Technology NEWS
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Iowa LTAP
Local Technical Assistance Program
Providing transportation technology transfer for Iowa's cities and counties

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Iowa State University's Center for Transportation Research and Education (CTRE) is the umbrella organization for the following centers and programs:

Bridge Engineering Center
Center for Weather Impacts on Mobility and Safety
Construction Management & Technology
Iowa Local Technical Assistance Program
Iowa Statewide Urban Design and Specifications
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Cameras reduce red light running crashes in Iowa

If you have a signalized intersection where red light running (RLR) is a problem, automatic RLR cameras can be another tool for your safety toolbox.

RLR cameras are mounted at signalized intersections. They detect and photograph vehicles that enter the intersection after the light has turned red.

RLR cameras are a kind of automated enforcement program (speed monitoring cameras are another). They have been implemented through city ordinances in Iowa as civil infractions, similar to parking tickets, which are mailed to the owner of the vehicle.

In Iowa, more than 2,900 crashes (about 4.9 percent of all crashes) in 2004 were RLR collisions. The FWHA estimates that nationally 1,000 fatalities and $14 billion in economic losses each year result from more than 100,000 RLR crashes.

The RLR camera study

To address a possible means of reducing the frequency of RLR incidents and related crashes, Shauna Hallmark, associate professor of civil engineering at ISU, investigated the effects of RLR cameras in Iowa. The study's key findings suggest that the presence of RLR cameras seems to dramatically reduce not only the frequency of the offense, but the frequency of RLR-related crashes as well.

Baseline data for the report reveal that in Iowa, approximately 20 percent of signalized intersection crashes and 53 percent of fatal- and major-injury crashes were RLR crashes. Sponsored by the Iowa DOT, the project involved comparing crash trend data from intersections with cameras in two cities, Davenport and Council Bluffs. Control intersections in each city had similar characteristics but without cameras.

For the duration of the study in Davenport (eight quarters of study crash data compared with 12 quarters of pre-study data), there was a 20 percent reduction in total crashes and a 40 percent reduction in RLR-related crashes.

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A red light running camera installation

Acronyms in *Technology News*

AASHTO	American Association of State Highway and Transportation Officials
APWA	American Public Works Association
CTRE	Center for Transportation Research and Education (at ISU)
FHWA	Federal Highway Administration
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

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Similarly, in Council Bluffs (where four quarters of study data were compared with 12 quarters of pre-study data), there was a 44 percent reduction in total crashes and an average decrease of 90 percent of RLR-related crashes.

The overall picture

In each city, the intersections with cameras showed dramatic reductions in total crashes, RLR crashes, and rear-end crashes.

At control intersections—signalized intersections without cameras that were within one mile of the intersections with cameras—drivers ran red lights nine times more often than at treatment intersections.

Hallmark speculates that cameras were effective because drivers became aware of the cameras when they received tickets in the mail for running a red light at the intersection. To avoid getting more tickets, drivers quit running red lights at those intersections.

For more information

Contact Shauna Hallmark, 515-294-5349, shallmar@iastate.edu, or co-principal investigator Tom McDonald, 515-294-6384, tmcdonal@iastate.edu.

The final report, *Evaluating Red Light Running Programs in Iowa*, and a tech transfer summary are online at www.ctre.iastate.edu/research/detail.cfm?projectID=1158685907. ■

Buchanan County honored for railroad flatcar bridges

In September in Chattanooga, Tennessee, Buchanan County Engineer Brian Keierleber accepted the 2007 Excellence in Regional Transportation Award from the National Association of Development Organizations (NADO) on behalf of the county.

Buchanan County has been a leader in purchasing and installing flatcars as replacements for older bridges on lower level roads. Fourteen flatcar bridges have been installed in the county since 2003.

In addition to being a novel use for retired train cars, the flatcar bridges are incredibly cost efficient, costing on average one-third the price of standard concrete slab bridge construction and requiring only one-half to two-thirds the construction time.

"We rock right across their tops," explains Keierleber.

The flatcar bridges have a slightly shorter life span than conventional bridges, about 30 to 40 years.

Careful design, engineering, and analysis go into each flatcar bridge to ensure it can carry heavy agricultural loads. ■

With careful design, engineering, and analysis, Buchanan County is experiencing success with cost-effective railroad flatcar bridges