3-POINT SAFETY BELTS FOR SCHOOL BUSES



A brief look at the past 3 years

- 2014 NASDPTS Position Paper
- 2015 NHTSA "Advancing School Bus Safety" Session
- 2015 NHTSA Administrator Dr. Mark Rosekind:
 - "School Buses Should Have Seat Belts. Period"
- 2016 2017 Legislative Changes
 - Longstanding lap belt requirement: FL, NY, NJ
 - Longstanding lap/shoulder belt requirement: CA
 - New laws in AR, NV, TX
- 2017 50 year anniversary of UCLA 1967 Study
 - "Although not an element of compartmentalization, the UCLA researchers who conducted the 1967 tests on school buses concluded that after high back seats, next in importance to school bus passenger collision safety is the use of a three-point belt, a lap belt or other form of effective restraint. That was 49 years ago!" Bob Pudlewski in STN, 2016



NASPDTS Position Paper - 2014

National Association of State Directors of Pupil Transportation Services

Position Statement "NASDPTS fully supports state and local decisions for the installation and use of lap/shoulder belts in school buses.

NASDPTS is not advocating that the installation and/or use of lap/shoulder belts be required by state or local jurisdictions without thorough consideration of available resources. NASDPTS believes this decision should be based on state or local need, but also believes lap/shoulder belt equipped seats should be encouraged as an option when considering new bus original equipment specifications.

NASDPTS further believes that states and local jurisdictions should require proper usage by all students when belts are available and should provide related notices, training and enforcement.A state or local district that does decide to proceed with lap/ shoulder belts should consider the following points on usage arising from the NTSB report ...

"A usage policy must exist for buses equipped with passenger restraints. A training program must exist for proper usage and adjustment of passenger restraints. A training program must exist for evacuation that includes unbuckle drills." "

National Safety Council position paper





3-point Safety Belts for School Buses

Amy Artuso, MPH, CPSTI 2017 SESPTC

Eliminating Preventable Deaths





Who is NSC?

Our Mission:

The National Safety Council aims to *eliminate* preventable deaths at work, in homes and communities, and on the road through leadership, research, education and advocacy.

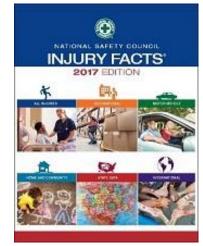
- Nonprofit
- Established in 1913
- Data driven



- Preventable deaths are at an all-time high in the U.S.
- Every 4 minutes someone dies from what people call "accidents"
- More than 70% of preventable deaths occur at home or in our communities, while people are doing everyday things



- Workplace Safety
- Home and Community Safety
- Transportation Safety



NSC knows the safety trends

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Workplace Safety

- The Campbell Institute at NSC
 - Environmental, Health & Safety (EHS) global center of excellence
- Journey to Safety Excellence
 - Model to improve worker safety
 - Engage employers in continuous improvement

Home and Community Safety

- Prescription Drug Overdoses
 - Strategies to reverse the upward trend of injuries & fatalities from opioid drug use
- Safe Communities America
 - A model for community engagement and leadership in injury prevention



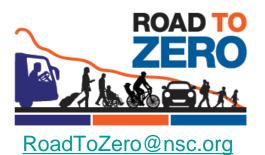


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Transportation Safety

Strategic Initiatives to eliminate motor vehicle crashes, injuries and death







Eliminating Preventable Deaths





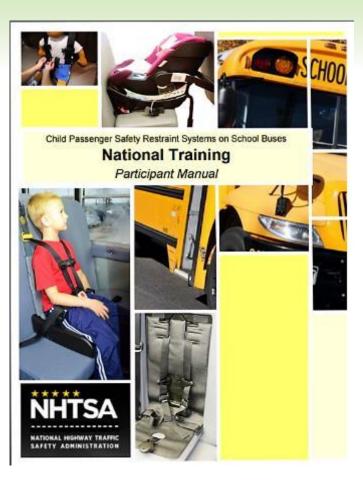
www.cpsboard.org





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NSC / Learn / Safety Knowledge / NSC Child Passenger Restraint Policy

Their Young Lives Depend on You

A Child Under 13 is Involved in a Crash Every 33 Seconds

The National Safety Council is calling for uniform child passenger safety practices across multiple modes of transportation.

