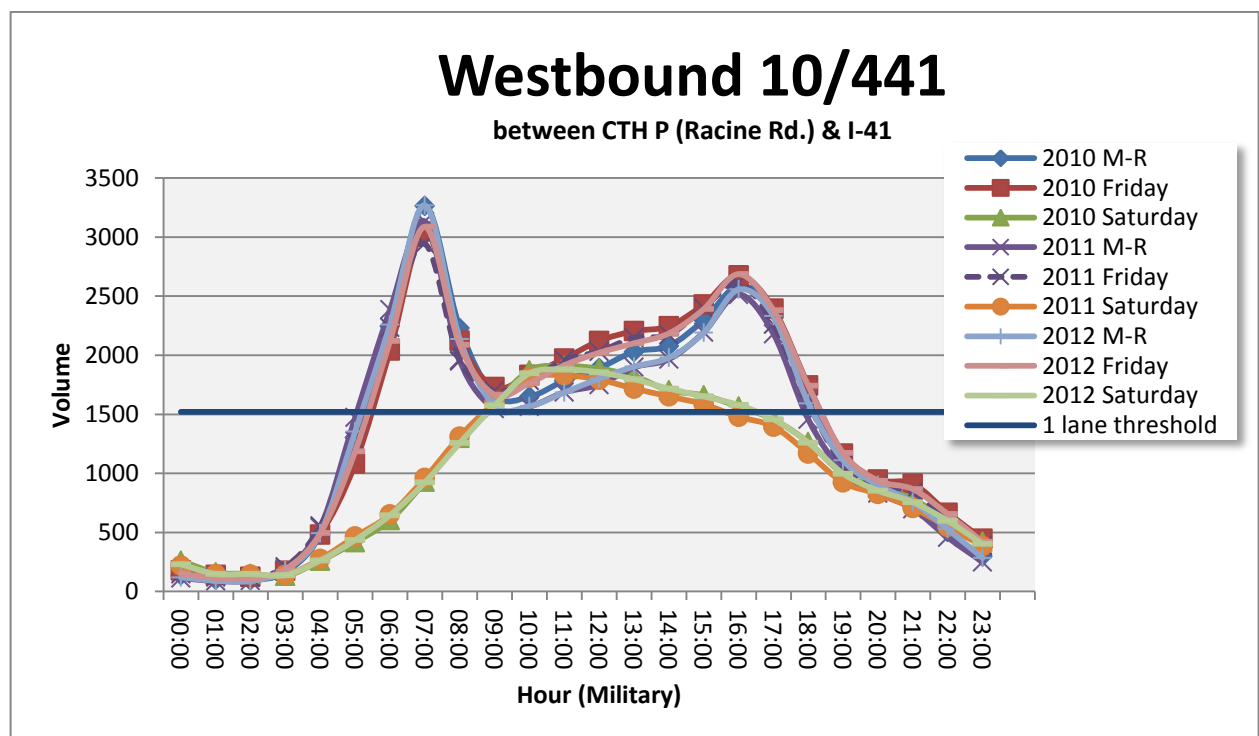
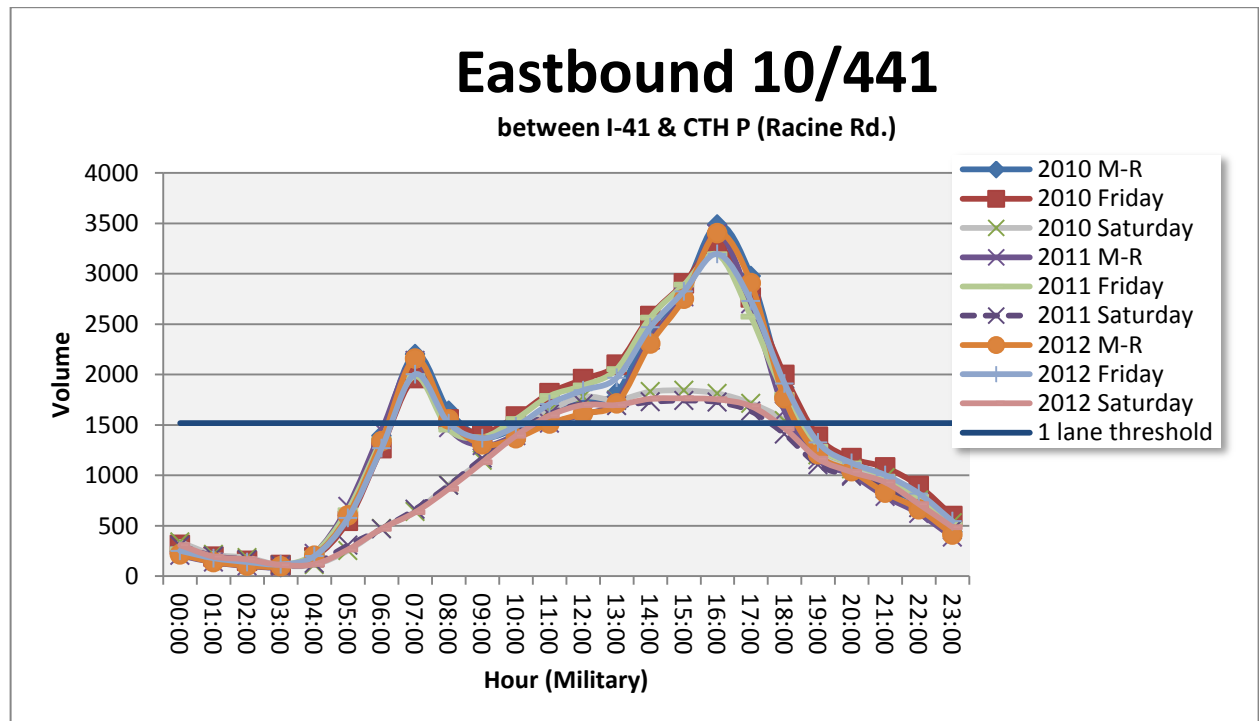
Freeway/Expressway Lane Requirements																									
Limits:	Southbound I-41: CTH BB – CTH II																								
	AM												PM												
From Hour to Hour	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Monday through Thursday	1	1	1	1	1	1	O	O	O	3	3	3	3	3	O	O	O	O	2	2	2	1	1	1	1
Fridays	1	1	1	1	1	1	O	O	O	O	O	O	O	O	O	O	O	2	2	2	2	1	1	1	
Saturdays	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	
Sundays	1	1	1	1	1	1	1	1	1	1	2	2	O	O	O	O	O	2	2	2	1	1	1	1	
Legend																									
1	Provide at least one through freeway lane open																								
2	Provide at least two through freeway lanes open																								
3	Provide at least three through freeway lanes open																								
O	Open all I-41 lanes to travel including auxiliary lanes																								
REMARKS: During the CTH II ramp closure, provide at least 3 lanes between USH 10/STH 441 and CTH II during peak hours																									

