

Masthead Logo

University of Iowa
Iowa Research Online

Driving Assessment Conference

2003 Driving Assessment Conference

Jul 22nd, 12:00 AM

Driver Preference of Collision Warning Strategy and Modality

Josh Hoffman

University of Iowa, Iowa City

John D. Lee

University of Iowa, Iowa City

Elizabeth M. Hayes

Daimler Chrysler Research and Technology Portland, OR

Follow this and additional works at: <https://ir.uiowa.edu/drivingassessment>

Hoffman, Josh; Lee, John D.; and Hayes, Elizabeth M.. Driver Preference of Collision Warning Strategy and Modality. In: Proceedings of the Second International Driving Symposium on Human Factors in Driver Assessment, Training and Vehicle Design, July 21-24, 2003, Park City, Utah. Iowa City, IA: Public Policy Center, of Iowa, 2003: 69-69. <https://doi.org/10.17077/drivingassessment.1098>

This Event is brought to you for free and open access by the Public Policy Center at Iowa Research Online. It has been accepted for inclusion in Driving Assessment Conference by an authorized administrator of Iowa Research Online. For more information, please contact lib-ir@uiowa.edu.

DRIVER PREFERENCE OF COLLISION WARNING STRATEGY AND MODALITY

Joshua D. Hoffman, John D. Lee
Center for Computer Aided Design
Department of Mechanical and Industrial Engineering
University of Iowa
Iowa City, IA
E-mail: jdlee@engineering.uiowa.edu

Elizabeth M. Hayes
DAIMLERCHRYSLER Research and Technology
Portland, OR

ABSTRACT

The success of collision warning systems depends on how well the algorithm and driver interface are tailored to driver capabilities and preferences. An effective collision warning system must promote a timely and appropriate driver response while minimizing annoyance associated with nuisance warnings. A within-subject experimental design examined warning strategy and modality by contrasting graded and imminent warning strategies with auditory and haptic warning modalities. Presented on a high, head-down display placed directly in front of the driver, visual warnings were displayed in the form of graded bars representing severity, or by an imminent collision icon. Visual warnings were paired with either an auditory warning or a haptic warning in the form of a vibrating seat. Results suggest that haptic warnings may be preferred over auditory warnings, with graded haptic warnings being preferred more than imminent haptic warnings. These results support previous findings of greater acceptance of graded compared to imminent warnings, and no decrement in performance or acceptance of a haptic versus an auditory warning.