

ICWS Advice from the Experts



WEBINAR IS BEING RECORDED

ENTERPRISE

ENTERPRISE ICWS Series – Webinar 4
November 17, 2015

Agenda

WEBINAR IS BEING RECORDED

- Introduction
- ENTERPRISE Program
- Expert Advice
- Audience Questions
- Closing Remarks



Image courtesy of MnDOT

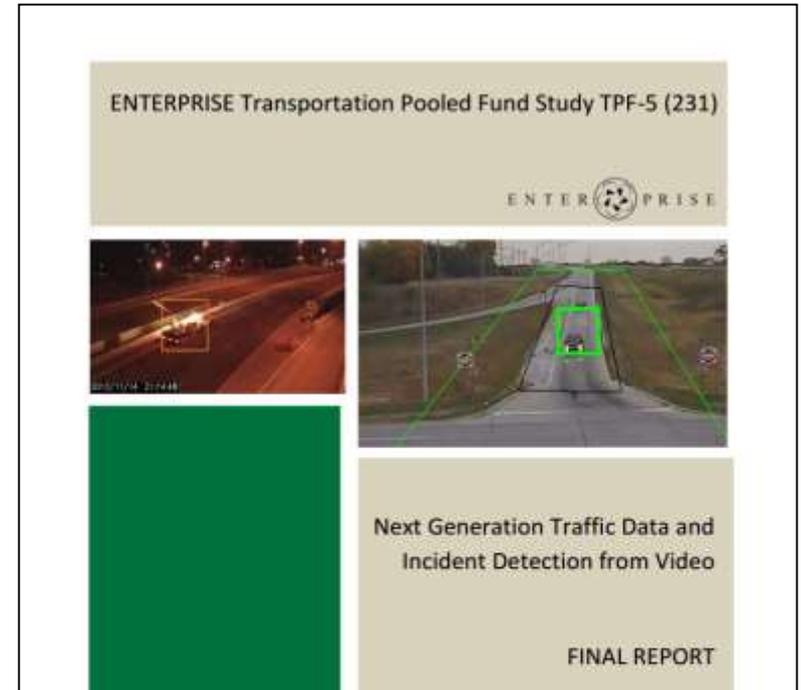
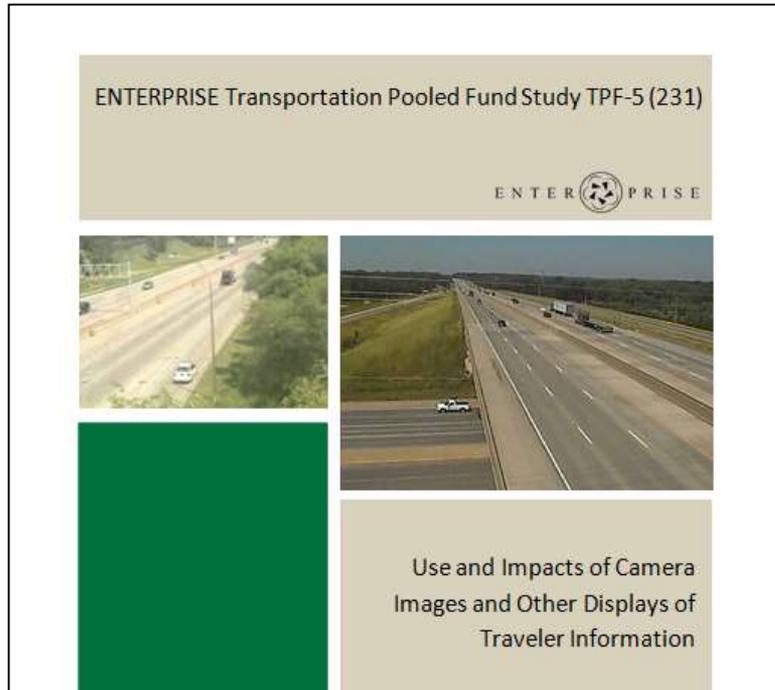
ENTERPRISE Program

Cory Johnson

Minnesota Department of Transportation and
ENTERPRISE Project Champion



ENTERPRISE Program



Evaluating **N**ew **T**Echnologies for **R**oad
PRogram **I**nitiatives in **S**afety and **E**fficiency

ENTERPRISE Program

Members

- Arizona DOT
- Georgia DOT
- Idaho Transportation Department
- Illinois DOT
- Iowa DOT
- Kansas DOT
- Maricopa County, Arizona
- **Michigan DOT**
- Minnesota DOT
- Oklahoma DOT
- Pennsylvania DOT
- Texas DOT
- **Washington State DOT**
- Ministry of Transport Ontario
- Transport Canada
- Dutch Ministry of Transport
- FHWA



