

## 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

## Contact information

Keith Knapp, 515-294-8817, [kknapp@iastate.edu](mailto:kknapp@iastate.edu)

Sharon Prochnow, 515-294-3781, [prochnow@iastate.edu](mailto:prochnow@iastate.edu)

Beth Richards, 515-294-2869, [brich@iastate.edu](mailto:brich@iastate.edu) ■

## 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). ■