



**NATIONAL TRANSPORTATION SAFETY BOARD
OFFICE OF HIGHWAY SAFETY
WASHINGTON, D.C. 20594**

MEMORANDUM

Date: May 21, 2013

To: Ms. April Horner
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The Seventh Triennial International Fire & Cabin Safety Research Conference
Philadelphia, PA; December 2-5, 2013

Subject: Call for Presentations, Crash Dynamics Session

From: Thomas Barth, Ph.D. Kristin Poland, Ph.D.
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Presentation: Lap Belted Occupant Kinematics and Injury Outcomes from a Severe Side Impact School Bus Accident that was Equipped with Video Recording Cameras

Abstract:

The NTSB investigated a fatal collision involving a school bus struck by a tractor-trailer in 2012. Unique aspects of this accident included the presence of lap belts for all passengers and the existence of four video cameras, which recorded a total of 55 minutes and 39 seconds, including over 15 minutes post-impact including vehicle motion, occupant motion, and initial emergency response. The school bus was occupied by a driver and 30 student passengers, and sustained a severe lateral impact which caused impact forces on the passengers primarily in the lateral and forward directions. This presentation provides an overview of the publicly available information including detailed information about the vehicle damage and accident scene, data from 3-D laser scans, full AIS coding of injuries, and cataloging individual events and occupant kinematics referenced to specific video frames. Video images are not subject to public release. The presentation describes objectives, methods, and results of the investigation focusing on the information gathered to provide the academic community resource material to enhance understanding of real-world occupant kinematics and injury outcomes.

Presenters: The presentation will be done by the combined effort of Thomas Barth and Kristin Poland.