

National Recognition Program
for Transportation Innovation

2021

Build a Better
MOUSETRAP



U.S. Department of Transportation
Federal Highway Administration



OFFICE OF TRANSPORTATION
WORKFORCE DEVELOPMENT
AND TECHNOLOGY DEPLOYMENT

LOCAL AID SUPPORT

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





Transforming Transportation Through Innovation

FHWA annually recognizes innovation among local agencies and tribes through the Build a Better Mousetrap (BABM) national competition. BABM shines a spotlight on those frontline workers who use their expertise and creativity to solve everyday problems that improve safety, reduce costs, and increase efficiency.

The FHWA Office of Transportation Workforce Development and Technology Deployment - Local Aid Support administers the BABM national competition. Entrants are winners from competitions throughout the country.

This year's winners were selected based on an innovation's cost savings, benefits to the community or agency, ingenuity, importance and impact, time savings, and ease of transference to other agencies.

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. 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 Local Technical Assistance Program (LTAP) or the BABM national competition, please visit <https://www.fhwa.dot.gov/clas/ltap/>.

BUILD A BETTER MOUSETRAP

Award Spotlights

WINNER

Jones County

Innovative Project Award

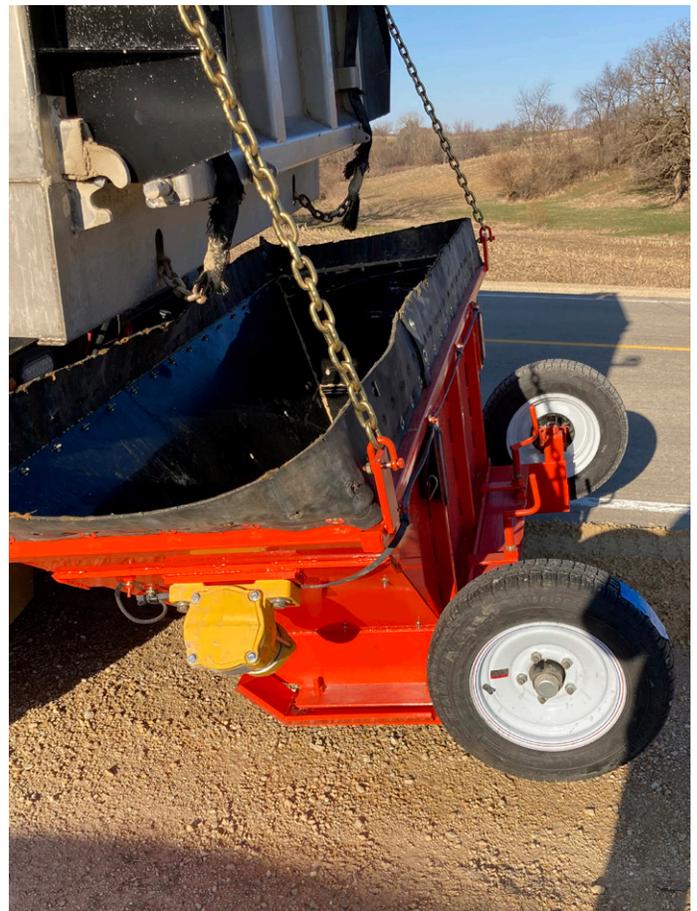
According to Jones County, Iowa, routine maintenance of shoulders on the paved system has always presented issues. The application of stone along the shoulders was a slow process, and the stone was not uniformly applied. Cleanup after shoulder stone application was time consuming and the equipment used for the application required a lot of maintenance. Jones County needed a new solution. “We are a secondary road department, similar to hundreds of others, and don’t have the ability to purchase huge pieces of equipment,” said Todd Postel with Jones County.

The department began its search for a solution by looking at the Iowa Department of Transportation’s method of applying stone on their shoulders. According to Todd, “They use a device that requires them to change out the end gate on their dump trucks and place flutes in the dump box. We began sketching a prototype that eliminated the inefficiencies and constructed our device to use the existing dump box tailgate that’s on all our trucks so it would be universal, and no dump box flutes would be required.”

Jones County calls its attachment device the “Hopper.” It is designed with sloped sides, a Teflon liner, and a vibrator to ensure material flows down the chute and onto the shoulder. It also has a fully adjustable plate to accommodate elevation differences from the hard-surfaced road to the shoulder. “We now have three of them that were developed in-house. The only challenge we faced developing the Hopper was keeping it level. The rest was pretty straightforward,” said Todd.

