BRENT SPENCE BRIDGE REPLACEMENT STUDY
Revised Signing for Concept I-W 3-23-2022
CONCEPT I-W
CONCEPTUAL SIGNING PLAN
SCALE
0 300 600
LEGEND
MAINLINE SIGNS
C-D ROAD SIGNS
Pink SB signing changes
Lt Blue NB signing changes
Red New signs
Black X Sign not needed
HNTB Review 5-25-2022
* NOTE: The specific location of sign displays 18A/18B/18C and 18E/18F will be determined relative to the alignment of the Concept I-W Frontage Road and C-D System
Five white up arrows
Agree this is the appropriate sign at this location of the lane split.
Agree with recommended C-D signing.
Agree with recommended ramp signing.
Add US 50 W to #18E
Add US 50W to #18A
Add US 50E to #18 and change to 2 MILES
Add US 50W to #13A
Add US 50 W to #11A
Add US 50 W to #11B
Repeat signage from 1 mile and ½ mile, just use exit direction sign
Repeat signage from 1 mile just change distance to ½ mile
Combine signs 20 and 21 for the eastbound and a new sign similar to 18F to Covington 5th St. Add a sign for US 50 (See sign 61 and 62)
Around Sta. 570+00 add a new sign support with the same signs as 19 but with 1/2 MILE
New sign structure with one sign showing three down arrows to 275N/S Dayton and two down arrows to I-71NUS Columbus with only yellow plaques and an exit number (similar to sign 104 at the I-74 split).
New sign with three lanes showing the Dayton traffic only through right with 1/2 MILE and 1/4 MILE and 12th
Exit number will need to be determined in final signing plan during next stage of design.
In discussion with traffic modelers, the intent was not to have all of I-71 traffic in one lane, and then that lane separate into two near Pike. Traffic volumes are high through the I-71 and I-75 corridor. Traffic in the left, and that lane will divide into two - one for I-75 and one for I-71. A draft mainline sign plan is included with this review.
Agree with changes to C-D signing.
I don't like this design, but if it matches advance signs, it's not my signal concern.
This sign and any advanced signing will be revisited when we enter stage of design and can be revaluated.
BRENT SPENCE BRIDGE
PETE ROSE WAY
MEHRING WAY
STATE LINE
CONCORDIA AVENUE
WESTERN AVENUE
DEVON DRIVE
PIKE STREET
LEWIS STREET
MT. ALLEN ROAD
CEDAR RIDGE LANE
CEDAR DRIVE
S. ARLINGTON ROAD
DIXIE HIGHWAY
ROSEMONT AVE
ST. JOSEPH LANE
EMERY DRIVE
HIGHLAND AVENUE
BUCLID AVENUE
JEFFERSON AVENUE
MONROE STP
ORCHARD ROAD
PECK DRIVE
FORTRIDGE DRIVE
ELMHIT LANE
RIDGE ROAD
FORT MITCHELL AVENUE
MARKLE AVENUE
SLEEPY HOLLOW ROAD
ST. JAMES
South Fourth
Second St Riverfront
Fifth St
Dayton
North
River Rd
Fifth St 1/4 MILE
Second St
Fifth St 3/4 MILE
Second St 1/2 MILE
Fifth St
Covington 5th St
Covington 12th St
Cincinnati
Columbus
Covington 12th St 5th St
Cincinnati EXITS
Covington EXITS
Covington 5th St
Louisville
Lexington
9th St
12th St
8th St 12th St
Kyles Ln
Dixie Hwy
25 42 127
Downtown Cincinnati
RIGHT 2 LANES
Downtown Covington
RIGHT LANE
THRU LANES TO
North Dayton
North Columbus 1 MILE
North Columbus 1 1/2 MILE
Cincinnati 1 MILE
Covington 12th St 5th St 1 MILE
EXIT ONLY
EXIT 190
EXIT 191
EXIT 188
STA. 386+15
STA. 381+15
STA. 467+15
STA. 467+75
STA. 606+75
STA. 620+00
STA. 640+40
STA. 393+00
STA. 395+00
STA. 588+00
STA. 526+00
STA. 620+15
STA. 455+95
STA. 393+50
STA. 395+50
STA. 395+00
STA. 393+00

HNTB Review 5/25/2022

A draft signing plan is included with this review as a general idea for sign configuration with all Cincinnati downtown and Riverfront, and Covington traffic in the right three lanes at Ezzard Charles, and the left of those lanes dividing into Seventh and Fifth south of Ezzard Charles. See attachment.