"Patchwork" is a word that describes America's child passenger restraint laws. regulations and standards, so NSC is working to ensure children arrive safely, regardless of the jurisdiction they travel through or the mode of transportation. In a new NSC position statement, we're calling for:

- Lap and shoulder belts on new school buses; they add an extra layer of protection - particularly in rollover and side-impact crashes
- · Appropriate restraints and clear support for children with special needs
- · Children under age 2 to be properly restrained in their own seat on airplanes using a FAA-approved child restraint device, because it's impossible for adults to safely hold children during a crash or severe turbulence

NSC also recommends children sit in rear-facing restraint devices at least through age 2, and children under 13 always ride in the back sisat.





Browse Child Safety

C Teen Driving

Child Passenger Safety

NSC Child Restraint Position

NSC Position Statement

The NSC statement on child passenger

restraints outlines steps you can take to

ensure children are safe on every trip.

Feed the Statement >





abilities is required for the safest ride and ensuring proper use of child restraint device/s (CRD) and/or seat belts can prevent or mitigate child passenger injuries and deaths in crashes. The National Safety Council strongly supports the mandatory use of properly secured and positioned, dynamically-tested child restraint devices in motor vehicles and in airplanes for all

children who do not correctly fit in seat belts. NSC also supports the incorporation of lap and shoulder belts in to school buses to ensure the safest ride to school for children. Furthermore, NSC supports efforts to raise awareness about the need for parents and caregivers to properly - their shildren in a ODD during successide assessing of the distance has

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#129



THE LATEST NEWS

SUNDAY, NOVEMBER 8, 2015

NHTSA: "SCHOOL BUSES SHOULD HAVE SEAT BELTS. PERIOD."



Speaking of NAPI, NHTSA

Administrator Mark

on EVERY bus."

Rosekind mode himself

very clear. "Our goal: A

3-point belt for every child

Mark Rosekind Confirms NHTSA's Stance By Calling For Seat Belts!

seeded thes NHISA will

challenged both the public

and private sectors, "you

Congress to provide this

don'i need an act of

try that path. He

SAFEGUARD YOUR FUTURE NOW!

Resolved closed by saying "Seet belts care bee, and that includes seat belts on what bease. Convintent to a simple principle – frue all kids deserve seat belts.



ADDRESS TO NATIONAL ASSOCIATION OF PUPIL TRANSPORTATION (NAPT)

Richmond, VA Sunday, November 8, 2015 As Prepared for Delivery



Mark R. Rosekind, Ph.D. Administrator, National Highway Traffic Safety Administration U.S. Department of Transportation

Let me begin by thanking all of you, and everyone involved in school transportation, for making possible this simple, under-appreciated fact: School buses are by far the safest way for children to get to and from school. Let's repeat that: School buses are by far the safest way for children to get to and from school. Kids are safe and parents have peace of mind because of the hard work you do. And that hard work is energized by your commitment to making safety your top priority.

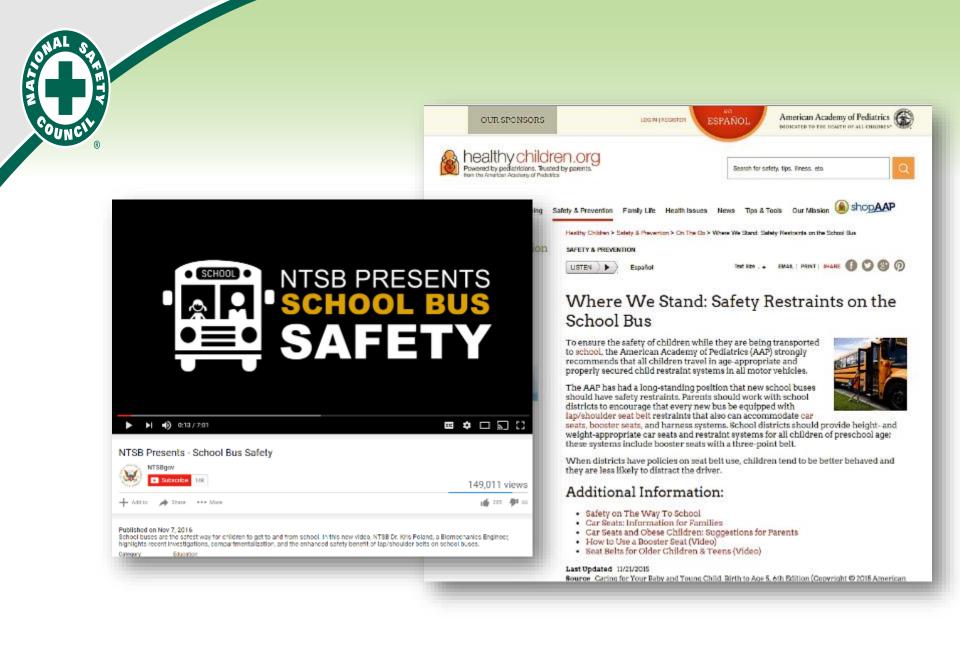
Safety is also our top priority at the Department of Transportation, and certainly at NHTSA. Our mission is to save lives, prevent injuries and reduce the damage done by crashes on America's roads. And there is no area of highway safety more important to us at NHTSA than the safety of America's children.

