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2020

Build a Better Mousetrap



U.S. Department of Transportation
Federal Highway Administration

OFFICE OF INNOVATIVE PROGRAM DELIVERY



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All images featured in this publication were provided by the respective competition entrants.





Innovation Among Local and Tribal Agencies

Local and tribal agencies are responsible for more than three million miles of roadways and roughly 50 percent of the bridges in the United States. These transportation networks are vitally important to both the economic health of the country and the quality of life for all Americans. These agencies must use limited budgets and resources to serve the needs of their customers. Innovation can be the mission-critical factor that helps bridge that gap. Local and tribal road practitioners continually implement incremental changes in their processes, tools, and services to reflect groundbreaking technologies and best practices. In their roles as innovators, agency staff leverage their considerable creativity, technical expertise, and diverse talent pool to suggest changes that are useful, valuable, and impactful to their local system. Build a Better Mousetrap (BABM) showcases the most clever and creative practices and tools from across the country. By sharing these innovations with one another, local and tribal road departments can adapt these new tools and practices, and deliver more efficient, cost-effective services to their communities.

For additional information about the Build a Better Mousetrap, please visit <https://www.fhwa.dot.gov/clas/babm/>.

Innovative Project

Project implementation of a new technology or design elements in construction that enhances quality, timeliness, cost, safety, or environmental benefit or efficiency

HONOREE

Niles, New York

Beaver Pipe Cage Improves Safety

Beavers looking for a new home threatened the safety of drivers in the Town of Niles, New York. The beavers moved into the area and began packing mud and sticks into a cross culvert along one of the roadways. Their handy-work sometimes stretched 4 – 5 feet into the culvert causing water to back up and flood the area. Niles officials needed to find a solution that would keep both the beavers and the roads safe. They came up with an idea to use gabion baskets that they had in stock from another job to block the beavers from turning the cross culvert into a home. The first few attempts were unsuccessful because the baskets were not secure enough to keep the beavers out. So, the Town of Niles took their idea further by consulting with highway workers to build a frame around the basket for improved security and stability around the cross culvert. It worked and the beavers eventually went away. Problem solved! “I never had doubt that this was going to work. It was pretty fool proof,” says Patrick Steger, Highway Superintendent with the Town of Niles.

This creative solution cost the town of Niles less than \$500. Patrick’s advice to other agencies is to “Work smarter, not harder.” He says, “If there’s a problem, sit back and think it through. If it doesn’t work the first time, keep at it. Stick with it and don’t give up.”

Congratulations to the Town of Niles, New York on being selected as the 2020 Innovative Project for Build a Better Mousetrap.



Photo credit: Niles, NY

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Smart Transformation

Development and deployment of solutions that implement asset management or smart infrastructure by improving field data capture, data analysis, automation and real-time collection, or work instructions of transportation information.

HONOREE: Mohave County, Arizona

Mobile Application Paves the Way to Efficiency

Mohave County is the 5th largest county in the United States. They needed a solution for completing annual inspections of 994 maintained culverts not included in the National Bridge Inventory, across 2,095 maintained road miles. This was a pretty huge effort that required a system to maintain geospatial inventory, document culvert characteristics, rate culvert condition, enable image capture and timestamp and archive inspection findings in a central location, in real time and electronically. Mohave County officials came up with the idea to look towards technology and develop a mobile application. “We had already successfully launched a mobile app for road closures and thought why not try this again with the culvert inspection program,” says Steven Latoski, Director of the Mohave County Public Works Department in Arizona. They used similar programs already in use in FEMA as a guide to help them develop their new mobile application in-house. It took them a week to create the concept and several months to develop and test the app. According to Steven, there were two main benefits for developing the mobile app in-house, “We were able to use existing technology and resources to build the app and we were able to achieve the product we wanted because we worked on it ourselves.”