Add I-75 50 W to #11A
Add US 50E to #12 and change to 2 MILES
Add US 50W to #13A
Add US 50E to #15 and change to 1 1/2 MILES
Add US 50W to #16A
Add US 50W to #18A
Add US 50W to #18E
Can use signing in OMUTCD 2E-34 with dropped lane mix of pg 222 and 223. A draft sign plan is included in this review.
Agree - need consistent naming. A draft sign plan is included in this review with naming.
* NOTE: The specific location of sign displays 18A/18B/18C and 18E/18F will be determined relative to the alignment of the Concept I-W Frontage Road and C-D System
Consistency needed in naming for all exits - 5th and 6th are the closed cross streets from the exit ramps and should both be included. 12th and Plum may be deleted.
IS THE OPTION LANE NECESSARY? THIS MULTI-LANE EXIT WITH AN OPTION LANE WAS CONSIDERED IN THE OMUTCD BECAUSE THE EXIT LANES SPLIT BEYOND THE GORE. THE OPTION LANE IS NOT CONSISTENT WITH THE EXAMPLES SHOWN IN THE OMUTCD FOR ODOT'S TSR SECTION 200-7. SEE POTENTIAL SIGNING ALTERNATIVE AT TOP RIGHT OF DRAWING SIMILAR TO OMUTCD FIGURE 2E-34.
Agree. Traffic model was used to quickly evaluate the Seventh St exit traffic using the lanes as shown or included with the Fifth St exit, with that lane dividing into two south of Ezzard Charles. The model showed no significant difference in the two options. A draft signing plan is included with this review.
THIS IS TOO MUCH INFORMATION FOR DRIVERS TO COMPREHEND. CAN THE TOW PULLMAN SIGNS BE SEPARATED FROM THE EXIT SIGNS. IN ADDITION, CAN THE EXIT SIGNS BE MOVED TO THE LEFT SIDE OF THE ROAD SO THEY ARE ON THE RIGHT HAND EXITS AND ON ANOTHER SIGN?
Agree. Ideally the three right lanes can be downtown exists and the three left for I-75 and ramp to I-71. Check traffic numbers for need of Seventh St in the middle lane.
The written comment in email to make the four exits 1b, 1c, 1d, 1e is good for clarity and directions to generators.
Naming convention is needed for consistency. Don't think Gest is needed here.
SHOULD GEST ST BE INCLUDED IN THIS LEGEND?
Good points - this will be addressed in the design phase in later phases.
FOR the I-75 News, will need to include signing for the airport exit which will include signage indicating that the airport exit is the "Lane to NEXT EXIT 4 MILES.....
This sign support will likely be included in the WHV portion of the I-75 project. Will need to coordinate naming of exits for overall projects.
Will have to insure sufficient room has a ride guide sign and the truss in the background of the Harrison Ave sign could be replaced to include Western?
https://goo.gl/maps/1gKuKvDG6ZbDvGqA
This interchange sequence could be omitted if Harrison/Western and Freeman exits each have an exit guide sign and two advance guide signs. Off-ramp signs accurate for Freeman 1 mile sign.
Agree - should coordinate with other guide signs
IS THERE NO ROOM FOR A PURPLE 1/2 MILE SIGN OR IS THE PURPLE 1/2 MILE SIGN WAS INCLUDED?
This area will be designed as part of the WHV phase.
THE OVERHEAD AHEAD FOR LANE SIGN CONSIST OF 2E-34 AND 2E-35 USED FOR EXIT 1 WITH AN ADDED OPTION LANE. 2E-34 IS SHOWN AND 2E-35 SHOULD BE USED A REFERENCE CD
Future design should coordinate with northern projects for sign design - 2E-34 on page 222 is appropriate.
This would be determined by the detailing and design follow-up to those recommendations.
DIVIDING LINE SHOULD BE DOWN THAT THERE ARE DESTINATIONS? OK
Diagonal down arrows for lane assignments is not allowed.
Diagonal down arrows for lane assignments is not allowed.
Dropped lane mix of pg 222
Dropped lane mix of pg 223
Dropped lane mix of pg 223
Dropped lane mix of pg 223

July 18, 2022

BRENT SPENCE BRIDGE HIGHWAY SIGNING REVIEW FOR CONCEPT I-W

PURPOSE: The purpose of this document is to address comments from ODOT and KYTC dated July 6, 2022 in response to the latest review of the potential highway signing plan for Concept I-W. The goal of the signing review is to determine, at a conceptual level, if there are any fatal flaws in the conceptual signing plan in transitioning from Alternative I to Concept I-W and to reflect the changes (if any) required on the Alternative I signage plan to accommodate Concept I-W.

