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IOWA STATE UNIVERSITY  
Institute for Transportation

## From the director:

# NEW Roads Scholar program coming this fall, looking for your input

I've written about the Iowa LTAP Roads Scholar program several times in the last year, and we have been working on an update for some time.

Our new, revamped Roads Scholar program will start on September 1, 2014.

### Existing Roads Scholar program

The current Roads Scholar program started more than 10 years ago and has recognized the commitment of many of Iowa's transportation workers to continuing education. The rapid changes that are occurring in all areas of local transportation agency operations support the importance of that commitment.

The existing program has four levels of recognition (Roads Scholar I, Roads Scholar II, Senior Roads Scholar, and Master Roads Scholar) that require varying levels of credit hours. Four core courses are required to reach the Senior and Master Roads Scholar levels. More information on the program can be found online, [www.iowaltap.iastate.edu/workshops/road-scholars/](http://www.iowaltap.iastate.edu/workshops/road-scholars/).

Almost all the workshops primarily sponsored by Iowa LTAP were counted toward Roads Scholar credit, and anyone who attended one of these courses in the last decade was automatically included in the program and tracked by Iowa LTAP.

It was determined a number of years ago, for various reasons, that an update in the Iowa LTAP Roads Scholar program setup and approach was needed. Initially, for example, the tracking of all the Roads Scholar credits for each attendee was done "by hand." After many years, there were thousands of people in the program (some of whom may have attended only one LTAP workshop). Fortunately, the introduction of online registration several years ago allowed this tracking to be mostly automated.

In addition, some of the core courses needed for the Senior and Master Roads Scholar levels had become difficult to offer, physically and economically, on any type of regular basis. It was concluded that adjustments to the program were needed.

*From the director continued on page 2*



Would you like to participate in the new Iowa Roads Scholars program?

### NEW PARTICIPANTS:

[www.intrans.edu/mors/roadscholar/newRS/](http://www.intrans.edu/mors/roadscholar/newRS/)

### CONTINUING PARTICIPANTS:

[www.intrans.edu/mors/roadscholar](http://www.intrans.edu/mors/roadscholar)



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## Acronyms and Abbreviations in *Technology News*

AASHTO	American Association of State Highway and Transportation Officials
APWA	American Public Works Association
FHWA	Federal Highway Administration
IHRB	Iowa Highway Research Board
InTrans	Institute for Transportation (at ISU)
Iowa DOT	Iowa Department of Transportation
ISU	Iowa State University
LTAP	Local Technical Assistance Program
MUTCD	Manual on Uniform Traffic Control Devices
NACE	National Association of County Engineers
TRB	Transportation Research Board



U.S. Department of Transportation  
Federal Highway Administration



Iowa Department  
of Transportation

### About LTAP

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*From the director continued from page 1*

## The new Roads Scholar program

We are hoping to focus the program but also increase its flexibility. The proposed new Roads Scholars program we are currently developing includes the following characteristics:

- Applicable credit hours from almost all LTAP sponsored workshops
- Applicability of credits hours clearly indicated when a workshop is advertised
- *Required registration for program tracking* (go to [www.iowaltap.iastate.edu/workshops/road-scholars/](http://www.iowaltap.iastate.edu/workshops/road-scholars/) to register yourself or your staff)
- Four potential core courses and alternatives:
  - » Math Skills Training or Math Fundamentals (scheduled workshop or a to-be-developed online test option with passing grade)
  - » Flagger or Work Zone Safety Training (scheduled workshop, on-call/on-site, or copy of completion card from Iowa DOT Work Zone Safety workshops)
  - » Streets and Roads Workshop and Conference
  - » Supervisory Techniques and Skills (scheduled workshop or the online Public Employees Leadership Institute course, see below)
- Incorporation of the online Public Employees Leadership Institute courses:
  - » Supervisory Techniques and Skills
  - » Team Development (MRS)
  - » Effective Communication Skills (MRS)
  - » Leadership Skills
  - » Community Service/Customer Orientation Skills
  - » Legal Understanding
  - » Fundamentals of Government (MRS)
  - » Finance
  - » Resource Management
  - » Public Works Operations and Maintenance
  - » Basic Management (MRS)
  - » Emergency Management
  - » Project Management
  - » Winter Maintenance Management
- Identification of workshops/events for which repeatable Roads Scholar credit is allowed or a time interval for repeatability (e.g., once every four or five years)
- Confirmation of continued interest of registered individuals every four years
- Case-by-case guidance of individuals registered for the new program for proper transfer of credit hours from one program to another
- Four Roads Scholar recognition levels with new requirements:
  - » Roads Scholar I (40 credit hours)
  - » Senior Roads Scholar II (80 credit hours with the four core courses, see above)
  - » Master Roads Scholar (120 credit hours with the four Public Employees Leadership Institute courses noted with "(MRS)" above)
  - » Elite Roads Scholar (175 credit hours and the completion of all the Public Employees Leadership Institute courses listed above)

