



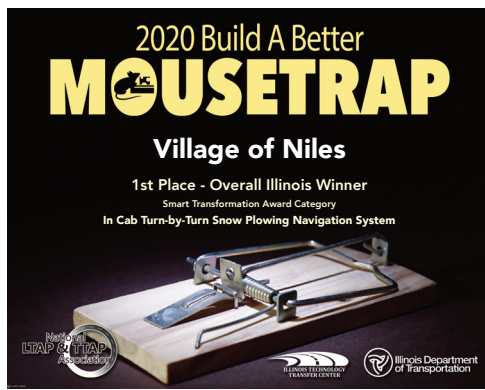
# ILLINOIS INTERCHANGE

Vol. 2020-02



## VILLAGE OF NILES WAS THE OVERALL 2020 STATE WINNER OF BBM

Barry Kent, Technology Transfer Program Manager



The 2020 Build A Better Mousetrap Competition concluded with the Village of Niles being selected as the Illinois Build a Better Mousetrap winner.

The competition, focused on making the transportation workplace safer and more efficient, solicited the ideas of innovative movers and shakers within the industry. Each agency or county was allotted the opportunity to submit their innovative idea and have it evaluated.

The competition judges consisted of IDOT staff. Each judge had criteria to follow regarding: is the invention safe, secure, and efficient for transportation needs.

The judges ultimately selected the In Cab Turn-by-Turn Snow Plowing Navigation System as the overall State Winner of the competition.

Over the past several years, the Niles Public Works Department took numerous steps to increase the efficiency of its snow and ice control operations including new equipment, chemicals, application rates and training. However, one of the more remarkable accomplishments has been the optimization of the salting and plowing routes, and using off the shelf navigation units to provide in cab turn-by-turn directions for the new routes to drivers.

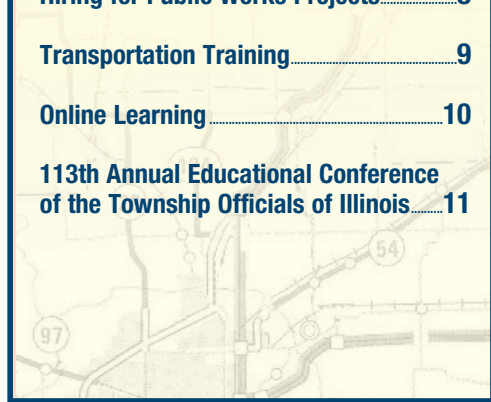
Niles, Illinois is a northwest suburb of Chicago with 30,000 residents and maintains 115 lane miles of Village roads and 63.62 lane miles of state highways within the Village via an agreement with the Illinois Department of Transportation.

In the past, the Village created snowplow areas manually. Adjustments to the plowing areas were made from time to time because of increased traffic, lane miles, personnel availability and changes to equipment. However an actual route with turn-by-turn directions for each area did not exist. Drivers assigned to plow the same area often had different approaches, resulting in mileage, cycle time and deicing product variations.

Making matters worse, the department was going to see significant turnover in staff due to upcoming retirements. This combined

### INSIDE:

<b>FHWA Safety Resources Highlight Strategies for Reducing Crashes.....</b>	<b>3</b>
<b>Focus on Reducing Rural Roadway Departures.....</b>	<b>4</b>
<b>2020 Class Offerings.....</b>	<b>5</b>
<b>Webinars.....</b>	<b>7</b>
<b>Safety Tailgate Talks.....</b>	<b>7</b>
<b>IDOL Alerts Local Officials on Hiring for Public Works Projects.....</b>	<b>8</b>
<b>Transportation Training.....</b>	<b>9</b>
<b>Online Learning.....</b>	<b>10</b>
<b>113th Annual Educational Conference of the Township Officials of Illinois.....</b>	<b>11</b>



Please pass this on to other interested parties in your office.

---



---



---



---

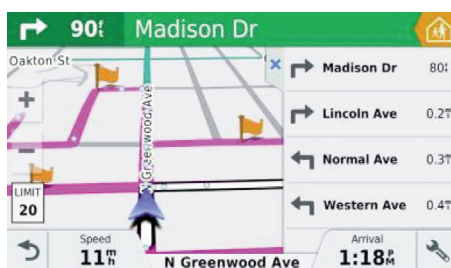


---



---

with the use of seasonal employees to supplement the reduced full-time staff for snow and ice operations resulted in a staff where almost 50% of the employees had less than five years of experience. Most had less than two years of experience. Quite simply Niles knew the routes needed to be optimized to reduce travel time, distance travelled and provide a more even distribution of the workload. These changes would also lead to decreasing the amount of deicing products used.



