



2017 “YOU SHOW US” CONTEST

Noël Clocksin, SDDOT



32nd Annual North Central Local Roads Conference
Rapid City, SD - October 18-19, 2017

A photograph of a dirt road winding through a field. The road is reddish-brown and has tire tracks. The field is green with some yellow flowers. The sky is a hazy yellow.

“You Show Us” Contest

We are too aware that in many instances there are not enough transportation dollars available to maintain our transportation systems to the desired level of service. This is particularly true when it comes to local government programs. What this means is that we need to get more creative with existing funds and materials, along with the application of cost-reducing and innovative techniques. We are also aware that being creative and innovative is what local governments are often really good at but rarely talk about it.

This contest is your opportunity to showcase something that has worked and of which you are proud. It also allows you to share what you’ve learned with your counterparts across the state, the nation, and even the world!

The contest is open to all government agencies within your state. The state winners are selected by their respective Local Transportation Assistance Programs which then compete in the LTAP North Central Region contest to determine the regional winner.

All you have to do is present the solution to a problem you had and list the items, total cost, savings and benefits to your agency. Lots and lots of photos are very helpful to the judges as well!

Judges

- Gary Brennan PE / Office Manager Brosz Engineering-Bowman, ND
- Mark Clausen SD FHWA Engineering/Operations Supervisor
- Jim Hyde SDDOT Pierre Region Operations Engineer
- Sharon Johnson SD FHWA Safety & ROW Engineer
- Bob Meister Retired SD Highway Superintendent / SD Transportation Hall of Honor Inductee
- Raymond Roggow Retired SD Highway Superintendent

Judges' Ranking Sheet

The following is provided only as a tool. You can use the following simple score sheet to rank nominees from highest/best (5) to lowest (1).

PROJECT NAME:	Drain Tile Trailer	Pavement Preservation Evaluation Project	Rural Address Sign Rehab	Shoulder Roller
Safety Improvement				
Operational Efficiency				
Innovation				
Cost Savings				
Ease of Implementation by Others				
TOTAL:				

Please provide a comment or two as to why you selected your first choice:

COLORADO - Pavement Preservation Evaluation Project

John Wood & Pat Hill - City of Greeley

City of Greeley - Public
Works & Engineering
1001 9th Avenue
Greeley, CO 80634

John Wood
Pavement Infrastructure
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Pat Hill
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Coordinator
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COLORADO - Pavement Preservation Evaluation Project

Problem

Local Agencies are asked every day to stretch the taxpayer's dollar as far as it can possibly go. Since the early 1970's, the City of Greeley has established a Pavement Management System utilizing a wide variety of street maintenance treatments. These treatments include chip sealing, slurry sealing, emulsion based seal coats and rejuvenating seal coats. As the industry advances, it is important to stay current with new products and techniques, to keep the public infrastructure in as high a quality and safe traveling condition as possible.



COLORADO - Pavement Preservation Evaluation Project

Solution

To aid in stretching the available dollars, the Street and Infrastructure Maintenance, or SIM, staff developed a plan to create a pilot project to evaluate seal coat materials and processes, placed on the same road at the same time exposed to the same traffic within the city limits - a first of its kind study in Colorado.

A test plot of a 1,500 foot long strip of roadway was subdivided and given as wide of a variety of seal coating treatments as possible. The SIM staff reached out to a number of private vendors, asking for any new products that hadn't before been used, or had been used less frequently by Greeley. Although initially there were only a handful of participants, as the project progressed and word spread, other vendors approached the SIM staff about adding their own products to the site. The decision was made that each of 14 sections would be awarded on a "first-come, first-serve" basis, with vendors providing their materials and labor at no cost to the City of Greeley, and the City would provide the traffic control. The program began in July of 2016, took 4 months from start to finish, and saw 14 different products applied.

COLORADO - Pavement Preservation Evaluation Project

Solution

The City developed 9 criteria upon which the 14 section's overall quality and durability could be compared; and made the findings publicly available**. The “Keep Greeley Moving” project website includes a complete list of the precise methods of applications, materials used, construction documentation, composite scores by section, and performance over time.