Shoulder maintenance is a high priority for Jones County, with shoulder edge drop-off as a major safety issue. Using the Hopper devices will result in less material wasted and reduced labor and equipment costs, and will produce more lane miles covered and increase safety for residents. “Our advice to other agencies is to not be scared to try something new or different. Keep the communication open, bridge the gap, and eliminate the fears. Testing the product is key,” said Todd.

Congratulations to Jones County as the FHWA 2021 BABM Innovative Project Award recipient.



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BUILD A BETTER MOUSETRAP

Award Spotlights

WINNER

Illinois Tollway

Bold Steps Award

With many veteran roadway electric workers set to retire in the coming years, transportation officials needed a better way to train new electrical workers on how to assess, repair, and maintain the approximately 18,000 light fixtures along the 294-mile Illinois Tollway system. Traditionally, the biggest challenge was performing the training alongside high-speed traffic and in variable weather while working with high-voltage equipment.

Roadway lighting technician Ben Pierce has been with the Tollway for more than 20 years. He teamed up with his peers to seek input on developing a portable training device that models the Tollway's actual electrical equipment.

"The biggest challenge to developing the device was ensuring the right amount of voltage for training new workers. In the field, we work with about 480 volts. We knew with the portable device, our goal was a voltage below 60," said Ben. The portable device, called the Road Electric Training System, is at 48 volts, which is 1/10th of the 480 volts in the field.

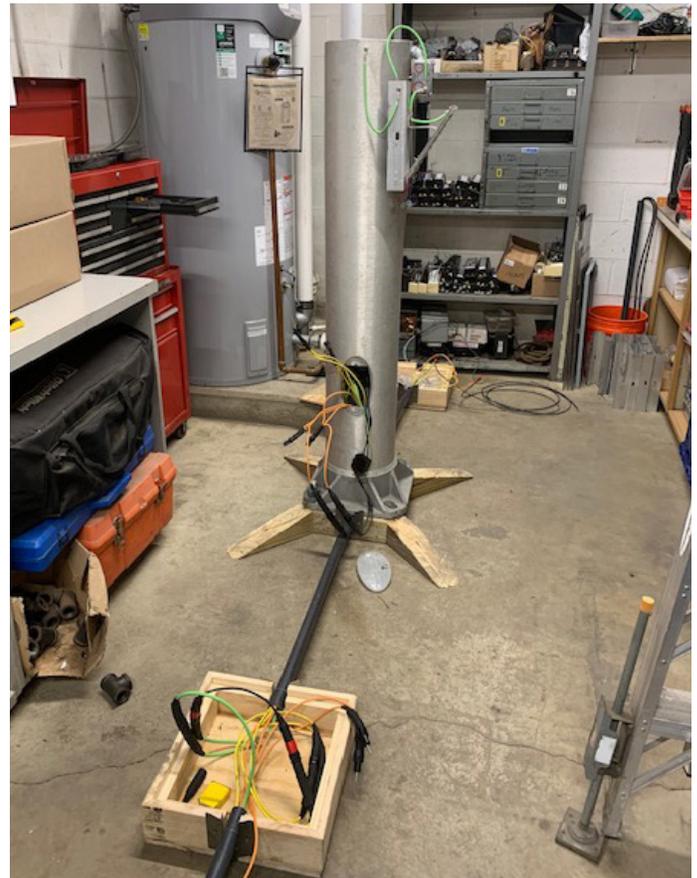
With the device, electric workers can be trained in the typical environment more quickly and with less downtime for inoperable equipment. "After tweaking the voltage to a level appropriate for training, we were very excited to see it working. Everyone was 100 percent on board and loved the idea," said Ben.

Illinois Tollway executive director Jose Alvarez said, "As an organization, of course, safety is the top priority. We always encourage creativity and really support each other when we are developing tools and initiatives. This is a great example of commitment to the project itself and to the organization as a whole."

The Road Electric Training System was built in-house using mostly discarded or scrap parts found around the Tollway facilities. The various components fit together like building blocks with all the conduit slipping inside slots and the light pole keeping all the conduit tightly in place. It took approximately 150 hours for three people to develop the device.

"This was truly a team effort," said Illinois Tollway Roadway Maintenance Manager Joe Dragovich. "We were able to tap into a deep pool of highly experienced, highly skilled staff to develop and fine-tune a valuable new training tool."