## Snow Route Optimization

Public Works staff worked with a software company to develop optimized routes. Some of the other items addressed in this optimization were:

- Minimizing left turns and U-turns
- Minimizing crossing major routes at uncontrolled intersections
- Completion of the routes within time goals
- Prioritize routes based upon roadway priority, and
- Modifying routes based upon real world realities

Several types of routes were created including:

- Salting only routes
- Plowing routes
- Cul-de-sac routes

New optimized routes with turn-by-turn directions were developed for each route, however implementing the new routes was still a challenge. Director of Public Works Fred Braun stated, “All parties involved knew it was not safe to expect drivers to follow the route by

looking at a multiple page document or map, especially at night during a snow-storm. The ultimate goal from the beginning was to provide the new route on a GPS type navigation unit many people use in their daily life.”

Navigation devices are designed to direct a motorist from Point A to Point B using the fastest or shortest route. Braun added, “Public Works needed a navigation unit that went from Point A to Point B, while plowing all the streets in between and in the order identified by the route optimization.” To accomplish this task, using in house staff, Niles was able to program an off the shelf Garmin navigation unit with the optimized routes. By using the navigation devices, experienced and inexperienced drivers alike are able to easily follow the new routes. Initially some minor changes were made to the routes due to real world realities, but the routes are now complete.

To use, drivers simply select the route they are assigned from one of the 26 preloaded routes, follow the prompts, and the navigation unit will provide them turn-by-turn directions for the entire route. While driving, if a plow is unable to travel down a street for any reason, the driver can simply detour around the street or distance where the issue is, and the GPS device will get it back on the route. If the driver needs to leave the route due to mechanical breakdown, salt reloading or other reason, they are able to pause and restart the route with the unit providing directions back to the location where they left off.

Another bonus allows staff to easily modify routes using Garmin’s BaseCamp software. Director Braun explained, “For instance, a bridge was undergoing reconstruction over the winter, therefore the routes impacted by this closure were modified by staff, and were changed

back once the reconstruction was completed.” Optimizing a route is not a new idea, however providing the route in an easy to understand format to drivers was key to the success of this program. Drivers now drive optimized routes in the same manner each time – and not just experienced drivers – all drivers.”

“Early on Niles analyzed a route completed 30 times. A new employee with limited plowing experience was able to complete the route in the 10th fastest time, which was exactly what the department was striving to achieve”, explained Braun. Also, when comparing a comparable one-inch salting run, the mileage driven decreased between 10.4% to 22.8%. This decrease resulted in a reduction in cycle time and operation costs, and decreased salt usage.

The Village of Niles has purchased and installed 33 navigation units in their various snow fighting equipment. Braun said, “Successfully completing this project required managerial, technical and operations staff working together toward a common goal. Routes can be developed on a computer, but they do not always work in the real world. That is why operators must supply detailed feedback to the technical staff so changes can be made, and managerial staff must dedicate the financial resources to develop the routes, and employee resources to test and implement the routes.”

In closing, Director Braun said, “The efficiencies that resulted from having the turn by turn units for the drivers have been very valuable to the department. While no two storms are alike, we have demonstrated a reduction in miles and time it takes to complete the same task, reducing our salt usage and costs, while providing the residents with better service.”



# FHWA SAFETY RESOURCES HIGHLIGHT STRATEGIES FOR REDUCING CRASHES

The Federal Highway Administration’s Office of Safety provides many resources to help agencies improve roadway safety and reduce traffic crashes. Visiting the Office of Safety website at

<https://safety.fhwa.dot.gov/> is a great way to access resources in the following areas:

- Highway Safety Improvement Program
- Intersection Safety
- Guardrail Resources
- Roadway Departure Safety
- Roadway Safety Data & Analysis
- Pedestrian & Bicycle Safety
- Local and Rural Road Safety
- Professional Capacity Building

Some of the recently-added resources include safety trading cards from the Focus on Reducing Rural Roadway Departures (FoRRRwD) program. These cards highlight the crash reductions that can be achieved through the use of safety strategies and treatments such as:

- Curve Signing
- Edge and Center Line Marking
- Center Line Rumbles
- Edge Line and Shoulder Rumbles
- Safety Edge
- Clear Zone

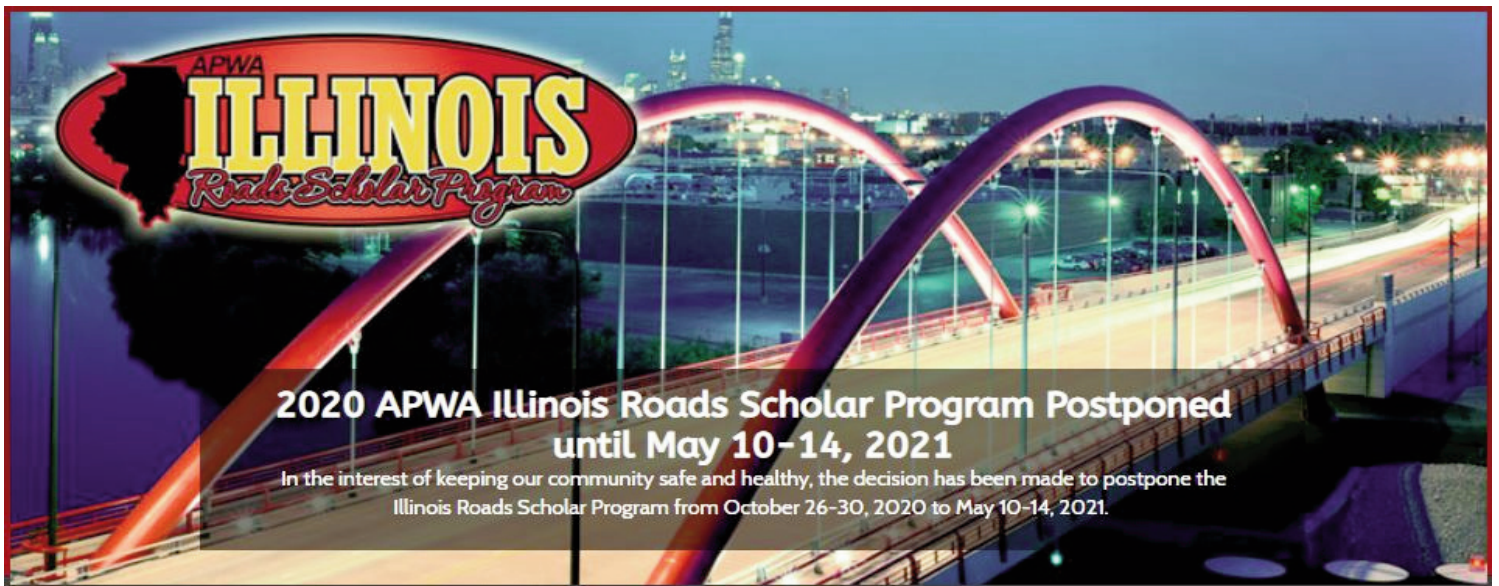


- Slope Flattening
- High Friction Surface Treatment
- Center Line Buffer Area
- Barriers
- Shoulder Widening

There are also cards with information about Systemic Analysis, Local Road Safety Plans, and common crash types such as Tree Crashes, Head-On Crashes, Rollover Crashes, Curve Crashes and Rural Roadway Departure Crashes.

These printable trading cards are a great way to explain and visualize rural roadway departure crash types, countermeasures and tools. They are available free of charge for downloading or printing at: <https://safety.fhwa.dot.gov/forrrwd/TradingCards/>.

Another great resource is the Proven Safety Countermeasures webpage, which provides links to information about the 20 safety topic areas. For details, please visit: <https://safety.fhwa.dot.gov/provencountermeasures/>.





## Innovation of the Month:

# FOCUS ON REDUCING RURAL ROADWAY DEPARTURES

Thirty people will die today, and every day, in a rural roadway departure—accounting for one third of U.S. traffic fatalities.

