Voting ends
March 12th
at 5 PM!

INDIANA TRANSPORTATION INNOVATORS

Indiana Transportation Innovators

2024 People's Choice Award

Indiana Transportation Innovators

An Indiana LTAP & INDOT Partnership

The innovation programs of Indiana LTAP and INDOT joined together to further recognize the transportation innovators of Indiana. Both programs host competitions to find the best Indiana innovators. Then, they pool their applicants together at Road School to award the People's Choice Award.

That's where YOU come in!

In the following pages, we have the innovation projects submitted to both the Local Innovation Masterminds Challenge (INLTAP) and Innovation Champions Challenge (INDOT).

Choose the project you think is the most innovative and cast your vote!
Vote online or find us next to Indiana LTAP's table in the Exhibitor Hall.

People's Choice Award
INDIANA TRANSPORTATION INNOVATORS

Indiana Local Innovation Masterminds
INDIANA LTAP

Innovation Champions
INDOT

Merging at Purdue Road School

Come meet the Indiana Transportation Innovators Team at Purdue Road School.

Voting/Information Booth
The Exhibitor Room in the Purdue Memorial Union Ballrooms
Learn more about these innovation programs and cast your vote!

How to Vote

After reviewing the projects (pages 4 - 15), visit **http://tinyurl.com/2024RSInnovation** or use the QR code to place your vote.

If you prefer to vote in-person, please visit our **Indiana Transportation Innovators booth in the Exhibitor Hall (Purdue Memorial Union).**

Voting will end Tuesday, March 12th at 5:00 PM.

The Announcement of Winners

Winners will be announced on March 13th at 10 AM in Session #158 (Innovation in Transportation: What's next for the Operation and Maintenance of Indiana Roadways?).

Last Year's Winner

Hamilton County, Indiana won the first annual Indiana Transportation Innovators People's Choice Award at the 2023 Purdue Road School.

Their innovative underbody truck washer cleans truck equipment, yielding a longer life span and cleaner work environment.

Indiana LTAP Innovation Masterminds

Indiana LTAP's Innovation Program is a newly developed program to identify, vet, implement, and recognize ideas, processes and tools specifically generated by local agencies that improve construction, maintenance, contracting, inspection, and all other related highway and street department activities.

How It Works

Indiana LTAP is gathering input from ALL levels of local government agencies to identify and share those innovations that exist in every highway and street department. Has your department created a new process, tool, or piece of equipment that has made an operation easier, safer, more efficient or more affordable?

Triangle of Impact

Great innovations in transportation use the Triangle of Impact, turning the gears of safety, economic vitality, and quality of life. Innovations can increase the safety of the traveling public or construction workers on the jobsite. Innovations can also reduce costs, saving taxpayer dollars, allowing: government agencies to invest funds into other services, highway and street departments to perform more work, and employees to have a more competitive salary. Finally, innovations can improve quality of life, providing better service to the community, attracting visitors, and making work easier or more fun. The opportunities are limitless!

The individual gears of the Triangle of Impact turn together to make a great innovation. For example, making a job easier will improve the safety of the work, giving less room for error; it will reduce costs because the labor will take less time; and it will improve quality of life because a less difficult job will make the lives of workers easier.

Indiana Innovation Masterminds

Indiana LTAP has launched the Indiana Local Innovation Masterminds Challenge to celebrate successful ideas utilized in our local transportation agencies. This contest is open to innovators in Indiana town, city, and county government entities. **Applications are taken all year round!** To learn more about the innovation program and the masterminds application, visit: **purdue.edu/inltap (Innovation tab)**.