ENTERPRISE Program

- Recent projects
 - Next Generation Traffic Data and Incident Detection from Video (Video Analytics Evaluation)
 - Synthesis of Intelligent Work Zone Practices
 - Assessment of Telematics Service Provider Data Feeds
 - HAR Best Practices and Future Direction
 - Crashworthiness and Protection of ITS Field Devices
 - ***Developing Consistency in ITS Safety Solutions – ICWS***
 - ***ICWS Coordination and Systems Engineering***



ENTERPRISE Program

The screenshot displays the ENTERPRISE Program website interface. At the top, the logo features the word "ENTERPRISE" in a serif font with a circular icon of four arrows forming a square. Below the logo is a navigation bar with links for Home, Projects, Members, About Us, and Contact Us. A user login link "enterprise@usaa | Log In" is visible on the right.

Main Menu:

- Home
- About Us
- Calendar
- Work Plans
- Management Plan
- Projects
- Members
- How to Join
- Benefits
- Progress Reports
- Contact Us
- Helpful Links

Welcome

Welcome to the ENTERPRISE Pooled Fund Study website. The ENTERPRISE Program is a [DfWA Pooled Fund Study](#) with member agencies from North America and Europe. Its main purpose is to use the pooled resources of its members, private sector partners and the United States federal government to develop, evaluate and deploy [Intelligent Transportation Systems \(ITS\)](#).

As part of its mission, ENTERPRISE seeks to facilitate the sharing of technological and institutional experiences gained from its ITS projects, and the projects for its individual members.

Project Highlight: Intersection Conflict Warning Systems (ICWS) Support and Outreach

A series of webinars have been hosted by ENTERPRISE throughout 2015, featuring various topics related to ICWS. Designed to facilitate peer exchange on both introductory and advanced topics, the final webinar is scheduled for November 17. For more information about the webinars contact Ginny Crowson at ccrowson@accsonsfairts.org.

- **Webinar 4 – ICWS Advice from the Experts**
November 17, 2015, 2:00 – 3:30 p.m. (Central)
This will be the final webinar in a series focused on various aspects of ICWS that have been hosted by ENTERPRISE over the past several months. It's an ideal opportunity to get advice from a panel of experts in ICWS design, construction and operation! Panelists include contractor, consultant, state and local agency perspectives.
 - Webinar Link: <https://atheytrek.webex.com/atheytrek/onstage/g.php?MTID=ed920ba9f4aac522088d081c72643581d>
 - Audio: Call in toll number (US/Canada) 651-479-3208, access code 627 935 162

Projects completed in 2014 include:

- Next Generation Traffic Data and Incident Detection from Video Video Analytics Evaluation
- Deployment Strategy for Rural Connected Vehicle Systems
- Synthesis of Intelligent Work Zone Practices
- Assessment of Telematics Service Provider Data Feeds
- Highway Adversity Radio - Best Practices and Future Directions
- Crashworthiness and Protection of ITS Field Devices

Announcements and Resources

Project Websites

[ENTERPRISE ITS Planning Guidance \(Worksets\)](#) - ENTERPRISE has developed planning guidance for 10 ITS devices to help make the initial decision of whether or not to deploy an ITS solution.

Program Summary

ENTERPRISE has created a brief [program summary](#) that provides an overview of the program and provides selected project highlights.

Featured Panelists

Jim Schoon, Design Electric

Janelle Borgen, WSB

Willy Sorenson, Iowa Department of Transportation

Shawn Troy, North Carolina Department of Transportation

Vic Lund, St. Louis County Highway Department



Design

Images courtesy of MnDOT



Design

- What safety issues have been addressed by ICWS?
- How do I pick the most appropriate sites for deploying ICWS?
- How should I determine whether to deploy a major, minor or major/minor road system?

Design

Iowa DOT: Major Road ICWS



Video courtesy of MnDOT

Design

- What safety issues have been addressed by ICWS?
- How do I pick the most appropriate sites for deploying ICWS?
- How should I determine whether to deploy a major, minor or major/minor road system?
- What are some of the most notable design factors associated with ICWS?



Construction

Images courtesy of MnDOT and LRRB



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Construction

- What unique things do I need to consider when contracting ICWS construction?
- How is constructing ICWS similar to or different than other traffic control systems?
- What is a general price range for constructing a major road ICWS?
- What are some of the most notable construction factors associated with ICWS?

Operation

Images courtesy of MnDOT



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Operation

- How has the public responded to ICWS?
- What kind of safety impact can I expect from ICWS?
- How should I monitor ICWS operations?