### Let us know what you think

We are looking for input on these proposed characteristics. We are still in the development stages of this *new* Roads Scholars program and encourage your input this summer. You can contact me by phone or email: 515-294-8817, [kknapp@iastate.edu](mailto:kknapp@iastate.edu).

### Sign up to participate

Please *make sure to sign up for the new program* at the link noted above and *help us recognize your commitment to continuing education.* ■

Keith

## Bob Sperry recognized for traffic safety efforts

On April 10, our own Bob Sperry, Iowa LTAP safety liaison, was honored with the Commissioner's Special Award for Traffic Safety at the annual conference of the Governor's Traffic Safety Bureau (GTSB) in Dubuque, Iowa.

Each year this award is given to someone who, according to the award requirements, has made "outstanding traffic safety contributions . . . based on commitment to traffic safety and service provided beyond routine duties, creativity of approach, and effectiveness of a traffic safety program or campaign."

This recognition is well deserved.

Bob has devoted his entire adult life to traffic safety. During more than 30 years as county engineer in Taylor, Webster, and finally Story counties, he worked with county representatives, regional planning

authorities, the Department of Natural Resources, the Iowa DOT, LTAP, and others to meet a variety of challenges.

As the LTAP safety liaison, he has participated in road safety audits, Multi-Disciplinary Safety Teams, and Unpaved Rural Road and Low Volume Road committees. Currently Bob is serving on the GTSB High Five Rural Road Safety Team, designed to reduce rural road crashes and fatalities.

Bob was nominated by Randy Hunefeld, the coordinator of GTSB's special Traffic Enforcement Program (sTEP). In his nomination form, Hunefeld had this to say: "If it has 'safety' attached to it, Bob will always offer up his time to make it happen. I honestly believe that Bob is one of those men who have a gift for helping people and he has demonstrated it by his lifelong actions." ■



Bob Sperry (left) with Randy Hunefeld, GTSB sTEP coordinator

## And now we say "Goodbye" to Bob

Iowa LTAP's hard-working local roads safety liaison, Bob Sperry, will retire June 30, 2014, after a long career devoted to improving traffic safety.

Bob joined Iowa LTAP in March 2008, after retiring as Story County engineer. At that time, the safety liaison was a new position funded by the Iowa DOT's Office of Traffic and Safety. Its purpose: Help city and county engineers access information about state-of-the-art practices and systems for improving traffic safety. The safety liaison's efforts complement those of the safety circuit rider, who focuses on providing training for city and county employees.

In his six years as safety liaison, Bob has researched, organized, developed, and distributed highway safety resources to Iowa's counties and municipalities. In the first year, Bob visited every county in Iowa. Since then, he has continued to travel the state tirelessly, advising local agencies about

their traffic-safety needs.

Some of Bob's services have included

- Assisting engineers in the use of crash data and data mapping
- Making engineers aware of, and helping them navigate the application process for, various safety-related funding opportunities (signage funding, TSIP and HSIP-Secondary programs, etc.)
- Participating in state and local agency safety audits
- Reviewing problem locations of roads or intersections associated with changes in development or other specific safety challenges with the engineer in charge
- Promoting and tracking participation in the Public Employees Leadership Institute online training program
- Working on research projects that focus on practical applications

- Presenting information about new research products or state-of-the-art processes to association meetings

"I work with the researchers here at Iowa State," Bob says, "and then I go out to the counties and cities and fill them in on the practical aspects of that research. That's the 'liaison' part of my job description."

And he feels rewarded by the increasing levels of awareness and involvement that county and city engineers are demonstrating in safety-related activities. "It's been very satisfying," he says.

