

Inside this issue

- 2 From the director: Why Tacoma training? Or...
- 3 Iowa LTAP Tech Corner—Work Zone Safety app
- 4 DIY slide-in bridge construction (SIBC) training available
- 5 Larry Grant new to MDST Coordinator position
- 6 Consistent signing in work zones = Consistent driver expectancy
- 7 Iowa LTAP on Facebook!
- 7 Iowa LTAP 2016 survey
- 7 Conference calendar

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Stop signs not always the answer to stopping crashes at rural intersections

By Nicole Fox, Secondary Roads Engineer, Office of Local Systems, Iowa DOT

A number of serious traffic crashes have occurred recently at rural uncontrolled intersections on lesser-traveled gravel roads in Iowa. On the surface, installing stop or yield signs at all rural intersections may seem to provide greater protection to the traveling public. However, a vast majority of drivers on lesser-traveled gravel roads are local drivers who travel these same roads at least once per week. They know what intersections have stop signs, yield signs, or no signs.

Over regulating traffic can result in drivers ignoring critical signage where it is essential, leading to the possibility of more crashes. Installing many non-essential signs can lead to a less safe system overall, providing a false sense of security with drivers not stopping or recognizing the potential for conflict at the intersection.

In 2005, an Iowa State University study showed that there is “no statistical difference in the safety performance of ultra-low-volume stop-controlled and uncontrolled intersections.” In non-engineering terms that means the study found installing stop signs on lesser-traveled roads didn't improve safety.



In the United States, the regulation at an intersection is referred to as the “Right-of-Way Rule.” This rule states that an entering driver must yield to vehicles already in the intersection. If two vehicles are approaching an intersection at the same time, the driver on the left must yield to the driver on the right. At uncontrolled intersections, every driver has the responsibility to approach the intersection safely and follow the “Right-of-Way Rule” and drivers should incorporate this practice each time they approach any intersection.

As traffic patterns change due to urban expansion, business development, or other issues such

Crashes continued on page 3



Uncontrolled Intersection in rural Crawford County. Photo courtesy of Crawford County.

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



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Federal Highway Administration



About LTAP

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From the director: Why Tacoma training? Or...

About two months ago, as some of you know, I was in Tacoma, Washington, at the NACE Annual Meeting. I kicked off that meeting as one of the instructors for "Safety 365: A Safety Workshop for Local Governments." This effort was done in conjunction with my involvement with the National Center for Rural Road Safety (www.ruralsafetycenter.org). Their workshop training materials are about six years old, and I've been involved with its update. I will also be working with InTrans staff to update, improve, and alter trainings on roadside safety, maintenance safety, and possibly low-cost safety improvements, sometime in the near future. I was near Little Falls, Minnesota, doing the maintenance safety training in mid-May and was in Lincoln, Nebraska, for the roadside course during late May. Plus, I was in Baton Rouge, Louisiana, leading the entire Safety 365 workshop in June.

So why do I do this? There are several reasons. First and foremost, I am excited that I can bring these materials back to Iowa for local agency training. Plus, because I helped develop it, I know the material well and this makes for better training all around. Second, I can train our Iowa LTAP and some InTrans staff in the material for use here in Iowa. Finally, all this keeps me "on my toes" and current with regard to safety subject material.

My other national training and outreach work efforts in the area of road diets was done for some of the same reasons. These efforts bring national expertise to Iowa and assist in the offering of better technical assistance. It's somewhat off subject, but I think these are also great reasons to support transportation research. It brings people to Iowa and keeps them here. These are the people that teach and develop our transportation engineers, and, as they graduate, they remain here to benefit Iowa, sometimes for their entire careers. Clearly, I am biased when it comes this type of thing.

A while ago I had someone indicate to me that things need to disorganize in order to organize. I thought about this a little, and I think this is

what the Iowa LTAP has gone through in the last few years. It has come out looking pretty good; different, but meeting its many objectives, I think. There were some bumps along the way and there are many that remain, but we are absolutely headed in the right direction. We have some great staff already on board and hope to add one more in the near future.

The advertisement for a full-time Safety Liaison/Researcher position will be advertised soon. An expansion of this position to full-time (with half of it being safety research) was done for various reasons, but it should expand the candidate pool and provide more flexibility with the position. I'm looking forward to the review process and the potential interviews. Once again, it will either keep a safety expert here in Iowa or bring additional expertise into the state—hopefully for the long-term. Our primary goal at the Iowa LTAP is to bring someone on that can help local agencies through safety training and/or technical transfer. Along with someone, for this position in particular, that has a passion for promoting all existing and innovative safety improvements and measures one-on-one with local agencies.

