

# Appendix 8



# OKLAHOMA DEPARTMENT OF TRANSPORTATION

June 24, 2004

Oklahoma DOT Experience with  
Brifen Wire Rope Safety Fence on  
Lake Hefner Parkway in Oklahoma City

Almost 3 years have passed since the Brifen Wire Rope Safety Fence (WRSF) was installed on Lake Hefner Parkway in Oklahoma City, and it is appropriate to look at how it has performed. This 7-mile project was the first Brifen WRSF installed anywhere in the United States and we frequently are asked by other states and local entities what we think of its performance. Since I am involved in maintaining safety appurtenances in this metropolitan area, I have closely watched the Brifen WRSF on Lake Hefner Parkway. Some comments are:

- This 7-mile system was installed in two sections. One section is 2 miles long and the other is 5 miles in length. There is an anchor at the end of each section (4 total). There are no intermediate end anchors, which makes for a simple, straightforward installation and reduced future maintenance.
- As of May 10, 2004 the system had 238 hits, requiring replacement of 1279 posts for an average of 5.3 posts per hit. Maintenance (by contract) costs \$51.00 per post replaced, for an average repair cost per hit of \$270.00. This covers material, labor and traffic control. Repair of a similar length of w-beam guardrail would be far more expensive and time consuming. (3 sections of 25' rails, post, bolts, etc. plus heavy equipment)
- To our knowledge, police accident reports have only been filed on approximately 30% of the hits, meaning 70% of the vehicles received only minor damage and drivers were uninjured and able to drive away. Only 3 injuries have been reported as far as we know. A number of the hits have been at very high speed and at impact angles approaching 90°. The largest vehicle to impact the system was a full size school bus. The bus was re-directed safely after the driver had a heart attack. This is a remarkable record compared to any other type of barrier (w-beam, concrete, etc), which generally cause extensive vehicle damage when hit and injuries can be severe.
- One of the major benefits of the Brifen WRSF has been the short time required to make repairs. A typical 5-post repair is usually made in about 15 minutes by one person using only hand tools. Two people can do it even faster. This means crews are not in harms way for very long and there is little or no delay to traffic.
- The WRSF normally stays up after a hit, and has successfully re-directed additional nearby hits prior to being repaired. It does not fall to the ground after a hit like the 3-cable systems are known to do, which would leave a gap in the protection. We have had only a few cases, when many posts were knocked out, that the cables have dropped down to the ground. In those cases repairs were made within 2 hours as required by the contract for those type hits.
- In an effort to reduce costs for vegetation control, an asphalt "mowing strip" was placed under the WRSF for the full length of the project. It is 4 feet wide and 4" thick and placed adjacent to the southbound lanes. The WRSF is centered in this strip. This adds cost and is not very effective since grass has now over grown much of the strip and hand mowing is still needed. Use of a soil sterilant herbicide may be more cost-effective.

In summary, our experience with Brifen WRSF has been excellent. We have had no fatalities and only 3 barrier-involved injuries to date as far as we know. It is a highly cost effective barrier that has served the traveling public extremely well. In fact, the Lake Hefner Parkway Brifen WRSF won a prestigious Federal Highway Administration National Safety Award in November 2003 in competition with many safety projects from all around the country.

We hope to continue its use on other sites as funding becomes available. We do not support using other unproven cable barrier systems when we already have a system that we know saves lives and property damage, and is easy and inexpensive to repair. A side benefit is that Brifen WRSF is manufactured right here in Oklahoma City, providing needed jobs for local workers.

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