**<http://keepgreeleymoving.com/2016-seal-coat-test>

<u>Section No.</u>	<u>Applicator</u>	<u>Product</u>	<u>Application Notes</u>	<u>Date of Application</u>
1	Andale Construction	HA5 - High Density Mineral Bond		9/1/2016
2	COBITCO/CoG -Streets Dept.	Reclamite	CoG sanding	9/2/2016
3	COBITCO/CoG -Streets Dept.	Reclamite	CoG sanding	9/2/2016
4	Foothills Paving	1/4" Chip Seal	Fog sealing on 8/20/2016	8/19/2016
5	Foothills Paving	Type II Slurry Seal		8/19/2016
6	Vance Brothers Inc.	ULTRASEAL Type III	Coatings Inc.	10/14/2016
7	Vance Brothers Inc.	Rejuvenate - GSB-88		6/24/2016
8	DISSCO	Rejuvenate - RS-90		9/16/2016
9	Vance Brothers Inc.	ULTRASEAL Type II	Coatings Inc.	10/14/2016
C	Section Empty - Control			
10	Vance Brothers Inc./Foothills Paving	Fabric & Double 3/8" Chip Seal	Fog sealing on 9/25/2016	9/23/2016
11	SealMaster	Master Seal	Apex	8/3/2016
12	SealMaster	PMM	Apex	8/3/2016
13	SealMaster	Liquid Road	Apex	8/3/2016
14	SealMaster	Color Pave	Apex - Brickyard Red	8/3/2016

COLORADO - Pavement Preservation Evaluation Project

Labor & Materials

- Labor/Materials \$ 0
- Traffic Control \$1,700

Total = \$1,700

The product vendors provided their materials and labor at no cost to the City, and the City provided the traffic control and small administrative fees associated with communication efforts, and mailing out information and surveys to the affected neighborhood.

COLORADO - Pavement Preservation Evaluation Project

Savings & Benefits





COLORADO - Pavement Preservation Evaluation Project

Savings & Benefits

Local Agencies must be diligent in how they budget limited capital funds for annual maintenance of their asphalt pavements. In response, the City of Greeley developed a program to evaluate new paving options with the potential to extend the service life and improve safety of their aging road network.

The project is considered a great success, having gained regional attention. The SIM staff have hosted a number of other government agencies and private entities on site to observe the sections, and have also developed a presentation to discuss findings. Other local agencies have applauded this project as there has been a lot of discussion amongst local agencies that have wanted to take something like this on, but can't get it accomplished. In addition, other agencies have been impressed with the amount of time and effort that City employees put into educating and working with the residents in the project neighborhood.

As time goes on, the City of Greeley plans to continually monitor the site each month over the course of the next two years before returning the road to a uniform surface

NEBRASKA - Rural Address Sign Rehab

George Gerdes - Thayer County

Thayer County Road Department
(402) 768-6155
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NEBRASKA - Rural Address Sign Rehab

Problem

Many of the county's rural address signs throughout the county needed to be replaced due to theft, being used for target practice, and being unreadable because they were faded. The county had also collected a large pile of used and damaged road signs.



NEBRASKA - Rural Address Sign Rehab

Solution

The county purchased a metal shear, which they use to cut new rural address signs out of their scrap road signs. They put new green reflective tape on them which covers any bullet holes. Signs that are only faded can be recovered without being taken down. They cut letters and numbers out of white reflective tape to match their original signs.



NEBRASKA - Rural Address Sign Rehab

Labor & Materials

- Metal Shear - \$ 95
- Reflective Tape - \$ 4 per yard
- Time for One Employee to Make One Sign – 15 Minutes

Total Per Sign = \$5.25

NEBRASKA - Rural Address Sign Rehab

Savings & Benefits

Each intersection requires 4 signs. This recycling and rehab process saves Thayer County \$56 to \$74 per intersection and allows them to repair and replace signs immediately rather than having to order new signs from their supplier.



NORTH DAKOTA - Drain Tile Trailer

Jay Showers & Cory Ackerman -

Trail County

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319 2nd Avenue Southwest
Hillsboro, ND 58045
(701) 636-4341 - Cory Ackerman

Jay Showers
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Corwyn Martin
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NORTH DAKOTA - Drain Tile Trailer

Problem

The county had to rent a tile dispenser for tiling operations but found this to be problematic for several reasons.

The dispenser was too heavy for the tractor it was mounted on. The combined weight of the dispenser and a full spool of drain tile mounted on the tractor's three-point hitch created a rollover hazard.