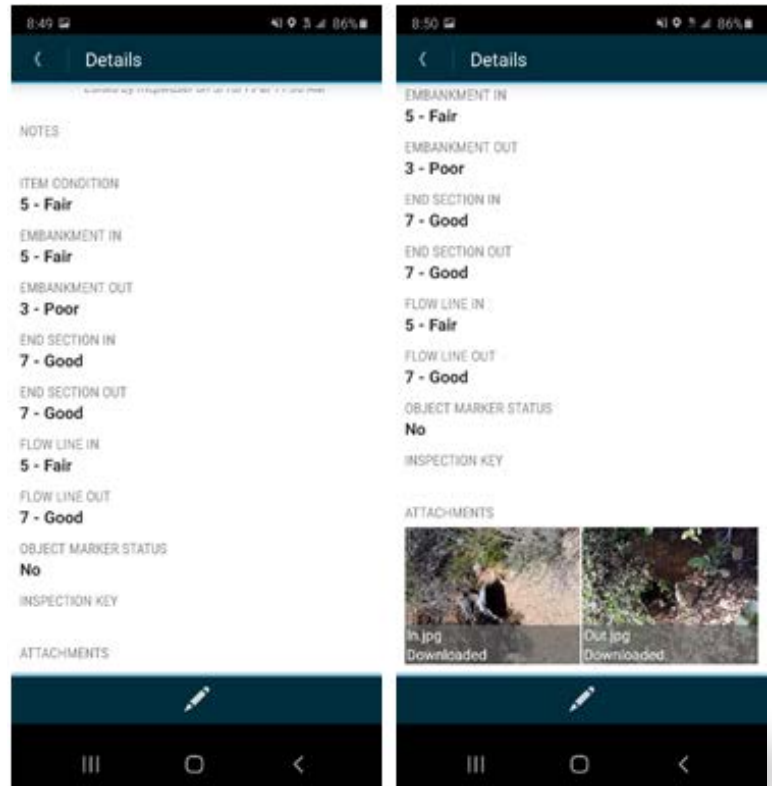


Photo credit: Mohave County, AZ

The Culvert Inspection Mobile Application features easy manual data entry; a live dashboard with pie charts and color coded fonts to track progress; and options for uploading photos, adding notes and generating quick reports. The information is in real-time, which helps with quality control because now inspectors no longer have to try to translate handwritten notes and rely on memory to create reports. Steven says despite their success producing the mobile application in-house, there were some challenges, “Cell service was a huge obstacle. Also, the mobile application was a new technology for many and some users were simply afraid of the technology. But once we trained them to use the app and they started to see the benefits, everyone became pretty excited about it.”

Mohave County Public Works is already working on their next mobile application and look forward to sharing their innovation with other agencies. “When trying to develop a solution, keep the end user in mind,” says Steven. “Don’t be afraid, jump right in. Understand the needs of the end users and ensure the product is developed to meet their needs.”

Congratulations to Mohave County Public Works on receiving the 2020 Build a Better Mousetrap Smart Transformation Award.

For more information:
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Bold Steps

Embraces forward thinking in the development and implementation of an innovative practice or process to improve or streamline transportation related task or function.



Photocredit: Arapahoe County, CO

HONOREE: Arapahoe County, Colorado

The 'Jaws of Life' Saves Culvert Program

Arapahoe County needed a solution for repairing hundreds of damaged culverts throughout the eastern rural areas. The damage comes from large trucks and farming equipment making sharp turns onto narrow roadways crushing the end of the culverts. Repairing these culverts is expensive, requires a lot of time and causes a disruption to traffic flow because county workers have to dig out the asphalt or gravel on the surface of the pipe, excavate around the pipe in order to cut the damaged steel off the pipe, add a new section of pipe to the existing old pipe, place a steel collar around the new union and grout the two pieces together. This work also requires repairs to the road's surface. Arapahoe County needed a solution that involved less time, money, and effort repairing these culverts.

Arapahoe County has a culture of innovation providing staff at all levels an opportunity to suggest improvements at a physical location affectionately called the "Thought Spot", which is a large board where employees can pin their ideas no matter the cost or complexity. It was on the board where Arapahoe County leaders found an innovative idea to more efficiently repair damaged culverts.

The idea was to use some sort of a hydraulic ram to open the crushed culverts. The Arapahoe County leadership team discussed feasibility of the idea and decided to conduct some additional research that led them to a tool that is widely used among fire departments all over the country.

The Jaws of Life is used to pry open vehicles that have been involved in car accidents. "We tried several different styles of the piston-rod hydraulic devices. But, we knew we only needed one style to pry open the crushed culverts and that it would need to be powered by a cordless battery that we could keep in our maintenance trucks," says Douglas Stern, Arapahoe County's Road and Bridge Manager.

Although the tool cost \$11,900, Arapahoe County says they paid themselves back in savings after 12 culvert repairs using their version of the Jaws of Life. They expect to save over \$300,000 in repair costs over the life of the equipment. "We have seen overwhelming success in our process improvement with the Jaws of Life," says Douglas.

When seeking solutions for challenging issues, Douglas suggests keeping the focus on the job, "When you take an organization and focus on the innovation itself, you get random ideas. But when you start focusing on being faster, better and more economical and then tie it to employee reviews and evaluations, you are creating motivation and then you really start to see some good ideas."

