

School Bus Crash Investigation
Dynamic Science, Inc.
Case 990006
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The crash investigation process is an inexact science which requires that physical evidence such as skid marks, vehicular damage measurements, and occupant contact points be coupled with the investigator's expert knowledge and experience of vehicle dynamics and occupant kinematics in order to determine the pre-crash, crash, and post-crash movements of involved vehicles and occupants.

Because each crash is a unique sequence of events, generalized conclusions cannot be made concerning the crashworthiness performance of the involved vehicle(s) or their safety systems.

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Background

This crash involved a 1989 International School Bus (Vehicle 1) in an offset, rear end style collision with a parked 1986 Ford T2A truck which was towing a trailer (Vehicle 2). The school bus was traveling eastbound on an undivided two way roadway entering a broad radius right hand curve. For an unknown reason, the bus crossed into the westbound travel lane. The left front corner of the bus struck the parked trailer and then proceeded to impact the right rear corner of Vehicle 2. The crash was selected for an additional follow-up investigation due to reported injuries. A remote-style investigation was conducted during which information was sought from the investigating police jurisdiction and the bus owners (the school district). A police report has been obtained, but the Special District Attorney for the county has refused further cooperation. This report is being presented based solely on the information contained in the police report. If additional information becomes available, then a modified report will be prepared.

Summary

This crash occurred on a winter weekday during the mid-afternoon hours. No adverse weather conditions were reported. The speed limit was 40 kph (25 mph).

Vehicle 1 was a full size 1989 International School Bus model 1753. The bus was driven by a 37 year old female driver at an estimated speed of 48 kph (30 mph). There were two 14 year old male passengers on the school bus. The bus was traveling on a two lane undivided roadway in a suburban area negotiating a gentle right turning curve.

Vehicle 2, a 1986 Ford 2-ton truck towing a 21 foot long trailer was parked on the north edge of the roadway, facing east bound in the westbound travel lane.

The left front corner of the bus struck the trailer, and then the right rear corner of the parked truck. Both Vehicle 1 and Vehicle 2 traveled an estimated 30 feet post impact. No information is available as to the precise location of damage to the vehicles. Police estimate the costs to repair the damage as \$10,000 for Vehicle 1 and \$4,000 for Vehicle 2.

The driver of the bus was reported to have sustained minor injuries and was transported to an area hospital via ambulance. The left front seat passenger was a 14 year old male. He was not restrained, and reportedly received no injuries as a result of the crash. The right front seat passenger was a 14 year old male. This occupant was also not restrained and reportedly received no injuries as a result of this crash.

The driver of Vehicle 2 received non-incapacitating injuries according to the police report and was transported to an area hospital via ambulance.

Both vehicles were towed from the scene due to crash damage.

Driver Minor injury			[] [] [] [] []		
Occ 1 No injury			Occ 2 No injury		
Row 1			Row 1		
Row 2			Row 2		
Row 3			Row 3		
Row 4			Row 4		
Row 5			Row 5		
Row 6			Row 6		
Row 7			Row 7		
Row 8			Row 8		
Row 9			Row 9		
Row 10			Row 10		
Row 11			Row 11		
Row 12			Row 12		