Operation



Iowa DOT: Camera at Each Installation

Dual Purpose:

- 1) Monitoring/Maintenance
- 2) Recording of Crashes/Operations

Operation

Iowa DOT: Cabinet and Battery Backup



Operation

-----Original Message-----

From: DV_UPS@noemail.iowa.gov [mailto:DV_UPS@noemail.iowa.gov]

Sent: Tuesday, May 12, 2015 9:04 AM

To: Sorenson, Willy [DOT]

Subject: Dyersville UPS

Date/Time	Type	Description
05-12-15 14:03:54	Event	Mode Changed to Line

UPS Model: FXM1100-T120-001

Product Code: 03508401

Factory Code:

Site: Dyersville Flashers, Dyersville, IA, United States

Contact: Iowa DOT, 515-239-1995

Current Mode: Line

-- End

Iowa DOT:
Automatic Email
from Battery Backup

-----Original Message-----

From: DV_UPS@noemail.iowa.gov [mailto:DV_UPS@noemail.iowa.gov]

Sent: Tuesday, May 12, 2015 9:03 AM

To: Sorenson, Willy [DOT]

Subject: Dyersville UPS

Date/Time	Type	Description
05-12-15 14:02:57	Event	Mode Changed to Inverter

UPS Model: FXM1100-T120-001

Product Code: 03508401

Factory Code:

Site: Dyersville Flashers, Dyersville, IA, United States

Contact: Iowa DOT, 515-239-1995

Current Mode: Inverter

-- End

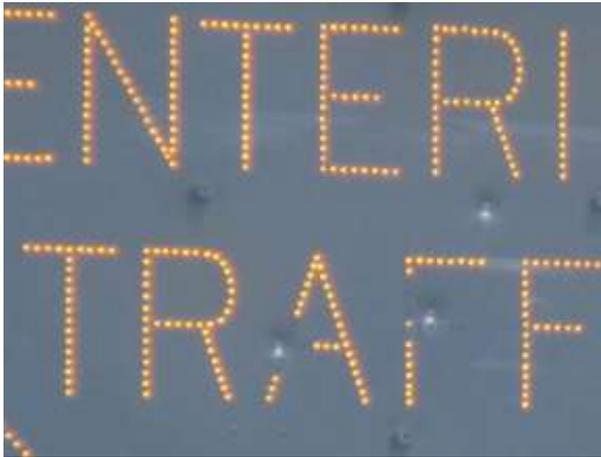
Operation

- How has the public responded to ICWS?
- What kind of safety impact can I expect from ICWS?
- How should I monitor ICWS operations?
- What are some of the most notable operational factors associated with ICWS?



Maintenance

Images courtesy of MnDOT



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Maintenance

- What are the key maintenance costs to consider for ICWS?
- What skills are most essential for staff maintaining ICWS?
- What are some of the most notable ongoing maintenance factors associated with ICWS?

Maintenance

Iowa DOT

- Using loops can reduce maintenance costs when:
 - Good pavements
 - Properly installed
 - Detection points are known



Image courtesy of Iowa DOT

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Audience Questions

Access the WebEx Q&A box on the right side of your screen. Type your question and send to all participants.

Moderator will read questions aloud and panelists will respond verbally.



Closing Remarks

- Other ICWS news...
 - Evaluation of Low Cost Safety Improvements (ELCSI) preparing to publish safety evaluation of ICWS
 - Watch for publication at:
<http://www.fhwa.dot.gov/research/tfhrc/projects/safety/comprehensive/elcsi/pubs.cfm>

The image shows the cover of a technical brief titled "Safety Evaluation of Intersection Conflict Warning Systems (ICWS)". The cover is primarily red and white. On the left side, there is a circular logo with a white background and a red border, depicting a stylized intersection with a car and a truck. Above the logo, the word "TECHBRIEF" is written in white capital letters on a red background. Below the logo, the text "U.S. Department of Transportation Federal Highway Administration" is written in small black font, followed by "Research, Development, and Technology Turner-Fairbank Highway Research Center 6300 Georgetown Pike McLean, VA 22101-2296" and the website "www.fhwa.dot.gov/research".

Safety Evaluation of Intersection Conflict Warning Systems (ICWS)

FHWA Publication No.: FHWA-HRT-15-076

FHWA Contact: Roya Amjadi, HRDS-20, (202) 493-3383, roya.amjadi@fhwa.dot.gov

This document is a technical summary of the unpublished Federal Highway Administration report *Safety Evaluation of Intersection Conflict Warning Systems (ICWS)*.

Objective

The Federal Highway Administration (FHWA) organized 38 States to participate in the FHWA Evaluation of Low-Cost Safety Improvements Pooled Fund Study (ELCSI-PFS) as part of its strategic highway safety plan support effort. The goal of the ELCSI-PFS research is to identify new safety strategies that effectively reduce crashes and promote them for nationwide installation by providing measures of their safety effectiveness and benefit to cost ratios through research. One of the strategies selected by member States to be evaluated for this study is intersection conflict warning systems (ICWS). This strategy is intended to reduce the frequency of crashes by alerting drivers of conflicting vehicles on adjacent approaches at unsignalized intersections, particularly those with one-way or two-way stop control.