TIMELINE: An initial review by HNTB of the 2012 Alternative I signing plan was sent to ODOT and KYTC on March 25, 2022 with a memo and marked plans indicating potential changes to the signing to accommodate Concept I-W interstate and local traffic patterns that are different from Alternative I. The review also addressed two specific areas of concern for lane splits and traffic assignments, one on SB I-75 in Ohio approaching the mainline/CD split near Ezzard Charles and one on NB I-71/I-75 in Kentucky approaching the mainline widening from four lanes to five lanes near Pike.

Comments from both states were received on May 9, 2022 in an email and with comments and recommendations marked on the plan sheets, particularly for the two specific areas of concern. These items were addressed by HNTB in a memo dated June 16, 2022 and with notes on the plan sets. The memo presented potential signing to simplify and clarify the signing layout in Kentucky and Ohio in the two areas of concern based on the comments from each state. It was also noted that no fatal flaws were found for signing of Concept I-W.

RECENT COMMENTS: Comments from both states were received on July 6, 2022 in an email, which are included below:

RE: BSB Concept I-W Conceptual Signage Plan

Reply | Reply All | Forward | ...

M Marc.Grake@dot.ohio.gov

To Charles.Rowe@dot.ohio.gov; Teri.Scanlon@dot.ohio.gov; Hans, Stacee D (KYTC-D06); Hyatt, Jason S (KYTC) Wed 7/6/2022 4:13 PM

Cc Spinosa, Stefan

Charlie,

For the Ohio signing discussed in their Draft Signing document, I don't see fatal flaws in the ability to sign this concept. I like eliminating the option lane at the C-D exit by combining Seventh and Fifth streets into one exit lane so that we can eliminate the arrow per lane signing concept. This is cleaner and should be simpler for motorists to comprehend the signs and make decisions. The only comment on their document is that adding North 71, East US 50, 471 to the 71/75 pull thru signs may confuse drivers by trying to sign for 2 different exits with 2 different signing concepts at one split (I hope that makes sense.) Plus, I don't think its appropriate to use the overhead arrow per lane concept for the North 71, East US 50, 471 exit because there is no optional lane at that exit. I haven't had time to draw it out but maybe North 71, East US 50, 471 signing is still separate as was previously shown and the South 71/75 pull thru signs utilize down arrows along with their proposal to combine Seventh and Fifth streets?

Thank you,

Marc Grake, P.E.
Traffic Operations Engineer/TSMO Coordinator
ODOT District 8
505 South State Route 741, Lebanon, Ohio, 45036
513-933-6607
transportation.ohio.gov

BRENT SPENCE BRIDGE CORRIDOR

RE: BSB Concept I-W Conceptual Signage Plan

Reply | Reply All | Forward | ...

HJ Hyatt, Jason S (KYTC) <Jason.Hyatt@ky.gov>
To Charles.Rowe@dot.ohio.gov; Marc.Grake@dot.ohio.gov; Teri.Scanlon@dot.ohio.gov; Hans, Stacee D (KYTC-D06)
Cc Spinosa, Stefan
Wed 7/6/2022 1:30 PM