The Road Electric Training System has accelerated training, and the electricians are better trained. Roadway electric equipment along the Tollway is fixed more quickly, which means less downtime for inoperative equipment and better roadways for Tollway users. Congratulations to the Illinois Tollway as the FHWA 2021 BABM Bold Steps Award recipient.



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BUILD A BETTER MOUSETRAP

Award Spotlights

WINNER

Independent Highway District

Pioneer Award

Schweitzer Mountain Road in the Independent Highway District (IHD), Idaho, gets anywhere from 100 to 300 inches of snow annually. Maintenance crews plow the road multiple times per day, which results in the scraping away of pavement markings. The reduction in visibility presented a safety hazard for drivers and for snowplow teams trying to get up and down the well-traveled route to the local ski area. "The road is one curve to the next and snowplow trucks tend to drive in a straight line. We needed a solution to keep the trucks on the road and not in the drop-offs," said Mel Bailey with the IHD.

The IHD developed the Recessed Lane Indicator. The process involves making indentations or divots along the roadway's centerline using metal plates and then covering them with thermoplastic markings that can remain visible for up to 10 years. "We looked at other options that included the use of delineators, but they were troublesome for snow removal. And we considered recessed striping the road, but the cost was too high, and it would only hold up for 5 years," said Mel. According to the IHD, the Recessed Lane Indicator works better, holds up better, and costs less. "Everyone was especially happy about this because it did not change the bid price for paving contracts, which was surprising," said Mel.

The IHD is composed of four people and has a small budget. The biggest challenge with the innovative solution was working with the thermoplastic. According to Mel, "It has to be heated with a torch or flame, but there's a fine line between burning the material and melting it to get it to stick to the pavement properly. That's a skill set that is gained by doing the job. It doesn't take too long for someone to learn the skill. When heated partially, the surface should look like a toasted marshmallow over a campfire."

The IHD's advice to agencies hesitant to step outside the box to solve problems: "Nothing ventured is nothing gained. Listen to the workers in the field. Ideas start from the ground up. Don't be afraid to try something different than what you've done before," said Mel.

Congratulations to the IHD as the FHWA 2021 BABM Pioneer Award recipient.



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BUILD A BETTER MOUSETRAP

Award Spotlights

WINNER

Seminole County

Smart Transformation Award

Seminole County is one of the most populous counties in Florida. Residents who are considered disabled under the Americans with Disabilities Act (ADA) make up approximately 7 percent of the county's population. To ensure safe, accessible facilities for these residents and ensure compliance with State and Federal regulations, Seminole County regularly conducts ADA inspections of its facilities. The existing process for those inspections was outdated and time consuming, requiring inspectors to use paper, transcribe notes, and create tables. "The transcription process resulted in time-intensive duplication of efforts for inspectors. Efforts would then be duplicated once again to document the inspections in the geographic information system (GIS)," said Jose Salas, Seminole County Public Works.

The County began looking at options to better streamline the ADA ramp inspection process and improve its workforce management. The solution was to develop a mobile application using Esri ArcGIS mapping software. The County already had licenses for the software for use in Environmental Services for water quality reports. They saw an opportunity to expand its use to improve the ADA inspection program. Working directly with inspectors in the field, Seminole County developed a mobile application in-house. "The first test was a giant failure because none of the images uploaded. It was a growing pain, but we were able to fix the coding. Despite the issues, all the inspectors were excited and responded positively to the app," said Jose. "Everything we do is iterative. If it is not done right the first time, keep going until we get it where it needs to be."

Since launching the mobile application, Seminole County's ADA inspectors have reduced their reliance on paper, reduced inspection time from 1.5 hours to 5 minutes per ramp, and reduced time to document inspection results from 8–16 hours per project to zero. According to Jose, the total time to inspect a project was reduced from 3–4 days to 1 day. This turnaround has improved safety for residents and saved money and time for Seminole County's ADA inspection program. "We continue to make improvements to the program, especially with

reporting," said Jose. "But our advice to other agencies is to try not to be controlled by your fears and know the limitations of your organization." Jose said the greatest benefit is that they took a team-centric approach to developing their solutions. "We are a community and make every effort to work as a community. We support each other any way we can."

Congratulations to Seminole County as the 2021 BABM Smart Transformation Award recipient. They are also the national overall winner as selected by attendees at the National Local and Tribal Technical Assistance Program's Annual Conference.