Congratulations to Arapahoe County, Colorado as the 2020 Build a Better Mousetrap Bold Steps Award recipient.

For more information:
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Pioneer

Development of new tools and equipment by agency inventors. The tools should provide a better way to do the job and advance road maintenance and construction.



Photo credit: LaMoure County, ND

HONOREE: LaMoure County, North Dakota

Persistence Pays Off for LaMoure County

The Spring Load Arm Enhancement is an attachment to the Gravel Saver Disc, which clears away debris and vegetation from roadside to keep them from being a hazard to drivers. The problem with the Gravel Saver Disc is that it would often crack or break from getting hit with rocks or other solid objects and sometimes the vegetation would cause clogging on the machine. LaMoure County, North Dakota spent time and money replacing the disc.

The Spring Load Arm Enhancement gives the gravel saver disc flexibility due to its angled positioning. The rocks and vegetation can flow more freely with less clogging and breaking to the Gravel Saver Disc. This innovative idea cost LaMoure County an estimated \$300 and only took the work of 2 people to develop the idea.

Tim Geiner, LaMoure County Assistant Road Superintendent says he first got the idea for the Spring Load Arm Enhancement back in 2011 during a conversation with a friend. He thought it was such a great idea that he spent the next several years pondering over how it could work. “I had 3 or 4 different cardboard cutouts of the concept trying to visualize how this could work. Finally, I took my idea to a machinist and he helped me with the measurements to ensure proper angles and clearance,” says Tim.

Tim says he was speechless when he was notified about winning Build a Better Mousetrap. “I get myself into trouble all the time because my mind is constantly trying new things before I do it myself,” Tim laughs. His best advice to other agencies is you have to just go for it. “If you see something and wish it could be different, don’t stop there. Think about it, figure it out and ponder it. If you think it should be better, there’s probably something you can do to make it better.”

Congratulations to the LaMoure County Highway Department in North Dakota as the recipient of the 2020 Build a Better Mousetrap Pioneer Award.

For more information:

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Honorable Mentions 2020

Lyon County, KS

Bold Steps Nomination

Portable Stop Signs Restore Safety

Missing stop signs is certainly a safety hazard for drivers in Lyon County, Kansas. When someone reports a stolen or damaged stop or yield sign, county highway department employees are immediately called out to replace the sign no matter the time of day. Once workers are on the scene with an abundance of replacement materials and tools, they have to find the existing hole where the missing sign once stood or remove the remainder of a broken pole and replace with a new sign. This process was time-consuming because of the time it took to gather the tools and equipment needed to replace the sign, which extended the time the intersection was left without safety signs. Highway workers wanted to find an easier solution to quickly replace the signs while restoring safety to the intersections. They found their solution in portable stop and yield signs. Going portable meant less time spent replacing signs. The portable signs have adjustable height legs with extensions that can be quickly installed in various terrains using less tools. Prior to the portable signs solution, workers would have to guess which tools would be needed to install the new signs. The signs are also easily transported in pickup trucks and SUVs. Lyon County officials say implementing use of the portable signs improved response times for temporarily replacing the signs and restoring safety at the intersections.



Photo credit: Lyon County Highway Dept., KS

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Photo credit: Town of Breckenridge, CO

Breckenridge, CO

Pioneer Nomination

Sign Maintenance Program Gets a New Look

Safety was the number one concern for the Town of Breckenridge, Colorado when it was time to start thinking about a new sign maintenance truck. The old truck was equipped with a mechanic's box and high sides that made it difficult to load and unload traffic control devices from the truck. In addition, work crews would often stand on top of the mechanic's box to reach school-zone control cabinets and to install high signs, such as street name signs. Town officials knew this was not safe and began seeking staff feedback and researching more efficient vehicles to help carryout sign maintenance activities. Their solution for a new truck included design one side of the truck bed to fold down for easier loading and unloading of traffic control devices. They added a work platform with safety bar for activities that involved working with height and they selected a new toolbox for improved organization in the truck bed. They also built steps onto the back of the truck for easier access to the truck bed. Town officials say the \$600 spent on additions to the new truck saved money because they made the improvements themselves. They say the cost savings ensured the safety of their staff and improved the efficiency of delivering the town's sign maintenance program.