Freeway/Expressway Lane Requirements																									
Limits:	USH 10/STH 441 and I-41 interchange ramps																								
	AM												PM												
From Hour to Hour	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
SB to EB	C	C	C	C	C	C	O	O	O	O	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C
WB to SB	C	C	C	C	C	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	C	C	C	C
NB to EB	C	C	C	C	C	C	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	C
WB to NB	C	C	C	C	C	C	O	O	O	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C
SB to WB	C	C	C	C	C	C	O	O	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C
EB to SB	C	C	C	C	C	C	O	O	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C	C
Legend																									
C	Ramps may be closed completely																								
O	Open ramps to travel																								
REMARKS:																									
The WB to NB ramp will be open for a portion of Stage 1 of the project, and then will be closed until project completion																									
Do not close the I-41 SB to USH 10 EB ramp concurrent with I-41 SB to USH 10 WB & USH 10/CTH CB ramps																									
Do not close the USH 10 WB to I-41 SB ramp concurrent with USH 10/CTH CB ramps & USH 10 EB to I-41 SB																									
Do not close the I-41 NB to USH 10 EB ramp concurrent with I-41/CTH II ramps, I-41/CTH BB ramps, and USH 10/CTH CB ramps																									
Do not close the USH 10 WB to I-41 NB ramp concurrent with USH 10/CTH CB ramps																									
Do not close the I-41 SB to USH 10 WB ramp concurrent with I-41/CTH BB ramps, I-41/CTH II ramps																									
Do not close the USH 10 EB to I-41 SB ramp concurrent with USH 10/CTH CB ramps, USH 10/CTH P ramps, USH 10 WB to I-41 SB																									
See Prosecution and Progress exceptions to these closure timeframes																									