Charlie,

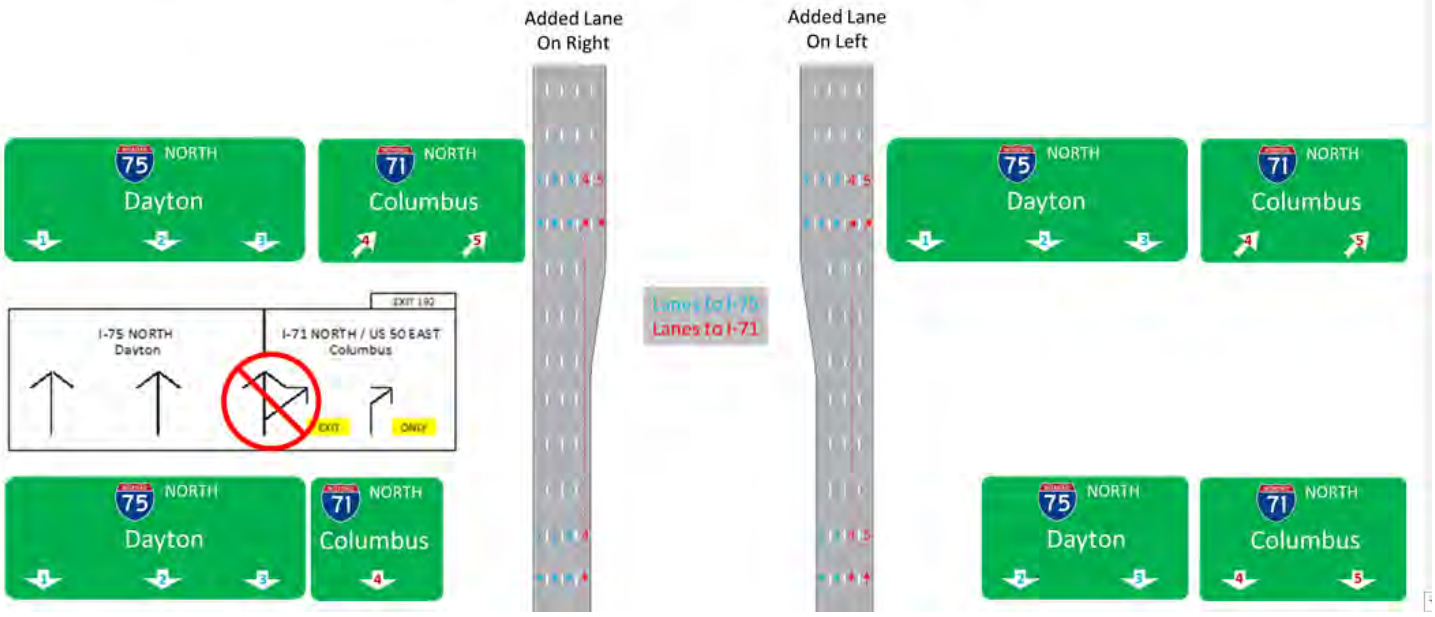
To answer the main question: No, I don't think there are any fatal flaws in Concept I-W. Obviously as we move past conceptual and into more concrete signing plans, there will be some kinks we need to iron out, but all-in-all I think it can be done.

However, regarding the NB lane situation, I maintain that the use of upward facing Arrow-per-Lane signage with an option arrow is not applicable in the area just north of Kyle's Ln. Ignoring the two right lanes that drop at Exit 190, we have 4 "through" lanes at this point. Those 4 lanes become 5 lanes, but its by adding a lane on the far right. So the 3rd lane from the left doesn't change at all – if you stay in that lane, you WILL go through to I-75. It is not an option lane. You have to be in the 4th lane from the left to access I-71. By being in the 4th lane you can then also get in the 5th lane once it opens up, and either of those two lanes will take you to I-71 – but not the 3rd lane.

If there is concern about directing all of the I-71 traffic into a single lane (before the 5th lane gets added), you could change the striping so that the added lane comes in on the left. That would make it to where when you have 4 lanes, it would be 2 lanes for each movement, then the 5th lane (added on the left) would make 3 lanes for I-75.

But in neither situation should you use APL signing with an option lane because there is no option lane.

Here is a graphic I put together of both scenarios, depicting the lanes and associated signing to show how Lane 3 never goes to I-71.



SUMMARY: The review of the Alternative I signing plans relative to Concept I-W has been an iterative process with recommendations by ODOT, KYTC and HNTB for the need for simplified signing and clarity for drivers. All parties recognize that there are no fatal flaws in the signing of Concept I-W and that specific signing can be designed as part of ongoing project development. This also allows for coordination with the design and placement of freeway management/ITS and destination signing in the corridor.

The ODOT comments recognize that additional thought should be given to the location of and specific sign for the SB exit to NB I-71/US 50E and concur that keeping 5th and 7th together will simplify the signing at the split to the CD. This combination of movements may need further verification in traffic analysis and modeling and specific sign placement will require coordination with the freeway management/ITS and destination signing design.

The KYTC comments point out that the creation of the fifth lane northbound in Kentucky could be an add-lane on either side of the highway. This will require further design to determine the best fit. There may also be a need for verification of lane use/signing with traffic analysis and modeling to determine how best to position the NB I-75 and I-71 traffic in the four lane section (as a 3 and 1 or 2 and 2 configuration) and how far in advance of the add-lane that the mainline movements should be signed separately. These issues can be addressed as part of the next phase of design.

The next phase of design will likely include additional traffic analysis to verify any new design ideas but will also evaluate the C-D and associated signalized intersection operation. The verification of lane assignments for the highway lane use seems reasonable to include so that the remaining pavement marking and signing needs for Concept I-W can be determined. This will also coordinate well with the design of the freeway management/ITS and destination signing.