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Honorable Mentions 2020

Sherburne, NY

Smart Transformation Nomination

Better Data, Better Decisions

All roads lead to the need for good data to make great decisions when it comes to transportation policy. The Town of Sherburne, New York acknowledged their current records management system left them with inadequate and insufficient data accounting for department assets. They knew they needed to make a change before they could see improvements in their operations. Their solution was to create a simple Asset Management System using ArcGIS to combine employee collected GPS information with spreadsheet asset data to create an interactive map. Cost to implement the system was an estimated \$5000 for intern services. The ArcGIS software would have cost Sherburne \$1250 but was funded through a grant. The Town of Sherburne says since implementation of the new Asset Management Data System, they are seeing major increases in data collection and planning saving time and reducing costs.

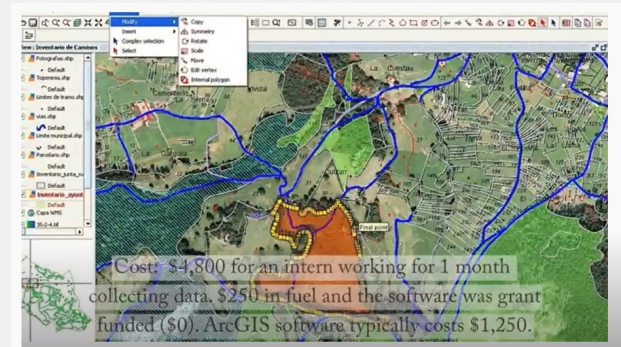


Photo credit: Town of Sherburne, NY

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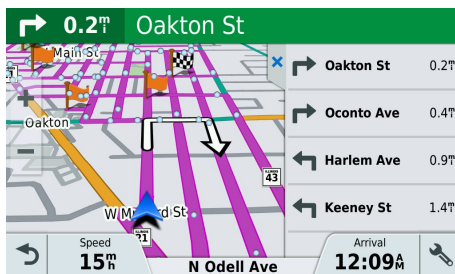


Photo credit: Village of Niles, IL

Village of Niles, Illinois Public Works
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Niles, IL

Pioneer Nomination

Navigating Snow and Ice Control

Budget restraints and staff turnover presented a range of issues for the snow and ice control program in the Village of Niles, Illinois. The Village is a northwestern Chicago suburb with 30,000 residents. Village officials are responsible for managing 115 lane miles of roads and 63.62 miles of state highways. The Village of Niles manually created snowplow zones. However, an actual route with turn-by-turn directions for each area did not exist. This presented a dilemma because drivers assigned to plow the same zones often had different approaches, which resulted in variations of mileage, cycle time and de-icing product used. Another issue was turnover in staff from retirements and budget cuts. New and seasonal employees had to train to learn the zones and the amount of de-icing products needed for those zones. The Village of Niles knew they needed to make a change and find a way to optimize their zones for more efficiency. The Public Works staff teamed up with a software company to develop optimized routes with turn-by-turn. Optimizing a route is not a new idea but providing the route in an easy to understand format for drivers was vital. With the new navigation system in place, drivers are completing their routes faster, using less mileage and less de-icing product.

Honorable Mentions 2020

Madison County, NY

Bold Steps Nomination

Using Wing Control to Save the Roads

In Madison County, New York, a \$2000 solution for excessive damage to road shoulders has saved them over \$150,000. The problem was the road shoulders were constantly damaged from heavy traffic, heavy farm equipment, temperature fluctuations, and snow plow trucks. Madison County officials knew there was nothing they could do about the heavy traffic and temperatures but there was something they could do for damage caused by the snow plows. Their solution was the addition of a wing stop to their 20 plow trucks. The wing stop allows the plow drivers to lower the wing to a set height eliminating driver error when plowing in bad snow storms and in low shoulder areas where the greatest damage to the roadway would occur. Madison County officials say this is a great return on their investment because less damage to the roadways mean less money spent repairing the roadways.



Photo credit: Madison County, NY

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Photo credit: Town of Penfield, NY

Penfield, NY

Pioneer Nomination

Increasing Mobility with a Cart

The Town of Penfield, New York had a problem with installing and removing wing plow arms from plow trucks. They say the task was difficult and time-consuming and they needed a solution to improve efficiency and safety in their snow plow program. As a solution, Penfield work crews built carts to help move wing arms up and down and side to side. These motions helped ease alignment of the pin holes for connecting and disconnecting the wing plow arms. The carts required minimal building materials and only cost \$100 per cart.