Safe transportation to and from school is a priority because the public we serve demands it of us – we all feel the instinctual need to protect our kids. At NHTSA, we're loving parents, grandparents, and doting aunts and uncles too. It's also important because of its significance to another high priority for Secretary Foxs and DOT. The question. And we'll talk a lot about that in a moment. But as I began to discuss the issue with experts within NHTSA and outside, it became clear that school bus safery isn't just about what happens inside the bus. We lose more children every year as they're getting to and from the bus than we do once they're safely inside. We lose too many children who get to school by walking or riding their bikes. And we lose too many children – more than 450 each year – who die in personal vehicles on the way to and from school.

So, beginning with the event in July, NHTSA began working on a comprehensive approach to school transportation safety, one that attempts to address not just one hot topic, but all of them. Today I'd like to share with you the progress we've made so far and the work ahead of us.

The first thing we learned is that the foundational elements of our safety programs are an essential piece of the school transportation puzzle. From our efforts to make vehicles safer, to our fight against drunk, drugged, distracted or drowsy driving, to our innovative new

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NSC / Learn / Safety Knowledge / NSC Child Passenger Restraint Policy

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Browse Child Safety

C Teen Driving

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ensure children are safe on every trip.

Feed the Statement >





#129

reflect the fact that passengers, especially children, are safest in modes of transportation when they are properly restrained. Proper multi-modal restraint for passengers of all ages, sizes and abilities is required for the safest ride and ensuring proper use of child restraint device/s (CRD) and/or seat belts can prevent or mitigate child passenger injuries and deaths in crashes.

The National Safety Council strongly supports the mandatory use of properly secured and positioned, dynamically-tested child restraint devices in motor vehicles and in airplanes for all children who do not correctly fit in seat belts. NSC also supports the incorporation of lap and shoulder belts in to school buses to ensure the safest ride to school for children. Furthermore, NSC supports efforts to raise awareness about the need for parents and caregivers to properly supports the device the safest ride to school buses to properly and the support of the second school buses to ensure the safest ride to school for children. Furthermore, NSC supports efforts to raise awareness about the need for parents and caregivers to properly supports the school buses to ensure the school buses to be bused by the school buse to be bused by the school buses to ensure the school buse to be bused by the school buses to ensure the school buse to ensure the school buses to ensure the schoo

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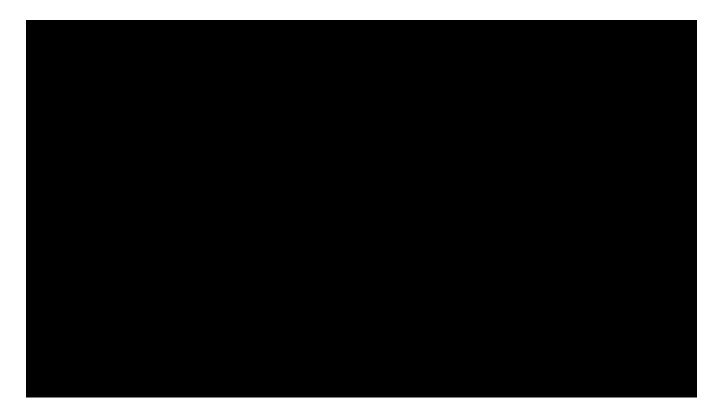


SafeGuard, CAPE and IMMI were featured on ABC's Good Morning America.