In this newsletter you will find articles on several interesting subjects. In addition, we introduce Larry Grant, who recently started at the Governor's Traffic Safety Bureau, one of Iowa LTAPs primary partners and sponsors. Iowa LTAP also held training in motor grader operation and tractor-mower operation in May and June, and roadside safety training is planned for later this summer. Last but not least, the ICEA Midyear Meeting is July 13 (golf) and July 14 (conference).

Practice intentional simplicity and have a good summer. ■

Keith

Crashes continued from page 1

as nearby road closures, traffic control needs will change. County or city engineers periodically review these types of situations to assure the safest solution for the traveling public.

If you encounter an uncontrolled rural intersection remember:

- Tall corn in the late summer and early fall can make it hard to see other vehicles approaching the intersection. Drivers may need to stop at intersections they don't typically stop at.
- Other obstacles such as buildings, trees, and snow, may also obstruct your view.
- You can't always rely on dust at intersections to indicate traffic moving in the other direction. Recent rain or snow or dust control material cuts down on dust; dust is not visible during night-time hours.

Most importantly, remember to yield and be on the lookout for opposing traffic. If you can't see, don't go!

Contact

Contact an Iowa county engineer representative at iowacountyengineers@gmail.com. ■



Sign replacement on a rural road in Iowa

Iowa LTAP Tech Corner—Work Zone Safety app

What is it?

The Federal Highway Administration takes an active role in monitoring, improving, and advancing safety for work zone workers. As a trusted partner, the FHWA awarded the American Traffic Safety Services Association (ATSSA) multi-year grants in 2006, 2011, and 2013 to provide roadway safety training nationwide for workers and others who make their livelihood on America's roadways. As a result of the Work Zone Safety Grant, ATSSA has developed training, including videos, podcasts, and publications, to help inform workers about safety procedures and improve worker knowledge in order to avoid injury during their daily employment activities.

One of these publications was the new Work Zone Safety app—a downloadable application for your smartphone.

How does it work?

This free app and handy tool can help you:

- Quickly determine both minimum device spacing and minimum number of devices needed for merging, shifting, shoulder, or flagger operations.
- Calculate the number of devices you need.
- Customize your results to incorporate local standards.
- Learn about and apply best practices for stationary lane closures and short duration operations.
- Set up temporary traffic control areas.

Where can I get it?

Use the QR codes below or visit Google Play (search for “Work Zone Safety Suite”) or iTunes (search for “Work Zone Safety”) to download the free app today.

Information about and links to the app are also available at www.atssa.com/WorkZoneSafetyGrant/App, along with a link to a demo video for the Work Zone Safety app. ■



Google Play



iTunes



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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DIY slide-in bridge construction (SIBC) training available

City, county, and state road agencies can download user-friendly training materials for six short courses on SIBC from the Federal Highway Administration website. (At www.fhwa.dot.gov/construction/sibc, scroll down to “Do It Yourself Training.”)

With SIBC, also known as lateral sliding or skidding, a new bridge is typically constructed on temporary supports adjacent to an existing bridge. Then the existing structure is demolished, new substructure may be constructed, and the new superstructure is slid into place. There are several variations of this accelerated bridge construction (ABC) technique.

The training materials can be used for individual study or for instructor-led events. Depending on their needs, users can access one or all of the courses in any order:

- A four hour overview of SIBC for all audiences
- Five one hour short courses:
 - o For designers
 - o For construction engineers/contractors
 - o For owner-agencies
 - o Case studies for all audiences
 - o Abbreviated overview for all audiences

Presentation slides include detailed photos, illustrations, checklists, and notes, plus videos from case studies. Instructor and participant guides are available.

Local agencies will learn how to determine if SIBC is an option for any given bridge reconstruction or replacement project. They will also learn about the primary issues related to planning/designing/constructing an SIBC project, submittals and temporary works, and relations with media and the public.

These training materials were developed for FHWA and its Every Day Counts program by the Institute for Transportation at Iowa State University. An expert task group representing state highway agencies, consultants, and contractors from around the country helped shaped the course content. The expert group includes some of the most knowledgeable and experienced people in ABC today.

Slide-in bridge construction is one of several ABC technologies being promoted by FHWA and the Every Day Counts program. For more information, contact Jamal Elkaissi, FHWA, jamal.elkaissi@dot.gov, 720-963-3272, or Romeo Garcia, FHWA, romeo.garcia@dot.gov, 202-366-1342. ■



The Iowa DOT constructed a slide-in bridge project on Iowa 92 near Massena, Iowa in 2013. Photo courtesy of the Iowa DOT.