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Honorable Mentions 2020

Ramapo, NY

Pioneer Nomination

Extra Eyes for Added Safety

Snowplow operations in the town of Ramapo, New York have seen a decline in the use of wingman helpers leaving plow drivers to finish the job alone. In an effort to increase safety and efficiency, the town purchased a 2-camera system that they installed on the plow equipment. One camera was mounted facing the wing so the driver can view the wing along with what is in front of it. They also installed a camera in the rear of plow equipment to serve as a backup/salt spreader view camera. The solution to their safety problem cost the Town of Ramapo \$550 to retro-fit one truck.



Photo credit: Town of Ramapo, NY

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Photo credit: Page County, IA

Page County, IA

Pioneer Nomination

Easier Spin for Snow Fencing

Page County, Iowa has increased their use of snow fence during the winter seasons. But, the problem with the snow fencing is that it has to be portable. This is difficult for Page County workers because it takes a lot of time to neatly roll and unroll the fencing and working with the fencing is labor intensive. They needed a solution that would improve placement and removal of the fencing. They created a Snow Fence Roller using a powered rotating spindle to wrap the snow fence into a coil. This solution was a money-saver because they were already using the spindle for other projects. The Snow Fence Roller was portable, worked fast and exceeded expectations. According to Page County officials, they were amazed at how well it works. They picked up 2000 feet of snow fence at 4 different locations in one day with only 3 employees. Before the Snow Fence Roller, this task would have taken 3 days with 4 employees.

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Honorable Mentions 2020

Berks County, PA

Pioneer Nomination

Solution for Problem Pavement

Officials with the Lower Heidelberg Township in Berks County Pennsylvania needed a solution to improve the daily commute of their residents. Their issue was uneven pavement after completing spot repairs or filling in shoulders using a hand shovel or rake. In addition to the uneven pavement, the manual repairs put road crews at risk for back injuries. The Black Top and Shoulder Stone Paver was the solution to safer driving conditions with minimal hand work required. The paver that the road crew developed allow asphalt mix to be unloaded and laid down in just 6 - 8 minutes compared to 35 minutes using a hand shovel or rake. The paver cost \$1,950 and allowed workers to set an even height for more level paving. Township officials say this proper patch repair was a huge cost-saver with the result being a smoother riding surface for drivers and a safer task for road crews.



Photo credit: Lower Heidelberg Township

Lower Heidelberg Township,
Berks County, PA
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Photo credit: Arapahoe County, CO

Arapahoe County, CO

Pioneer Nomination

A Transport Made Easier...

A solution for fixing wide cracks in asphalt pavement needed a solution of its own. Arapahoe County uses glass grid material as an added layer of extra-strength when repairing wide cracks in asphalt pavement. The problem is transporting, un-rolling and carrying the glass grid. The rolls of the material are heavy and the stickiness of the roll makes it difficult to unroll. Arapahoe County needed to figure out an easier and faster way for county workers to use the glass grid material. Their Road and Bridge staff came up with the Glass Grid Dispenser. The idea was to construct a metal rack similar to a paper towel holder that would allow the glass grid roll to be changed out quickly. The rack also needed to be strong enough to hold the heavy roll. The County shop created a prototype of the dispenser and then sent it over to a private welding shop to finalize the build. Arapahoe County says the total cost to build the dispenser was \$650, which they were able to recoup in labor costs alone within a matter of months. It can be easily reproduced and was added to all the County's patch trucks. The glass grid dispenser has improved pavement operations for Arapahoe County by having the glass grid material readily available, easy to dispense and portable. County officials say the best part is that their employees will actually use the glass grid rather than making excuses about how hard it is to un-roll.

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Honorable Mentions 2020

Des Moines, IA

Pioneer Nomination

A Clean Solution to a Messy Situation

The City of Des Moines, Iowa used innovation to cleanup a messy situation. The microsurfacing sled used on asphalt paving projects requires plenty of preparation and clean-up before and after each job. The cleaning process would take city workers approximately 3-4 hours, which cuts into the amount of time left in a day for production. The Grease Slinger is a special spray nozzle developed to improve the amount of time it took to apply grease and then remove slurry from the microsurfacing sled for maintenance. According to the City of Des Moines, Iowa, cost to implement the Grease Slinger was only \$77. They say less labor and less time led to cost savings and increased productivity.