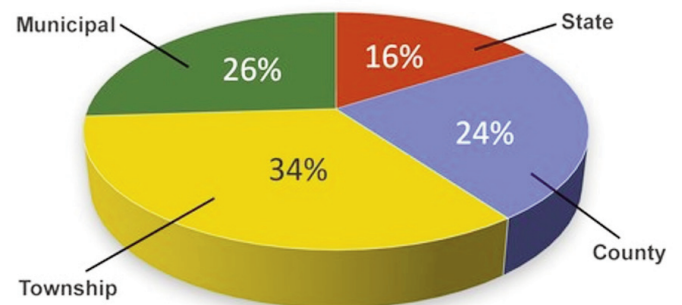
The **Focus on Reducing Rural Roadway Departures (FoRRRwD)** initiative provides technical assistance and training to States and local agencies across the country to address this deadly problem. FoRRRwD provides unique approaches and methods to deliver safety countermeasures and projects efficiently. FoRRRwD's focus areas are identified through its four pillars—**all public roads**, proven countermeasures, systemic approaches, and safety action plans.



*The four pillars of FoRRRwD: Proven Countermeasures, Systemic Approach, Safety Action Plans, and All Public Roads.*

Many agencies are recognizing the need to address rural roadway departures on all public roads because over 40 percent of these deaths happen on roads off the State highway system. Not only are State DOTs assisting local agencies and encouraging them to use an appropriate share of Federal safety funds, but many are finding innovative methods to accomplish the goal.

The Ohio Department of Transportation (ODOT), with assistance from the Ohio Local Technical Assistance Program, administers the Township Safety Sign Grant Program, a systemic curve signing upgrade program. This grant program helps ODOT reach the 84 percent of its roadways that are not on the State highway system. The top 200 townships with a greater than average crash rating over the previous five years are eligible to apply for up to \$50,000 each in safety sign materials with no required



*Ohio center lane mileage ownership. Only 16 percent are owned by the State Highway system.*

Between 2015 and 2019, over 225 townships participated and completed signage installations. An evaluation of crash data in the 24 townships that installed signs in 2015 showed a 67 percent reduction in fatalities and 33 percent reduction in serious injuries in the two years following deployment, compared to statewide crash increases in fatalities by 9 percent and injuries by 11 percent.

To learn more about how your agency can use innovative programs and mechanisms to deliver safety projects, watch this webinar from earlier this year. Additionally, you can visit the FoRRRwD website to learn more about the four pillars and watch the FoRRRwD overview video.



# Illinois Technology Transfer Center

## 2020 Class Offerings

### ADA Self Evaluation and Transition Plans

Tim Peters (IDOT)

### ADA/PROWAG (Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way) Seminar

Traci Baker (FHWA) and Carrie Nelsen (IDOT)

### Basic Essentials of the Uniform Act, Real Estate Workshop for LPAs

James Kyte (FHWA)

### Basic Math Refresher Training

Barry Kent (IDOT)

### Basic Supervisory Skills

Barry Kent (IDOT)

### Communication Excellence: Written Communication and Maximizing Social Media in the Workplace

Tina Barton (Consultant)

### Concrete Structures

Doug Dirks (IDOT)

### Contract Administration

Mike Copp (IDOT)

### Creating a Healthy Workplace Culture Starts With You

Heather Humphrey (IDOT)

### Drilled Shafts Construction Inspection

Doug Dirks (IDOT)

### Earth Excavation and Embankment

Ryan Sheley (IDOT)

### Excavating-Trenching

County Highway Department

### Flagger Training

Stephanie Stoverink (IDOT)

### Grant Accountability and Transparency Act (GATA)

Carissa Calloway (IDOT) and Dana Edwards (IDOT)

Denise Johnson (IDOT) and Shelly Runyard (IDOT)

Aubrey Schuckman (IDOT) and Cassandra Squires (IDOT)

Melanie Turner (IDOT)

### General Administrative Duties of the Township Highway Commissioner

Barry Kent (IDOT)

### HEC-RAS Training

Consultant

### IDOT Phase 1 Course

John Sherrill (IDOT) and Felecia Hurley (IDOT)

Carlos Feliciano (IDOT) and Charles Riddle (IDOT)

Kevin Stallworth (IDOT) and Janel Veile (IDOT)

Ken Runkle (IDOT) and Janis Piland (FHWA)

### Illinois Roads Scholar Program

APWA Chicago Metro Chapter in conjunction with IDOT T2

### Implementing Safe Work Zone Operations Strategies

FHWA

### Instructing the Implementing Safe Work Zone Operations Strategies Training Course

FHWA

### Instructing the Implementing Safe Work Zone Operations Strategies Training Course

FHWA

### Land Acquisition: A Federal and State Update

James Kyte (FHWA)

