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| **Roadside Safety Pooled Fund Program** **Research Problem Statement** | State:  Texas A&M Transportation Institute (TTI-75) |
| Title:  Transition design for temporary concrete barrier pinned on asphalt to rigid concrete barrier | |
| Problem Statement:  Over the years the Pooled Fund program has developed a pinned-down concrete barrier design for pinning temporary concrete barriers to asphalt. Additionally, a transition was developed to transition from free standing barriers to pinned down barriers placed on asphalt. Currently, there is no transition design that would allow connecting the pinned-down barrier to a rigid concrete barrier.  A similar transition was developed under the pooled fund program for the pinned down barriers placed on concrete. The transition connected the 32-inch tall F-shape pinned down barriers placed on concrete to a rigid 42-inch tall single slope barrier (which was determined to be the worst case scenario for the rigid barrier designs used by pooled-fund states).  Test results show that the deflections of the pinned barrier placed on concrete are different from the barriers pinned on asphalt. It is therefore not straightforward to use the transition design developed for concrete for use on asphalt. A transition design needs to be developed through finite element modeling and full-scale crash testing to connect the 32-inch tall F-shape pinned barrier on asphalt to 42-inch tall rigid concrete barrier. | |
| Objectives of the Study:  Develop a transition design for 32-inch tall F-shape temporary concrete barrier pinned on asphalt to a rigid concrete barrier. The transition should be developed for the 42-inch tall rigid single slope barrier, which was determined to be the most critical design among the rigid barriers commonly used by the pooled-fund states. | |
| Expected Benefits:  Design of this transition will allow connecting pinned barrier installed on asphalt to rigid concrete barriers. This will also allow connecting free-standing barriers to a rigid barrier, as this design can be used in conjunction with a previous transition design that allowed connecting the free-standing barrier to pinned barriers. | |
| Description of the Proposed Feature to be Tested: *(Be as detailed as possible. Include drawings and/or plans, if available.)*  Existing 12.5 ft. long F-shape concrete barrier design will be used in a pinned down configuration to connect to a 42-inch tall rigid single slope concrete barrier.   * TTI will need to construct the rigid single slope wall for testing. * TTI may be able to use some of the previously tested F-shape barrier segments for testing. However, if more segments are needed, they will be provided to TTI by a pooled-fund state. | |
| Estimated Cost *(of the feature per linear foot installed):* | Total Estimated Cost of Crash Test:  90,000 |
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