Having demonstrated the value of the safety liaison position, Bob is ready to turn the work over to a new person and focus on making the most of retirement. On his to-do list are several pet volunteer activities that offer the personal contacts and "helping" opportunities that he enjoys.

We wish you all the best, Bob! ■

## Iowa LTAP Mission

To foster a safe, efficient, and environmentally sound transportation system by improving skills and knowledge of local transportation providers through training, technical assistance, and technology transfer, thus improving the quality of life for Iowans.

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# Train for today AND tomorrow

by Bob Sperry, Iowa LTAP safety liaison

How are YOU, as a county or city employee, trying to improve your abilities and qualifications to perhaps move into a better paying position when the opportunity avails itself?

Or how are YOU, as a county or city employer, providing the training that your leaders need, so that they can help you operate in as efficient and economical manner as possible? Providing the opportunity for leadership training to potential leaders of the future is an excellent way to ensure more consistency and provide continuity of operations during times of transition.

Obviously, YOU are very busy and would prefer that training could be taken at YOUR convenience. Your budget and staff are very limited and you would like training to involve minimal expense, including travel, meals, and lodging. Perhaps your staff is looking at retirement (or moving on in a few months) and you have good people to move up, but they lack the knowledge and experience to jump directly into a leadership role and you want to help.

series of training courses would be an excellent program to have available for Iowa's public workforce and employers.

Following the example of a recently developed (at the time) APWA outline, this committee of city, county, and Iowa DOT representatives teamed up with the Iowa LTAP. With funding from the Iowa Highway Research Board, together they developed the series of 14 courses that are now known collectively as Iowa's "Leadership Institute."

### Details about the institute

Each of Iowa's Public Employees Leadership Institute courses covers a specific topic and consists of 5–8 separate and independent modules. The instructors are (or were when the courses were recorded) working Iowa city, county, and DOT professionals and experts in their subject areas.

Each module requires 30–60 minutes to complete, so users can adjust their progress to the time they have available.

The cost of each of the 14 courses, listed below, is \$75.

- » Supervisory Techniques and Skills
- » Team Development
- » Effective Communication
- » Leadership Skills
- » Community Service/Customer Orientation Skills
- » Legal Understanding
- » Fundamentals of Government
- » Finance
- » Resource Management Skills
- » Operations and Maintenance
- » Basic Management Skills
- » Emergency Management
- » Project Management
- » Winter Maintenance Management



### Public Employees Leadership Institute: background

These are all questions and issues that, several years ago, a foresighted committee thought of, discussed, and took action on when they decided that a low-cost, online

# New intersections move traffic efficiently and safely

*Train for today continued from page 4*

The courses may be taken in any combination or order. Users can take one course or a few to hone some or many specific skills, as they are needed with additional responsibilities. Persons finishing the entire 14 courses are awarded a certificate of completion and, if they are enrolled in the APWA program noted below, their completion is forwarded to APWA national.

Because the APWA Institute model was followed during development of Iowa's Public Employees Leadership Institute, the Iowa program was submitted to APWA national for accreditation. Iowa's leadership institute was approved by ACPA national in July 2011 to fulfill the academic requirements for its Level I and II managers in its own Donald C. Stone Leadership and Management Program.

## A proven training resource

Since 2011, the popularity of Iowa's Public Employees Leadership Institute has grown gradually but steadily among city and county public employees in other states. In the 15-month period from January 2013 through March 2014, there were 370 course registrations from 19 U.S. states and Canada.

An overall total of 892 course registrations and 14 graduates from six states, plus Canada, are strong evidence that this program can be a very useful tool in YOUR individual promotion or agency's succession planning.

## For more information

If you are interested in learning more about Iowa's Public Employees Leadership Institute, please see our website, [www.iowaltap.iastate.edu/leadershipinstitute/](http://www.iowaltap.iastate.edu/leadershipinstitute/). Or for more information, call Keith Knapp, Iowa LTAP director, 515-294-8817, [kknapp@iastate.edu](mailto:kknapp@iastate.edu). ■

*Editor's note: This article is reprinted with permission from the spring 2014 issue of the Missouri LTAP quarterly newsletter.*

Innovative intersection and interchange geometrics are gaining momentum across the country. The Federal Highway Administration is promoting them through its Every Day Counts initiative to accommodate traffic volumes more efficiently while enhancing safety for motorists, pedestrians and bicyclists.

