



ILLINOIS INTERCHANGE

Vol. 2019-02



ILLINOIS TOLLWAY SAFETY SPRAYER WAS THE OVERALL STATE WINNER OF BBM

Tiana Mathis, GPSI Intern



The Build A Better Mousetrap Competition concluded with Two Category Winners – Illinois Tollway (Maintenance Tools and Methods Category) and Schuyler County (Facilities Improvements Category). “2019 was Illinois inaugural **Build a Better Mousetrap** competition and the innovative ideas we received was phenomenal” says Barry Kent, Technology Transfer Program Manager at IDOT LTAP/T2.

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 regard-

ing: is the invention safe, secure, and efficient for transportation needs.

The judges ultimately selected the **Illinois Tollway Safety Sprayer** as the overall State Winner of the competition and Schuyler County’s Energy Savings was a close second.

The Illinois Tollway “Safety Sprayer” won in the category of Maintenance Tools and Methods. The “Safety Sprayer” was built and modified numerous times as Tollway staff aimed to reduce potential exposure to pesticides during roadway application. Created from mostly “found” materials, the device is made from 85 percent recycled materials and equipment. It is mounted to the side of an attenuator truck during pesticide operations and allows for the driver to have direct control over the application, removing the need

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

for additional personnel who would be exposed to pesticides during the spraying process. The production process cost less than \$20 and offered more flexibility than a typical sprayer, which would cost at least more than \$400, purchased from an equipment manufacturer.

“This was a collaborative effort as both managers and their staff from across our system added value as the “Safety Sprayer” evolved into our final product,” says Wayde Tabor, Illinois Tollway General Manager of Maintenance and Traffic Operations. “I’m proud of our team for working together and

developing an innovative tool that will improve worker safety and efficiency.”

Schuyler County won in the category of “Facilities Improvements”. Wanting to reduce energy and gas cost for the highway department, Schuyler County figured out how to make that happen for the betterment of the department and the community. They added solar power panels to reduce their electrical needs and a self-oil burner to reduce their heating consumption. The Solar Power Panels are now consuming 100% of their electrical costs; while the Oil Burner they installed has an “on-demand”

hot water heater to aid in the natural gas consumption”. Schuyler County has developed a tank that holds 275 gallons of recycled oil. The 275-gallon tank now operates 90% of their heating needs.

“Both agencies did extremely well, and it was a close call for the competition; at the end of the day, we had to give it to Illinois Tollway and their Safety Sprayer”, says Tim Peters, Local Policy & Technology Engineer and 1 of the 5 competition judges.

See page 3 for Illinois Tollway Safety Sprayer official entry.



IPWMAN 2019 Annual Conference October 15 & 16, 2019

Double Tree Hotel & Convention Center
Bloomington, IL

[Exhibitor & Sponsorship Information](#)

(https://www.ipwman.org/sites/default/files/events/2019_ipwman_sponsorship_exhibitor_flyer_0.pdf)

[Registration Link](#)

<https://www.eventbrite.com/e/illinois-public-works-mutual-aid-network-11th-annual-conference-registration-61160266002>

We value your time and promise relevant educational and networking sessions for you and your staff that will further develop your organization’s deployment preparedness skills. Together we will renew the strength and reach of IPWMAN and are proud to have you as a member.

Entry Title: SAFETY SPRAYER

Problem Statement

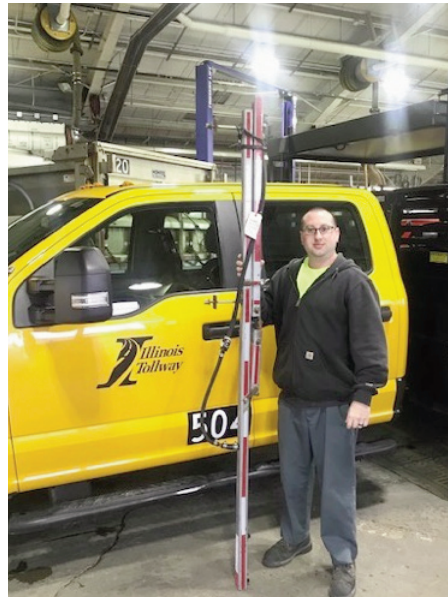
Recognizing the growing research on the toxic effects of exposure to pesticides, roadway maintenance personnel at the Illinois Tollway sought to reduce pesticide exposure to workers, as well as customers and the environment.