- 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)**

Current traffic volumes on USH 10/STH 441 during allowable closure hours fall below the threshold for single lane capacity of 1,520 vehicles per hour, between I-41 and Racine Road on a typical day. Therefore, if necessary, closing one lane during this project is expected to accommodate traffic demand during nighttime hours. The graphs show hourly traffic volumes

compared to the threshold of single lane capacity along eastbound and westbound USH 10/STH 441 between I-41 and Racine Road.

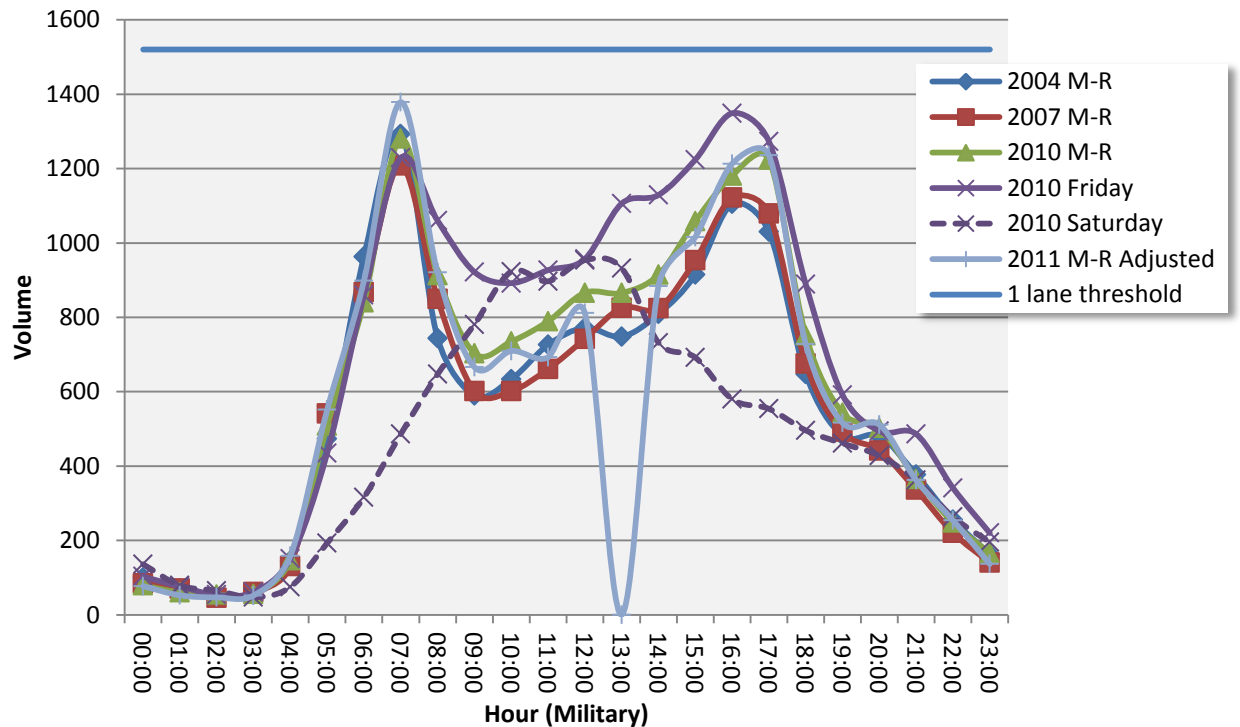


From approved 1517-07-79 TMP:

During Stage 6 of this project, westbound USH 10/STH 441 will be reduced to one lane west of the westbound USH 10/STH 441 to southbound I-41 loop ramp. Current traffic volumes during peak and non-peak periods fall below the threshold for a single lane on westbound USH 10, between I-41 and CTH CB. Therefore, reducing westbound USH 10 to one lane west of the westbound to southbound ramp is expected to accommodate traffic demand. The entrance from the southbound to eastbound ramp will be a lane add and westbound USH 10 will remain two lanes from there.