Photo credit: City of Des Moines, IA

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Photo credit: Town of Perry, NY

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Perry, NY

Pioneer Nomination

A Polishing Finish

After a long winter, the Town of Perry spends time and money cleaning up their trucks in preparation for the spring and summer seasons. A component of this maintenance involves polishing the wheels for a fleet of trucks. This was a long and grueling task especially for one person. Cleaning just one tire would take hours. A solution was needed to improve the efficiency of this task. Doc's Wheel Polishing Contraption cost less than 20 dollars. Using only two casters and a lawn mower tire, this innovation increased efficiency and saved time cleaning truck tires. It involves a heavy duty stand that can support the weight of a wheel and can spin while cleaning the tire. The stand has safety measures in place to keep the wheel from falling over. The Town of Perry says two added benefits to the contraption include safety improvements for the individual working on the wheels and a decrease in the amount of time it took to clean each wheel, which is now down to one hour per wheel.

Honorable Mentions 2020

Violet Township, OH

Pioneer Nomination

A Salty Start with a Triumphant Finish

An old plow turned into an innovative solution for a 20-year-old problem. The Violet Township in Ohio had been using a loader tractor for 20 years to push salt into a salt barn without ever reaching full storage capabilities. In 2018, they bought a skid steer that had the same limited piling abilities. They found themselves having to pay extra for a slinger delivery truck to pile more salt into the salt barn to fill to its full capacity. The Township needed a less costly solution to improve their piling capabilities so they turned to an old plow, added a frame using old metal plates, and incorporated some other parts to create a 12 foot extended plate that could push enough salt to maximize storage capability. The only purchase was the skid steer attachment plate, which was \$180 plus \$200 in labor. Township officials say this project was completed in one day. Benefits include the ability to maximize salt pile storage space, improved safety for the workers, and a cost savings because they no longer had to pay extra for a slinger delivery truck to pile more salt into the salt barn.



Photo credit: Ohio LTAP

Violet Township (Fairfield County, OH)
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Photo credit: Fulton, NY

Fulton, NY

Pioneer Nomination

Spreading Downtown Safety

The City of Fulton, New York spent \$45 to improve the safety of downtown sidewalks during the cold winter months. They say they have gone through the gamut of walk behind salt spreaders for sidewalks because they never lasted and kept breaking. Using a combined snow blower chassis and a tailgate salt spreader, city workers were able to improve their salt spreader program for residents who use the sidewalks. The Salt Dogg 3000 Municipal Sidewalk Salt Spreader not only improved their program's efficiency and effectiveness, but also saved the City money spent buying new salt spreaders.

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Saline, KS

Pioneer Nomination

A Stacking Solution for Clean Culverts

Clean culverts allow for the free passage of runoff and drainage waters thus keeping the roadways and personal property from getting damaged. Saline, Kansas officials needed an inexpensive solution for cleaning out low concrete box culverts. They had an idea to develop a skid loader attachment that could be hauled to projects in stacked sections and then assemble at the worksite for use. City officials contacted a local manufacturer to assist with building the attachment. This effort cost the city \$4000, which is money they expect to receive back through savings on maintenance including repairs and labor.



Photo credit: Saline, KS Road and Bridge

Saline County Road & Bridge

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Photo credit: Rockland County, NY

Rockland County Highway

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Rockland County, NY

Pioneer Nomination

Cart Charging Life

In Rockland County, New York, they found their innovative solution in wheels off an old hospital stretcher and an old pushcart. They got tired of having to revive dying batteries for equipment stored in their highway garage. Their solution is a Scotty Pack, which is a portable cart with a charger, 3 recycled 12-volt batteries with attached cables and clamps. Rockland County workers can now roll the cart to equipment that needs recharging eliminating the use jump boxes, extension cords or generators. The cart can start a car, medium duty trucks, and even equipment loaders and backhoes. The Scotty Pack cost the County \$70 because they were able to mainly use materials they already had at the garage. Rockland County is proud of the time and cost savings and even the convenience of having the portable cart to quickly jump equipment in different locations.