### Land Acquisition: Negotiation Skills Workshop

James Kyte (FHWA)

### MFT (Motor Fuel Tax) Accounting & Compliance Review

Amy Whitecotton (IDOT)

### MUTCD (Manual on Uniform Traffic Control Devices) Training

Dean Mentjes (FHWA) and Marshall Metcalf (IDOT)

### PASER

Brian Tjernlund (Assistant Lee County Engineer)

### PCC Pavement Construction Inspection

Doug Dirks (IDOT)

### Permeable Pavements Workshop

FHWA





### Pile Foundation Construction Inspection

Mike Copp (IDOT)

### Plant Mix Asphalt: Design, Construction, Maintenance, and Rehabilitation

Kevin Burke III (Illinois Asphalt Pavement Association)

### Project Administration Seminar

IDOT T2

### QBS (Qualification Based Selection) Training

Tim Peters (IDOT)

### Seal Coats (Oil and Chipping)

Consultant

### Seal Coat, Gravel and Dirt Roads

Tim Peters (IDOT)

### Small Drainage Structures Construction Inspection

Mike Copp and Ryan Sheley (IDOT)

### Snow and Ice Control

Tim Peters (IDOT)

### Social Media: Do's and Don'ts

Joe Schatteman (IDOT)

### Steel Structure Construction Inspection

Justan Mann and Ryan Sheley (IDOT)

### TMOST (Tractor Mower Operator Safety Training)

Consultant

### Turning Conflict into Collaboration

Heather Humphrey (IDOT)

### Understanding USACE and IDNR/OWR Permitting Requirements for Road Projects

Donna Jones (Army Corp of Engineers) and Bill Milner (IDNR) – Downstate Keith McMullen (Army Corp of Engineers) and Steve Altman (IDNR) – St. Louis District Julie Rimbault (Army Corp of Engineers) and Gary Jereb (IDNR) – Chicago area

### WMFT (Web Motor Fuel Tax)

Barry Kent (IDOT)

### Work Zone Safety

Paul Gurklys (IDOT) and Dean Mentjes (FHWA)

### You, Others & Their Real Colors (Real Colors Series Program)

### Real Solutions (Real Colors Series Program)

### Real Applications (Real Colors Series Program)

### Real Teams (Real Colors Series Program)

Stephanie Stoverink (IDOT)

### Roadside Safety Design

### Highway Slope Maintenance and Slide Restoration

### Traffic Signal Design and Operation

### Modern Roundabouts: Intersections Designed for Safety

### Intersection Safety Workshop

NHI (National Highway Institute) (FHWA)

## Barry Kent

Technology Transfer Program Manager • Illinois Department of Transportation

2300 S. Dirksen Parkway, Room 208 • Springfield, IL 62764

(217) 785-2350(w) • (217) 720-2300(c) • [barry.kent@illinois.gov](mailto:barry.kent@illinois.gov)

Schedule, Enroll or Host by contacting



ILLINOIS TECHNOLOGY  
TRANSFER CENTER

## WEBINARS AREN'T JUST FOR WEDNESDAYS



With the required social distancing that began in March of this year, webinars have become one of two primary ways for LTAP/T2 to provide training virtually. We are continuing to schedule topics of interest to you ---our customers! If you are interested in seeing what is coming up next on the webinar schedule, please visit our webinars webpage at: <https://nltapa.org/calendar>

## EVERYDAY SAFETY TAILGATE TALKS

Tailgate (or Toolbox) talks are short informational meetings held with employees to discuss a work-site related safety topic. The term tailgate meetings come from the practice of meeting around the tailgate of a pickup truck on site.

The goal of holding tailgate talks is to inform employees of specific hazards associated to a task and the safe way to do a job. Tailgate talks also serve as a reminder to employees of what they already know while establishing the supervisor's credibility and conscientiousness about his or her responsibilities for safety. The following is a list of tailgate talks that you can use on your jobsite: <https://nltapa.org/information-exchange/nltapa-tailgate-talks/>



### *Save the Date!*

2021 National Local Technical Assistance Program Association (NLTPA) & National Transportation Training Directors (NTTD) Summer Conference