These proven techniques increase the safety of intersections—where about half of the nation's severe crashes occur—by eliminating or relocating left-turn conflicts that can cause problems. FHWA recommends that highway agencies include these designs in their evaluation processes for intersection projects and use them where appropriate.

Every Day Counts is focusing on four designs:

- The diverging diamond interchange eliminates the signalized left-turn phase at the two intersections in the interchange by shifting the cross-road traffic to the

left side of the road between the ramp terminals. This enhances safety by reducing the number of traffic conflict points and improves traffic flow by decreasing the number of signal phases.

- The displaced left turn intersection enhances safety and operations by eliminating the main intersection conflict between left-turning vehicles and oncoming traffic. Left-turning traffic makes a coordinated signalized turn before the main intersection into left-turn bays on the opposite side of oncoming traffic.
- U-turn intersections are a family of intersection geometrics that share a similar strategy for using indirect left turns. Those promoted through Every Day Counts include the restricted crossing U-turn intersection, sometimes called a J-turn, the median U-turn intersection and the ThrU-turn intersection. These strategies boost safety and improve traffic flow by eliminating, relocating or modifying intersection conflict points.

*New intersections continued on page 6*



Aerial view of a diverging diamond interchange at I-270 and Dorsett Road in Springfield, Missouri

## Diverging diamonds are coming to Iowa

According to John Dostart, Iowa DOT Office of Local Systems, four diverging diamond interchanges are being planned or studied in Iowa. One is scheduled for letting in Waukee. Other DDI projects—in Clive/Urbandale, Ankeny, and Iowa City—are being designed or evaluated.

For more information about DDIs, contact John Narigon or Wes Mayberry, Iowa DOT Office of Design, 515-239-1769, john.narigon@dot.iowa.gov; or 515-239-1967, wes.mayberry@dot.iowa.gov, respectively.

The Federal Highway Administration has posted a video explaining the design and operation of DDIs on YouTube, [www.youtube.com/](http://www.youtube.com/) (search “diverging diamond interchange FHWA”).

*New intersections continued from page 5*

- The modern roundabout is a circular intersection in which traffic travels counterclockwise around a central island and entering traffic yields to circulating traffic. It improves safety by replacing perpendicular crossings and opposing direction turns with low-speed merging and diverging maneuvers.

### State leaders

Examples of these geometrics abound, said Mark Doctor, safety and design engineer at FHWA's Resource Center. The Salt Lake City, Utah, area has the greatest concentration of the four designs: four diverging diamond interchanges, eight displaced left turn intersections, numerous roundabouts, several ThrU-turn intersection applications and more in the works.

Missouri has the most diverging diamond interchanges, with 10 in place and more in development, Doctor said. The state also has numerous roundabouts, several restricted crossing U-turn intersections and one displaced left turn intersection.

Maryland, another leader in implementing these designs, was an early user of the displaced left turn intersection. The state also has several restricted crossing U-turns along the U.S. 301 corridor, numerous roundabouts and a recently built diverging diamond interchange.

### Implementation support

FHWA offers support in implementing intersection and interchange geometrics: A workshop on Alternative Intersections and Interchanges (FHWA-NHI-380109) is aimed at state and local agency professional staff. It covers applicability criteria, safety performance, design, access management, pedestrian and other considerations. Details are at [www.nhi.fhwa.dot.gov](http://www.nhi.fhwa.dot.gov).

Technical assistance on analysis and design questions and peer reviews by experts involved with successful implementation are available. This on-call support for state and local agencies is handled mostly through email, conference calls and Web meetings.

Help with applying the designs is also offered through peer-based information exchanges, which are tailored to the interests of participating agencies. Various formats—in person, virtual or a combination—are possible to accommodate participants' travel needs, Doctor said. FHWA encourages holding a forum as part of an already planned event.

### Resource

FHWA *Innovator*, V7, Issue 39, Nov/Dec 2013, [www.fhwa.dot.gov/hfl/innovator/issue39.cfm](http://www.fhwa.dot.gov/hfl/innovator/issue39.cfm) ■

## County engineers focus on research

*by Keith Knapp, Iowa LTAP director*

For four years a County Engineers Research Focus Group meeting has been held in Ames. This year the meeting was held on February 13, and approximately 50 people were in attendance.