Illinois Tollway staff continuously works to identify opportunities to keep personnel and motorists safe during roadside operations. Safety is paramount to the agency, which maintains and operates five Tollways serving more than 1.6 million daily drivers in 12 counties throughout Northern Illinois. The Tollway also has been a leading advocate for safety initiatives to protect roadway workers such as the Move Over Law, Drive Now, Text Later and Drop It and Drive.

Typical pesticide applications on Tollway right-of-way require two trucks, one with an attenuator and one with the spray tank, and three workers including two drivers and one sprayer. Even while wearing protective equipment, the worker operating the spraying equipment comes into contact with pesticides on their skin or through inhalation. Though following pesticide application guidelines, pesticide operations can result in accidental over-spraying due to the natural delay in communication between the sprayer and driver of the truck when directing movements such as stopping, changing speeds or reversing. This communication gap, even if minimal, can cause additional pesticides to be used, unnecessarily increasing the exposure to the motoring public and environment.

Discussion of Solution

To address safety and environmental issues, frontline workers from the Tollway's Arlington Heights maintenance site on the Jane Addams Memorial Tollway (I-90) recently created the Safety Sprayer from



mostly “found” materials. The customized Safety Sprayer is made from 85 percent recycled materials and equipment and is mounted to the side of an attenuator truck. It can be operated by the driver inside the truck, allowing for greater control of pesticide application. The Safety Sprayer removes the need for a sprayer and additional driver and eliminates exposure to pesticides during application operations. It also eliminates a potential communication gap during operations, allowing for a more precise application. The Safety Sprayer is connected to a hinge, allowing it to avoid barriers such as guardrails and milepost signs while ensuring the driver stays safely within the vehicle. It also has four nozzles – two horizontal and two vertical – that provide a consistent application and no pesticide exposure to personnel.

Labor, Equipment, Materials Used

Creating the Safety Sprayer required only two days' labor. The device was assembled from materials and equipment that includes two pieces of old fence post, double-hinges recycled from old brake guard pads and one half-inch hose that allows the sprayer to

work from either side of the truck. The equipment overall weighs less than 20 pounds, does not stick out past the truck's mirrors and can be attached or removed by field personnel in under 15 minutes to be used anywhere on the 294-mile Tollway system.

Cost

The cost of new parts for the Safety Sprayer was less than \$20. A typical sprayer purchased from an equipment manufacturer would cost at least more than \$400 but wouldn't have the flexibility of the Tollway's device.

Savings/Benefits to the Community

- Eliminating personnel's exposure to pesticides and live traffic.
- Reducing costs related to personnel and equipment.
- Minimizing potential negative environmental impact through accurate pesticide use.
- Decreasing potential roadway incidents, as only one vehicle is utilized during pesticide operations.
- Utilizing simple, inexpensive, machinery that can be easily replicated and repaired.

Save The Date



105th Annual Fall Meeting
October 9-11, 2019
Par-A-Dice Hotel and Casino
East Peoria, IL



106th Annual Conference

SEPTEMBER 19-21

2019
HILTON CHICAGO



Register today for the Illinois Municipal League's (IML) 106th Annual Conference – the premier educational and networking opportunity for municipal officials and staff. Our lineup of dynamic speakers offers solutions to address the challenges facing your community.

The IML Annual Conference provides attendees the opportunity to attend educational sessions most beneficial to them through our 11 specially-designed session tracks, including:

- **Clerks**
- **Communications**
- **Economic Development**
- **Finance**
- **Human Resources**
- **Managers**
- **Newly Elected Officials**
- **Public Safety**
- **Public Works**
- **Risk Management**
- **Students**



Don't Delay - Reserve Your Hotel Room Today

The Illinois Municipal League (IML) has negotiated lower rates for overnight accommodations during the conference. The room block at the historic Hilton Chicago will fill up, so reserve your room today. *Room block expires August 16.*

Affordability

Attendance at the IML Annual Conference is an investment in your city, village or town. IML works hard to keep the event affordable by offering an IML member discount and no price increases since 2016.

