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Inter-Departmental Memorandum

Date: February 17, 2003
To: Chief Engineer
Harry Lee James
From: Roadway Design Division Engineer
John B. Pickering *J. B. P.*
Subject: Sidewalks on Bridges

As you are aware, for quite some time, the MDOT has normally designed sidewalks on bridges using a positive barrier between the traveled way and the sidewalk, along with pedestrian rails on the outside of the bridge. Over the past several years during various AASHTO meetings I have attended, I asked other DOT's their policy regarding this issue. The answer I received was, no, they do not provide a separate barrier between the traveled way and the sidewalk on the bridge. There may be some DOT's providing the separate barrier, but I have not talked to any of them.

Attached are excerpts from the most recent AASHTO publications regarding the issue of sidewalks on bridges. The publications include the 2001 AASHTO Green Book, the 2002 AASHTO Roadside Design Guide, and the 2002 AASHTO Standard Specifications for Highway Bridges.

As you can see from the attachment, AASHTO refers to the use of a separate barrier on bridges for pedestrians as, "may be warranted."

This subject has been discussed with the Bridge Engineer, Mitch Carr, and we are both in agreement there needs to be some type of formal guideline in place for future designs concerning the use of sidewalks on bridges.

Therefore, your concurrence is requested regarding the following guidelines with reference to sidewalks on bridges, which actually paraphrases the AASHTO Roadside Design Guide:

- **The need for a separate barrier on bridges for pedestrians will be based upon engineering judgment of the MDOT staff. This will be on a case by case decision.**



- **The need for a separate bridge railing adjacent to the pedestrian walkway should be based upon the volume and speed of the roadway traffic, lane width, curb offset, and alignment.**

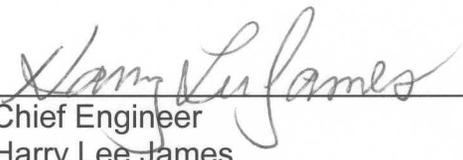
To my knowledge, AASHTO has no formal recommendations for the above Bullet No. 2 conditions.

A copy of this letter is not intended to go out to the Districts or any other Divisions, since this affects design only; however, if you decide otherwise, I can compose a letter for your signature.

Your concurrence is requested by your signature below.

If there are any questions or if additional information is needed, please advise.


Asst. Chief Engineer-
Preconstruction
Wendel T. Ruff


Chief Engineer
Harry Lee James

Attachment

pc: Bridge Division
File

SIDEWALKS ON BRIDGES What Does AASHTO Say?

By John B. Pickering
February 11, 2003

From the 2001 AASHTO Green Book - A Policy of Geometric Design of Highways and Streets, Page 363 --

- *Provisions for pedestrians are often appropriate on street overcrossings and on longer bridge crossings. On lower-speed streets, a vertical curb at the edge of the sidewalk is usually sufficient to separate pedestrians from vehicular traffic. Continuity of curb height should be maintained on the approaches to and over structures. For higher-speed roadways on structures, a barrier-type rail of adequate height may be used to separate the walkway and the traveled way. A pedestrian-type rail or screen should be used at the outer edge of the walkway. On long bridges (greater than 200 feet), a single walkway may be provided. However, care should be taken to ensure that approach walkways provide safe and relatively direct access to the bridge walkway. Fences may need to be erected to channelize pedestrians and prevent or control conflicts between pedestrians and vehicular traffic.*

From the 2002 AASHTO Roadside Design Guide, Page 10-5 --

- *When a bridge also serves pedestrians, a barrier to shield them from vehicular traffic may be warranted. Placement of the bridge railing between traffic and the sidewalk affords maximum pedestrian protection. A pedestrian railing would then be needed at the outer edge of the bridge structure. The need for a bridge railing adjacent to the pedestrian walkway should be based upon the volume and speed of the roadway traffic, lane width, curb offset, and alignment. Other considerations include the number of pedestrians crossing the bridge, the crash statistics (if available), and the conditions on either end of the structure. The use of a bridge railing may create a problem unless the railing is terminated in an acceptable manner. Flaring the end section away from the roadway is often not practical because it would encroach upon the sidewalk, requiring the walkway to meander around the transition section and terminal unit.*

From the 2002 AASHTO Standard Specifications for Highway Bridges --

- I could not find anything regarding the guidelines for placing a barrier between the traveled way and the sidewalk on bridges, other than general features, such as height of rail.