City of West Lafayette

Leaf Vac Conversion


OLD SWEEPER


SWEEPER WITH LEAF VAC

Problem

- Existing leaf vac units were on trailers that took 2 people to operate and required a CDL Level A to operate
- Limited workforce and safety of the leaf vac house operator were a concern
- Limited funds to purchase new equipment made operations inefficient

Solution

- Many street sweeper units are sold due to street sweeper machine failure, not chassis failure, therefore, the city can re-purpose street sweeper chassis by extending the chassis frame and placing the leaf vac unit on the frame instead of a trailer
- Leaf vac house can be operated by the driver

Benefit

- Reduced workforce needs in half with only 1 person required to drive and operate the unit with a CDL Level B license
- Better visibility for leaf vac operator/driver who is on the curb side of the unit
- Better safety for operations for workforce – only in cab and not on street
- Better equipment at a fraction of the cost


LEAF VAC ON TRAILER

Town of Munster

Paving Crew Ambulance Conversion

EQUIPMENT STORAGE


INTERNAL BREAK SPACE

Problem

- Paving crew works long hours in the heat of summer with little to no break throughout the day
- Lunch is consumed on the job site
- Extra trucks needed to haul proper signage, cones, and barrels for traffic control and safety

Solution

- Local fire department was auctioning off a used ambulance
- Crew member saw the auction listing and had the idea to convert it to a paving crew truck since it already had emergency lights and ample storage room internally
- Engaged the community by having a contest for a local elementary school to design the graphics for the unit

Benefit

- Community engagement through design contest
- Healthier lunches on the jobsite with microwave and cooler available in the unit
- Safer work environment with air conditioned area for workforce breaks
- Save taxpayer dollars by repurposing a taxpayer unit
- All equipment needed for traffic control and safety can be packed, stored, and hauled in a single unit


EQUIPMENT STORAGE

City of Crawfordsville

Brine Trucks


TANK & SPRAY BAR


TWO AMBULANCE CABS

Problem

- Wanted to start an anti-icing program to better serve the community in winter weather but did not have the funds to secure all necessary equipment (i.e. trucks, tanks, etc.)
- Needed to find a low-cost alternative to start the program

Solution

- Local fire department was auctioning off two ambulances that had truck chassis in good condition
- Superintendent saw these truck frames and envisioned taking the ambulance box off and placing liquid tanks of the back with distributor bars
- Since the truck and frame already had emergency lights incorporated, the cost to install the tanks and distributor bar was minimal

Benefit

- Low-cost way to start an anti-icing program
- Allows for better winter weather management by street department for the safety of the motoring public
- Savings realized from re-purposing the ambulance frames was used to invest in storage and recycling of anti-icing liquid to further build the winter weather management program


CONTROLS

City of New Haven

Trainfo System

Problem

- Railroad crossings are at-grade with roadway facilities in the city
- Traffic has to be rerouted when railroad crossings are blocked, causing significant delays and traffic congestion
- Response times for emergency units are increased, posing a threat to public safety
- While at-grade crossings cannot be eliminated across the city, the impact of rail crossing blockages needed to be addressed

Solution

- Provide an information and communication system to alert the community and emergency services personnel of railroad crossing blockages
- Collect information on rail movement throughout the city for advanced warning notices
- Consulted with Trainfo to implement a sensor and communication system with message boards near rail crossings to warn motorists of potential delays

Benefit

- Allows drivers to be informed and seek alternate routes in advance of the blocked rail crossing
- Collects and analyzes data of train movement throughout the city for better planning and emergency response plans
- Reduce delays in traffic and emergency response times
- Strengthen community partnership and engagement with city residents and visitors

Boone County

Sign Post Installation

Problem

- Installation of signs was a labor intensive, non-mechanized approach that made the job miserable for workforce
- It was a dangerous operation requiring the employee to raise a heave post pounder above his head
- As the county transitioned to square posts rather than u-channel posts, a new installation method was needed

Solution

- Research conducted by department staff concluded that an electric jackhammer would provide a safer and more efficient method to install sign posts
- This was integrated into the sign truck build so the unit can be powered, stored, and safely used when on the jobsite

Benefit

- Manpower requirements are reduced for this effort, saving time and money
- Worker safety is paramount, providing a less labor-intensive method to install posts (30 inches in less than a minute)
- Signs are replaced/installed in a more efficient manner, making it safer for the motoring public

INDOT Innovation Champions

INDOT employees are challenging traditional ways of thinking in transportation planning, financing and construction in favor of inventive ideas and innovative solutions, especially if those ideas save money and manpower. These initiatives have enabled INDOT to deliver outstanding results at all levels – in transportation engineering, planning and operations.

