

## **Project 9-4973: Guideline For Designing Bridge Piers & Abutments for Vehicle Collisions**

### **Project Meeting Minutes**

November 6, 2007, 10:00AM

TTI Riverside Office

Prepared by: William Williams

#### Attendees:

- 1.) Gene Buth, TTI, email: [g-buth@tamu.edu](mailto:g-buth@tamu.edu)
- 2.) Mark Steves, TxDOT, email: [msteves@dot.stste.tx.us](mailto:msteves@dot.stste.tx.us)
- 3.) Danny Morris, TTI, email: [d-morris@tamu.edu](mailto:d-morris@tamu.edu)
- 4.) Gregg Freeby, TxDOT, email: [gfreeby@dot.state.tx.us](mailto:gfreeby@dot.state.tx.us)
- 5.) Akram Abu-Odeh, TTI, email: [abu-odeh@tamu.edu](mailto:abu-odeh@tamu.edu)
- 6.) Dominique Lord, TTI, email: [d-lord@tamu.edu](mailto:d-lord@tamu.edu)
- 7.) William Williams, TTI, email: [w-williams@tamu.edu](mailto:w-williams@tamu.edu)

#### Items Discussed:

- 1.) Gregg Freeby informed the group that the participating states as part of this pooled fund project are: Florida, Georgia, Kansas, Minnesota, New York, Ohio, Tennessee, Texas and
- 2.) Danny Morris made references to several databases (statewide and national) that could provide very useful information for this project. "E" Records Database could have some useful information for this project. Also, FARS fatality nationwide database managed by NITSA could also have useful information. Debra Vermillion with Traffic Operations at TxDOT is the contact to get these records. The "FEATURES" Database has information on bridge geometry throughout the state. The "RHINO" Database has all the geometric data and traffic volume for most of the Texas Roadways. The "GEOHANY" Database has corresponding curve data (horizontal and vertical) for the Texas roadways. "CRIS" (Crash Records Information System) Database, managed by Carol Rawson at TxDOT may also have some useful information.
- 3.) The latest RHINO Data is dated 2006. 2004 RHINO Data has been out prior to this release. Gregg Freeby will contact Debra Vermillion about acquiring this information.
- 4.) Dominique Lord has a graduate student with Texas crash data involving large trucks that he will review for this project. Dominique indicated that he is able to get "bridge density" data for roadways in Texas. This data useful in determine

the probability of large truck crashes into bridge piers for certain roadways. Dominique will review all the available information in this database.

- 5.) Gene Buth recommended that all Texas Databases & Files be explored first, i.e. see what is available here in Texas, then explore acquiring information from other states, Dominique to take the lead on this pursuit. 1<sup>st</sup> get available Texas data, then explore FARS data and other nationwide sources.
- 6.) Other databases were mentioned that might provide useful information such as the “HIS” Database, NTSB Database, as well as th FMCSA (Federal Motor Carrier Safety Association) Database. FMCSA is managed by FHWA.
- 7.) Gregg Freeby asked the question: “How much data relating to Truck accidents is available here in our Texas Databases?” Dominique Lord will respond to this question concerning the available information here in Texas.
- 8.) Danny Morris made mention of a contract just signed by TTI (Jim Kruse, TTI Contact) to manage all the available vessel/barge information on Lower Mississippi River. TTI will be receiving this information in the next few months. This data will include barge data traffic as well as barge crash data.
- 9.) Danny mentioned that several TxDOT Districts have roadway video showing the roadway features recorded every 1/10<sup>th</sup> of a mile. Bryan District has this video information for roadways in the Bryan District. Kurt Barnes, TxDOT Traffic Engineer (979-778-9756) is the contact in the Bryan District. Other districts should have this information as well.
- 10.) Gregg Freeby will contact Keith Ramsey at TxDOT Bridge Inspection for other available data relating to bridge inspection.
- 11.) Danny said that all data in all Texas databases is linked by control sections.
- 12.) William Williams shared structural analyses information on shear capacities of typical pier sizes used by TxDOT (TxDOT Standards for 24, 30, 36 and 42-inch Dia. Piers). William gave an update on information obtained to date on several large truck crashes with bridge Piers in Texas as well as a few other states. Information that is typically lacking from police reports is cargo weight and payload description, and impact speed at point of impact.
- 13.) Akram Abu-Odeh gave a detailed summary of the modeling effort to date. These include the following:
  - a. Matrix I – Tractor Trailer Analyses
  - b. Matrix II – Analyses of a 36-inch pier @ 40, 50 & 60 MPH using 70,000 lb. Dump Truck

- c. Dump Truck Ballast Analysis, FEA modeling of the test effects the ballast materials have in the impact with the pier.
- 14.) William Williams to see about obtaining more specific data from specific crashes. Mainly payload properties as well as speed at impact if available.
- 15.) The meeting adjourned.