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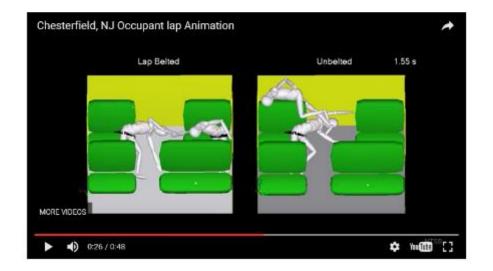
NTSB Crash Simulations - Lap



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NTSB Crash Simulations - Lap



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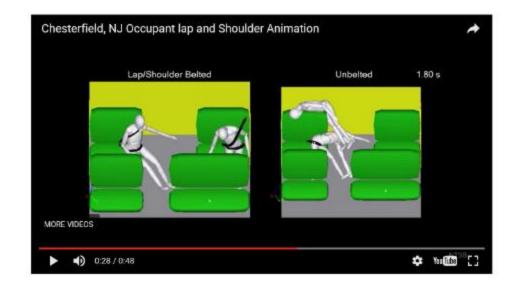
NTSB Crash Simulation – L/S



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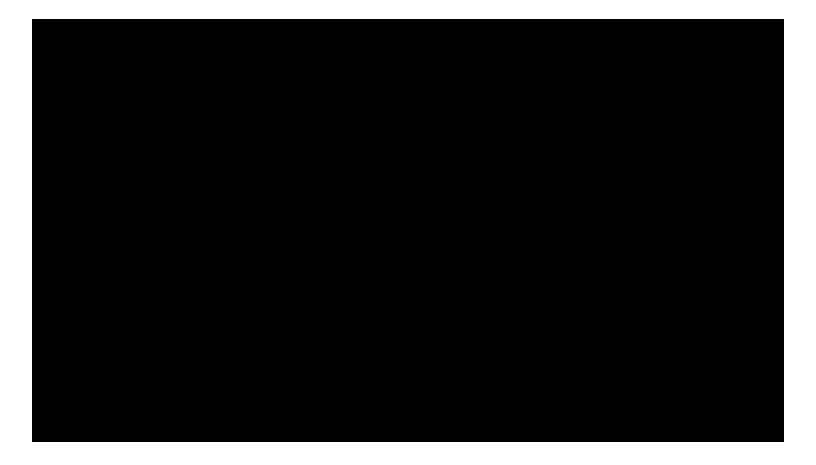
NTSB Crash Simulation – L/S



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Together We've Come a Long Way



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Together We've Come a Long Way



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Eliminating Preventable Deaths



Together, We Can Keep Each Other Safe

Throughout the past century, great progress has been made in addressing safety hazards through better design, working conditions and accountability through the combined efforts of the safety movement. As a result, we are better able to protect our most important assets - people and the planet.



Contact information: Amy Artuso, MPH, CPSTI Sr. Program Manager **Occupant Protection** Amy.Artuso@nsc.org NSC.org

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DIRECTOR'S VIEW LAP-SHOULDER BELTS

Why Change?

Monica Coburn Local Transportation Director, Retired

What Changed My Mind

- Parents speaking at conference
- Trade Show: New seating technology enhances compartmentalization seating capacity not lost; retractors solve "use as weapon" issue
- Visiting manufacture's test site
- Our bus incident Slide \$\$\$
- Wanting to improve safety
- Articles and research

Moving Forward - First Steps

- Training and Safety Coordinator
- Superintendent, School Attorney, and CFO
- Legislator
- School Board

Approved... Now what?

- Driver training videos and bus seats
- Put together implementation plan (updated version is available)
- Determined where the buses will be used

Outcome

- Safer buses
- Less bullying
- 90-95% less student discipline issues
- Less driver distractions

What is different today?

- NHSTA support as of last year
- Larger roadways with more traffic
- More accidents

What else is Different?

Enhanced Compartmentalization Lap-Shoulder Belts!