One of the objectives of this meeting is to discuss low-cost solutions and innovative approaches to the various problems encountered by secondary road departments in Iowa. The second objective of the focus group meeting is to identify and prioritize new research and outreach ideas for consideration of funding by the Iowa Highway Research Board.

### Technical discussion

This year the technical portion of the meeting started with a presentation about eight finished, ongoing, or soon-to-be-implemented research projects that have been funded as a result of the focus group ideas. Information about materials and resources that could be of interest to local agencies in Iowa was also presented.

Several online resources that may be of interest to local agencies in Iowa were also identified. These include the following:

- Online “Gravel Road Maintenance: Meeting the Challenge” video clips from

Minnesota LTAP ([www.mnltap.umn.edu/publications/videos/](http://www.mnltap.umn.edu/publications/videos/))

- “Answers to Common Questions about Gravel Roads” video ([www.mnltap.umn.edu/publications/videos/](http://www.mnltap.umn.edu/publications/videos/))
- *Surface Evaluation Guide for Gravel Roads* from South Dakota LTAP ([www.sdstate.edu/engr/ltap/](http://www.sdstate.edu/engr/ltap/))
- “Unpaved Road Chemical Treatment Selection Tool” from the University of California–Davis ([www.ucprc.ucdavis.edu/dustcontrol/Default.aspx](http://www.ucprc.ucdavis.edu/dustcontrol/Default.aspx))

A discussion of the winners and entries for a National LTAP “Better Mouse Trap” competition followed. This competition focuses on

# Conference calendar

Date	Event Name	Location	Contact
<b>July 2014</b>			
10	Midyear Iowa County Engineers Association Conference	Ames	Keith Knapp
<b>September 2014</b>			
15	Introduction of Federal-Aid Right of Way Requirements for Local Public Agencies	Charles City	Keith Knapp
17	Introduction of Federal-Aid Right of Way Requirements for Local Public Agencies	Manchester	Keith Knapp
19	Introduction of Federal-Aid Right of Way Requirements for Local Public Agencies	DeWitt	Keith Knapp
23	Iowa Streets and Roads Workshop	Ames	Beth Richards
24–25	Iowa Streets and Roads Annual Conference	Ames	Beth Richards
24–25	2014 MINK Conference	St. Joseph, MO	Keith Knapp
<b>October 2014</b>			
8	Fall Safety School	Fairfield	Keith Knapp
9	Fall Safety School	Cedar Rapids	Keith Knapp
10	Fall Safety School	Waverly	Keith Knapp
14–17	NHI: Fracture Critical Inspection Techniques for Steel Bridges	Ames	Sharon Prochnow
21	Fall Safety School	Cherokee	Keith Knapp
22	Fall Safety School	Red Oak	Keith Knapp
23	Fall Safety School	Ames	Keith Knapp

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## Event details and online registration

Watch for details and online registration information, by specific dates and events, on the online calendar, [www.intrans.iastate.edu/mors/calendar/](http://www.intrans.iastate.edu/mors/calendar/). ■

ideas and innovative solutions to day-to-day issues that occur within local transportation agencies. The results of similar regional and Missouri-focused competitions were also discussed.

Then, several Iowa county engineers talked about some of the new or innovative approaches that they had used for the following: gravel road maintenance, hard surface pavement maintenance, thin maintenance surface options, fuel tank clean out, plow blades, plow truck lighting, and trailer fabrication. Roundtable discussions followed on, among other things, snow and ice removal policies, budgeting, and bridges.

## Research ideas

A good portion of the meeting included the discussion and prioritization of potential research and outreach ideas for consideration by the Iowa Highway Research Board. A total of 21 ideas that focused on a wide range of subjects were suggested and discussed, then narrowed down to six:

- Dyed fuel use on roadways
- Manual on proper removal of traffic control devices
- Feasibility of gravel road recycling
- Innovative frost boil treatments
- Soil screw abutment use

- Equipment replacement optimization and lease/own comparison

The subjects proposed above for either research or outreach projects are considered by the Iowa Highway Research Board along with many other subjects that are suggested by others for funding. A number of the focus group suggestions, as noted above, have resulted in projects.

## For more information

Summaries of focus group meetings from the last several years, along with video clips of various presentations, are available online, [www.iowadot.gov/research/countyfocus-group.html](http://www.iowadot.gov/research/countyfocus-group.html). ■

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