Innovation Examples

Dipper Box

Description

A metal box was fabricated to hold and clean rakes and shovels during asphalt operations.

Benefit

Rakes and shovels are kept clean and handy during asphalt work. Anti-seizing agent also is less likely to drip on pavements. This unit is designed specifically to mount onto a pull paver.

Parts and Labor

48" x 26" x 1/8" flat steel	$28
6 in. – 3" x 3" x 1/4" angle iron	$3
1 – 3/8" drain valve	$11
1 – 3/8" elbow and coupler	$8
Total	**$50**
Labor	**4 hours**

For More Information

Contact Travis Wilfong at travis.wilfong@modot.mo.gov or (417) 451-2914. Additional photos can be seen by accessing the Tool and Equipment Challenge homepage at http://wwwi/intranet/or/SolutionsAtWork/ToolEquip.htm.

Trash Bucket

Description

The top tension ring and lid to a five gallon bucket is used to keep trash bags open.

Benefit

This innovation speeds up the process of picking up litter by always having the bag open and ready for trash. The buck handle also provides a good grip to hold the bag steady. Workers can keep their eyes on the road rather than turning to open a trash bag.

Parts and Labor

Total: scrap material
Labor: 5 minutes

For More Information

Contact Tom Chitwood at tommie.chitwood@modot.mo.gov or (573) 323-4519. Additional photos can be seen by accessing the Innovations Challenge homepage at http://wwwi/intranet/or/SolutionsAtWork/Innovations.htm.

Backhoe Post Setter

Description

An attachment is added to the boom of a backhoe to lift round pipe signs that have fallen to the ground. This allows the signpost to be reattached to the base without removing the sign. To attach the post holder, the bucket is removed from the backhoe and the post setter is attached. The attachment has a 4x4 angle iron placed around the pipe and is safely chained so the pipe is not allowed to slide. The backhoe boom raises the pipe to the base, so the pipe can be bolted to the base. Once the pipe is set, the chain is removed to detach it from the post.

Benefit

The Backhoe Post Setter improves safety by eliminating maintenance workers from placing the pipe manually. This method decreases the risk of being struck by the pipe or it falling into the highway. The work is simplified to only bolting the post to the base and spotting the backhoe operator. Since the work can be done without contacting the sign shop, time and money are saved.

Materials and Labor

All the materials that were used to make this post setter were from scrap pieces of metal at no cost. Cost of materials if purchased new is on back. It took four hours of labor to fabricate.

For More Information Contact:

Ron Snider or Caleb Gilgour at caleb.gilgour@modot.mo.gov or (816)583-4343.

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

Examples courtesy of MoDOT: https://www.modot.org/modots-best-practices-tool-and-equipment

Innovation Examples

Inline Asphalt Filter

Description

A filter was fabricated to trap particulate matter from vendor asphalt tankers to prevent clogs in MoDOT asphalt distributors.

Benefit

This inline filter saves wear and tear on department asphalt distributors by trapping sludge before it reaches the distributor. The inline filter can be changed in a matter of minutes. This also avoids exposing workers to hot oil to clean front and rear filters during oiling operations.

Parts and Labor

1 – piece of 3" steel pipe	$5
1 – screen	$103
1 –3" pipe nipple	$9
1 –3" female coupling	$22
1 –3" male coupling	$10
1ft. – 3/8" cold roll	$1
Total	**$150**
Labor	**1 hour**

For More Information

Contact Keith Hartwig at keith.hartwig@modot.mo.gov or (660) 542-0731.
Additional photos can be seen by accessing the Tool and Equipment Challenge homepage at http://wwwi/intranet/or/SolutionsAtWork/ToolEquip.htm

Wheel Chock Holder

Examples courtesy of MDOT

Description

The Wheel Chock Holder can be welded to a trailer to hold one wheel chock on each side of the trailer. There is a chain and clip to hold the wheel chock in place.

Benefit

This innovation improves safety, saves time, simplifies work by keeping the wheel chocks readily available to use on the wheels of the trailer, and eliminates the need to look around for a rock or wooden board that is commonly used. Crafting the holder saves money because it can be fabricated for half of the purchase price. Depending on the style of trailer, fewer materials may be needed.

