

**2016 Colorado LTAP
“You Show Us” Contest Entry**

THE GUARDRAIL RECLAIMER

Gunnison County Public Works
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Problem Statement

Every year our guardrails would gather material; either common road debris or sand spread by our plow trucks, and space below the guardrail would shrink. In the worst case scenarios even the overall height of the guardrail would diminish. In order to clean the guardrails a crew consisting of flaggers, 3 shovel hands, a skid steer or loader, dump truck and occasionally a motor grader would be used to clean the guardrails. Even with this level of manpower and equipment, progress was slow and the amount of material removed was not nearly enough to regain the original functionality of the guardrail. With the increase in miles of guardrail in our county, the time spent cleaning them began to be a concern.

Discussion of Solution

We decided that using the skid steer to replace the 3 shovel hands and the blade while increasing efficiency, would be a beneficial endeavor. After a brief discussion with crew members, the keys to a successful implement were clear. It needed to be both a bull blade and a scraper, it needed to be level to the road surface, and it needed to work under the guardrail (short in height). The resulting implement fits over the forks on a skid steer, eliminating the need to buy a hitch or attachment system specifically for this implement. It chains to the forks so that there are no modifications to the forks or skid steer. It has a replaceable blade that accommodates different guardrail post widths (although most are a standard width) and allows for replacement of the edge as it wears out. The design has the ability to carry the bucket so that the skid steer can swap between the reclaimer and the bucket once on the jobsite so that an additional loader is not needed. The implement also meets all of our initial guidelines for functionality.

Labor, Equipment, Materials

The construction of the guardrail reclaimer was not an expensive endeavor. The purchase of 10 feet of 4” x 2” box steel and a 6’ cutting edge were the only material costs. The rest of the

materials were scraps from other projects. The reclaimer was built by one employee and it took about 8 man hours.

Total Cost

The total construction cost of the new implement is estimated to be **\$650**.

- \$350 – Wages
- \$100 – Steel
- \$200 – Cutting edge

Savings and Benefit to Agency

This implement has changed the way that we approach cleaning guardrail. It is no longer an onerous task for the crew. Not only are we cleaning more feet of guardrail every year, but we are removing more material and establishing better drainage and a higher level of safety than when we did the task entirely by hand. We also eliminated 3 FTE’s and at least one piece of equipment from this task. Additionally, our crews have an increased level of buy-in because they designed and built the implement themselves. The low initial cost and improved outcome achieved for this task has made this an overall success for Gunnison County.

MORE PHOTOS INCLUDED BELOW

VIDEO of the device in use is available upon request.



