

## Attachment 2.4 Sample Correspondence



### HCM ANALYSIS REVIEW CHECKLIST

Wisconsin Department of Transportation (WisDOT)

DT1887 3/2019

			Date(s) Reviewed (m/d/yyyy)		
Project ID(s): 85-75-3072	Highway(s)/Intersection(s): USH 888 (N/S) & STH 747 (E/W)	Region: NE	1st Review 3/12/2019	2nd Review 4/11/2019	3rd Review
Lead Reviewer	Name: Review is All We Do (RIAWD)	Contact Information: RIAWD@email.com			
Lead Analyst	Name: Traffic Models 'R Us (TMRU)	Contact Information: TMRU@email.com			

#### TRAFFIC MODEL DESCRIPTION

*Identify the model completion/revision date, the scope of the model, the analysis year(s), the analysis time period(s), and analysis tool/version*

Synchro model for USH 888 (N/S) & STH 747 (EW) in Blue Moose, WI, Analysis is for the 2040 AM (7-9) & PM (3:30-5:30) peak hours for the baseline and alternative #2 (enhanced signal) scenarios. Used Synchro 10.3.28. Model was completed on 11/15/2018

#### SUMMARY OF REVIEW

	Acceptability	Reviewer Comment(s):	Analyst Response(s):
Traffic Analysis Tool/Version	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Acceptable/ No Revision Required  <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Conditionally Acceptable/ Minor Revision Required  <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Unacceptable/ Major Revision Required	Used the most recent version of Synchro available at time model was completed. This is acceptable. As a note for future projects, WisDOT is now utilizing Synchro 10.3.122	Thanks for the info about the new version of Synchro.
Lane Geometry	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Acceptable/ No Revision Required  <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Conditionally Acceptable/ Minor Revision Required  <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Unacceptable/ Major Revision Required	WB right turn lane is channelized in the plans but not in the model. Please correct.  WBR is now shown as channelized in the model	WBR should be channelized. This has been corrected
Traffic Volumes, % Trucks, Peak Hour Factor (PHF)	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Acceptable/ No Revision Required  <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Conditionally Acceptable/ Minor Revision Required  <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Unacceptable/ Major Revision Required	Heavy vehicle (HV) percentage set to 2% for all approaches. From the 2018 turning movement count, the NB AM has 8% HV and NB PM has 13% HV. Other approaches should also be examined in both peak periods.  Truck percentages are now acceptable.	2018 field data now incorporated into both the AM and PM models. These percentages are expected to remain constant.

# HCM ANALYSIS REVIEW CHECKLIST (continued)

## SUMMARY OF REVIEW (continued)

	Acceptability	Reviewer Comment(s):	Analyst Response(s):
Signal Parameters (Including RTOR)	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Acceptable/ No Revision Required  <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Conditionally Acceptable/ Minor Revision Required  <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Unacceptable/ Major Revision Required	The EBR Saturated Flow Rate (RTOR) is set to 90vph, or half of the 180vph AM demand; it should be set to 68vph per TEOps 16-15-5.2 ( $0.38 \times 180 = 68$ )  RTOR volumes were updated and are now acceptable	Saturated Flow Rate (RTOR) has been set to 68 vph. All other RTOR volumes were checked and are in compliance with TEOps 16-15-5.2
Stop Control/ Roundabout Parameters	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Acceptable/ No Revision Required  <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Conditionally Acceptable/ Minor Revision Required  <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Unacceptable/ Major Revision Required	N/A	
Freeway/ Highway Parameters	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Acceptable/ No Revision Required  <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Conditionally Acceptable/ Minor Revision Required  <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Unacceptable/ Major Revision Required	N/A	
Other, Pedestrian Movements	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Acceptable/ No Revision Required  <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Conditionally Acceptable/ Minor Revision Required  <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Unacceptable/ Major Revision Required	NB pedestrian traffic was included in the base year analysis - why is this not included here?  Given the construction of the path, it is acceptable to not consider pedestrian impacts here.	Though not documented here, an off-road paved path will be constructed to the west as part of this alternative. This will serve NB pedestrian traffic destinations and remove almost all NB pedestrian traffic. Please confirm that it is acceptable to not include any NB pedestrian traffic in the analysis.
Overall Model	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Acceptable/ No Revision Required  <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Conditionally Acceptable/ Minor Revision Required  <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Unacceptable/ Major Revision Required	EBL movement has LOS E in the PM while the NBT/STB have LOS B. Can signal timings be adjusted to make green time more equitable? See other comments above  The adjusted signal timing results in acceptable LOS for all approaches. Overall model is now acceptable.	Signal timings have been adjusted to allocate more green time to the EBL movement. Now EBL is LOS C, NBT is LOS B, and STB is LOS C, all of which are acceptable.