Westbound 10

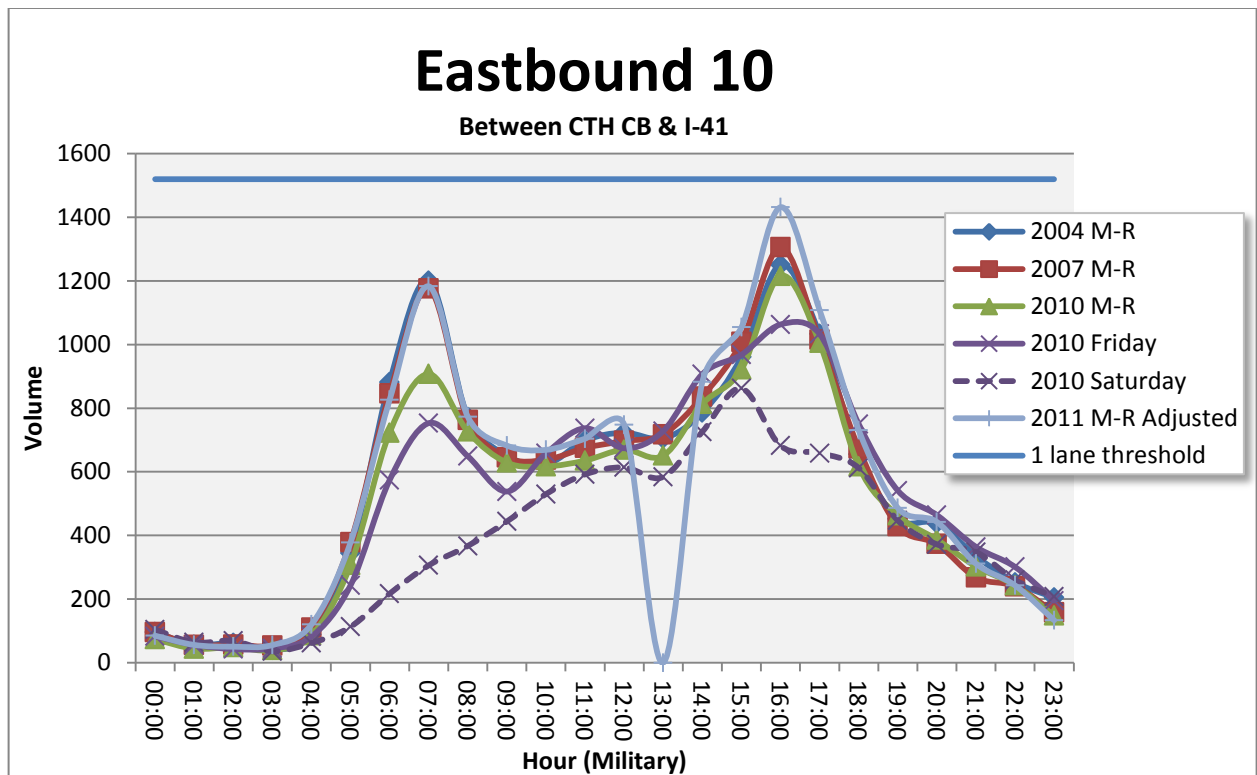
Between USH 41 & CTH CB



During this project, eastbound USH 10 will be reduced to one lane just before the southbound to eastbound ramp merge, and again just before the northbound to eastbound ramp merge. This traffic control will be left in place from previous project ID 1517-07-76, and was first analyzed in the approved TMP form for that project.

Current traffic volumes during peak and non-peak periods fall below the threshold for a single lane on eastbound USH 10, between CTH CB and I-41. Therefore, reducing eastbound USH 10 to one lane prior to the exit ramp to southbound I-41 is expected to accommodate traffic demand west of the southbound to eastbound ramp entrance. The entrance from the southbound to eastbound ramp will be a parallel entrance ramp, with an additional lane drop needed west of the northbound to eastbound ramp entrance. The entrance from the northbound to eastbound ramp will be a lane add, and eastbound USH 10 will remain two lanes from there.

