“YOU SHOW US” CONTEST
2010
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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
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
Colorado: Temporary Sign Post

- 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
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

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

Barricade rack & aids in installing stand

Cones in rack

Quick release pins and holes for forklift forks
South Dakota: Emergency Response Sign Trailer

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…