Reviewer, please email completed form to:

To: Project Manager & Region Contact	Date Reviewed (m/d/yyyy):	1 <sup>st</sup> Review	2 <sup>nd</sup> Review	3 <sup>rd</sup> Review
CC: DOT Traffic Model Peer Review	Reviewed By:	2/29/2016	3/17/2016	4/20/2016
Subject: DT2291 for Project ID: Traffic Model Name	Model Completion/Revision Date (m/d/yyyy):	2/15/2016	3/14/2016	4/18/2016

**TRAFFIC MODEL DESCRIPTION**

Project ID(s)	Project Name/Description	Region	Highway(s)
0-11-23-68	Cold Corridor - STH 999 & IH-O, Red Bayou, WI	NW	STH 999 & IH-O
Traffic Model Name/Description	Analysis Scenario/Alternative	Analysis Year(s)	
Params Base Condition Model	AM, PM, FRI, SUN	2013	

Analysis Time Period (s):  
 Weekday AM Peak (Hours: 6:30-8:30)  Weekday Midday Peak (Hours: 0:00:00)  Weekday PM Peak (Hours: 3:15-5:15)  Fri Peak (Hours: 4:30-6:30)  Sat Peak (Hours: 0:00:00)  Sun Peak (Hours: 3:00-5:00)  Other: 0:00:00

Analysis Tool(s) Utilized:  
 SimTraffic - Version: 0:00:00  Params - Version: 7.01  Vissim - Version: 0:00:00  Other: 0:00:00 - Version: 0:00:00

**SCOPE AND EXTENT OF PEER REVIEW**

Purpose & Scope of Review:  
 Provide a detailed review of the base condition model coding and calibration

Description/Limit of Model:  
 STH 999 & IH-O, 0.5 miles south of Random Road north to the West River Bridge

Configuration Settings

# Zones	# Time Steps	Speed Memory	Assignment Type
25	5	8	All-or-nothing
Mean Target Headway	Mean Reaction Time	Matrix Structure	Vehicle Classifications/Splits
0.87	0.93	2 O-D matrices, 1 for passenger vehicles & 1 for heavy vehicles	Separate matrices
Seed Values Used for Calibration	113, 683, 23, 149, 593, 1039, 28567		
Seed Values Used for Review	23, 28567		
Other: Variable Speed Limit	Variable speed limit (VSL) applied on IH-O		

Were any changes to the model made by the review team? If yes, please describe.  
 No

**OBSERVATIONS, MODEL FEATURES AND CHARACTERISTICS**

metrics/Traffic Controls	Network Coding	Observations/Comments	Analyst Response	
	<p>Network Coding establishes the horizontal and vertical geometry of the network. It also includes the appropriate use of settings such as link free-flow speed.</p> <ul style="list-style-type: none"> <li>For SimTraffic, this is coded within the Synchro module and includes placement and interconnection of nodes and links, number of lanes, lane widths, lane configurations, roadway curvature, storage lengths, and other intersection and network geometry.</li> <li>For Params, this includes placement and interconnection of nodes, links and link categories, curb points, curves, turn lanes, merge points, stop bars, signposts, and other network infrastructure.</li> <li>For VISSIM this includes the placement and interconnection of links, connectors, desired speed decisions, reduced speed areas, conflict areas, and priority rules.</li> </ul>	<p>As a whole, network coding is:</p> <p><input checked="" type="checkbox"/> Acceptable  <input type="checkbox"/> Conditionally Acceptable  <input type="checkbox"/> Unacceptable</p> <p>Extent of Revisions Required:</p> <p><input checked="" type="checkbox"/> No Revisions Required  <input type="checkbox"/> Minor Revisions Required  <input type="checkbox"/> Moderate Revisions Required  <input type="checkbox"/> Major Revisions Required</p>	<p>1<sup>st</sup> Review</p> <p>Intersection of This Rd and That Dr - the EB approach currently has an exclusive right turn lane, which is not coded in the model (Link 523:524). It is possible that this exclusive right turn lane was added after the model base year.</p> <p>2<sup>nd</sup> Review</p> <p>An EB exclusive right turn lane was added on link 523:524. This is used only by buses and right turns, since bicycles are not included in this model.</p> <p>3<sup>rd</sup> Review</p>	<p>1<sup>st</sup> Review</p> <p>Lane appears to have been in place prior to 2012 and is marked for buses, bicycles, and right turns only. An exclusive EB right turn lane has been added that extends back to the WB ramp terminal intersection. This change is not expected to affect the results.</p> <p>2<sup>nd</sup> Review</p> <p>3<sup>rd</sup> Review</p>