The lane reduction, between the southbound to eastbound ramp entrance and the northbound to eastbound ramp entrance may be over the threshold for single lane capacity during peak periods. The graphs show hourly traffic volumes on eastbound USH 10 between CTH CB and I-41 (prior to the exit from eastbound USH 10 to southbound I-41). Paramics modeling of this scenario was completed, and discussed in the approved 1517-07-79 TMP.



7. Please provide the following:

a. Minimum lane width to be maintained: 11 feet

b. Minimum height (if less than typically available):

The minimum height is not expected to be less than the existing condition.

c. Available roadway width (lanes + shoulder):

I-41

Peak hours: 35 feet minimum, three 11-foot lanes, 1-foot inside and outside shoulders

Non-peak hours: 24 or 13 feet minimum, one or two 11 foot lanes, 1-foot inside shoulder, 1-foot outside shoulder

USH 10/STH 441: within the I-41 system interchange

USH 10/STH 441 EB: 16 feet minimum, one 11-foot lane, 1-foot inside shoulder, 4-foot outside shoulder

USH 10/STH 441 WB: 16 feet minimum, one 11-foot lane, 1-foot inside shoulder, 4-foot outside shoulder

USH 10/STH 441: between I-41 and Racine Road

USH 10/STH 441 EB: 31 feet, two 11 foot lanes, 7 foot outside shoulder, 2 foot inside shoulder

USH 10/STH 441 WB: 26 feet, two 11 foot lanes, 2 foot outside shoulder, 2 foot inside shoulder

d. Total number of lanes maintained:

I-41

Peak hours: 3 or 4 (when auxiliary lane is present) lanes in each direction

Non-peak hours: 1 or 2 lanes in each direction

USH 10/STH 441: within the I-41 system interchange

1 lane in each direction

USH 10/STH 441: between I-41 and Racine Road

Peak hours: 2 lanes in each direction

Non-peak hours: 1 lane in each direction

8. Will the project be detoured? ☒ Yes ☐ No

Signed detour routes will be in place during the full closure of

- Northbound I-41
- Southbound I-41
- Southbound to eastbound system ramp
- Westbound to northbound system ramp
- Westbound to southbound system ramp

Detour signing details are attached.

If yes:

a. Explain length of detour, travel times, improvements required for signal timing, surface and shoulder conditions, capacity, etc.:

The full closure of northbound I-41 will have a signed detour route. This route will be northbound I-41 to eastbound/northbound USH 10/STH 441 to I-41 at the north junction. The detour route is approximately 11.5 miles, about 0.5 miles shorter than using I-41 northbound.

The closure of southbound I-41 will have a signed detour route. This route will be southbound I-41 to westbound USH 10/STH 441. From here, traffic will be directed to exit at CTH CB, and re-enter onto eastbound USH 10/STH 441. From here, traffic can access southbound I-41.

The detour route is approximately 3.0 miles, about 1.8 miles longer than using I-41 southbound. There are signals in place at the CTH CB ramp terminals. The existing southbound I-41 CD roadway may be available during the full closure of southbound I-41. This route is approximately 1.2 miles, the same distance as using I-41.

The closure of the southbound I-41 to eastbound USH10/STH 441 ramp will have a signed detour route. This route will be I-41 southbound to westbound USH 10 to CTH CB. From here, traffic can enter eastbound USH 10/STH 441. The detour route is approximately 2.8 miles, about 1.6 miles longer than using the system ramp. There are signals in place at the CTH CB ramp terminals.

The closure of the westbound USH 10/STH 441 to northbound I-41 ramp will have a signed detour route. This route will be westbound USH 10 to northbound STH 76 to eastbound STH 96. From here traffic can enter northbound USH 41. The detour route is approximately 11.5 miles, about 7.2 miles longer than using the USH 10/STH 441 and USH 41 system ramp. There are existing signals at the STH 76 ramp terminals, STH 76 and CTH BB, STH 76 and STH 96, STH 96 and CTH CB, STH 96 and McCarthy Road, STH 96 and Casaloma Drive, STH 96 and CTH GV, and the STH 96 ramps terminals with USH 41.

The closure of the westbound USH 10/STH 441 to southbound I-41 ramp will have a signed detour route. This route will be westbound USH 10/STH 441 to CTH CB. Traffic will be directed to re-enter onto eastbound USH 10/STH 441. From here, traffic can access southbound I-41. The detour route is approximately 2.7 miles, about 1.5 miles longer than using the system ramp. There are signals in place at the CTH CB ramp terminals.