LIST OF LTAP CENTERS

State/Territory	Center Name	Address	Phone Number	Website
Alabama	Alabama Technology Transfer Center	202 Ramsay Hall Auburn, AL 36849	800-446-0382	http://eng.auburn.edu/atap/
Alaska	Alaska Research, Development, & Technology Transfer	2301 Peger Road Fairbanks, AK 99709-5316	907-269-6208	http://www.dot.state.ak.us/stwddes/research/
Arizona	Arizona LTAP	1130 North 22nd Avenue Phoenix, AZ 85009	602-712-4050	https://www.azltap.org/
Arkansas	Arkansas Technology Transfer Center	1 University of Arkansas Fayetteville, AR 72701	501-569-2380	http://www.arkansashighways.com/t2/t2.aspx
California	California LTAP Center	3000 State University Drive Sacramento, CA 95819-6103	916-278-4433	http://www.californialtap.org/
Colorado	Colorado LTAP	15285 S. Golden Road Building 47 Golden, CO 80401	303-735-3530	https://www.coloradoltap.org/ltap/default.asp
Connecticut	Connecticut Technology Transfer Center	270 Middle Turnpike Unit 5202 Storrs, CT 06269-5202	860-486-5400	https://t2center.uconn.edu/
Delaware	Delaware T2 / LTAP Center	355A DuPont Hall University of Delaware Newark, DE 19716	302-831-6241	https://sites.udel.edu/dct/t2-center/
Florida	Florida LTAP Center	2100 NE Waldo Road Building 1604, Suite 106 Gainesville, FL 32609	352-273-1670	https://floridaltap.org/
Georgia	Georgia Department of Transportation LTAP Center	3993 Aviation Circle Atlanta, GA 30336	404-507-3437	http://www.dot.ga.gov/PartnerSmart/Local/Pages/LTAP.aspx
Hawaii	State of Hawaii Department of Transportation	2530 Likelike Highway Honolulu, HI 96819	808-832-3405 Ext 105	http://hidot.hawaii.gov/highways/other/hawaii-local-technical-assistance-program/
Idaho	LHTAC T2 Center	3330 W. Grace Street Boise, ID 83703	208-344-0565	https://lhtac.org/
Illinois	Illinois Technology Transfer Center	2300 S. Dirksen Parkway Springfield, IL 62764	217-782-7820	http://idot.illinois.gov/transportation-system/local-transportation-partners/county-engineers-and-local-public-agencies/technology-transfer-center/index
Indiana	Indiana LTAP	504 West State Street West Lafayette, IN 47907-2058	765-494-2900	https://docs.lib.purdue.edu/inltap/

State/Territory	Center Name	Address	Phone Number	Website
Iowa	<i>Iowa LTAP</i>	2711 South Loop Drive Suite 4700 Ames, IA 50010-8664	515-294-8103	https://iowaltap.iastate.edu/
Kansas	<i>Kansas University Transportation Center</i>	1536 W 15th Street Suite G 520 Lawrence, KS 66045	785-864-5658	http://kutc.ku.edu/ltap
Kentucky	<i>Kentucky Transportation Center</i>	176 Raymond Building Lexington, KY 40506-0281	800-432-0719	https://www.kyt2.com/
Louisiana	<i>Louisiana LTAP Technology Transfer Center</i>	4101 Gourrier Avenue Baton Rouge, LA 70808	225-767-9131	http://www.ltrc.lsu.edu/ltap/
Maine	<i>Maine Local Roads Center</i>	24 Child Street Augusta, ME 04330	800-498-9133	https://www.maine.gov/mdot/mlrc/
Maryland	<i>Center for Advanced Transportation Technology and Maryland T2 Center</i>	5000 College Avenue 2200 Technology Ventures Bldg., College Park, MD 20740	301-403-4623	http://www.mdt2center.umd.edu/
Massachusetts	<i>Massachusetts LTAP - Baystate Roads</i>	214 Marston Hall Amherst, MA 01003	413-545-2604	https://www.umasstransportationcenter.org/umtc/Baystate_Roads.asp
Michigan	<i>Michigan Local Technical Assistance Program</i>	309 Dillman Hall 1400 Townsend Drive Houghton, MI 49931	906-487-2102	http://www.michiganltap.org/
Minnesota	<i>Minnesota LTAP</i>	University Office Plaza, Suite 440 2221 University Avenue, SE Minneapolis, MN 55414	612-626-1077	http://www.mnltap.umn.edu/
Mississippi	<i>Mississippi LTAP</i>	401 North West Street Jackson, MS 39201	601-359-7685	www.mdot.ms.gov/portal/ltap
Missouri	<i>Missouri LTAP</i>	710 University Drive Suite 121 Rolla, MO 65409-1340	573-341-7200	https://mltrc.mst.edu/moltap/home/
Montana	<i>Montana Local Technical Assistance Program</i>	2327 University Way Room 230 Bozeman, MT 59715	406-994-6100	http://www.montana.edu/ltap/
Nebraska	<i>Nebraska Local Technical Assistance Program</i>	650 J Street, Suite 215 A Lincoln, NE 68508	402-472-5748	https://www.ltap.unl.edu/neltap/default.asp
Nevada	<i>Nevada LTAP Center</i>	1755 E. Plumb Lane Suite 264 Reno, NV 89502	775-420-4811	https://nvltap.com/
New Hampshire	<i>UNH - Technology Transfer Center</i>	33 Academic Way Durham, NH 03824	603-862-0030	https://t2.unh.edu/contact-us
New Jersey	<i>New Jersey Local Technical Assistance Program</i>	100 Brett Road Piscataway, NJ 08854-8058	848-445-0579	https://cait.rutgers.edu/njltap/

