

Research Need:

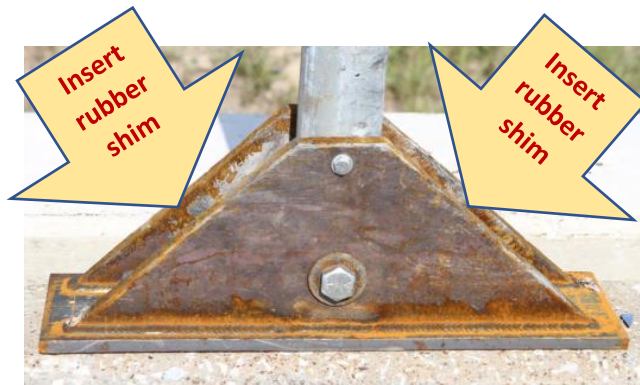
Enhancing the design of the sign post with sacrificial pin mounting on concrete median barrier

Description of Research Need:

States DOT's are looking for signs on barriers to address needed signage but with space limitation. TxDOT developed four crashworthy concepts per the published report of project 6646 (April 2013).

There seems to be an interest in the "Bracket and Sacrificial Pin Design" by user agencies. Although it passed the MASH test, the post can rotate and fall on the top of the barrier and remains there until repaired. This will make the sign panel edge exposed to errant traffic while laying on the barrier.

The idea of this problem statement is to develop rubber stoppers within the bracket to allow the Other desired enhancement is the wind loading limit to yield the pin and cause the rotation of the post.



The scope of work is basic engineering details of the rubber shim and multiple bogie impacts to validate the performance

Key desired enhancements and suggested methods

- a. Square tubing
- b. Pin removal and access (holes in the bracket for draft pin)
- c. Wind loading limit and the possibility of increasing the pins size/grade
- d. Midway stopping versus laying on the top of the barrier
 - i. Rubber shims
 - ii. Other solutions
 - iii.
- e. Estimate wind loading limit for the current pin and estimate the pins size for the desired wind loading limit
- f. Bogie testing. The bracket is to be mounted on fixture at the same height as the barrier to minimize the cost and the complexity of full-scale crash testing.
- g. Bogie testing for pin size variation. Understand the impact force variation due to pin size variation
- h. Analyses of results and recommendation

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