

LAP BELTS ON BUSES ?



School transportation vehicles transport students of all ages, sizes and special needs. Each transportation department, working on their own or with the Individual Education Plan (IEP) team, must determine if a particular student needs additional support or restraint.



At this time, the **National Highway Traffic Safety Administration (NHTSA)** requires the installation of a seat belt system only on small school buses (under 10,000 lbs Gross Vehicle Weight Rating [GVWR]). Testing conducted by NHTSA has revealed serious concerns about the use of a lap belt only system, and NHTSA is considering the requirement that all small school buses (under 10,000 lbs. GVWR) be equipped with a lap/shoulder belt system.

In large school buses (over 10,000 lbs. GVWR) **compartmentalization** is utilized as a passive restraint system. Lap belts alone are an outdated system for a passenger restraint. Lap belts, however, are effective in these vehicles when used to secure infants, toddlers, preschool age students and some students with special needs in an appropriate child safety system such as a car seat, safety vest, etc.

Compartmentalization

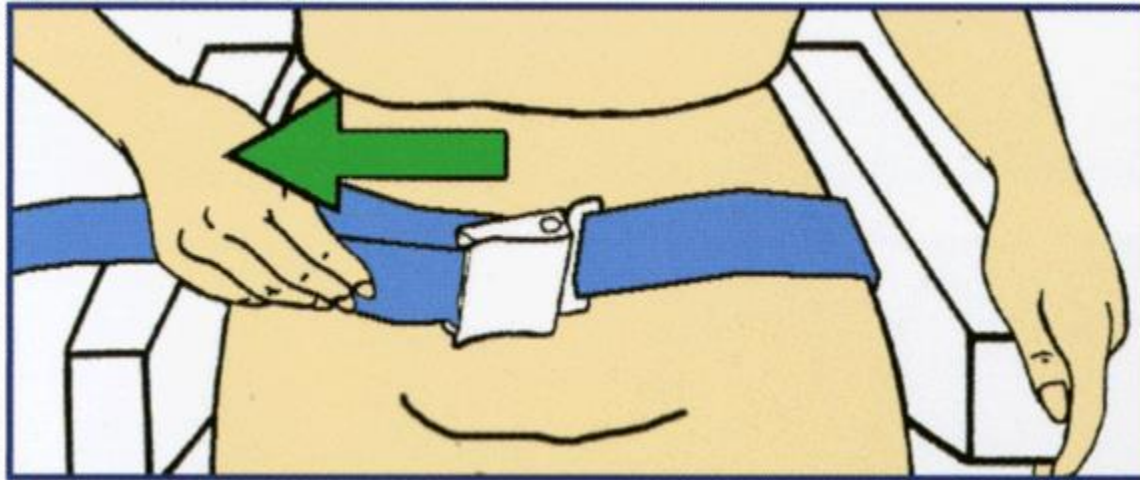


Large school buses use a passive restraint system known as “**compartmentalization**”, which combines a high padded seat back and narrow seat spacing, creating a compartment within which each occupant is confined in severe vehicle crashes. It protects the passenger by reducing the crash forces on the occupants. This passive restraint system also utilizes the reinforced steel construction of the school bus body and the large size which raises the height of the vehicle. The National Transportation Safety Board (NTSB) and the National Academy of Sciences (NAS) have confirmed the effectiveness of "compartmentalization" through independent studies they conducted. This passive system requires no action on the part of the student in order to be protected, except to stay seated.