State/Territory	Center Name	Address	Phone Number	Website
New Mexico	<i>New Mexico LTAP</i>	1 University of New Mexico Albuquerque, NM 87131	505-277-0767	http://ltap.unm.edu/
New York	<i>Cornell Local Roads Program</i>	106 Riley Robb Hall Ithaca, NY 14853	607-255-8033	https://www.clrp.cornell.edu/clrp/about.html
North Carolina	<i>North Carolina LTAP</i>	909 Capability Drive Research Building IV Raleigh, NC 27606	919-515-8899	https://itre.ncsu.edu/focus/ltap/
North Dakota	<i>North Dakota LTAP</i>	515 ½ E. Broadway Suite 101 Bismarck, ND 58501	701-328-9855	https://www.ndltap.org/
Ohio	<i>Ohio LTAP Center</i>	1980 West Broad Street Columbus, OH 43223	614-466-7170	http://www.dot.state.oh.us/Divisions/Planning/LocalPrograms/LTAP/Pages/default.aspx
Oklahoma	<i>Oklahoma Local Technical Assistance Program</i>	5202 N Richmond Hill Drive Stillwater, OK 74075	405-744-7496	http://ltap.okstate.edu/
Oregon	<i>Oregon Technology Transfer Center</i>	355 Capitol Street NE, MS 11 Salem, OR 97301-3871	888-275-6368	https://www.oregon.gov/odot/programs/t2/Pages/default.aspx
Pennsylvania	<i>PennDOT LTAP</i>	400 North Street 6th Floor Harrisburg, PA 17120	800-367-5827	https://gis.penndot.gov/ltap/
Puerto Rico	<i>Puerto Rico Transportation Technology Transfer Center</i>	Puerto Rico Transportation Technology Transfer Center Civil Engineering and Surveying Department University of Puerto Rico – Mayagüez Campus P.O. Box 9000 Mayagüez, P.R. 00681-9000	787-832-4040	http://prltap.org/eng/
Rhode Island	<i>Rhode Island Department of Transportation RILTAP</i>	2 Capitol Hill, #119 Providence, RI 02903	401-222-2450	http://www.dot.ri.gov/about/RILTAP.php
South Carolina	<i>South Carolina Transportation Technology Transfer Service</i>	202 Hugo Drive Clemson, SC 29634	864-656-4183	https://www.scltap.org/
South Dakota	<i>South Dakota Local Transportation Assistance Program</i>	1175 Medary Avenue Brookings, SD 57006	605-688-4121	https://www.sdstate.edu/jerome-j-lohr-engineering/sd-local-transportation-assistance-program
Tennessee	<i>Tennessee Transportation Assistance Program</i>	309 Conference Center Building Knoxville, TN 37996-4133	865-974-5255	http://ttap.utk.edu/
Texas	<i>TxLTAP</i>	140 W. Mitchell Street Arlington, TX 76019	817-272-9617	http://www.txltap.org/
Utah	<i>Utah LTAP Center</i>	4111 Old Main Hill Logan, UT 84322-4111	435-797-2918	https://www.utahltap.org/

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Vermont	<i>Vermont Local Roads Program</i>	1716 US Route 302 Montpelier, VT 05633-5001	802-828-3537	https://localroads.vermont.gov/
Virginia	<i>UVA Transportation Training Academy</i>	351 McCormick Road Thornton Hall, Room B122A Charlottesville, VA 22904-4742	434-982-2897	http://uva-tta.net/
Washington	<i>Washington State LTAP Center</i>	310 Maple Park Avenue SE Olympia, WA 98504-7300	360-705-7355	https://www.wsdot.wa.gov/
West Virginia	<i>West Virginia LTAP</i>	395 Evansdale Drive, Morgantown, WV 26505	304-293-9924	https://wvltap.wvu.edu/
Wisconsin	<i>Wisconsin Transportation Information Center</i>	432 North Lake Street Madison, WI 53706	800-442-4615	https://epd.wisc.edu/tic/
Wyoming	<i>Wyoming Technology Transfer Center (WyT2/LTAP)</i>	1000 E. University Avenue Dept. 3295 Laramie, WY 82071	307-766-6743	http://www.uwyo.edu/wyt2/