AASHTO Technology Implementation Group

Nomination of Technology Ready for Implementation

2005 NOMINATIONS DUE BY FRIDAY, SEPTEMBER 9, 2005

Sponsoring DOT	1. Sponsoring DOT (State): Utah
Primary Technical Contact	2. Name: Michelle A. Page Organization: Utah Department of Transportation Address: 4501 South 2700 West City: Salt Lake City State: UT Zip Code: 84114-8410 E-mail: michellepage@utah.gov Phone: (801) 965-4333 Fax: (801) 965-4564
Technology Description	3. Name of Technology: **Cable Barrier Systems** (Supports current T&I Priority)
	4. Briefly describe the technology. Steel cable roadside or median barrier. The cables (steel wire rope) are pre-stretched and highly tensioned on weak steel posts. Recommended for use as a median or roadside barrier or as a security fence around important facilities.
	5. Briefly describe the history of its development. Wire rope or steel cable barrier has been used for at least 60 years as an inexpensive method for vehicle restraint in some highway applications. Recently it has been tested and used in the prevention of damage, injury and death caused by median crossover crashes. Applications are tending toward providing vehicle containment in wider medians where barriers have not historically been warranted according to pertinent design standards. These wide medians are typically scheduled for construction of additional travel lanes to increase capacity at some time in the future. Wire cable is a cost effective solution for this design consideration. Experience to date has identified the desirability that cables remain taught after a collision to improve vehicle restraint and to minimize maintenance effort and costs. UDOT installed and evaluated the Brifen and Cass tensioned cable barrier systems on I-15 in Utah County from 2003 to 2005. The objectives of the study were to 1. Collect crash data to determine the effectiveness of these systems. 2. Collect maintenance input to determine the maintainability of each system. 3. Collect the approximate cost per hit of each system. 4. Collect lessons learned from construction and maintenance.
State of Development	6. For how long and in approximately how many applications has your organization used this technology? Evaluated from 2003 to 2005 in two locations on I-15 in Utah County.
	7. What additional development is necessary to enable routine deployment of the technology? No other additional development or evaluation is considered necessary for implementation. Standard Drawings and Specifications have been developed and are currently being reviewed by the UDOT Standards Committee. Installations are planned in other areas of the state.
	8. Have other organizations used this technology? If so, please list organization names and contacts. Organization — Name — Phone — E-mail Colorado DOT — William (Skip) Outcalt Oregon DOT Oklahoma DO — Carrie Clear

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Potential for Payoff	9. What benefits has your organization realized from using this technology? Include cost savings, safety improvements, transportation efficiency or effectiveness, environmental benefits, or other advantages over other existing technologies. Significant reduction in the severity, including fatalities, of cross-over crashes in areas of deployment. Documentation of repair costs by maintenance forces during the evaluation period. Lessons Learned were collected from construction and maintenance forces which helped develop design and construction standards.
Implementation Potential	10. Please describe what actions another transportation agency would need to take to adopt this technology. It is recommended that before adopting the technology, each agency evaluate and compare performance of the systems relative to their specific resources, standards, policies and conditions.
	11. What is the estimated cost, effort, and length of time required for procurement or adoption by another transportation agency? An evaluation period of 1 to 2 years is recommended to collect data and capture relevant Lessons Learned.
	12. What organization(s) currently supply and provide technical support for this technology? (contact Glenn Schulte)
	13. Please describe any legal, regulatory, social, intellectual property, or other issues that could affect ease of implementation. (contact Glenn Schulte)
Willingness to Champion	14. Is the sponsoring DOT willing to promote this technology to other states, if partially supported by the AASHTO Task Force on Technology Implementation? ☒ Yes ☐ No
Date Submitted	15. Date: September 8, 2005

16. Please include image(s) of sketches or photographs, if available ☒Image(s) are attached.*

For a full report on cable barrier systems used in Utah please see the following website:
http://www.udot.utah.gov/download.php/tid=1293/UT-05.07.pdf

