

“YOU SHOW US” CONTEST 2010



“YOU SHOW US” CONTEST

Judges

- Tom McDonald, *IA LTAP Safety Circuit Rider*
- Dee Hadfield, *UT LTAP Field Projects Manager*
- Monty Sedlak, *former City & County Street Superv.*
- John Bemelen, *Consultant/ATSSA Instructor*
- Dahir Egal, *FHWA Safety and Traffic Operations*
- Mark Sandifer, *FHWA Technology Deployment*
- Wayne Lupton, *Envirotech Services*

North Dakota: Cutting Edge Lift

- Randy Keller
Dunn County



North Dakota: Cutting Edge Lift

Problem

- Size and weight of changing cutting edges on a piece of equipment.
- Normally stacked in piles and must be lifted and moved to a piece of equipment to be mounted.
- Requires 2 people exposed to possible injury.

North Dakota: Cutting Edge Lift Solution

- Designed to transport a cutting edge from a stack to the piece of equipment to be mounted.
- Unique with multiple adjustments.
 - Lift arm raises by ratchet from ground level to 6'.
 - Edge is secured by 2 screw clamps on each end of arm.
 - Can be angled so 1 person can remove and replace edges.



North Dakota: Cutting Edge Lift

Labor & Materials

- Cost of material ~ \$200.
 - Including a ratchet, three caster wheels, and various sizes of steel square tubing.
- Labor was 10 hours @ \$30/hour for a cost of \$300.

Total ~ \$500.

North Dakota: Cutting Edge Lift

Savings & Benefits

- Can be used to mount cutting edges on *motor graders, front end loaders, and snowplow truck wings and plows.*
 - Motor grader moldboard can be angled so cutting edge can be mounted from a standing position.
- Design requires minimal manual lifting & multiple adjustments eliminate getting under a piece of equipment.

Colorado: Extended Temporary Sign Post

- Lawrence Wilke and Joe Willits
CDOT Colorado Springs



Colorado: Temporary Sign Post Problem



- Many 2 lane mountain roadways have little or no shoulder along areas with metal post guard rail.
- Temporary sign placement becomes an issue due to:
 - Signs and stands encroach into lane of traffic, causing larger vehicles to cross the centerline into oncoming traffic.
 - Signs obstruct visibility of motoring public on narrow winding roadways.

Colorado: Temporary Sign Post Solution



Colorado: Temporary Sign Post Labor & Materials

- 24" of steel guard rail post (scrap)
- 3" of angle iron (scrap fence brace)
- 3" of square tube (scrap from the county sign post)
- Small amount of cutting and welding material
- Cost to fabricate 1 device is ~1 labor hour



Colorado: Extended Temporary Sign Post

Savings & Benefits

- Keeps driving lane unobstructed and improves driver visibility.
- Safer environment for maintenance personnel and drivers.
- Used with both *cloth* and *metal* signs without any problems.



South Dakota:

Emergency Response Sign Trailer

- Hiene Junge
Pennington County



South Dakota: Emergency Response Sign Trailer

Problem

- Problem to search yard looking for traffic control signs and barricades when a roadway emergency arose.
- Difficult during adverse conditions or when sign storage areas were buried in snow.



South Dakota: Emergency Response Sign Trailer Solution

- 2 flat bed trailers purchased
- Storage racks added to include:
 - Advance warning signs with stands
 - Sand bags for ballast for sign stands
 - Barricades with stands
 - Traffic cones





Sign being removed from rack



Cones in rack



Barricade rack & aids in installing stand



Quick release pins and holes for forklift forks

South Dakota: Emergency Response Sign Trailer **Labor & Materials**

Cost of trailer: \$2600.00

Cost of materials: \$2057.74

Cost of labor: \$2933.65

Total Cost: \$7591.39



South Dakota: Sign Trailer Savings & Benefits



- Quicker response time, eliminates man hours wasted looking for TCD when an emergency arises.
- Signs in one place and ready to go.
- Storage racks can be quickly removed and trailer used for another purpose.
- One person can erect TCD as they are removed from trailer.

NEBRASKA: Hydraulic Broom

- Tim Ryan
Keith County



NEBRASKA: Hydraulic Broom

Problem

- Annual chip sealing with expensive equipment.
- A broom to clean surface prior to chipping, and to remove excess rock after, had to be rented each year.



NEBRASKA: Hydraulic Broom

Solution

- An operational broom that can be easily transported to each project while allowing grader to conduct normal operations.
- Operates from snow wing controls, rotates side to side, and runs in forward and reverse.



NEBRASKA:

Hydraulic Broom

Labor & Materials

Labor: 30 hours to fabricate

Materials:

- Scrap broom and hydraulic motor
- Lift group hooks = \$1500
- Hoses and fittings = \$150

Compared to:

- Cost of new broom ~ \$ 35,000
- Cost of used broom ~ \$10,000 to \$12,000



NEBRASKA: Hydraulic Broom Savings & Benefits



- Broom is easy to see from the operator seat, which saves on wear and keeps cost of replacement down.
- Broom has been used on every chip project as well as for other events.
- Broom has saved cost of equipment as well as time.

AND THE WINNER IS...