Contact Information

Monica Coburn

812-343-1434 mcoburn@imminet.com Southeastern States Pupil Transportation Conference

Seat Belts on School Buses

- 1: Lessons from North Carolina
- **2: Implementation Toolkit**
- 3: NHTSA Seat Belt Study

SCHOOL PLANNING AND TRANSPORTATION GROUP INSTITUTE FOR TRANSPORTATION RESEARCH AND EDUCATION CENTENNIAL CAMPUS @ NORTH CAROLINA STATE UNIVERSITY JULY 24, 2017



Purpose

Three objectives today

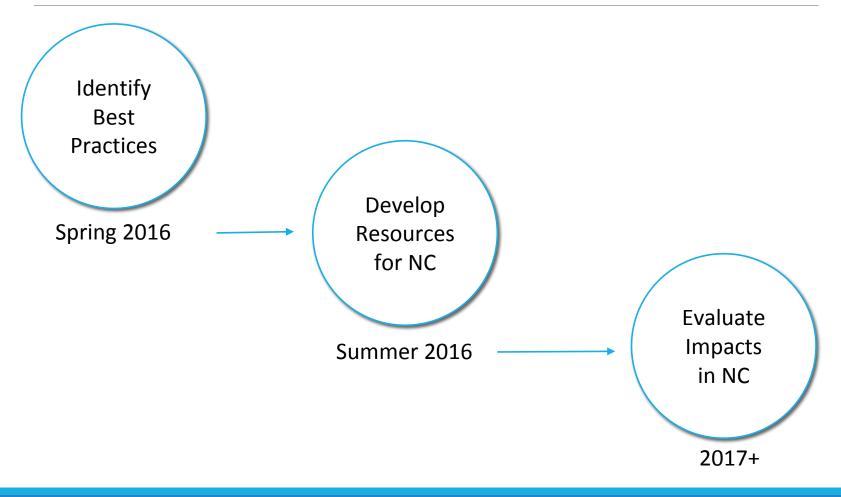
1. Implementation Framework

What NCDPI and ITRE have learned about implementing seat belts in North Carolina

2. Resources to Support Implementation Overview of the NCDPI / ITRE Seat Belt Implementation Toolkit

3. NHTSA Seat Belt Study Study goals, status update and next steps

Seat Belt Implementation Project Goals



Summary

ITRE talked with school districts across the country about their experiences rolling out seat belts on school buses.

A series of factors shape the implementation success (use) of lap-shoulder belts at the district level:

- 1. Allocation of Belted Buses
- 2. Required Use Policy
- 3. Enforcing Seat Belt Use Policies and Rules
- 4. Drivers Responsibilities and Expectations
- 5. School Community Partnerships and Buy-In

1. Seat Belt Bus Allocation

Once equipped with belts, the integration of buses into the district's existing bus fleet is the next consideration.

Are buses with belts going to serve the youngest pupils? Those with Behavioral Issues?

Key Question: Which Schools Get Them?

2. Seat Belt Required Use Policy

A critical factor in the implementation and use of seat belts is if there is a district level policy regarding seat belt use.

In North Carolina, participating districts should require seat belt use by students riding buses equipped with lap-shoulder seat belt technology.

Key Question: Will the School Board Buy-In?

3. Seat Belt Behavior Enforcement

Follow through and accountability for students wearing the lap-shoulder belts is critical to student usage rates.

Based on interviews, this is most commonly achieved by working closely with **bus drivers and principals** to hold students accountable for bus behavior. Several districts articulated the preventative benefits of seat belt use and bus behavior (less bullying, fighting, etc.)

Key Question: Can We Enforce Our Policy?

4. Bus Driver Responsibility and Training

In districts from NY to CA, it is emphasized that school bus drivers on belted buses should be no more legally responsible than they are on non-belted buses.

Driver training should focus on steps to ensure usage and a chain of communication between driver, student, and district staff

It is expected that bus drivers take three distinct steps with students as a function of required seat belt use:

Morning: **Inform** students to wear seat belts as they board bus *Afternoon*: **Check Once** from front to back prior to departur *On Route*: **Verbal Warning** and/or citation to students who repeatedly do not or will not wear lap-shoulder belt

5. School Community Partners

Uniformly, school districts that have implemented successful seat belts indicate that a major component of any program is buy-in from students, parents and staff.

We generate support for policy and rule enforcement through partnerships, public education and outreach.