Conference Rates

\$310 IML Member **Early Bird Discount*
\$360 Non-Member

One Day Only Rates

(Thursday, Friday or Saturday)
\$165 IML Member **Early Bird Discount*
\$180 Non-Member

**Early Bird Online Registration Deadline:* Friday, September 6.

After September 6, IML member registration fees are \$360 for the entire conference and \$180 for one day only.

**Visit conference.impl.org to register for conference
and reserve your hotel room today.**

Township Government



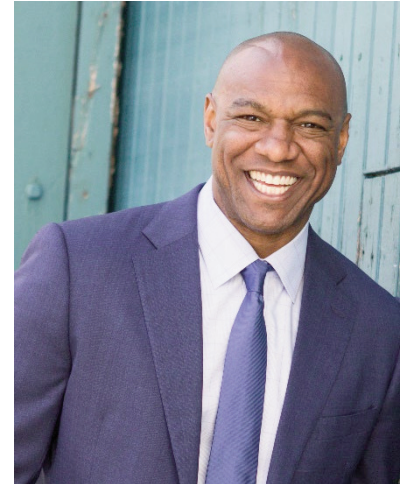
The theme of this year's Township Officials of Illinois Annual Educational Conference highlights why Township Government is so important - **Township Government Efficient, Empowering, Innovative**. The event will be held Sunday, November 10th through Tuesday, November 12th. The Springfield Crowne Plaza Hotel will serve as the conference hotel. Officials will have over 30 educational sessions to take part in, plus networking opportunities, a vendor tradeshow, an awards event, and the annual Banquet and evening entertainment.

SUNDAY

The conference begins at 2 pm on Sunday, November 10th with attendee registration and exhibit hall. There will be a variety of vendors representing products and services available to townships. TOI encourages everyone to stop by each booth and get acquainted with vendors and what they have to offer. TOI Divisions will also have information tables in the exhibit hall for officials to visit. Attendees will have the opportunity to network with one another and enjoy snacks and complimentary drinks until 6 pm. There are no scheduled TOI events on Sunday evening. Attendees can enjoy dinner at the Long 9 Restaurant at the Crowne Plaza or venture out to delight in one of the other food establishments around the city.

MONDAY

Monday morning starts with coffee and donuts in the exhibit hall, providing attendees with another opportunity to connect with vendors before attending the Opening Session. The Springfield Municipal Band will honor veterans with



Jarrett Payton

a variety of patriotic music, and the popular township flag ceremony will be featured in the Opening Session. Following welcoming remarks from TOI staff and officers, **Jarrett Payton**, son of the late NFL Hall of Famer Walter Payton, will share intimate stories of life with his father and his own vision for carrying on a legacy of generosity and strength. Jarrett is a radio and television host locally with WGN, businessman, philanthropist, motivational speaker, former NFL and CFL running back and devoted husband and father.

At the conclusion of the Opening Session, lunch will be available for attendees, and guests with purchased meal tickets, in the exhibit hall, followed by an afternoon of education sessions.

The Annual Banquet will be held on Monday evening, with a DJ, karaoke and dancing afterwards. Tickets for the Banquet are available for purchase, and all conference registrants are welcome to take part in the evening entertainment.

TUESDAY

Tuesday's activities include the annual Awards Breakfast, education sessions, division meetings and the Closing Session. The Awards Breakfast will include the presentation of the Legislative Good Friend Award, the 23rd Annual TOI Mighty Message Awards, Professional Development plaques, and Division awards. Tickets to the Awards Breakfast must be purchased in advance.