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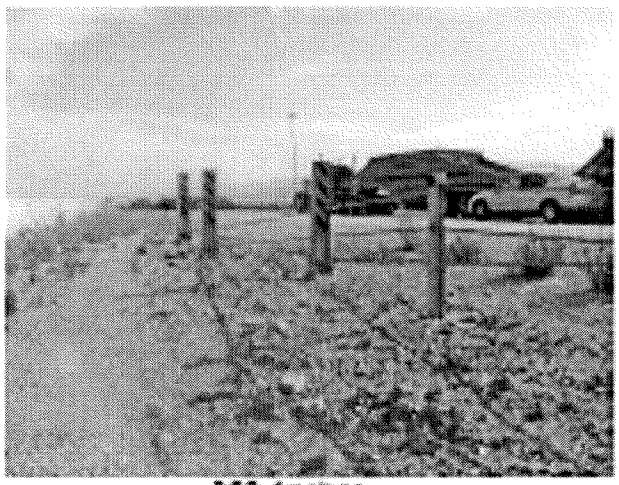
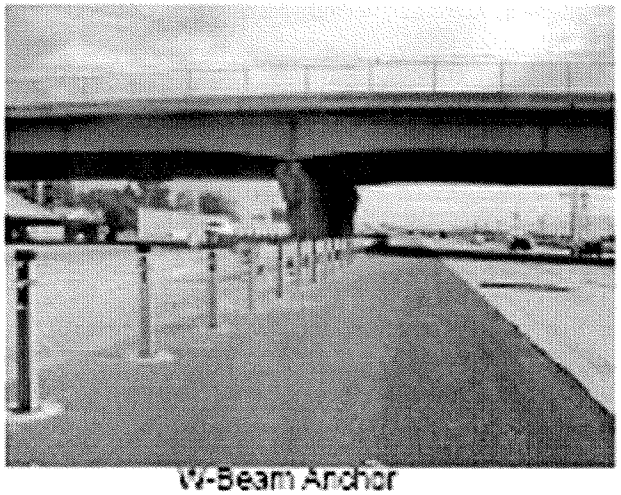
AASHTO CONTACT	MARTY VITALE ADMINISTRATIVE COORDINATOR FOR ENGINEERING AASHTO	PHONE: 202.624.5862 FAX: 202.624.5469 mvitale@aashto.org

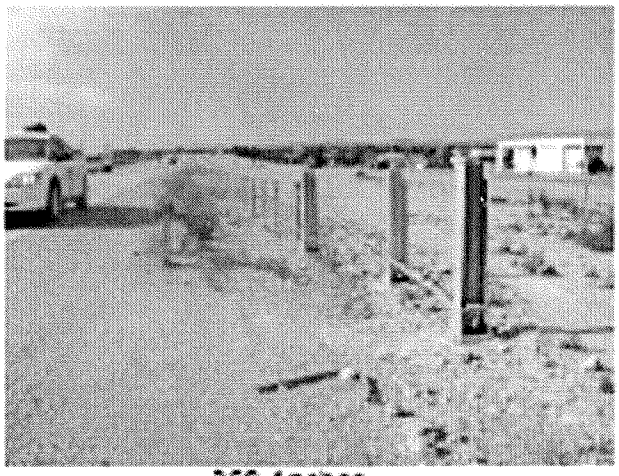
The tire tracks show that the vehicle path was diverted by the cable barrier, preventing what would have been an almost certain crossover collision.



350 Anchor



W-Beam Anchor



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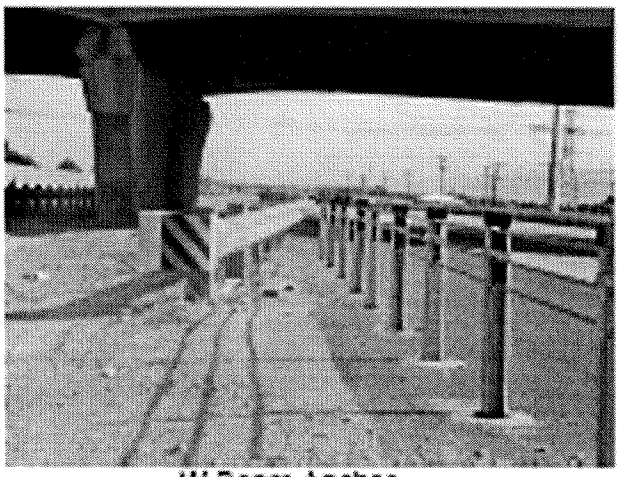

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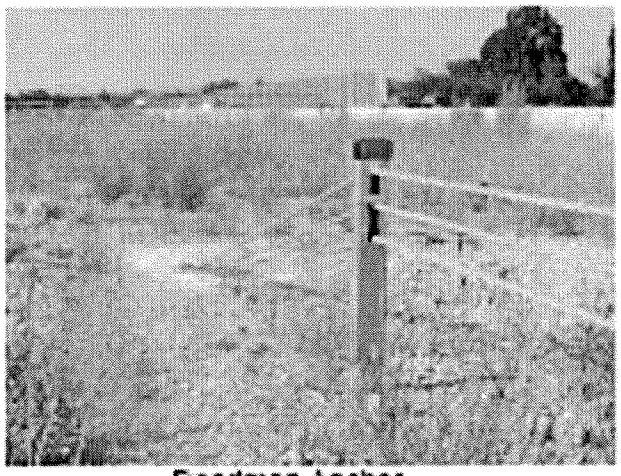

Deadman Anchor

W Beam Anchor