July 19 – 22, 2021

Sheraton Columbus Hotel at Capital Square  
Columbus, Ohio





# NEWS

**JB Pritzker, Governor**

**Michael D. Kleinik, Director**

---

**FOR IMMEDIATE RELEASE**

July 1, 2020

**Contact:**

Mike Matulis 217-785-1719

[Michael.Matulis@illinois.gov](mailto:Michael.Matulis@illinois.gov)

## **IDOL Alerts Local Officials on Hiring for Public Works Projects**

*State Law requires hiring Illinois workers during times of high unemployment*

**SPRINGFIELD** – Due to the high unemployment rate caused by the ongoing COVID-19 pandemic, the Employment of Illinois Workers on Public Works Act will take effect beginning July 1<sup>st</sup>. The state law requires the workforce on all public works projects to be comprised of a minimum of 90% Illinois residents.

The Illinois Department of Labor (IDOL) administers the Employment of Illinois Workers on Public Works Act, which was enacted to alleviate unemployment in Illinois by ensuring that most workers on public works projects live in the state. The requirement to employ 90 percent Illinois workers applies to all labor on public works projects or improvements, including projects involving the clean-up and on-site disposal of hazardous waste.

The law comes into effect following two consecutive months of a state unemployment rate above 5 percent. According to the U.S. Bureau of Labor Statistics, Illinois' unemployment rate during the COVID-19 pandemic increased from 4.2 percent in March, to 17.2 percent in April, and 15.2 percent in May. Given the unanticipated and large unemployment increase, IDOL wants to alert public bodies to the details of the law.

“As we all deal with the far-reaching impact of this pandemic, the Illinois Department of Labor wants to remind public officials and employers of the requirements of this law, which has not been triggered in recent years due to low unemployment,” said IDOL Director Michael Kleinik.

Illinois Attorney General Kwame Raoul pledged to work with IDOL to enforce the law.

“As the nation faces record levels of unemployment, the people of Illinois should be assured that government is using all available tools to put Illinois residents back to work,” Attorney General Kwame Raoul said. “The Employment of Illinois Workers on Public Works Act requires contractors on public works projects to prioritize Illinois workers, and my office stands ready to work with the Department of Labor to enforce the law and ensure that public works projects – which are funded by Illinois taxpayers – are completed using the best workforce in the country.”





# Transportation Training Available

## GET STARTED TODAY!

As new and innovative ways to manage highway construction programs enter the transportation landscape, so does the need to keep your transportation staff's knowledge up to date. The staff training necessary to prepare for the future, however, can be difficult for local and tribal transportation agencies to afford.

Luckily, there are **no-cost trainings available** in need-to-know transportation topics, many of which can be done anywhere, any time. Learn more about the options to find the ideal fit for your agency's needs.

### National Highway Institute (NHI)

Recommended for **engineers** and **construction workers**



- 180+ online courses available.
- NO-COST access!
- NHI training for local and tribal transportation staff is sponsored by the Federal Highway Administration's Center for Local Aid Support.

Enter your government email when accessing NHI course offerings.

#### HOT TOPICS

Introduction to Safety Inspection of In-Service Bridges | Chip Seal Best Practices | Pipe Installation, Inspection, and Quality | Introduction to a Transportation Asset Management Plan | Hot In-Place Recycling

#### BROWSE COURSES AND REGISTER

<http://bit.ly/nhitraining>

### TC3 – Transportation Curriculum Coordination Council, through AASHTO

Recommended for **engineers** and **construction workers**



- 190+ online training modules.
- NO-COST access!
- TC3 training for local and tribal transportation staff is sponsored by the Federal Highway Administration's Center for Local Aid Support.

Enter your government email and promotion code **D5X3-B3D9-52CB-4XCX** to access TC3 course offerings.

#### HOT TOPICS

Flexible Pavement Preservation Treatment Series | Improving the Daily Diary | Change Orders, Claims, and Dispute Resolutions | Flagger Training | Pavement Markings | Proper Plowing Techniques | Flexible Pavement Preservation Treatment Series: Crack Sealing and Fillings | Basic Construction Surveying

#### BROWSE COURSES AND REGISTER

<http://bit.ly/tc3training>

#### FAQs

**Who is eligible?** NO-COST training is available only to employees of local governments or tribes. Sponsorship does not extend to private companies or academia.

**How do I register?** You can enroll in the web-based training through the registration links listed above.

**Why do I need to use my government email to register?** Your eligibility for no-cost access is authenticated by your government email address.

