



NTSB National Transportation Safety Board

Office of Highway Safety

Motorcoach Emergency Egress

Wilmer Accident Situation

- Occupants with special needs
- Rapid fire propagation
- Passenger survivability compromised by limited evacuation time

Emergency Egress Issues

- No recent studies on motorcoach egress
- Emergency window exit design

Evacuation Studies

- 1976 motorcoach evacuation study
 - Emergency exit standards
 - Aircraft 90-second rule for egress
- 1984 paratransit bus study
 - Exit windows too heavy to push open
 - Exit windows too difficult to open from outside

Emergency Egress Research

- Drills for aircraft evacuation
- Simulation of aircraft evacuation
- 2001 FRA interim report on railcar fire safety, egress time

Motorcoach Evacuation Simulation

- May include fire, smoke, or panic situations
- No requirement to demonstrate that passengers can escape
- Need to evaluate egress

Current Window Design

- Requirements for opening force
- 7–8 feet above ground
- Weight up to 45 lbs or more
- Hinges at top

Window Exit Issues

- Rescuers cannot open windows from outside
- Windows impede evacuation

A photograph of a severely damaged white bus, likely a school bus, with its upper body completely charred and skeletal. A red arrow points from the top of the bus down to the ground, with a yellow text box containing the text "Height 7-Feet" positioned next to it. The bus is parked on a grassy area with debris scattered around. In the background, a fire truck is visible on the left, and a small airplane is flying in the sky. The text "Source: Dallas County Sheriff's Office" is located at the bottom right of the image.

Height 7-Feet

Source: Dallas County Sheriff's Office

Summary

- No recent industry- or Government-sponsored research on emergency evacuation
- Critical need to evaluate egress
- Simulations needed to evaluate evacuation capabilities



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