Larry Grant new to MDST Coordinator position

The Governor's Traffic Safety Bureau (GTSB) and the Iowa LTAP have a long history of working together to improve safety along Iowa's roadways. And in April 2016, this partnership continued to expand with the assignment of Larry Grant as GTSB's new Multidisciplinary Safety Team (MDST) Coordinator.

What is GTSB?

As a subdivision of the Iowa Department of Public Safety (DPS), the GTSB employs safety experts responsible for best practice, communication to local law enforcement agencies, the allocation of federal highway safety funds, and other responsibilities that align with the uniform guidelines issued by the National Highway Traffic Safety Administration (NHTSA).

GTSB and Iowa LTAP

The GTSB and the Iowa LTAP's close coordination includes developing content for and presenting at annual Local Road Safety Workshops. It also includes participating on and assisting with the various MDSTs throughout the state. GTSB also

provides a law enforcement perspective for the Road Safety Assessments (RSAs) that the Iowa LTAP conducts on request. Similarly, the Iowa LTAP assists GTSB on projects such as the High Five Campaign with a goal to reduce fatalities by increasing safety belt use in counties that were chosen with data from RSAs.

GTSB and the Iowa LTAP serve together and provide local agency viewpoints in various groups, such as the Strategic Highway Safety Plan and Statewide Traffic Records Coordinating Committee. Finally, GTSB provides support for the Safety Circuit Rider position, held by David Veneziano, who helps make the activities that position conducts possible.

GTSB's MDST Coordinator

Larry Grant has been with the DPS/Iowa State Patrol for over 23 years before being assigned to the GTSB. Working directly with David Veneziano and the Iowa LTAP's Statewide MDST Facilitator Theresa Litteral, Grant will help local agency staff engage safety partners, facilitate active discussions, develop and/or promote safety-re-

lated team training, and provide aid in other ways to encourage roadway safety activities.

"It's our job to help guide them on incorporating best practices into their safety programs," says Grant. "I look forward to providing this coordination throughout the State of Iowa."

Grant is also the Western Iowa Program Administrator for NHTSA safety grants.

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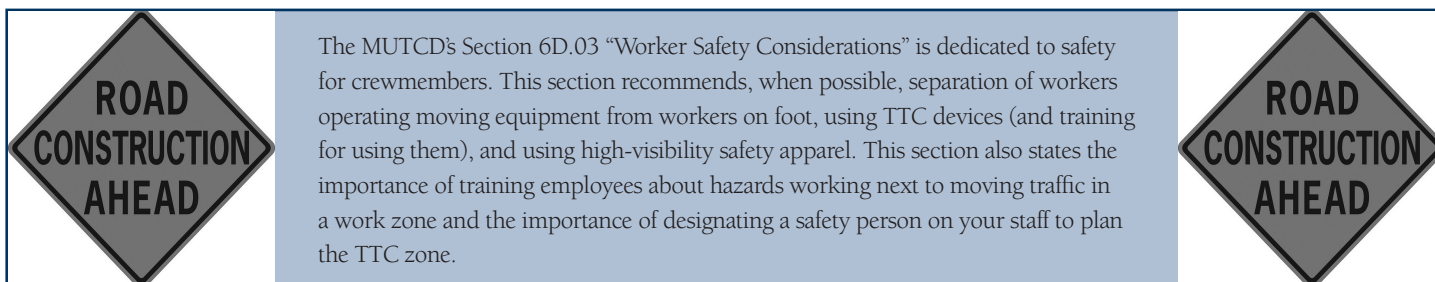
2011 MDST Safety Workshop



Entire GTSB staff with Larry Grant (front row, far right)

Consistent signing in work zones = Consistent driver expectancy

By Lisa Harris, Program Manager, Kansas LTAP



Signs in a work zone communicate to the drivers what actions they are supposed to take. They also alert drivers to workers in the area. With those benefits, are work zone signs ever a bad thing? The answer is yes, if the signs indicate workers are in the area, but they are not. This article will explain why.

What happens when signs are not consistent with what's really happening?

"When signs indicate an active work zone and no one is working, drivers get complacent and they lose caution," says Kelly Gaer, Kansas Department of Transportation (KDOT) safety coordinator.

Driver complacency increases risk in a work zone and endangers workers. Drivers may drive two to three times through a signed work zone with no workers there and stop paying attention.

