Memorandum

U.S. Department of Transportation
Federal Highway Administration

Subject: INFORMATION: Integral Abutment Bridges - FHWA Technical Advisory

Date: SEP 19 1997

Reply to Attn. of: HNG-32

From: Chief, Bridge Division
Office of Engineering

To: Mr. David S. Gendall
Regional Administrator (HST-03)
Baltimore, MD

This is in response to Mr. Louis Triandafilou's inquiry regarding the updating of the FHWA Technical Advisory (T5140.13) on integral/jointless bridges. We will not be updating or reissuing the technical advisory for reasons stated below.

In the late 1970's there was very little published information available on the design and construction of integral abutment or jointless bridges. The FHWA issued a technical advisory (T5140.13) dated January 28, 1980, to provide State highway agencies (SHA) with the then available data and guidelines on jointless bridges. That technical advisory was canceled October 1, 1989; however, we have been advising SHA's that the technical advisory is still a good guide for their use.

In recent years, there has been a great deal of research and development in the use of integral abutment bridge design and construction. The American Iron and Steel Institute has published a chapter on integral abutment for steel bridges in the Highway Structures Design Handbook. The FHWA research project on jointless steel and concrete bridges has been completed. The report will be published in the near future. If appropriate, we will make recommendations and/or suggestions to the AASHTO Subcommittee on Bridges and Structures for possible incorporation into the LRFD bridge specifications.

Based on current available information (see attached bibliography), there is not a need to update or reissue an FHWA technical advisory on integral abutment or jointless bridges. The Load Resistance Factor Design (LRFD) Specifications for Bridges encourages the use of integral abutment bridges and provides some criteria for their design. We have been and will continue promoting the use of integral/jointless bridges whenever possible. If you have further questions, please contact Benjamin Tang at (202) 366-4592.

David H. Densmore

Attachment
REFERENCES

Abendroth, R. E., and Greimann, L.F., “The Design of Piles in Integral Abutment Bridges,” Synopsis, Bridge Engineering Center, Department of Civil and Construction Engineering, Iowa State University


Emanuel, J. H., Hulsey, J. L., Best, J. L., Senne, J. H. and Thompson, L. F., “Current Design Practice for Bridge Superstructures Connected to Flexible Substructures,” University of Missouri-Rolla, Rolla, MO, 1973


FHWA, “Uncoated Weathering Steel in Structures,” FHWA Technical Advisory (T5140.22), Washington, D.C., October 1989


Gamble, W. L., “Bridge Evaluation Yields Valuable Lesson,” Concrete International, pp. 68-74, American Concrete Institute, Detroit, MI, June 1984


Hambly, E. C., "Integral Bridge Abutment Details in Practice and Theory," Seminar, Bridge design for durability, TRL, Crowthorne, pp. 71-82, 1992


Wolde-Tinsae, A. M. Greimann, D. M., “General Design Details for Integral Abutments,” Civil Engineering Practice, Fall 1988, pp. 7-20

Zuk, William., “Jointless Bridges,” FHWA/VA-81/48