Seminole County is dedicating this award to their co-worker Calvin Landers, whom they lost in a tragic accident a few years ago. Calvin was a mentor and supervisor who oversaw all the county's construction projects. He is deeply missed.



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Crawford County, Iowa
Innovative Project Nomination

Excavator Extension Prevents Bridge Erosion

Riprap is material placed beneath bridges near abutments or piers to protect against scour and erosion. It can greatly improve structural safety, but can be very difficult to install due to clearance and slope issues. Benching a slope can be both time-consuming and disturbing to stable vegetated areas.

Crawford County's bridge crew developed a highly effective device for placing riprap under a bridge using equipment situated on the top or deck portion of the structure. For less than \$500, they were able to repurpose a used section of heavy boilerplate pipe to fabricate an extension that fit the bucket of an excavator. The extension has become a particularly useful tool after flood events.



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DeKalb, Illinois
Pioneer Award Nomination

Automobile Engine Removal Device Drives Savings and Safety

When one of Northern Illinois University's 39 minivans overheated and required an engine replacement, the transportation department discovered that a \$950 fixture was needed for removal. Unable to justify a large expense for such an infrequent repair, but unwilling to compromise safety, team members made a removal device for undermount engines that could be modified for other applications.

Their creation, which used parts from a folding chair dolly, a soccer goal, a ladder rack from a decommissioned vehicle, and scrap steel, took only four hours to construct. The team's invention mounts to the exhaust flange on the engine's cylinder head and features swivel casters on all four corners, allowing for the easy repositioning of the engine as needed. Once the device is secured to the engine and a suitable jack is placed under the transmission, the vehicle is raised. From here, the old engine and transmission can be removed and separated, and the tool can be used to install new equipment.

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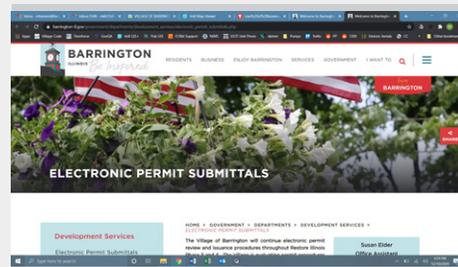
Barrington, Illinois

Smart Transformation Award Nomination

Facilitating Community Services with Electronic Permit Processing

The Village of Barrington has historically had a consistent, systematic process for issuing building and construction permits. However, most functions took place in person or on paper from a contractor's initial document submission through final approvals by permit technicians. Following a transition to part-time consultants in January 2020 and teleworking in March 2020, the Village was challenged with improving remote access to files, enabling concurrent permit reviews, and easing its document scanning, archiving, and storage burdens.

Using a Google application, the team successfully modified its existing permit-processing procedures for an electronic format at no cost. Permit applicants can now access required documents and file applications online, while internal reviewers can track a permit's processing status with a shared spreadsheet. While the Village cannot yet accept online payments for approved permits, a 24-hour "contactless" drop box has proven to be a convenient option. These procedures and tracking mechanisms have created significant cost and time savings while increasing the Village's level of service.



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Village of Barrington

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© 2021 Saline County Road and Bridge, Kansas

Saline County, Kansas

Innovative Project Award Nomination

Reinforcing Bridges with Stronger, More Durable Boxes

In order to build bridges capable of withstanding the heavy weight of trucks, buses, and farm equipment for longer periods of time, Saline County wanted to replace old wooden boxes that were nearing the end of their service life with a lower-cost alternative. Using a combination of purchased and salvaged materials including concrete blocks, bridge beams, and decking supplies, Saline County Road and Bridge used this inventive concept to replace numerous boxes in less time and with less expense than it takes to construct cast-in-place boxes.

Saline County Road and Bridge

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Independence, Kentucky
Innovative Project Nomination

Custom-Built Spray Rig Helps Keep a County Clean

For years, Kenton County relied on an old, overused fire truck from its Emergency Management department to clean surfaces and structures in a local park located on a flood plain. The truck leaked badly and was very inefficient, so county employees created a high-pressure spray bar that can be mounted for use on multiple types of trucks. They also found a way to rinse areas that are inaccessible by service vehicles.

Using a trash pump, 500-gallon brine tank, and fire hose that were owned, donated, or purchased for less than \$700, the team was able to reduce water consumption and improve labor utilization. When full, the tank can now spray continuously for 26 minutes; the old truck's larger 750-gallon tank would be empty after less than five minutes. In addition, the spray bar on the front of the truck—when coupled with the fire hose pumping directly out of the tank—can be used on roadways after construction, for storm cleanup, in preparation for paving projects, and for general cleaning before local events.



