



U.S. Department
of Transportation

Federal Highway
Administration

Memorandum

Subject: **ACTION:** The 17th Street Bridge Canopy
Failure Investigation and FHWA
Technical Advisory T 5140.30 Use and
Inspection of Adhesive Anchors on
Federal-aid Projects
/s/ Original Signed by

Date: January 31, 2012

From: John Baxter
Associate Administrator for Infrastructure

In Reply Refer To:
HIF-1

To: Division Administrators

The recent investigation of the collapse of a canopy attached to the 17th Street Bridge in Atlanta, Georgia, by Wiss, Janney, Elstner Associates, Inc (WJE) for the Georgia Department of Transportation (GDOT) concluded that “the primary cause of the collapse was the use of an epoxy anchor adhesive with poor resistance to long-term creep under sustained tensile loading.” In addition, the investigation report cites improper installation practices as contributing to the collapse. Finally, WJE indicates that the findings of the investigation are similar to those of the National Transportation Safety Board (NTSB) investigation of the July 10, 2006, collapse of a portion of the suspended ceiling in the I-90 tunnel in Boston, Massachusetts.

As result of the 2006 NTSB investigation, FHWA issued Technical Advisory (TA) T 5140.26 *Use and Inspection of Adhesive Anchors on Federal-Aid Projects* on October 17, 2007. The TA was updated and re-issued with the same title as T 5140.30 on March 21, 2008, (<http://www.fhwa.dot.gov/bridge/t514030.cfm>). The purpose of this TA was to provide guidance and recommendations regarding the use and in-service inspection of adhesive anchors, including those utilizing "Fast Set epoxy" in sustained tension applications on all Federal-aid highway projects.

In light of the nature of the failure in Georgia, I would like to recommend that your staff revisit the recommendations of the TA with our partners at the State DOTs to insure the safe long-term performance of connections utilizing adhesive anchors in sustained tension. In particular, where applications of adhesive anchors in sustained tension are included in a State’s inventory, remind them of the recommendation to institute a program to inspect the condition of those anchors appropriately to insure their long-term performance. As in this case, when those anchors are used on a bridge, at a minimum I would expect that inspection of those connections be made during each routine inspection performed as required by the National Bridge Inspection Standards.

Also, work with your State partner to strongly encourage the removal of any adhesives included on their Qualified Products List that are known to be susceptible to creep. A listing of those products is included in the information that supports the TA.

cc:

Directors of Field Services

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