CORRIDOR MPO Smarter Transportation, Better Community
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TRANSPORTATION TECHNICAL ADVISORY COMMITTEE (TTAC)
MEETING MINUTES

Time Check Hall, First Floor - Cedar Rapids City Services Center
500 15th Avenue SW, Cedar Rapids
Thursday, September 9, 2021 at 1:00 p.m.

Member	Present	Absent	Alternate
Brenna Fall – *Chairperson*	X		
Tom Peffer – *Vice Chairperson*	X		
Seth Gunnerson	X		Eric Pate
John Witt	X		
Ron Griffith	X		
Mary Beth Stevenson	X		Brad DeBrower
Carrie Pauli	X		
Matt Myers	X		Eryn Stone
Doug Wilson	X		
Karin Kee	X		
Scott Pottorff	X		
Shane Wicks	X		
Jon Fitch	X		
Randy Burke		X	
Brad Ketels	X		John Resler
Kesha Billings	X		
Mike Barkalow	X		
Jon Bogert		X	
Kelli Scott		X	
Tim Mroch	X		
Cathy Cutler (NV)		X	
Darla Hugaboom (NV)		X	
Eva Steinman (NV)		X	

MPO Staff Present: Hilary Hershner, Liz Darnall
Iowa DOT Modeling Staff Present: Michael Pillman, Jeff von Brown (via telephone)

Chairperson Brenna Fall called the meeting to order at 1:01 p.m.

Public Comment
None

Action/Discussion Items
1. Approve Minutes from May 6, 2021 meeting
Jon Fitch motioned to approve the minutes from the May 6, 2021 TTAC meeting. Seconded by John Witt. The motion carried.

2. 2018-2022 Highway Safety Improvement Program (HSIP) Targets

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Liz Darnall shared that the Iowa DOT submitted their draft 2021 Highway Safety Improvement Plan (HSIP) annual report to the Federal Highway Administration (FHWA). This report includes the State of Iowa's 2018-2022 targets for performance measures established in 23 § 490.207. The targets are shown in the table below. The 2018-2022 safety targets are an update to the 2017-2021 safety targets approved last year by the MPO Policy Board.

Each MPO must establish 2018-2022 safety targets for the five performance measures within 180 days of the State. Since the HSIP report was submitted on August 31, 2021, the MPO deadline to establish safety targets is February 27, 2022. By that date, each MPO will need to choose one of two options for each performance measure:

1. Support the State's target by agreeing to plan and program projects so that they contribute toward the accomplishment of the State DOT target for that performance measure, or
2. Set a quantifiable target for that performance measure for the MPO.

MPO targets would be for all public roadways within the MPO's planning area boundary, regardless of functional classification or ownership. MPO's that establish their own targets for fatality rate or serious injury rate will need to report the VMT methodology and estimate used in developing the rate for the target.

Performance Measure	Five-year Rolling Averages	
	2016-2020 Baseline	2018-2022 Target
Number of Fatalities	345.2	337.8
Fatality Rate*	1.053	1.037
Number of Serious Injuries	1,391.6	1,327.2
Serious Injury Rate*	4.241	4.073
Non-Motorized Fatalities and Serious Injuries	128.6	129.8

**Rates are per 100 million vehicle miles traveled (VMT)*

Two of the targets involve rates that are calculated based on vehicle miles traveled (VMT), and VMT declined about 11.5 percent from 2019 to 2020. VMT has now rebounded to just slightly below pre-pandemic levels, but uncertainty remains about post-pandemic travel behavior. Thus, the Iowa DOT adjusted the forecasting method for 2021 and 2022 VMT to use a linear forecast rather than the linear ETS methodology (exponential smoothing approach) they have used for several years, which results in a more conservative VMT forecast. The Iowa DOT will reevaluate the VMT forecasting methodology next year.

MPO staff made the recommendation to adopt the Iowa DOT's safety targets and performance measures. John Witt made a motion to support the Iowa DOT's safety targets and performance measures; Tom Peffer seconded. The motion passed unanimously.

Travel Demand Model Amendment

Hilary Hershner shared that the Corridor MPO is wanting to update their travel demand model. She noted that she would go over the background of the request, while Michael Pillman, a modeler with the Iowa DOT, would go into over the changes made to the model for the run. Hershner stated that in late fall 2020, Iowa DOT modeling staff contacted Hershner to run the MPO's model for the Wright Brothers Boulevard Interchange Justification Report (IJR). Hershner completed and ran the model, and provided the Iowa DOT

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modeling staff with the model run outputs. Shortly thereafter, Iowa DOT modeling staff attended an Iowa DOT Commission meeting, where City of Cedar Rapids staff presenting information about a study they were completing. The study's purpose was to determine the location and size of future development, and the impacts upon the transportation network, in southwest Cedar Rapids, near the Eastern Iowa Airport generally between Highway 151 to the west, C Street to the east, and Highway 30 to the north.

