2019 Build a Better Mousetrap Winners

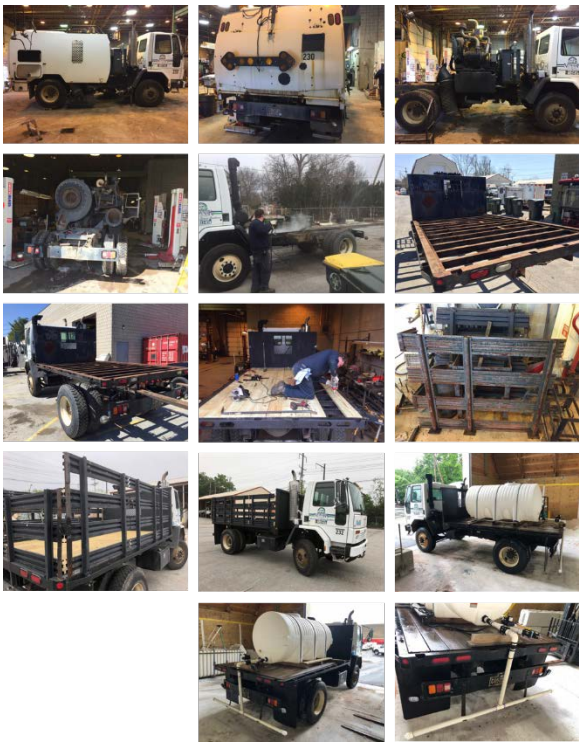
We have winners in the 2019 Delaware Build a Better Mousetrap competition and they have been forwarded on to the national competition. What is the Build a Better Mousetrap completion, you ask? Well, first of all, it's not really about traps or mice; it's about innovation.

In each of your agencies, there are transportation-related projects that you, your employees, or crew designed and built; they can be anything from the development of tools, equipment modifications, and/or processes that increase safety, reduce cost, improve efficiency, and improve the quality of transportation. Most of them are simple, although some get surprisingly (ridiculously?) complex. Regardless, they move the needle just a little bit (sometimes quite a bit) to make things a little safer, easier, or neater (it's a word).

And keeping the idea to yourself is just selfish. Oh, you probably think that everybody has already thought of that, or that it isn't any big deal, or people will think it's a silly idea. Well, no they didn't, yes it is, and who cares what the "nattering nabobs of negativism" think? We think these innovative ideas are the cat's meow, the bee's knees, the fox's socks, and as fine as frog's hair. We think these ideas should be collected and shared…and that's what LTAPs and T^2 Centers across the country do.

You can view our winners at the Delaware T^2/LTAP Center website.

2019 First Place Winner



Delaware's winner for the 2019 Build a Better Mousetrap is the City of Newark for their conversion of a spent street sweeper truck into a dual flatbed transport and salt brine truck.

As Jason Winterling explained, their street sweeper had two power plants, one to operate the vehicle and one for powering the sweeping machine itself. The sweeper was no longer working, but the rest of the truck was fully functional. Rather than discard the truck for pennies on the dollar, they decided to repurpose it, making the fleet more robust without purchasing a new vehicle.

Public Works personnel reconfigured the street sweeper to a flatbed for moving materials to various jobsites and adding a brine tank they can use to pretreat the roadways before winter storms. As can be seen in the photo collage, they removed the sweeper body and engine and

then attached a used flatbed to the rear of the truck. The flatbed was then fitted with new wood decking that serves as the base for the water tank. They customized a water tank, new electric valves, and PVC piping to fit the flatbed for brine application in the winter.

The total materials cost for the project was under $3,000 and the City is pleased with the versatility of the vehicle and the ability to apply 50 gallons of brine per lane mile at 20 mph during winter storms.

Rusty, Sandi, and Matt caught up with Jason, the rest of the crew, and some of this summer's engineering interns July 23 at their maintenance yard and presented them with their winner's certificate, a $100 Visa gift card, and most importantly, the prestigious trophy. While we were there, we filmed a demonstration of the brine application setup in action. Congratulations to the City of Newark for the creative use of an existing asset for multiple new capabilities.

2019 Second Place Winner

The second place winner for 2019 was another one of those "necessity is the mother of invention" examples. David Holland from the Delaware River and Bay Authority submitted his cleaning manifold for V-box salt spreaders. Salt is terribly corrosive, interfering with the longevity of the spreader and its reliability – thorough and regular cleaning of the salt from the conveyor chains after storms is essential to keep spreaders operating properly, particularly if encapsulating sealants and lubricants are used. As we know, if you can make a maintenance step easier and more automated, it is more likely to be done regularly and done well. David's manifold aims to do just that.

David fabricated a manifold to reduce the time and effort needed to properly maintain the conveyer chains. Two different spray patterns are spaced at specific intervals, intended to focus high-pressure water jets into areas of concern. The 25-degree nozzles on the outside provide a focused spray to concentrate on the moving linkages and pins. The two 40-degree inner nozzles provide a wide spray pattern designed to clear debris and material from the conveyer bars.

David Holland explains the purpose and functionality of the multi-nozzle manifold in this video and a second view shows a bit more of the action.

For about $100 in materials, David was able to significantly improve the maintenance of DRBA's winter maintenance equipment, ensuring even greater readiness from storm to storm.

On July 24th, we met up with David, Mark Smith, and Geoffrey Diehm at their Delaware Memorial Bridge maintenance yard and presented them with their winner's certificate and a $50 Visa gift card. They showed us some more about how the manifold works and illustrated its versatility with their fleet of 20 or so V-box spreaders. David also mentioned that the inspiration for the idea was actually the recently retired James "Shimmer" Watson (who was actually on-site but apparently camera shy) and joked that any adoption by other agencies should pay tribute by writing Shimmer on their device.

National Winners?

We'll find out soon. Rusty and Matt will travel the week of August 11th to Stowe, Vermont for the National Local Technical Assistance Program Association's annual conference and the national winners of the Build a Better Mousetrap competition will be announced. We had a winner last year, so perhaps we're on a roll. Stay tuned to our Facebook page that week, we hope, for late-breaking news.