**Is there a limit on the number of courses I may take?** There is no limit—learn away!

**May I share this with colleagues?** Of course! Please email us if your colleague would like an electronic copy of this flyer.

**For more information:**  
Center for Local Aid Support | [CLAS@dot.gov](mailto:CLAS@dot.gov) | 720-963-3522

Credits toward professional development hours (PDHs) or continuing education units (CEUs) are provided on a course-by-course basis.



U.S. Department of Transportation  
**Federal Highway Administration**

# CHECK OUT THE NLTAPA ONLINE LEARNING SEARCHABLE DATABASE!



Our association has compiled some of the best resources for online learning from all across the country on our website. These resources are drawn from all level of government, from Federal to Local, as well as some of the most up to date learning modules and videos from private and academic partners. These resources are continually updated so check back often! Visit the tool at <https://nltapa.org/searchable-database/> today!



**MAPSI is rescheduled to November 3 - 6, 2020**

**107<sup>th</sup> IML Annual Conference**  
ILLINOIS MUNICIPAL LEAGUE  
Hilton Chicago | September 24-26, 2020

**Canceled**

**Due to COVID-19 restrictions.**

**Mark your calendar now for September 23-25, 2021.**

**2020**

**Illinois Bike Summit**

Tuesday, Sept. 15th



**Infrastructure**

**Education**

**Inclusion**

09/15/2020

**2020 Illinois Bike Summit**



**Township Government:**  
Lighting the Way in Local Government

# 113th Annual Educational Conference of the Township Officials of Illinois Goes Virtual!



**Save The Date!**

November 16 - November 20

Registration for the entire week is \$99 for members and \$150 for nonmembers. Registration Opens September 1.

**Supervisors**

**Monday November 16**

**Township Clerks**

**Tuesday November 17**

**Highway Commissioners**

**Wednesday November 18**

**Trustees**

**Thursday November 19**

**Assessors**

**Friday November 20**

***Education Session Information Will Be in the  
October issue of Township Perspective!***






I  
P  
W  
M  
A  
N  
.  
O  
R  
G

“Best disaster insurance policy a community can have.”

“After the F3 tornado, they removed debris that would have taken us months to clear.”

## WORKING TOGETHER WORKS

Make a plan before disaster makes it for you.  
Join our mutual aid network of 400+ communities and agencies.



**SAVE THE DATE**  
**WORK TRUCK WEEK 2021**  
**MARCH 9-12, 2021**  
**INDIANAPOLIS INDIANA**

**SIGN UP FOR EVENT UPDATES**



## ILLINOIS PUBLIC SERVICE INSTITUTE

**Postponing 2020 IPSI Spring and Fall Sessions to 2021**  
2020 Spring will transfer to Spring April 25 – 30, 2021, and  
2020 Fall will transfer to October 3 – 8, 2021



The Technology Transfer (T2) Program is a nationwide effort financed jointly by the Federal Highway Administration and individual state departments of transportation. Its purpose is to transfer the latest state-of-the-art technology in the areas of roads and bridges by translating the technology into terms understood by local and state highway or transportation personnel.

The Illinois Interchange is published quarterly by the Illinois Technology Transfer Center at the Illinois Department of Transportation. Any opinions, findings, conclusions, or recommendations presented in this newsletter are those of the authors and do not necessarily reflect views of the Illinois Department of Transportation, or the Federal Highway Administration. Any product mentioned in the Illinois Interchange is for informational purposes only and should not be considered a product endorsement.

## **ILLINOIS TECHNOLOGY TRANSFER CENTER**

Illinois Department of Transportation  
2300 South Dirksen Parkway—Room 208, Springfield, IL 62764  
Fax **(217) 785-7296**  
E-mail **T2LRSDOT@dot.il.gov**

*Local Policy & Technology Engineer*

**TIM PETERS**

Tim.Peters@illinois.gov • (217) 785-5048

*Technology Transfer Program Manager*

**BARRY KENT**

Barry.Kent@illinois.gov • (217) 785-2350

*Training Development Technician*

**STEPHANIE A. STOVERINK**

Stephanie.A.Stoverink@illinois.gov • (217) 557-1910

*Training and Graphics Specialist*

**VACANT**

Visit our website at

<https://idot.illinois.gov/transportation-system/local-transportation-partners/county-engineers-and-local-public-agencies/technology-transfer-center/index>