Once Iowa DOT staff was aware of the study, which included the Wright Brothers Boulevard interchange area, they determined that the study's information needed to be included in to the original model run. Additionally, it was determined that not only should a scenario be run using this data, but that the model itself should be updated to include the future projected data, so that this development information can be incorporated into every model run hereafter.

The Corridor MPO's travel demand model was updated for the 2045 LRTP and adopted in July 2020. Information from the study was not included in the 2020 model adopted with the LRTP, as the model was adopted before the study was initiated. During the travel demand model update process, Corridor MPO staff went to each member jurisdiction to get their approval and discuss future projected socioeconomic data (i.e., future employment and households). When completing this task, the City of Cedar Rapids had not started their southwest development study; some of this information was not known at the time of the model update, therefore it was not included in the model traffic assignment.

After Ms. Hershner provided that background, Michael Pillman went into the technical memorandum ("tech memo") that was handed out to the group. That memo discussed the data inputs, external-internal traffic values, the three scenarios and the results of those three scenarios, along with a summary. Regarding the data inputs, the inputs into the model came from the Traffic Study done by Foth. In this study, specific areas or zones were determined to have business growth potential and were given an ITE (Institution of Transportation Engineers) land use, a corresponding amount of KSF (kilometers square feet), and trip totals for exiting and entering during a designated time-period. The land uses were translated to ISMS (Iowa Standardized Modeling Structure) Land Use codes, and the traffic study zones were translated into the Traffic Analysis Zones (TAZs) within the model.

The external and internal traffic values had to be modified for this amendment. ISMS models have traffic fed into them via external stations. The I-380 S external station is located just 1.5 miles to the south of this development area. With any development this large and of this type, an update of the External-Internal (EI) trips needs to be done. Staff in the Systems Planning Bureau met with MPO staff to discuss what forecasted traffic volumes would be entering to/from the region via the primary roads.

Three scenarios were developed during this update. The first, and what the subsequent two were compared against, was the Approved 2045 ECP (Existing, Committed, and Planned) model. The other two scenarios were compared against this first one so that the rate of change could be evaluated. The other two scenarios included the inputs taken from the Foth study, except the second scenario used 100% of development identified whereas the third scenario used only 75% of the development identified.

A challenge in adding development of this magnitude is understanding how it will interact with the greater geography. An ISMS Model represents an entire MPO planning area, while the microsimulation model used in the traffic study is a subarea of that geography. Due to these differences, the MPO and DOT staff developed a set of assumptions regarding the distribution of traffic both within, and coming into and out of, the model planning area.

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The results of the additional development largely focus around those very areas, and as the WBB Interchange is the current point of interest, the results have been laid out with that in mind. Overall WBB sees an increase at nearly every ramp of the current interchange, specifically the on-ramp to I-380 north. See Figure 1.1 below. The interchange of I-380 and 120th (NE/NW) also sees an increase, but most notably on the approach to 120th from NB I-380 and the approach to SB I-380. Please see Figure 1.2 below. This goes against prior assumptions that most traffic from this development would use WBB. An explanation for this is that macro models work off Shortest Path (in minutes), so even if a route was one second faster, that is the route that would be selected.

Additional development of Residential, Commercial, Industrial, and School Enrollment were added to the approved 2045 ECP travel demand model. This resulted in having to update the external-internal traffic due to the proximity of the I-380 S External station, as well as assumptions generated via the Foth traffic study. From there, two additional scenarios were run to get an idea of what this development would result in. Through discussions with the MPO, Systems Planning staff determined that a factor of 75% would be used to account for any uncertainty in forecasting out to 2045.

Overall, Wright Brother's Boulevard (as well as surrounding roads) sees an increase in traffic volume in Scenario 3 from the approved 2045 ECP model. This increase in traffic volumes (an average of about 74%) as a result of increased development is why approval to include the additional inputs from Scenario 3 into the travel demand model is being sought.

During the discussion, several members had questions regarding the inputs used, traffic volumes presented in the memo, and about whether certain projects were included in the model runs. It was decided during the discussion of this agenda item that more information was needed to do the model run for WBB. It was suggested that Iowa DOT, City of Cedar Rapids, Corridor MPO, and Foth staff get together to discuss the project.

A motion was made by Tim Mroch to amend the model with the addition of key corridors in the southwest quadrant to be revised within the model and to take into account more development from the Foth study. The motion was seconded was Jon Fitch. The motion passed unanimously.

Report Items/Member Updates

Adjournment

Witt motioned to adjourn the meeting at 1:58 p.m. Seconded by Mike Barkalow. The motion carried.

Respectfully Submitted,
Hilary Hershner
Regional Transportation Planner