The dispenser had to be rented far in advance. Inclement weather on dates when the dispenser was rented meant the crew wasn't able to use it.

The dispenser was often unavailable when the road crew needed to lay drain tile to fix an unforeseen road section.



NORTH DAKOTA - Drain Tile Trailer

Solution

The solution was to design a trailer specifically for transporting a full spool of drain tile with capabilities of unwinding and laying the tile into a trench.

The trailer is designed with the following components: a spoked wheel bed over the frame, a pointed steel cylinder, hydraulic pump and control, and single cylinder diesel engine. The hydraulic pump and control are used to lift the wheel bed to an upright position and the steel cylinder to parallel position. Prior to lifting the wheel bed, the rear of the wheel is folded down. The trailer is backed up so the steel cylinder slides through the spool opening. A bracket with spokes is then pinned over the spool end. The hydraulic pump and control are used to lay the wheel bed and drain tile spool on the trailer frame. The steel cylinder then points upright. Once on the construction site the holding bracket is unpinned which in turn allows the spoked wheel to unwind the drain tile into the trenched road. A pickup, dump truck, or other vehicle can be used to tow the trailer.



NORTH DAKOTA - Drain Tile Trailer

Labor & Materials

■ Materials	\$ 3,333.61
■ Labor	\$ 9,155.66

Total = \$12,489.27

Labor involved 2 employees, 200 hours and included time for design, discussion, building, modifications and painting.

NORTH DAKOTA - Drain Tile Trailer

Savings & Benefits

The department has experienced a savings in time, money, and manpower while also improving safety.

There is no need to schedule and rent the tractor mounted drain tile dispenser.

With the drain tile trailer, the road crews are able to lay drain tile on any road project where there are known as well as unforeseen water issues.

The drain tile trailer is much safer than utilizing a tractor with a mounted dispenser and drain tile spool. The trailer has provided a safer work environment for employees.

Fewer employees are needed to operate the drain tile trailer versus all other alternatives. Typically more than one employee is needed when using the tractor mounted drain tile dispenser at a road project or when transferring the dispenser from one vehicle to another.



SOUTH DAKOTA - Shoulder Roller

Richard Birk - Brookings County

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SOUTH DAKOTA - Shoulder Roller

Problem

Overlay projects create a shoulder drop off, which is a safety risk to the traveling public. The overlays would create a drop off steep enough that it would be difficult for a motor vehicle to correct safely. To try and combat this problem, material was put on the shoulder with a shoulder widener, but there was no safe way to use a roller or truck tire to compact the material after it was placed. The county needed a way to safely compact the material on the shoulder without having a machine on the shoulder.



SOUTH DAKOTA - Shoulder Roller

Solution

The county created a shoulder roller that attaches to the side of a motor grader. The rubber tires and the weight of the old plow wing have enough weight to sufficiently compact the material.



SOUTH DAKOTA - Shoulder Roller

Labor & Materials

▪ Hub & Axle	\$ 600
▪ Rims	\$ 160
▪ Tires	\$ 320
▪ In-stock Material	\$ 150
▪ 40 Hours Labor	\$1,500

Total = \$2,730

SOUTH DAKOTA - Shoulder Roller

Savings & Benefits

The county can now not only increase the safety to the traveling public by fixing shoulder drop offs, but they can accomplish this more safely by not having a machine on the shoulder to do the compaction.



2017 Regional Winner

South Dakota – Shoulder Roller



Richard Birk – Brookings County

Comments from the judges on why they chose this year's winner -

- “Taking the initiative to correct drop offs is commendable. Secondly, making it a safe operation for its employee's by designing and building this device is great.”
- “The reason for selecting the “Shoulder Roller” is because it provides the biggest safety benefit to the traveling public, and has a fairly low cost associated with it.”
- “The primary reason I choose this entry is because it addresses a major safety concern on all roadways, the pavement edge drop-off. The cost to implement this process is minor compared to the price of a life.”
- “I chose the Shoulder Roller for the following 3 reasons: 1. Safer driving conditions for the traveling public; no shoulder drop off; 2. Safer packing conditions for operators, operator stays on a level surface; and 3. Economics, very inexpensive tool to do a big job.”





Be Thinking of Your Entry for the 2018 “You Show Us” Contest



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