2018-19 Training

ILLINOIS TECHNOLOGY TRANSFER CENTER

Training Class

Instructor

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), 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)

Concrete Structures

Doug Dirks (IDOT)

Creating a Healthy Workplace Culture Starts With You

Heather Humphrey (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), Dana Edwards (IDOT), Denise Johnson (IDOT), Shelly Runyard (IDOT), Aubrey Schuckman (IDOT), 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), Felecia Hurley (IDOT), Carlos Feliciano (IDOT), Charles Riddle (IDOT), Kevin Stallworth (IDOT), Janel Veile (IDOT), Cindy Stafford (IDOT), Janis Piland (FHWA), Ken Runkle (IDOT)

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

MFT (Motor Fuel Tax) Accounting & Compliance Review

Amy Whitecotton (IDOT)

MUTCD (Manual on Uniform Traffic Control Devices) Training

Dean Mentjes (FHWA), Marshall Metcalf (IDOT)

PASER

Brian Tjernlund (Lee County Assistant Engineer)

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)

Terry Fountain (Consultant)

Snow and Ice Control

Tim Peters (IDOT)

Steel Structure Construction Inspection

Justan Mann, 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), Steve Altman (IDNR) – Downstate

Keith McMullen (Army Corp of Engineers), Steve Altman (IDNR) – St. Louis District

Julie Rimbault (Army Corp of Engineers), Gary Jereb (IDNR) – Chicago area

WMFT (Web Motor Fuel Tax)

Barry Kent (IDOT)

Work Zone Safety

Juan Pava (IDOT), 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)

OUT AND ABOUT

come meet the T2 staff!

The Illinois Technology Transfer Center events in 2020

- January 13-15** in Washington DC at the Winter **NLTAPA** meeting
- February 10-11** in Springfield at the **TCTR** DBE conference
- March 3-6** in Indianapolis, IN at **The Work Truck Show 2019**
- March 26-27** in Decatur at the **ECIHCA** seminar
- April 30-May 1** in Bloomington at the **IACE** annual Spring meeting
- May 1-3** in Peoria at the **APWA** Illinois Chapter conference
- May 6-10** in Effingham at the **APWA** Illinois Roads Scholar Program
- May 22-24** in Villa Park at the **APWA** Chicago Metro Chapter conference
- June 11-12** in LaHarpe at the **WCIHCA** seminar
- July 26-30** in Seattle, Washington at the **NLTAPA** conference
- August 5-6** in Peoria at the **THCOI** conference

2019

- September 13** in Peoria at the **APWA** Snow Rodeo
- September 19-20** in Chicago at the **IML** conference
- October 9-11** in East Peoria at the **IACE** annual Fall meeting
- October 15-16** in Bloomington at the **IPWMAN** conference
- November 10-12** in Springfield at the **TOI** education conference



FEBRUARY 10-11, 2020

SAVE THE DATE!

CROWNE PLAZA
SPRINGFIELD, ILLINOIS



The T2 center has a strong relationship with the following:

APWA

(American Public Works Association)

ECIHCA

(East Central Illinois Highway Commissioners Association)

IACE

(Illinois Association of County Engineers)

IML

(Illinois Municipal League)

IPWMAN

(Illinois Public Works Mutual Aid Network)

LTAP

(Local Technical Assistance Program)

NACE

(National Association of County Engineers)

NLTAPA

(National Local Technical Assistance Program Association)

NTTD

(National Transportation Training Directors)

TRB

(Transportation Research Board)

TCTR

(Today's Challenge Tomorrow's Reward)

THCOI

(Township Highway Commissioners of Illinois)

TOI

(Township Officials of Illinois)

TOIRMA

(Township Officials of Illinois Risk Management Association)

WCIHCA

(West Central Illinois Highway Commissioners Association)



STAYING AWAY FROM UTILITY LINES

“I knew when I heard the loud noise and saw the water geyser that this was not going to be a good day.”

A heavy equipment operator never wants to say or hear these words. Striking a utility line is one of the biggest nightmares for anyone trying to get their project completed. It will ruin your day at a minimum and possibly have far reaching bad effects. In Illinois we fortunately have a free service available to help you prevent digging catastrophes. Safe digging starts when you call JULIE at 8-1-1. Yes, it's that easy. 8-1-1 is the nationwide 3-digit number to have your underground utility lines marked at no cost

What are some reasons to call 811 before you dig?

