

## Mouse Trap Winner #3

### Asphalt Patch Trailer Improvements

A desire to improve safety for a team of roadway repair workers created a winner in this year's Build a Better Mousetrap third place award sponsored by the Federal Highway Administration's Office of Innovative Program Delivery Center for Local Aid Support.

The Polk County, Minnesota Asphalt Patch Trailer Crew needed safer ways to load and dispense tack oil used for roadway repairs. Their previous methods were unsafe for the workers and passing motorists. While working the roadways, the crew would often climb on top of a trailer tongue to access the propane fuel tank to reach the tack oil fill port. A wand used for dispensing the tack oil onto the pavement was another safety concern. The wand was too short, causing the truck to block traffic lanes making it difficult for passing motorists.

The crew's newest member came up with some ideas to improve safety for the crew and motorists. The innovations involved the design of a platform access stairway and development of a swinging boom. The stairway helps the team to climb to the top of the trailer to the tack oil fill cap. The swinging boom help to increase the reach of the tack oil wand, which would keep the truck and trailer from blocking lanes during its use. The swinging boom also prevented the excess hose from crossing the tack oil dispensing wand. This small change eliminated tripping and entanglement hazards for crew workers.



Figure 1. Polk County's new Platform and Stairway, Picture provided by Polk County



Figure 2. Platform with extended wand, Picture provided by Polk County

With a total cost of \$550 in equipment and 15 hours of manpower time, many benefits were produced such as: a reduction in injury risk to personnel, less operator fatigue, increased productivity on roadway repairs, faster repair time. As a result of making these changes the Polk County management identified that there was a decreased amount of time workers are exposed to hazards including oncoming traffic, and motorists can now pass the truck with the help of a flagging crew.

Rich Sanders, Polk County Engineer is always encouraging his crew to be innovative in their thinking, "There is nothing wrong with trying, even if it does not succeed, you learn from it and keep trying." Sanders says there are times you have to let them go and do what they need to do. He says he is absolutely thrilled that after years of watching others win, that he was able to receive a Build a Better Mousetrap Award this year!