Groups include school board members, principals, PTA, student council and the local media.

Key Question: What's the Best Way to Get Support?

Implementation Resource: Seat Belt Toolkit

NC DPI and ITRE built the school bus seat belt implementation toolkit that includes:

- **Template**: School District Seat Belt Policy
- Training: School Bus Drivers
- Talking Points: Rationale for Seat Belts on School Buses and Common Concerns
- Outreach Materials: School Officials, Parents, Students and the General Public

Example Required Use Policy

[The following is recommended text for LEA Seat Belt Policy]

Effective August 1, 2016, the North Carolina Department of Pupil Instruction will supply the school district with [*insert*] buses equipped with lap-shoulder seat belt technology.

On buses equipped with lap-shoulder seat belt systems, seat belts shall be mandatory for all student riders regardless of age or grade.

The bus driver and school administration shall be charged with enforcing this requirements using their standard procedures for student behavior management.

NHTSA Seat Belt Study

Project Title

Education on Proper use of Safety Belts on School Buses

Federal Project No. NHTSA-2016-0121

Research Goal

Identify model policies and best practices related to the installation of seat belts on schools buses. In particular, policies and practices that promote the safe usage of lapshoulder belts by students riding the school bus

Research Team

toXcel, NCSU Institute for Transportation Research and Education, Derek Graham Consulting

NHTSA Seat Belt Study

Federal Register Status

Complete: 60 Day Comment Period in the Federal Register Next: 30 Day Notification Period in the Federal Register

Progress

Initial outreach effort to identify school districts that would be interested in talking with the ITRE/toXcel research team. The study will utilize a semi-structured interview approach to understand district experiences and perspectives regarding seat belt implementation and usage.

As of July 2017, over 200+ school district have volunteered to participate in the study, with representation from 25 states.

NHTSA Seat Belt Study

Alabama	Idaho	Minnesota	North Dakota	Vermont
Alaska	Illinois	Mississippi	Ohio	Virginia
Arizona	Indiana	Missouri	Oklahoma	Washington
Arkansas	lowa	Montana	Oregon	Washington DC
California	Kansas	Nebraska	Pennsylvania	West Virginia
Colorado	Kentucky	Nevada	Rhode Island	Wisconsin
Connecticut	Louisiana	New Hampshire	South Carolina	Wyoming
Delaware	Maine	New Jersey	South Dakota	
Florida	Maryland	New Mexico	Tennessee	* Interviews
Georgia	Massachusetts	New York	Texas	in Fall 2017
Hawaii	Michigan	North Carolina	Utah	

Thank You.

Contact

Mathew Palmer, MURP Research Scholar / NCSU ITRE mathew.palmer@ncsu.edu

LAP SHOULDER BELTS IN NORTH CAROLINA

History of Belts on Buses in NC

- The Great Seat Belt Debate
- Early Versions with Capacity Issues
- Flexible Seating
- Implementation

3-POINT RESTRAINT SEAT BELTS IN NORTH CAROLINA 13 BUSES - 2003

Delivery of 13 buses to 11 districts; placed into service in January, 2003 Thomas Built Buses / C.E. White Seats Additional cost - \$100,000 for 13 buses (state funded)

Bus Configuration Capacity: 59

Seating Options:

- 3-2 seating (5 positions per row)
- 2-2 seating (4 positions per row)

Decided on 3-2 to preserve capacity

Capacity Change

- 59 vs. 71 elementary
- 59 vs. 48 high school
- 59 vs. 59 middle school

(Required an additional body section)



Note: Capacity is No Longer an Issue

Implementation No "mandate" – local discretion

- Each district implemented these buses in the best way that they saw fit
- No requirement to use the belts; however, some districts took the initiative to promote seat belt usage
- Some drivers took their own initiative to enforce use
- Training for driver and passenger were provided when introduced

Lesson Learned: Don't do it this way!





Utilization and Enforcement Observations (2003)

- Even with initial training, passengers do not know or do not bother to properly adjust shoulder strap.
- Driver with few discipline problems in a bus without belts have more success enforcing belt usage in a bus with belts.
- Driver with few discipline problems in a bus without belts experience fewer benefits in a bus with belts.