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:

No major events are anticipated to be impacted by this project. All lanes of USH 10/STH 441 and I-41 will be open to traffic during certain holiday periods and other high traffic periods, in which no lane closures will be allowed. These include:

- New Year's Day

- Memorial Day
- Independence Day
- Labor Day
- Thanksgiving
- Christmas
- Packer home games

Event days when lane closures will not be permitted on I-41 include the following:

- Gun Deer Season Opener

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

Traffic operations and queuing along USH 10/STH 441 during this project are not expected to be significantly worse than the existing condition. The section of USH 10/STH 441 between USH 41 and Racine Road is two lanes in each direction, and has a posted speed limit of 55 mph. Two lanes will be maintained in each direction during peak periods.

From approved 1517-07-79 TMP:

During this project, eastbound USH 10 will be reduced to one lane just before the southbound to eastbound ramp merge, and again just before the northbound to eastbound ramp merge. This traffic control will be left in place from previous project ID 1517-07-76, and was first analyzed in the approved TMP form for that project.

Operations analysis using Paramics software was completed for stages when eastbound USH 10 is reduced to one lane. The PM peak hour is the worst case scenario. Operations are at LOS D in two locations, on the northbound to eastbound ramp, and on USH 10 east of the northbound to eastbound ramp entrance. The one lane segments on USH 10 operate at LOS C or better.

Westbound USH 10 will be reduced to one lane between the westbound to southbound ramp and the southbound to westbound ramp. Current traffic volumes during peak and non-peak periods fall below the threshold for a single lane on this segment of westbound USH 10. Therefore, reducing westbound USH 10 to one lane west of the westbound to southbound ramp is expected to accommodate traffic demand

11. What is the anticipated travel delay during peak travel periods for freeways and expressways (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.

Significant travel delay beyond current conditions is not expected during peak travel periods. Three lanes will be maintained on I-41 during peak periods. The lane reduction on eastbound USH 10/STH 441 is not expected to increase travel times more than 15 minutes more than the existing condition.

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

Westbound USH 10 will have a signed alternate route (under the 1517-75-75 project) that will use WIS 441 northbound to I-41 southbound to USH 10 westbound.

During the full closures of northbound and southbound I-41, available alternate routes include CTH BB, CTH CB, and CTH II. The ramp terminals at the CTH BB, CTH CB, and CTH II interchanges are signalized.

During the closure of the southbound to eastbound system ramp, the detour route will be westbound USH 10 to CTH CB to eastbound USH 10. The ramp terminals at the CTH CB interchange are signalized.

During the closure of the westbound to northbound system ramp, the detour route will be STH 76 to STH 96. The ramp terminals at STH 76 and STH 96 are signalized, as well as the intersections of STH 76 with CTH BB and STH 96, and the intersections of STH 96 with CTH CB, McCarthy Road, Casaloma Drive and CTH GV.

During the closure of the westbound to southbound system ramp, the detour route will be CTH CB to eastbound USH 10. The ramp terminals at the CTH CB interchange are signalized.

During the full closure of Lake Street available alternate routes include Jacobsen Road, Cold Spring Road, and American Drive.

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

No intersection traffic control changes are planned as part of this project. Coordination on signal retiming at CTH BB, CTH CB, CTH II, STH 76, and STH 96 may be required. Portable speed tables will be available to mitigate cut-through neighborhood traffic.

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).

This project is part of a larger project reconstructing USH 10/STH 441 from CTH CB to Oneida Street. Coordination is ongoing between the USH 10/STH 441 projects. Adjacent projects include:

- 1517-07-76 Little Lake Butte des Morts Bridge B-70-403 (2014 – 2016)
- 1517-75-75 Racine Road (CTH P) Interchange (2015 – 2016)
- 1517-07-79 USH 41 Interchange B-70-400 & USH 10 EB Grading/Paving (2015 – 2017)
- 1517-75-76 Racine Road (CTH P) (2016)
- 1517-07-80 USH 41 Interchange ramps (2017 – 2019)
- 1517-07-78 USH 10/STH 441 Mainline (LLBDM – Tayco Street) (2018)
- 1517-75-83 Oneida Street Intersections (Valley Road & Midway Road) (2018)
- 1517-75-85 Mainline TMP (Phase 1) (2018)
- 1517-75-70 Midway Interchange B-70-423 (2018)
- 1517-75-72 Mainline Early Structure/Early Fill at Midway Interchange (2018 – 2019)
- 1517-75-77 Midway Road (CTH AP) Interchange (2018)