INDOT's Research and Development Division supports innovation by conducting cutting edge research and working in close collaboration with Purdue University's School of Civil Engineering.

The Innovation department is focused on new practical ideas and technologies. They gather information and input from the grassroots level and all levels of INDOT. The focus is on solutions while fostering an environment of idea sharing and statewide implementation. The Innovation department is solutions based and keenly focused on quickly implementing ideas.

INDOT's Innovation Committee receives submissions from each of its districts, awarding Innovation Champions each year.

https://www.in.gov/indot/current-programs/innovative-programs/

LaPorte & Seymour Districts

Spinner Storage Rack

Problem

- Spinners are often stored in piles on the ground outside which causes them to rust and degrade.

Benefit

- Spinners can be more easily maintained on the rack.
- Spinners will last longer.

Solution

- Spinner rack will store the spinners in an organized manner, off the ground, and ideally out of the elements.

Crawfordsville, Greenfield, & LaPorte Districts

Integrated Uniform Snow & Ice Training

Problem

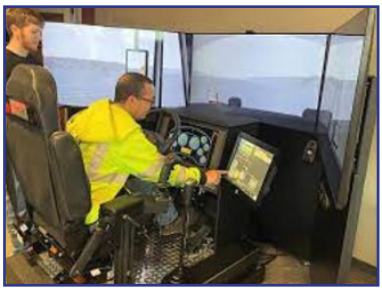
- Current snow and ice training is not uniform across the state.
- Some classes are more dynamic and engaging than others.
- Material is not always district specific.

Solution

- Uniform curriculum will include all necessary information in a dynamic format.
- Training will include options for district specific materials.
- Interactive education will include truck inspections, preventative maintenance, and trouble shooting tips.
- Snowplow simulators will be utilized during training.
- Tenured employees will be asked to mentor new employees during their first snow season.

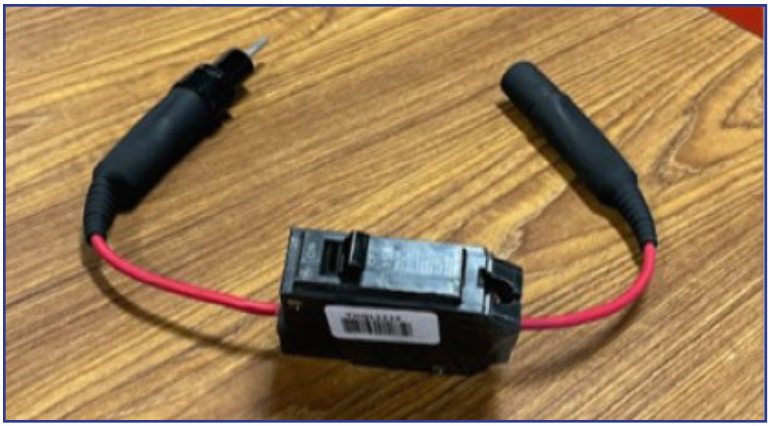
Benefit

- Drivers will have uniform training with a safety focus.
- There will be less down time with equipment due to damage



Greenfield District

Circuit Tester with Breaker



Problem

- Lights short out.
- The current process of diagnosing where the short is located wastes multiple fuses.

Benefit

- More testing may be performed to find the location of the problem at a lower cost.

Solution

- The circuit tester replaces the use of inline fuses during testing.
- The breaker trips and can be reset.

INDOT & Colorado DOT Collaboration

Plow Blade Carts

Problem

- Plow blades are heavy, awkward, and difficult to line up manually with the plow to insert the bolts.

Solution

- The plow blade cart carries the blade to the plow.
- Dowels on the cart hold and align the blade to the plow for easier installation.

Benefit

- Use of the plow blade cart will cause fewer strains and injuries.
- Alignment allows for faster installation of blades.

Seymour District

Pipe Band Opener

Problem

- Culvert pipes need to be banded. Manually holding the band open is difficult.

Solution

- The pipe band opener attaches to the pipe band and holds it open which makes it easier to slide the pipes in and line them up.

Benefit

- There are fewer pinches, cuts, and strains.
- The process is much faster.

The Indiana Transportation Innovators Team

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