metrics/Traffic Controls	Routing Parameters/Vehicle Routes	Observations/Comments	Analyst Response	
	<p>Routing parameters or vehicle routes influence the way vehicles travel through the network. If coded improperly, these controls can cause unrealistic or erratic routing.</p> <ul style="list-style-type: none"> <li>This feature is not applicable for SimTraffic. However, interaction between intersections can be checked as noted with the Link O-D feature in the O-D Matrices, Demand Profiles, &amp; Time Periods section.</li> <li>For Params, routing parameters (such as cost factors, turn penalties, modification of the link type hierarchy, and waypoints) override the default routing behavior and profoundly influence the route choice in the network. They are occasionally used to increase or decrease the traffic volume on specific links.</li> <li>For VISSIM, vehicle routes and vehicle routing decisions control the flow of traffic from the entrance points through the network. They can be coded using either actual vehicle flows or percentages.</li> </ul>	<p>As a whole, traffic routing parameters are:</p> <p><input type="checkbox"/> Acceptable  <input checked="" type="checkbox"/> Conditionally Acceptable  <input type="checkbox"/> Unacceptable</p> <p>Extent of Revisions Required:</p> <p><input type="checkbox"/> No Revisions Required  <input checked="" type="checkbox"/> Minor Revisions Required  <input type="checkbox"/> Moderate Revisions Required  <input type="checkbox"/> Major Revisions Required</p>	<p>1<sup>st</sup> Review</p> <p>Link cost factors are applied in 13 locations. It was noted that link 709:708 has an exceptionally high cost factor of 1000. Why is this so high? This link is located on STH 999 between the Random Rd ramp terminal intersections.</p> <p>2<sup>nd</sup> Review</p> <p>This is an acceptable approach.</p> <p>3<sup>rd</sup> Review</p> <p>The cost factor for link 709:708 was changed to 1 which is acceptable.</p>	<p>1<sup>st</sup> Review</p> <p>Link 709:708 cost factor will be adjusted. Other cost factors were generally used for routing purposes at interchanges to prevent vehicles from exiting then re-entering the freeway. No additional changes are proposed - please confirm.</p> <p>2<sup>nd</sup> Review</p> <p>Update completed.</p> <p>3<sup>rd</sup> Review</p>

## Microsimulation Peer Review Form Responses

**Date of Last Response:** February 29, 2016

**Project:** 0-11-23-58  
Cold Corridor – STH 999 & IH-0  
Up North

**Analyst:** Traffic Models 'R Us (TMRU)

**Traffic Model Name/Description:** Future Year (2040) AM Model

**Analyst's Response Code**

A = Agree completely; will revise (no written response required)

RFS = Requires further study in next phase (no written response required)

P = Agree partially; will revise to some degree (see written response)

D = Disagree; will not revise (see written response)

1<sup>st</sup> Review:    2<sup>nd</sup> Review:    3<sup>rd</sup> Review:

Model Completion/Revision Date(m/d/yyyy):    01/07/16

Reviewer 1: **An Employee of the State (EOS)**    02/04/16

Reviewer 2: **Review is All We Do (RIAWD)**    02/11/16

Reviewer 3: **FHWA**    02/14/16

Category	Reviewer		Analyst		
	Initials	Review Comments	Response Code	Response	Markup Complete
<b>Network Coding</b>	EOS	<a href="#">#1( Link 422:413)</a> <a href="#"># 2 (Link 1109:209 kerb points)</a> <a href="#">#3 (Link 344:229 stopline rotation)</a>	A A A	#1 Link adjusted to provide two lanes	TMRU – 3/02/15
	RIAWD	<a href="#">#1 (Model weave lengths)</a>  <a href="#">#2 (Ramp at node 447)</a>	P  A	<a href="#">#1</a> The study team has modified the upstream lane choice rules associated with the mainline weaves between Fake Rd. and False Dr. While there is always a degree of early or late lane changing within the model due to randomly assigned degrees of aggressiveness, awareness, etc., this issue has been mitigated to the greatest extent possible.  <a href="#">#2</a> Ramp parameters modified to mitigate this issue as much as possible. The future AM model should now match the draft PM model, as this issue was more prominent during the future PM peak period.	TMRU – 03/02/15
	FHWA	<a href="#">#1 (Link 29:30 and 29:31)</a>  <a href="#">#2 (81<sup>st</sup> St./St. Peter Ave geometry)</a>	D  RFS	<a href="#">#1</a> The left turn lane here (Link 29:31) has been modeled as separate to prevent vehicles from attempting to move over, therefore blocking the lane and causing a queue. No change is proposed.  <a href="#">#2</a> The design team has indicated that while the DXF does not indicate an allowable movement from SB 81 <sup>st</sup> St to the IH-0 EB entrance ramp, this access could be provided as the team continues to work on design refinements. Movement from SB 81 <sup>st</sup> to IH-0 EB will be modeled, and results of this will help inform the final design decision.	TMRU – 03/02/15