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Kenton County Public Works/
Kenton County Parks
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Albert Lea, Minnesota
Pioneer Award

Step Extensions Enable Truck Drivers to Clean Windows Safely

In past winters, Freeborn County Highway Department drivers struggled with scraping and clearing ice from their truck's windows. Often, drivers need to climb on their tires to clean the windows, which can be dangerous if done on the side of a busy road. By retrofitting an additional step below the doors on each side of the cab, the team was able to improve window cleaning, increase visibility, and keep drivers safe.

For roughly \$200 per vehicle, Freeborn County bought factory steps from the manufacturer and modified them with sheet metal, square tubing, a welder, and a band saw. On average, step extensions for each truck could be completed and installed in one day. Drivers are now able to scale the sides of their trucks to clean their windows without worrying about slips, trips, and falls.

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Fergus Falls, Minnesota
Innovative Project Award

“Sticky Stump” Simplifies the Installation of Chip Seal Markers on Roadways

To correctly position temporary road markings called chip seals, Otter Tail County highway crew members had to bend over repeatedly and get on and off of a pickup truck’s tailgate continuously.

With the help of a spring-loaded applicator or “sticky stump,” road crews can install chip seal markers twice as fast with the same amount of manpower. They made the handheld tool with round bar stock and flat iron in approximately one hour using a drill press and welder—all for under \$20. Chip seal markers can be clipped into the end of the tool, then pressed onto asphalt where required.



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New Brighton, Minnesota
Pioneer Award

Leveling Screed Spreads Gravel and Asphalt More Efficiently

When dumping aggregate, dirt, gravel, and asphalt into water main break sites, road crews in the City of New Brighton had a difficult time evenly spreading the materials with skid loaders, shovels, and hand luting. It also left a considerable amount of unused material in the street to be cleaned up.

In roughly 60 labor hours and for \$1,600, the city’s maintenance workers made a leveling screed that spreads particulate matter quickly, safely, and more cleanly. After purchasing a skid loader attachment, they welded on a swivel plate, added a hydraulic cylinder, constructed the tubing framework, and made different widths of screeds. The new tool can do the job of two workers in half the time.

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Durham, New Hampshire
Pioneer Award

Metal Arrow Stencil Helps Mark Pavement and Makes Drainage Easier

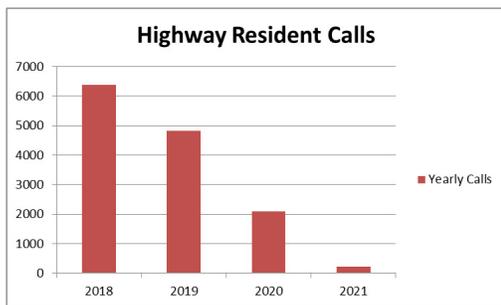
To make snow removal easier and maintain adequate drainage, Concord General Services paints arrows toward roadway drains. The arrows serve as visual cues during winter operations, but must be repainted regularly due to wear. Previously, the team painted arrows on pavement manually with a standard flat stencil and nylon cord. Workers would need to crouch, paint, stand, and repeat the process dozens of times in a day. The process also could be hazardous, because workers were unable to pay attention to oncoming traffic—and heat guns used to remove old roadway paint would sometimes burn through the nylon.

With a sturdy metal arrow stencil created from an old “one-way” road sign bolted to a metal pole, one employee devised a way for technicians to remain standing while painting. The innovation eliminated the need to bend down, reposition the stencil by hand, and replace the nylon cord. For the cost of a few hours’ labor, Concord was able to increase safety for its team members and enhance the efficiency of its operations.



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Hamburg, New York
Bold Steps Award

Maintaining Safer Roadways by Tracking Resident Calls Efficiently

The Town of Hamburg has a population of approximately 60,000 people, as well as 320 lane-miles of roadways. The Hamburg Highway Department regularly receives a high volume of calls and implemented a Resident Concern Tracking process to address problems, questions, and concerns in a timely, efficient manner.

The new procedure also helps the Highway Department allocate resources. Resident calls have become the basis for daily line-up scheduling, highway crew deployments, and most work orders. As a result, there has been a significant decrease in the number of calls received each year, indicating improved customer satisfaction.