Few studies have explored the safety effectiveness of ICWS; the effectiveness has not been shown for four-legged intersections. This study sought to fill this knowledge gap.

Introduction

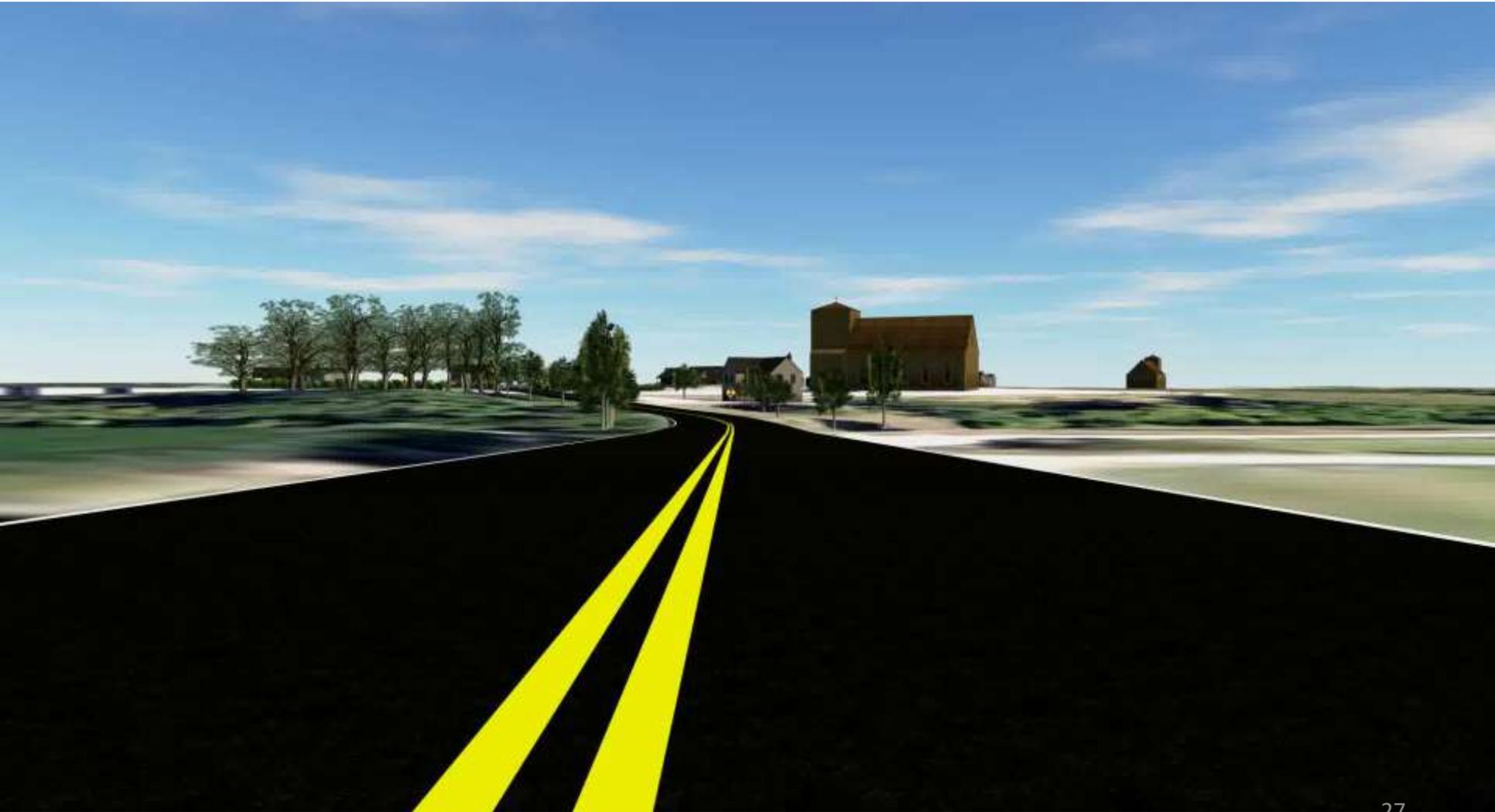
Providing an automated real-time system to inform drivers of suitability of available gaps for making turning

Closing Remarks

- Other ICWS news...
 - Traffic Control Devices nearing completion of data gathering and beginning analysis
 - Video simulation on next slide
 - Complete study anticipated by February 2016
 - Watch for publication at:
<http://pooledfund.org/Details/Study/565>

Closing Remarks

Video Simulation: ICWS Human Factors Study



Closing Remarks

Panelist Information:

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