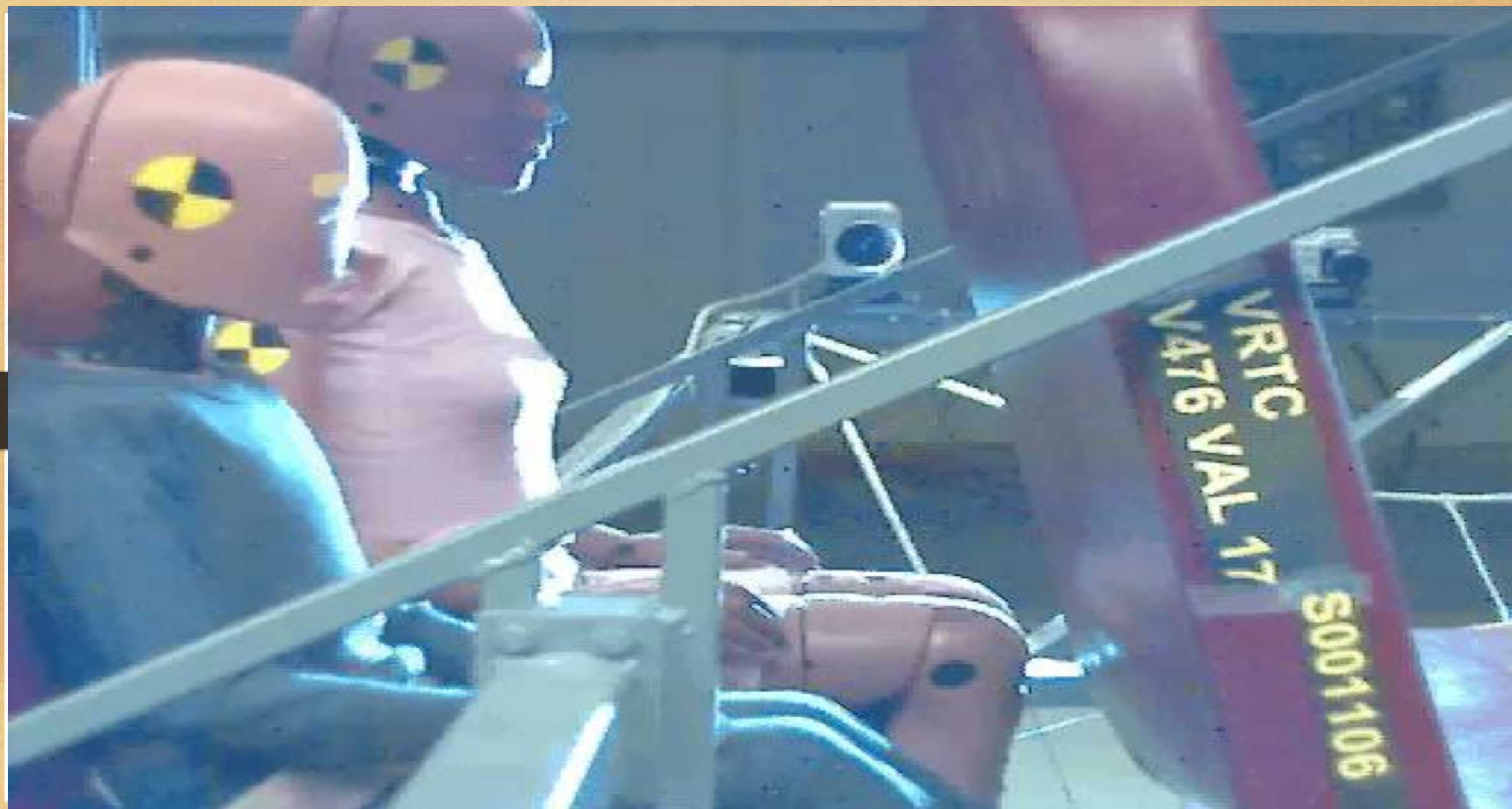
<http://www.nhtsa.dot.gov/people/injury/buses/pub/seatbelt.hmp.html>



Lap Belts



Lap belts – A safety belt anchored at two points for use across vehicle occupant thighs/hips. On young children the lap belt falls across the abdominal area and in a frontal crash may contribute to internal injuries. In older or taller students the lap belt restrains the student at the hips, allowing the upper body to project forward in an impact. In a severe frontal crash, the student may hit the seat in front, resulting in serious head, neck and spinal injuries.



The record is impressive: American students are nearly eight times safer riding in a school bus than with their own parents and guardians in cars. The fatality rate for school buses is only 0.2 fatalities per 100 million vehicle miles traveled (VMT) compared to 1.5 fatalities per 100 million VMT for cars. This impressive safety record is a result of the Department of Transportation's requirements for compartmentalization on large school buses, and lap belts plus compartmentalization on small school buses.

Moreover, the protective abilities of today's school buses have been reaffirmed by two years of research. Yet, no matter how safe our children are on school buses, it is vitally important to constantly reassess existing safety measures. Therefore, Congress requested that DOT investigate the safety value of installing safety belts on our nation's school buses.

An analysis of test data by the National Highway Traffic Safety Administration (NHTSA) has concluded that lap belts appear to have little, if any, benefit in reducing serious-to-fatal injuries in severe frontal crashes. On the contrary, lap belts could increase the incidence of serious neck injuries and possibly abdominal injury among young passengers in severe frontal crashes. Any increased risks associated with the use of lap belts in small school buses are more than offset by preventing ejections.

The use of the combination lap/shoulder belts could provide some benefit, unless misused. Lap/shoulder belts can be misused and NHTSA's testing showed that serious neck injury and perhaps abdominal injury could result when lap/shoulder belts are misused. Other considerations, such as increased capital costs, reduced seating capacities, and other unintended consequences associated with lap/shoulder belts could result in more children seeking alternative means of traveling to and from school.

<http://www.nhtsa.gov/Research/Crashworthiness/School+Bus+Crashworthiness+Research>

3 Point Occupant Restraint





All information used in presentation are taken from the Colorado Department of Education website. With insets from the National Highway Traffic Safety Administration (NHTSA)