Kansas
LTAP Fact Sheet
A Service of The University of Kansas Transportation Center for Road & Bridge Agencies

# Traffic-Activated Signs Flash a Warning About Approaching Cross Traffic

By Lisa Harris and Nora Fairchild

Let's say you are trying to improve safety at a two-way intersection in a rural area. The through-road has a speed limit higher than 45 mph and the intersection has low visibility or a history of severe crashes. You may want to consider installing a Through-Route Activated Warning System. This system is designed to reduce right-angle collisions and create safer stop-controlled intersections.

The warning system goes beyond customary signs and markings; it uses Intelligent Transportation System (ITS) technology to alert drivers on the through-route that a vehicle is about to cross at an approaching intersection. Vehicles about to cross the route trigger flashing LED lights on a sign on the through-route for extra visibility. The sign may say "Watch for Entering Traffic" or something similar.

FHWA

In Missouri these signs have cut stop-controlled intersection crash rates in half and have reduced severe crashes by 77 percent at those locations. The technology is also used in North Carolina where it has been reliable and easy to maintain. Similar devices have been installed at a few locations in Kansas. See sidebar at right.

Some states are trying a new system that communicates with side-traffic instead, alerting drivers to vehicles approaching on the through-route. It is important to note that both types of systems indicate when it is unsafe to proceed, not when it is safe to proceed. Driver judgement is still needed.

A simple Through-Route Activated Warning System without camera detection costs between $15,000 to $35,000 per intersection to install. For questions about this technology, contact Rosemarie Anderson, FHWA Office of Safety, (202) 366-5007, or individuals in the states that have implemented the technology. Their contact information is in the FHWA fact sheet listed at right. ■

## The Kansas Experience

We asked KDOT's, Brian Gower (785-296-1181) if there are any Through-Route Activated Warning Systems in Kansas, and if yes, how they are working. Gower said Kansas has 3 similar systems in place along 4-lane divided Kansas highways.

One example is at K-10 and the East Hills Business Park near Lawrence, KS. If a vehicle is on the side street, in the median or left turn lane, beacons are activated on cross-road warning signs indicating to drivers along K-10 there is crossing activity at the intersection. Camera detection is used at this location.

Another example is along US-75 at Mayetta, KS. Two locations, 158th and 162nd, have systems installed. If a vehicle is on the side street or in the median, beacons are activated on cross-road warning signs indicating to drivers along US-75 there is crossing activity at the intersection. In-pavement puck detectors are installed at these two locations.

KDOT has seen no significant change in the frequency of crashes at K-10 and East Hills Business Park, but there has been a significant change in crash severity. "Side swipe and fixed object crashes have occurred, but no major angle crashes to our knowledge," Gower said. "We need to update our crash analysis to determine the crash history for more recent years."

Gower said it is too early to tell about the Mayetta locations. It has taken a number of months to determine and work through issues to get the system to function properly. The system has been functioning as expected over the last few months, he said.

In general, KDOT is pleased with the systems they have in place. "There are more complicated systems introduced at locations throughout the nation which we have not pursued to this point. Cost, and making sure these systems work as expected, can be a challenge," said Gower.

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