Local adjacent projects include:

- John Street from College Avenue to Calumet Street (2016)
- Lawe Street Bridge over Fox River (2016)
- CTH N from CTH KK to CTH CE (2016 – 2018)
- Oneida Street from South Olde Oneida Street to Valley Road (2017 utility work, 2018)
- US 10 from Midway Road to WIS 114 (2017)
- WIS 47 and CTH OO roundabout (2017)
- CTH LP from Plank Road to US 10 (2018 or 2019)
- CTH CE from WIS 47 to I-41 (2018)
- WIS 55 from Lawe Street to I-41 (2018)
- Calumet Street from Oneida Street to Jefferson Street (2018)
- Telulah Avenue from John Street to Calumet Street (2018 utility work)

15. Does the project affect other regions/states? ☐ Yes ☒ No

While this project is local in nature and confined to the Fox Valley Area, some local freight haulers may elect to divert loads off the I-41 and USH 10/STH 441 corridors and use the local roadway network to avoid detours and construction.

If yes, explain coordination and mitigation strategies:

16. Check mitigation strategies planned

STRATEGY

COMMENTS

Public information campaigns

☒

Off-peak lane closures

☒

Extra law enforcement

☒

Temporary widening to maintain traffic lanes

☐

Changeable message signs (PCMS)

☒

Ramp closures

☒

Temporary signals/timing revisions

☒

Signal timings on the CTH BB, CTH CB, CTH II, STH 76, and STH 96 corridors should be reviewed

Coordination with adjacent projects

☒

Innovative contracting, (lane rental, A+B, etc)

☒

Lane rentals will be used

Temporary Emergency Pullouts

☐

Motorist service patrols

☒

Nighttime Work

☒

Enhanced Traffic control devices (Wet reflective pavement marking, temp concrete barrier, etc)

☒

Reduced regulatory speed limit (requires declaration approved by Regional Traffic Engineer, & by BHO if 65-mph hwy)

☒

Other (identify):

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

Information concerning the project will be available on WisDOT's website, <http://projects.511wi.gov/wis441/>. There will be future business meetings relating to the USH 10/STH 441 expansion project. USH 10/STH 441 project updates will be made available to the public on Facebook and Twitter.

18. Describe incident management strategies planned:

An Incident Crisis and Communication Plan (ICCP) is established for the USH 10/STH 441 corridor. Refer to the ICCP for further details. This includes a plan to manage traffic when incidents occur in the project area. The ICCP also includes an Emergency Alternate Route Diversion Plan. Monthly emergency responder meetings will be held for the duration of this project.

19. Describe how transit impacts will be mitigated:

a) Is access to bus stops affected? ☐ Yes ☒ No

Valley Transit does not use I-41 or USH 10/STH 441 within the project area.

If yes, explain

Attachments ☒ Yes ☐ No

Please list: Project Area Map
Plan Sheets
Project overview
Construction Staging
Detour Routes
TMP Checklists

Project ID: 1517-07-77
Preparer of TMP: Aimee Erickson
Title/Company: Transportation Engineer / HNTB Corporation

☐ 60% (initials) ☒ 90% (initials)

Approval

Project Manager: [Signature] Date: 11/3/15 Telephone: 920-492-2240

[Signature]
Reviewer (Regional Traffic or Local Prog. Mgmt. Consultant)

10/29/15
Date

☐ 60% (initials) ☒ 90% JF (initials)

[Signature]
Region Project Development Chief or Local Program Manager

11/3/2015
Date

☐ 60% (initials) ☒ 90% (initials)

Concurrence:

[Signature]
BPD Project Services Chief

11/6/15
Date

☐ 60% (initials) ☒ 90% BR (initials)

FHWA (Federal Oversight Projects Only)

Date

☐ 60% (initials) ☐ 90% (initials)

To
Chad DeGrave
Scott Ebel

From
Jerry Shadewald
Aimee Erickson

HNTB

Date

December 7, 2015

Subject

1517-07-77 Liquidated Damages

HNTB Job Number

56537

**Technical
Memorandum**

The critical path of project 1517-07-77, US 41 Interchange Bridges and LLBDM Structure Bridge B-70-61 Redecking, will be best managed by the inclusion of completion date liquidated damages. This will reinforce the critical nature of the construction schedule, and reduce the risk of subsequent work being affected.