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Ghent, New York
Innovative Project Award

Lightening Workers' Loads When Operating Truck Tailgates

Raising and lowering heavy truck tailgates were essential daily duties for many employees in the Town of Ghent Highway Department. Crews there created a lift system to help workers regardless of their individual size or strength.

Using strategically placed tension cables, the Truck Tailgate Lift System drastically reduces the amount of force needed for one person to operate a tailgate. It also increases safety and enhances workforce efficiency.



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Hanover, Pennsylvania
Pioneer Award

Snow Fence Winder Promotes Safety-and Easier Storage

In Penn Township, snow fencing is used to cut down on blowing and drifting snow on high-traffic roads. It increases safety and prevents snow from accumulating in areas with tall grass, corn stalks, or fodder. However, putting fencing up and taking it down manually—as well as rolling it tightly—was inefficient and strenuous for the township's public works crew.

To help make the process easier, the crew created a snow fence winder by adding a hydraulic valve, hoses, universal joints, and controls to the framework of an old stone pan from the back of a dump truck. Once rolled up, the snow fencing could be removed easily from the winder shaft and moved to storage. The total cost, not including labor, was \$520.

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Marathon County, Wisconsin
Pioneer Award

Barrel Truck Protects Crews in High-Traffic Roadway Work Zones

In Wisconsin, county highway departments maintain county and State road systems, including interstates. Highway staff often must set up and remove temporary traffic controls on high-speed, multi-lane roads where the risk of serious injury—or worse—is greatly elevated. Marathon County wanted to prioritize worker safety while still being able to remove drums from highway work zones efficiently.

They used a barrel truck to reduce worker exposure to live traffic while lowering costs by decreasing crew size. While the truck drives slowly in reverse from the end of the work zone to the beginning, a mounted retrieval arm steers the barrels toward the back of the truck, where a mechanism lifts and loads them automatically. With an old sign truck chassis as its base, the barrel truck was developed and built entirely in-house by one lead mechanic in approximately 110 hours at a total cost of \$17,000. It has been used almost daily for the past two years with no safety incidents.



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© 2021 City of Buckhannon, West Virginia

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Buckhannon, West Virginia
Bold Steps Award

City's Self-Batching Concrete Mixer and Silo Cements Savings

In Buckhannon, street crews pour an average of nearly 1,200 cubic yards of concrete each year. However, with only one local vendor offering ready-mix concrete, and concrete costs rising around 7 percent annually, the city decided to save time and money by purchasing a self-loading concrete mixer and a portable concrete silo for \$150,000.

The city can now do roughly twice as much sidewalk and ramp work for the same amount of money, making it more compliant with Public Right-of-Way Accessibility Guidelines. The new equipment also can be used to batch concrete for other departments when needed, quickly remediating road cuts and reducing liability. The new equipment is expected to save the city more than \$660,000 over five years.

Bridgeport, West Virginia
Pioneer Award

Tack Coat Sprayer Makes Patching Potholes Simple

Tack is an asphalt mixture that promotes bonding between old, weathered roadway surfaces and new pavement; it also can be useful in filling potholes. However, mixing, transporting, and applying tack manually had always been a slow process for the West Virginia Division of Highways (WVDOT). Crews had to take the tack to job sites in five-gallon buckets, mix it onsite, and apply it to potholes using paint brushes or brooms.

Using less than \$200 worth of materials from their shop—including a metal drum, gas valves, and water hoses—the Division created a tack coat sprayer that allows workers to mix, haul, and spray up to 55 gallons of tack. The device has made it more efficient to fill potholes, and additional units have been fabricated for other WVDOT maintenance crews.



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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	https://cttp.uark.edu/technology-transfer/index.php
California	California LTAP Center	3000 State University Drive Sacramento, CA 95819-6103	916-278-4433	http://www.californialtap.org/
Colorado	Colorado LTAP	4616 S. Shields St, Suite BP171 Fort Collins, CO 80526	720-616-8982	http://www.ColoradoLTAP.org
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 Transportation Technology Transfer Center	4202 East Fowler Ave., CUT100 Tampa, FL 33620-5375	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	https://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>	Airport Plaza Office Bldg. 1755 E. Plumb Lane, Suite 264 Reno, Nevada 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

State/Territory	Center Name	Address	Phone Number	Website
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/
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/

State/Territory	Center Name	Address	Phone Number	Website
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/
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://www.wvltap.org/
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/