

“Connecticut Creative Solutions” Award Program



What is the Connecticut Creative Solutions Award Program?

An award program that will:

Recognize the initiative and innovative thinking of public agency transportation staff in the development of tools, equipment modifications, and processes that increase safety, reduce cost, improve efficiency, and improve the quality of transportation.

Identify and help distribute ideas created in the field so that others can duplicate them and implement them.

Promote continued improvement.

This is what we call technology transfer: taking good ideas and documenting them so that they can be shared among the communities they impact.

Innovations, complex or simple, will compete for the Connecticut Creative Solutions Awards. Up to three awards will be given each year. The creative solutions will be showcased at our annual Technology Transfer Expo and winning agencies will be presented with their awards during our annual Technology Transfer Center graduation ceremony. Winners will also have their creative solutions published in our Technology Transfer Center newsletter.

What are the criteria that will be used by the judges?

- Safety (Did the creative solution improve transportation or environmental safety?)
- Cost Savings (Did it save money?)
- Inventiveness (How creative was it?)
- Transportability (How broadly can the solution be used?)
- Effectiveness (Did it solve the problem?)

What should you include in your submission?

- The completed submission form (below)
- A description of the solution and how it meets the award program criteria
- The photo or sketch of the creative solution

View our online guide of winning solutions:

http://www.t2center.uconn.edu/pdfs/CTCCreativeSolutions_Award_Guide_11.pdf

Deadline –June 1, 2013. Please send submission packets to: Connecticut Creative Solutions Award Program, Technology Transfer Center, Connecticut Transportation Institute, 270 Middle Turnpike, Unit 5202, Storrs, CT 06269

**The formula is simple:
Good Ideas = Savings and Safety, and Savings and Safety = Good Governance**

“Connecticut Creative Solutions” Submission Form

Deadline for submission is June 1, 2013

Name of the Creative Solution: Salt Chute Design for Dump Body Rear Mounted Spinners

Submitter(s) Name & Title: Brian Brouillard -Transportation Highway Maintenance Manager

Agency: State of Connecticut Department of Transportation

E-mail Address: Brian.Brouillard@ct.gov

Address: 100 North Frontage Road

City: Mansfield **State:** Ct. **Zip:** 06250

Phone Number: (860) 465-8074

Description of the Creative Solution:

Why was it necessary?

The Department has many variations of dump bodies with different types of salting and liquid pre-treating systems. The Viking Pro-Line Series 2 Dump Body is designed with the conveyer chain located in the center of the tub body, running the length of the body, discharging material onto a spinner mounted directly to the rear of the truck. A couple issues were encountered during salting operations. 1. The lack of the ability to apply salt directly to the high side or crown of the roadway without crossing over into the opposite lane. 2. Due to the design of the spinner unit, material was being dropped from a height of 2 feet onto the roadway creating a scattering pattern which became counter-productive in terms of concentrating de-icing materials for optimal effect.

DOT Maintainer 2 David Browning from the Putnam Garage came up with the solution and with the support and guidance of Highway Maintenance General Supervisor John Szruba, he designed a salt chute from in-house materials including a 60” piece of 15” smooth bore plastic pipe typically used for drainage applications, fabricated the receiving unit out of square and flat stock so it could be mounted on to the truck, and added a piece of a rubber tire flap to the end of the chute to channel material directly to the roadway. The original spray nozzle and hose for the pre-wet unit was re-plumbed and attached to the unit. It was also designed so that the operator has the option of swiveling the chute from left to right to best suit the needs of any given moment.

How does it work?

Salt drops onto the chute from the conveyer chain, liquid pre-wet material or magnesium chloride is sprayed onto the salt, due to gravity the salt travels down the chute and onto the roadway.

How does it perform?

The unit was tested during this last winter season and performed exceptionally well under all types of conditions.

On secondary roadways, the chute was positioned towards the left or drivers side and de-icing materials were applied directly onto the crown of the road. On multi-lane highways during echelon plowing operations, the operator applied materials on the skip lines. Both examples eliminated the need for the truck to be in another or opposite travel lane.

It was found that due to the smooth finish of the interior of the pipe, the salt moved down the pipe without being impeded. The bottom of the chute was lowered to be within 6 inches from the pavement and with the added rubber flap attached and curled to catch and dispense the salt at the bottom of the pipe, the spread was concentrated with little and depending on application speed and conditions, no scatter at all.

The unit performed well enough that the Department approved the method and offered the design state wide to any of the garages that felt it would benefit their operation.

Cost Estimate (a rough guess will do):

The materials used to build the unit cost less than \$200.00.

On average the whole unit was fabricated in about a day. Although the model Viking Pro-Line Series 2 bodies are in concept all the same, the reality is that when attaching the unit to the trucks, there were some size variations and driver preferences to consider.

Benefit to your operation:

The Highway Maintainer's of the State of Connecticut Department of Transportation are entrusted with the responsibility of clearing the roadways during adverse weather conditions and in the process, do so in a manner that is safe and proficient. The cost in terms of procurement of needed materials, labor towards production and installation is minimal to any department or municipality. The effectiveness of the chute, thereby eliminating scatter and using the appropriate amount of de-icing materials also would be less evasive towards environmental concerns. Mr. Browning design has demonstrated to be a smart and creative solution for dump bodies with rear mounted spinners.

Was your solution inspired by another source or is it an original?

Mr. Browning is a capable 'hands on' type of employee who came up with the design after the truck entered into service with the Department and the limitations were revealed.

Mr. Szruba had been involved with another salt chute solution design a few years back. He listened to his employee(s) input and understood the problem associated with the equipment. His support and leadership through the process and willingness to bring the project to the attention of Management so that others could benefit from the solution is noteworthy of recognition.

Please include photos or sketches of your creative solution.

Award winners will receive:

- Winners will be honored at the annual Technology Transfer Center graduation ceremony where they will be presented with the "Connecticut Creative Solutions" award
- The Creative Solution will be highlighted at the Technology Transfer Expo
- An article about the Creative Solution will be highlighted in the Technology Transfer Newsletter
- A press release will be sent to your local newspaper

Please send this completed submission form to:

Mary McCarthy, Training Specialist
Technology Transfer Center
270 Middle Turnpike, Unit 5202
Storrs, CT 06269
Phone: 860-486-1384 Fax: 860-486-5718
Email: mary@engr.uconn.edu