2003 – Major Difference in Seat Height

INDUSTRY RESPONDED BY ELIMINATING FIXED SEATING POSITIONS

Lap-Shoulder Belts with FlexSeat 2007

Presenter: Liz McGowan Cumberland County Schools





Lap-Shoulder Belt Considerations

Positive:

- Safety improvement
- Responds to parent demands

Negative:

- Capacity loss (Addressed with flexible seating)
- Added costs to operations?

Capacity Issue Resolved



2 Child (or Adult) Configuration



3 Child Configuration

Factory Installed

- Thomas C2 bus
- □ Shown at NAPT, October 2007
- □ First bus in the US equipped with FlexSeat
- One seat lost on driver side*

*No seat loss on 2008 model







Pilot Overview

- Pilot began Nov. 13, 2007
- One bus with 23 FlexSeats
- Two routes high school, elementary
- No changes in operations or routes
- Six months product use





Results of Pilot

Feedback from Driver

- Was best year ever for driver in his 15 years of driving for CCS
- Seat belt usage consistent
- Policies helpful in reinforcing usage
- Reduction in behavior problems dramatic
- Other drivers ask about lap-shoulder belts and want their buses equipped
- Increased driver satisfaction
- Driver was diligent about seat maintenance



Feedback from Elementary

- Several children note feeling safer
- Small children note feeling of being restrained/controlled
- Older children needed more reminding about required usage



End of Year High School Survey Approximately half discussed with parents and

- parents were pleased and positive.
- Most were satisfied with training and had no problems with buckling or height adjuster.
- All claimed to "Always" wear their belts.
- Main complaint was belt tightness at neck.
- Majority felt "safer" and that it was quieter inside the bus ("less chaotic").

Feedback from Parents

- Parents are positive
- Safety advantages are appreciated
- Would like to see more buses equipped



What We Learned

- Behavior improvement significant
- Parent satisfaction strong
- Policy is of great value
- Team effort required between schools, administration and parents
- Ongoing training is helpful
- Continuous communication is necessary

....then the economy tanked..

Then the economy rebounded

School Bus Driver Shortage in NC

- Good Economy provides other opportunities for potential drivers.
- Drivers are leaving because of discipline issues on school buses
- Keeping students in their seats reduces discipline problems

NHTSA EVENTS

School Bus Occupant Protection: Taking Safety to a New Level July 23, 2015

Safer drivers. Safer cars. Safer roads.

National Highway Traffic Safety Administration

Stated purpose, "to address the challenges and barriers that have prevented schools from taking action to install three-point seat belt systems in school buses," and, "operational challenges, new approaches for funding, seating capacity, training for drivers, parents, and students, and other issues"





Results from an Indiana District

Overall – TREMENDOUS SUCCESS

- Unexpected Surprise Discipline went down by 90-95%
- Improved Safety No injuries
- Driver Attitude Complete turn-around now asking for buses with lap-shoulder belts

School Bus Driver Shortage in NC

- Keeping students in their seats reduces discipline problems
- Districts given an opportunity to request lap/shoulder belts on new, replacement school buses provided by the state

National Association for Pupil Transportation – November, 2015

NHTSA Administrator, Dr. Mark R. Rosekind: **"School Buses** Should Have Seat Belts. Period"



ROLLOUT OF 82 BUSES WITH LAP SHOULDER BELTS 2016

Technical assistance provided by Operations Research in Education Laboratory Institute for Transportation Research and education Centennial Campus @ North Carolina State University June 21, 2016



NC Implementation Approach – August 2016





Lap/Shoulder Belts on Buses

11 LEAs for 2016-2017; 12 LEAs for 17-18 82 buses for 2016-2017; 99 more for 17-18

Selected as an option by the local education agency (LEA)

LEA agrees to a required use policy

Early results:

Better accepted by elementary Drivers report improved discipline Adopting a policy and enforcing the policy are different things



Participating Districts

- Burke
- Jackson
- Henderson
- Transylvania
- Carteret
- Person
- New Hanover
- Guilford
- Rowan
- Surry
- Washington

• Rutherford (2017)



North Carolina Directors

Burke County Schools

- John Cansler
- Driver: Mr. Jim Boone
- Rutherford County Schools
 - Brian McClung
- Guilford County Schools
 - Jeff Harris

3-POINT SAFETY BELTS FOR SCHOOL BUSES