Materials and Labor

Material	Cost
120 inches of 1/8"x2" Flat Stock	$6.70
24 inches of 1/8x2x2" Angle	$2.40
12 inches of Chain	$0.90
2 Clasps	$2.00

Materials: $12
Labor: 1 hour

For More Information Contact:

Jason Bell at: jason.bell@modot.mo.gov or (314) 223-1035.

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

Concrete Mixing Trailer

https://youtu.be/pCVkUX6qq38

Description and Benefit

This innovation is a concrete mixing trailer that we are using when it would take longer for a concrete truck to come to the bridge where we have the job. By having this trailer, we have the job done faster and cheaper, because sometimes there are not that many square feet to fix on the bridge. On this trailer we used a few things that were available just from other equipment that didn't cost MoDOT anything extra to build this trailer.

For More Information Contact

Southeast District
Ronald Knobloch at Ronald.knobloch@modot.mo.gov or 417-252-9271.

Examples courtesy of MoDOT: https://www.modot.org/modots-best-practices-tool-and-equipment

Innovation Examples

Adjustable Stop-Slow Handle

Description

In 2015, the Southwest District had three flaggers that were hit by the travelling public. The district searched for many solutions to make the flaggers and the message to the travelling public more visible. The adjustable sign handle allows the stop/slow paddle to be raised to heights of 6' or 7' depending upon the conditions our employees are flagging. If taller vehicles such as trucks or farm equipment are first in line, the paddle can be raised to allow the next car approaching better visibility of the sign. It also provides greater flexibility and visibility in curves or hills. Conspicuity tape was added to the handle to also improve overall visibility of the entire assembly.

Benefit

The adjusted height of the stop/slow paddle improves work zone safety by allowing the paddle to be seen by drivers that are approaching the flagger and for those drivers who pull behind the first vehicle. The sign was first used in May 2016 and has been exclusively used by the Republic maintenance crew in all flagging operations.

Materials and Labor

1 hour of staff time with $42 in materials and no reoccurring costs.

For More Information Contact:

Gary McLarry at Gary.McLarry@modot.mo.gov or (417) 895-7618. Alternate contact: Doug Foley.

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

Cone Handle

Description

The cone handle makes it much easier and safer to handle cones. During a flagging operation, cones can be bulky and hard to handle. Prior to use of the cone handle, carrying cones put stress on the shoulders and back. The device allows crews to more easily move cones from one location to another. The cone handler is small and can easily fit into a back pocket. When in use, a crew member can easily move the cone without placing stress on the lower back and shoulders. Crews used scraps of wire and short pieces of PVC pipe to build the cone handle.

Benefit

Cones can be moved quickly and safely during a flagging operation. The device allows a crew worker to hold the cone in one hand and the flagger pole in another. The cone handle is especially handy during a road maintenance operation where the work zone is quickly moving down the road and flaggers must continue to adjust their positions.

Materials and Labor

The cost of materials is $2 and total labor time is 5 minutes.

For More Information Contact:

Glenn Dalton at Marcus.Dalton@modot.mo.gov or (417) 796-2468. Additional contact is Robin Koening.

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

Laser Height Measuring Stick

Description

The Laser Height Measuring Stick is a new device that helps employees obtain a more accurate height of equipment being hauled. The stick simplifies the process and makes it possible for one employee to do the job.

Benefit

The Laser Height Measuring Stick saves time and simplifies work by eliminating the need to climb on the equipment or use a ladder. The ease and convenience takes the guesswork out of preparing equipment for hauling on roadways and improves safety for the person hauling the equipment.

Materials and Labor

1 hour of staff time with $100 in materials.

Materials List

Laser $99.97	Reflector
Bolt	Orange Stick
Velcro	Used Telescoping Leveling Rod

For More Information Contact:

Dawn Miller at Dawn.Miller@modot.mo.gov or (573) 822-9809. Alternate contact: John Moore

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

Examples courtesy of MoDOT: https://www.modot.org/modots-best-practices-tool-and-equipment