Is consistency just common sense, or is it a regulation?

Signing consistent with work zone conditions is a federal requirement, per the Manual on Uniform Traffic Control Devices. Part 6, Section 6B, addresses having necessary signs in place, and taking them down when they don't communicate the actual conditions.

Before any new detour or temporary route is opened to traffic, all necessary signs shall be in place.

All temporary traffic control (TTC) devices

shall be removed as soon as practical when they are no longer needed. When work is suspended for short periods of time, TTC devices that are no longer appropriate shall be removed or covered. (Sect. 6B.01 08-09)

When a contractor does not follow the MUTCD for temporary traffic control, who is liable in the case of an incident?

This question was asked of Kristi Ericksen, TTC engineer for KDOT, who is responsible for working with contractors and communicating contractor responsibilities for TTC. She said both the contractor and the agency are liable, but you can reduce share of agency liability by clearly spelling out your expectations in your construction contract with the contractor.

Tips for consistent and safer work zone signing

- It is recommended that you drive through your contractors' work zones to make sure they are set up properly. Gaer suggested doing that for your own work zones, as well. "You might see things you missed, like having a right lane closed sign posted when it is really the left lane that is closed. These things can happen."
- Make sure you are following the MUTCD Part 6. Signs should be out only when workers are working. If they are not working, including when flaggers go to lunch, take the signs down, cover them, or turn them away from traffic.
- Some utility companies have been known

to leave their signs up when workers are not present. The traveling public needs consistency in every work zone. Talk with the utility company if they are not following the MUTCD.

- Be careful when setting up signs. This is one of the most dangerous jobs in a work zone. "At KDOT we encourage our employees to work with a buddy or spotter, especially when setting out signs so they can watch for traffic. We put out the signs first, then get flaggers in place to divert traffic off a lane, and then work in the blocked lane to set out cones. The employees placing the initial signs are the most exposed," says Gaer.

Conclusion

It is in your agency's best interest to follow the MUTCD and cover or remove or turn around work zone signs when workers are not present. The practice provides better safety for your workers, it communicates to drivers the actual conditions in the area, and it helps protect your agency in terms of liability.

For more information

More information can be found in the MUTCD Part 6 at <http://mutcd.fhwa.dot.gov/pdfs/2009/part6.pdf>.

Article reprinted with permission from the summer 2015 issue of the Kansas LTAP Newsletter, a service of the Kansas Local Technical Assistance Program at the Kansas University Transportation Center. ■

Conference calendar

Date	Event Name	Location	Contact
July 2016			
14	ICEA Midyear Meeting	Ames	Keith Knapp
18-21	National LTAP Meeting	Madison, Wisconsin	Keith Knapp
August 2016			
28-31	APWA Public Works Expo	Minneapolis, Minnesota	Beth Richards
September 2016			
20	Iowa Streets and Roads Workshop	Ames	Beth Richards
21-22	Iowa Streets and Roads Conference	Ames	Beth Richards
October 2016			
4-6	APWA Snow Plow Operator Training/Snow Rodeo	Des Moines	Paul Albritton

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Event details and online registration

Watch for details and online registration information, by specific dates and events, on the Iowa LTAP Workshops page, www.iowaltap.iastate.edu/workshops/ltap-workshops/. ■



Iowa LTAP on Facebook!

LTAP now has a Facebook page! We will be utilizing this social media page to reach our clients and customers to share news, updates, information, and as another form of advertisement. Our main goal is to have another avenue that is quick and easy to find and to stay connected and share information with our clients, whether it's what we are doing or what others in the industry are doing.

Anyone with a Facebook profile can visit this link: <https://www.facebook.com/Iowa-Local-Technical-Assistance-Program-954805821273802/> and "like" our page.

Once you have done that our information will show up in your news feed or you can visit our page at any time. ■



Iowa LTAP 2016 survey

Since 1983, the Iowa LTAP has been dedicated to helping Iowa's local governments keep up with growing demands on local roads, streets, bridges, and public transportation. Our center provides technical and management assistance to Iowa's local transportation officials through a variety of programs.

This year, the Iowa LTAP, in conjunction with the Iowa County Engineers Association (ICEA) and the Iowa Chapter of the American Public Works Association, would like to know more about the training needs of you and your staff.

Please follow this link: https://www.surveymonkey.com/r/LTAP_2016 and take a few minutes to complete the survey and/or have one or more of your staff complete it. We are looking for as much input as possible and it will help us serve a wider range of needs.

Thank you for your time. We value your input. ■

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