

Industry Safety and Constructability Review Comments

I-69 from I-96 to Airport Road
JN 125869, 129982 and 204666

Summary of All Comments Received

Submittal #1:

Schedule Comments

Consider an August/September bid so that widenings or crossover work could be performed in the fall of 2020.

An earlier bid date is desirable to maximize options for temporary paving.

Every month the bid is moved forward will help the project

Plan Comments

Part _2, plan sheet 5 of 7, WB I-69 ~sta 197 to sta 201, extend TCB on inside shoulder to block off WB-69 traffic from using

Crossover 1. Also set TCB to prevent WB I-96/EB I-69 traffic from using Crossover 1.

Crossover 1 shows up to 35' of fill - will there be issues with settlement and placing fill / paving during cold weather?

Crossover 1 - the existing turning roadway NB I96/I69 has guardrail on both sides, will guardrail be required on both sides for the temporary ramp?

Crossover 3- can this be moved to the east past the existing east ramps to Airport Rd?
This would get it out of the way of paving operations

General Comments Comments

Please consider both HMA and Concrete for Temporary Pavement Sections.
This would allow more schedule options for paving the widenings and crossovers

Could portions of Stage 1A and 1B be built at the same time utilizing traffic shifts

Consider this project for the ATC Traffic Control Alternate Bid Process

Alternative Traffic Comments

In order to complete the project in 2 stages please consider the following:

Stage 1 Traffic:

Close ramp from EB I96 to EB I69

- Detour - I96/I69 to I496 to US 127 to I69 EB
 - Local Detour I96 to Grand River Ave
 - Other Local Detours
- Close ramp from NB I96/I69 to EB 69
- Exit Grand River and take local M roads to EB I-69
 - For NB I96/I69 traffic take I496 EB to US127 to EB 69
 - Alternate detour M43 to local destinations

Stage 1 Construction:

POB of ramp I96/I69 to EB 69 to POE of I69 EB
 POB of ramp I96 EB to EB I69
 exit ramp EB I69 to Airport Rd
 Francis rd Loop ramp to EB I69

Stage 2 Traffic:

Close WB I69 at 127 except local traffic to Airport Rd

- Detour 127 SB to I496 WB to NB I96/I69 to WB I96
- Detour 127 SB to M43 WB
- Detour local I69 traffic to Airport Rd
- Detour local I69 traffic to S Dewitt Dr.
- Detour WB I69 to SB Airport Rd to WB Grand River

Stage 2 Construction:

WB I69 POB to Airport Rd
 Airport Rd to WB I69 entrance ramp
 WB I69 to Francis Rd exit ramp
 WB I69 to SB I96/I69 turning roadway

Advantages

Safety

- no exposure with single lane closures building widenings and crossovers, possibly during inclement weather
- no travel on opposite roadways (EB on WB, WB on EB)

Schedule/Cost

- project is completed in 2 stages and in 1 season
- Stage 1A and 1B widening and crossovers are eliminated
- slope restoration work reduced
- significant cost savings

Submittal #2:

I took a look at the MOT for this project and I have a couple questions/comments. The summary of work includes epoxy overlays on the bridge decks. I am assuming that you are planning on overlaying the mainline bridges. I see that you have a great plan for completing this work with very minimal exposure to live traffic. My question is for the epoxy overlays. Due to the necessity for 28 day cure before I can install the overlay we usually do not get to take advantage of the long term traffic control. We are usually forced to complete our work with

minimal traffic control and usually have to work into a live lane of traffic or at very least right up to it. We are even routinely denied TMA's on our projects. Will this project be any different? I would be happy to elaborate on any of these points if you have any questions or even provide a site visit to a current job. Call or email me any time.

Submittal #3:

With the limited plan sheets to review its hard to gauge durations or constructability as far as excavation, paving, and bridge work goes but it does look like the durations are very aggressive for Stage 2 & Stage 3A. It also looks like there is some overlap that is unclear on what work MDOT is considering 'major construction' as it shows overlap of durations on Stage 2 & 3A which traffic is crossed over to the opposite bound. This could create a lot of outside slope/shoulder work or the addition of concrete barrier in areas that is not completed because of a potentially aggressive schedule.

The few snippets below from the plans show the logic and MDOT's durations for staging. Although they show each stage construction durations for 5 Months, it shows all 'major construction' on Stage 2 being complete on 6/23/21 (2 ½ months) and Stage 3A Traffic Control starting 6/29/21 which would have a significant overlap of staging or at the very least creates a lot of additional work (slopes, restoration, shoulders) to complete once you are able to get traffic onto NEW I-69. Access to those might be an issue with the traffic configuration as well.

On a separate note, it looks like the dates for completion of slope work for each stage do not align for potential access due to the temp traffic configuration. If restoration is not complete you most likely could miss seasonal limitations on Stage 2 slopes and need to temp seed.

Traffic Scenario

Stage 2 – Maintain two lanes of WB I-69 traffic and one lane of EB I-69 traffic on WB I-69 roadbed by utilizing crossovers to reconstruct EB I-69.

Stage 3A – Maintain two lanes of WB I-69 traffic and one lane of EB I-69 traffic on EB I-69 roadbed by utilizing crossovers to reconstruct WB I-69.

Stage 3B – Maintain two lanes of EB I-69 on the EB I-69 roadway and detour WB I-69 to reconstruct WB I-69 at the I-96 interchange.

MDOT Assumptions / Schedule

CRITICAL PATH METHOD (CPM)

Assumptions

- 5 working days/week; all references to days are working days (1 week = 5 days)
- 10 hour work days
- 2 crews are assumed for:
 - Pavement Removal
 - Drainage installation
 - Earthwork
 - Pavement bases and paving
 - Aggregate shoulder construction
 - Slope Restoration
 - Letting 01/08/21
 - Award 02/1/2021

MDOT Durations / Sequence

Stage 2

Reconstruct EB I-69, EB Turning Roadway, Francis Ramp B and Airport Ramp C

Total Duration: 04/02/21 - 09/02/21

- Traffic Control Setup 11 days
 - 04/02/21 - 04/16/21
- Removals & Earthwork - 21 days
 - 04/19/21 - 05/17/21
- Construction 94 days
 - 04/29/21 - 09/02/21
 - Major construction complete 06/23/21
 - Slope Restoration complete 09/02/21

Stage 3A

Reconstruct WB I-69 (from the WB Turning Roadway to POE), WB Turning Roadway, Francis Ramp A and Airport Ramp D

Total Duration: 06/29/21 - 11/03/21

- Traffic Control Setup 10 days
 - 06/29/21 - 07/13/21
- Removals & Earthwork - 14 days
 - 07/14/21 - 08/02/21
- Construction 72 days
 - 07/27/21 - 11/03/21
 - Major construction complete 09/27/21
 - Slope Restoration complete 11/03/21

Stage 3B

Reconstruct WB I-69 from POB to WB Turning Roadway

Total Duration: 09/28/21 - 11/23/21

- Traffic Control Setup 2 days
 - 09/28/21 - 09/29/21
- Removals & Earthwork - 13 days
 - 09/30/21 - 10/18/21
- Construction 33 days
 - 10/08/21 - 11/23/21
 - Major construction complete 11/01/21
 - Slope Restoration complete 11/23/21