Failure to Open Road Damage

I-41

Failure to open road damages (FORD) will be assessed when a lane closure occurs within the work zone during a restricted period as identified in the Article for Traffic. Damages are set at \$2,500 for an initial infraction and \$2,500 per 15 minutes per lane for US 41 freeway mainline lane closures during non-approved hours.

The \$2,500 assessment is based on roadway user inconvenience, calculated with hourly traffic volume data along I-41. The \$2,500 assessment is standard, with all I-41 roadway segments having 15-minute traffic volumes that generate \$2,500 or more in user inconvenience. Concurrence on the methodology for calculating user inconvenience costs was received from WisDOT Central Office on October 14, 2010.

US 10/WIS 441

Failure to open road damages (FORD) are set at \$750 for an initial infraction and \$750 per 15 minutes per lane for US 10/WIS 441 freeway mainline lane closure during non-approved hours.

I-41 and WIS 441 system ramps

Failure to open road damages (FORD) are set at \$750 for an initial infraction and \$750 per 15 minutes for each of the six US 41 and WIS 441 system interchange ramps for closure during non-approved hours.

Additional Nighttime Closures

These liquidated damages will be assessed on any additional closures needed beyond what is specified in the contract. Any additional closures must be within the allowable closure hours for each segment.

I-41

The contractor will be allowed to close I-41 for structure demolition and construction between the hours of 10 PM and 6 AM, Friday and Saturday nights. The department will assess the contractor \$5,000 in liquidated damages for each additional night that any roadway of US 41 requires closure. Any additional closures must be within the hours listed previously.

Project Completion Liquidated Damages

Project completion liquidated damages are set at \$20,000 for the 1517-07-77 project. The project completion liquidated damages are based on a combination of the daily cost for lighting installation and temporary pavement marking activities that are anticipated to begin after the completion of the 1517-07-77 project, and roadway user costs for the Racine Road westbound entrance ramp and the westbound WIS 441 to northbound I-41 system ramp. Both of these ramps are scheduled to open with the completion of the 1517-07-77 project.

The following table provides the estimate of tasks, items, and costs anticipated for subsequent construction activities. The cost of delaying the construction that is dependent on the 1517-07-77 project completion exceeds \$11,000 per day.

Task	Item	Quantity	Hourly Rate	Hours	Daily Cost
Install lighting and temporary pavement marking	Concrete saw	2	\$30.98	10	\$619.60
	Tri axle dump truck	2	\$90.26	10	\$1,805.20
	PM truck	1	\$45.32	10	\$453.20
	Aerial Lift 61-70 ft	2	\$51.89	10	\$1,037.80
	Pickup	2	\$17.62	10	\$352.40
	Operator	2	\$90.00	10	\$1,800.00
	Foreman	2	\$73.00	10	\$1,460.00
	Laborer	6	\$71.00	10	\$4,260.00
TOTAL					\$11,788.20

The following table provides roadway user costs for the ramps scheduled to open at project completion. Justified dollars per day are shown in the "Daily User Cost" column. The travel demand model was executed once with all roadways open to traffic, and once for the closure scenario. These were used to calculate roadway user costs. Diversion routes vary under each scenario, and result in the increased hours of delay. The user costs utilize an auto occupancy factor of 1.25, \$14 per hour for cars, \$25 per hour for trucks, and assume 10% trucks. The justified daily user cost for the Racine Road westbound entrance ramp and the Westbound WIS 441 to northbound I-41 system ramp exceeds \$9,000 per day.

Closure Description	VHT diff	Daily User Cost
WB WIS 441 to NB I-41 and Racine WB entrance ramp to WIS 441	503	\$ 9,180