

## Quick-Change Plow Marker



### Description

Snow plow markers have been used for several years at MoDOT to aid operators in seeing the plow through the snow. The plastic markers are fragile and break when water freezes in them. If the tubes break while the plow is in use, they are not changed until after the storm because it's a time consuming task. To fix this problem, MoDOT's Festus shed began making plow markers at a much cheaper price. The markers are crafted by bolting a reusable bracket to the plow then slipping the tube into place and locking with a clip. Simply pull the clip, remove the broken tube and replace it with a new one in seconds.

### Benefit

Using the Quick-Change Plow Marker saves time and simplifies the work of replacing a plow marker. The biggest benefit of this innovation is that it saves the department money. Through a vendor, a plow marker costs \$15.86. The new style has a one-time cost of \$7.38 to replace both sides for the installation of the aluminum bracket, the tube and the hardware. Once the bracket is installed, the reoccurring cost is only \$.82 for each tube.

### Materials and Labor

1 hour of staff time with \$7.38 in materials and \$1.64 in reoccurring costs. Breakdown for costs and replacement on back page.

### For More Information Contact:

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Additional photos or videos can be seen by accessing the Innovations Challenge SharePoint page at: <http://sharepoint/systemdelivery/TP/Documents/InnovationsChallenge.aspx>.

### **The Breakdown for cost and replacement of Plow Markers:**

The cost from a vendor for a new set of plow markers is \$31.73.  
The price for an individual plow marker from a vendor is \$15.86.

#### The cost for our Replacement Plow Markers:

A 4 inch bracket made out of Aluminum Tubing costs \$2.08.

A 30 inch stick of Red Plastic Pex Line costs \$0.82.

The cost for a Hitch Pin is \$0.18.

Two bolts and locknuts to bolt on the bracket costs \$0.61.

Reflective tape is optional.

\*\* The total cost to install a set of our Plow Markers is \$7.38 \*\*

This is a savings of \$24.35 from buying a new set.

After the new brackets are installed, only the Pex Lines would need replaced which costs \$1.64 for two.

This will save MoDOT \$30.09 per plow for new plow markers.

There are well over 1600 vehicles that plow equipment statewide.

It would cost at least \$50,768.00 to replace every plow with a new set of plow markers.

If they were changed twice during a typical winter, the cost would be \$101,536.00.

Using our new plow markers, it would cost \$11,808.00 to replace every set of plow markers statewide.

After the new brackets were installed, it would only cost \$2,624.00 to replace two Pex Lines, statewide.

\*\*\* After the installation, this would save MoDOT \$48,144.00 \*\*\*