- Keep from killing or injuring yourself and those around you depending on the type of utility line you might hit;
- Not causing an interruption in utility services impacting the health and safety of people in the immediate area;
- Being fined for not following the law to call at least 48 hours ahead of when you will be digging but not more than 10 days before you plan to dig; and
- Causing serious environmental damage to the area where you are digging.

Do you need to do anything before you call 811?

Yes – mark your proposed digging area in white, unless:

- a precise location can be given (meaning the address — what side of the property, etc.);
- the excavator and the affected utility have had an on-site pre-construction meeting to pre-mark the site;
- your excavation involves replacing a pole within 5 feet of an existing pole location; or
- pre-markings would clearly interfere with pedestrian or vehicle traffic control.

What happens when you call 811?

Your call sets in motion an 811 process to have the utility owners visit your site and mark the utility lines with spray paint and/or flags. You must wait at least 48 hours after calling to give the process time to complete. The utility representatives will mark utility lines in your dig-gang area with a specific color to show the type of utility. (Please see image below – if viewing this as a black and white printed newsletter version, please note the colors listed below the shovel images.)

After the 48 hours are complete, you may proceed digging, being extra careful not to hit any marked utility lines.

How do you know all the utilities have visited your site?

Current law requires all utilities to do one of three things during or after visiting your site:

- Mark utility lines found within your digging area;
- Leave an 811 card in your digging area; or
- Record their visit to your digging site with 811. This is called “Positive Response”. The visit will be recorded on your ticket, so you can confirm the utility ‘closed the communication loop’ and made a record with 811 of visiting your digging site.

Are all utilities a part of 811?

No. Private utility lines may not be marked as a part of your call to 811. It is your responsibility to contact private utilities and request their lines be marked.

As construction and maintenance season ramps up for 2020, keep in mind the rule – Call 811 before you dig! 811 is the law. 811 will also keep you from ruining your day. Call 811 at least 48 hours before digging. You will be glad you did.

<http://call811.com/map-page/illinois>



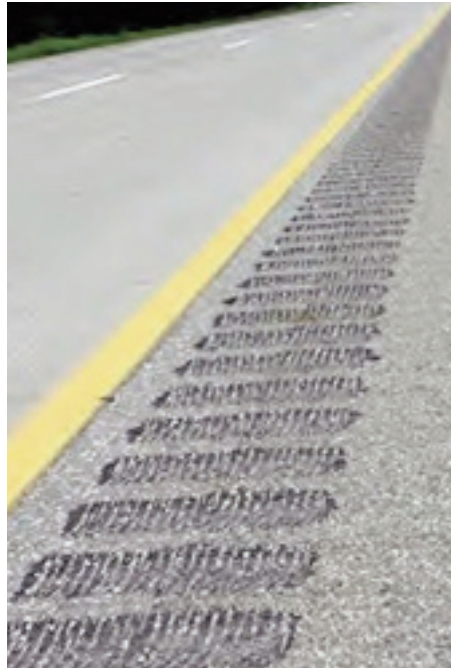
ASK AN ENGINEER!

Is there an engineering issue that is troubling you? Are you confused on how to address a specific road problem? Then the “Ask an Engineer” section is here to help! Submit your safety, engineering or other road questions to us and we will consult an engineer within the Illinois Department of Transportation to find an answer for you. Questions can be emailed to Barry.Kent@illinois.gov or mailed to Illinois Department of Transportation, Ask an Engineer (Attn: Barry Kent), 2300 S. Dirksen Parkway, Room 208, Springfield, IL 62764.

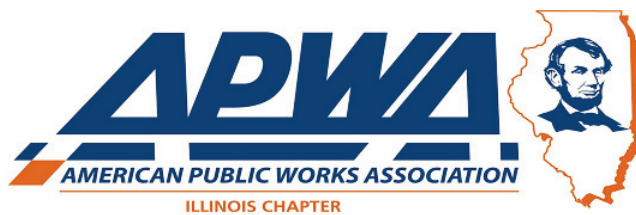
The T2 Center will randomly pick a question to appear in the Newsletter.

QUESTION: Are rumble strips considered traffic control devices and, if so, does the MUTCD govern their design, spacing, etc.?

ANSWER: It depends on whether the rumble strips are made of white or colored marking material or are cut into the pavement (and thus have the same color as the pavement.) A new Chapter 3J in the 2009 MUTCD addresses pavement markings that are used in conjunction with rumble strips. Transverse rumble strips can be formed by the use of strips of thermoplastic pavement marking material so they must be white if



placed across the travel lanes. Rumble strips cut into the pavement as grooves and in essence the same color as the pavement are not considered pavement markings in the MUTCD. Thus, permanent rumble strips consisting of longitudinal patterns of grooves cut on the shoulder or adjacent to a centerline are not currently considered traffic control devices and are not governed by the MUTCD. Section 6F.87 contains standards, guidance, and options for temporary rumble strips used in temporary traffic control zones. That section does cover both types of rumble strips—those formed from marking material and those formed from grooves in the pavement—and describes spacing, placement, and other application information. (It should be noted that Part 6 is unique in the MUTCD in covering certain treatments that are not traffic control devices, including glare screens, attenuation devices, etc.)



2019 SNOW ROADEO

Registration Closing Soon

Friday, September 13, 2019

at The Shoppes of Grand Prairie

5201 W War Memorial Dr, Peoria, IL 61615



U.S. Department of Transportation
Federal Highway Administration



TRANSPORTATION
CURRICULUM
COORDINATION
COUNCIL
AASHTO

Local government and tribal transportation practitioners across the U.S. are responsible for more than 75 percent of our Nation's highway network. AASHTO's TC3 training library is one resource for local and tribal agencies in building and maintaining the skills necessary to operate such a vast system. FHWA has an agreement with AASHTO to provide local government and tribal transportation practitioners with access to this library.



What is TC3?

TC3 is AASHTO's online training library of 190+ training modules. Courses are developed by subject matter experts and include national best practices. All courses are available on the TC3 website and also a mobile app, available on iOS and Android systems.



About the Courses

Courses are developed using a Core Curriculum Matrix model that focuses on six technical categories: construction, employee development, maintenance, materials, pavement preservation, and traffic and safety. Each category is divided into four skill levels that define a career progression, from entry level (Level I) through management and administrative (Level IV). Users can then take courses that match their field and skill level.

For maximum flexibility, users can build a personal library of courses. They can also start and stop courses as needed based on their schedule. The platform includes a dashboard that tracks progress through each course a user starts so they can see where they are at a glance and pick back up where they left off.

More than 90 percent of the courses also qualify for professional development hours (PDHs) that can contribute to continuing education and licensure renewal.

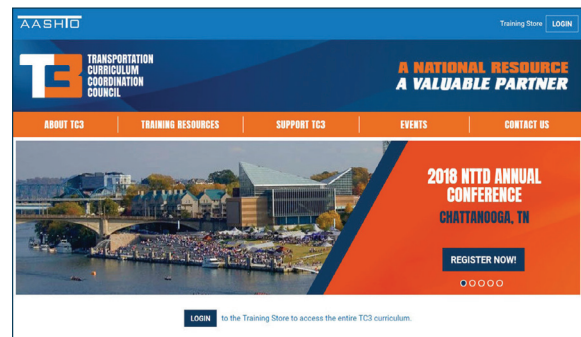


Get Started!

Access to courses is available to local agency and tribal staff only. To get started:

Create an AASHTO account login at <https://register.transportation.org>

- Select Register. **Then you must enter your agency email address.**
- After registration is complete, you will have unlimited access to the curriculum.
- To browse and gain access to the TC3 course offerings, go to <https://tc3.transportation.org/>
- Use promotion code: **D5X3-B3D9-52CB-4XCX**
- For additional help, watch this YouTube video: <https://youtu.be/NcFONY2R78s>



FHWA does not endorse specific products, services or enterprises.

TC3
www.tc3.transportation.org

FHWA Center for Local Aid Support (CLAS)
CLAS@dot.gov
www.fhwa.dot.gov/innovativeprograms/centers/local_aid



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.

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