

# OCCUPANT PROTECTION



## Occupant Protection

### Introduction

Buckling up – or being buckled in – is the most effective protection during a car crash. The simple truth is that the great majority of people ejected from a motor vehicle die. The U.S. Department of Transportation’s National Highway Traffic Safety Administration, or NHTSA, estimates that lap/shoulder seat belts, used correctly, reduce fatal injuries to front-seat passenger car occupants by 45 percent and moderate-to-critical injuries by 50 percent. See [2006 Motor Vehicle Protection--Facts](#) for details.

For light-truck occupants, the protection’s better: Seat belts reduce the risk of fatal injury by 60 percent and moderate-to-critical injury by 65 percent.

The greatest benefit, though, is for infants under age 1. Child safety seats reduce their fatalities by 71 percent. For toddlers ages 1 to 4 in passenger cars, the reduction is 54 percent. For infants and toddlers in light trucks, the reductions are 58 percent and 59 percent, respectively.

Kansas law requires children under age 4 to ride in these seats. When children reach the weight or height limits of their infant-only seat, they should be changed to a convertible seat and remain rear-facing until they reach the weight or height limits of that seat. At that point, they should be placed in a forward-facing seat and secured by a full harness until they reach the weight or height limits of that seat. Children ages 4 to 8 must be in a child safety seat or booster seat until they weigh more than 80 pounds or are taller than 4’9”; at that point a seat belt is mandatory. Children ages 8 to 13 must wear a seat belt. All passengers and drivers 14 or older are required to use seat belts.

Data released by KDOT in 2010 showed that four in five front seat occupants were using seat belts, an increase of about 5 percent from the year before. We remain concerned, however, about the vulnerability of the one in five who still don’t buckle up. The good news in child passenger safety is that a majority of parents buckle up their children in car seats, booster seats, or seat belts. However, according to NHTSA, approximately 3 out of 4 car seats are not used properly, which is a tremendous risk when traveling.

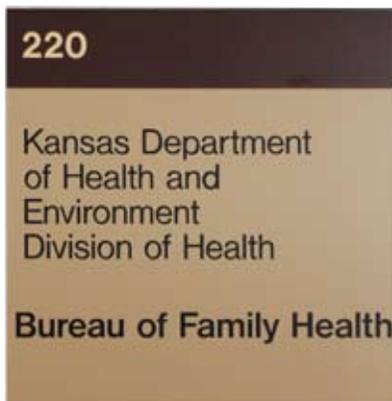
The purpose of the occupant protection emphasis area team is to develop data-driven action plans that encourage drivers and passengers to wear seat belts at all times. Data in this chapter apply only to vehicles covered under Kansas seat belt laws; this would exclude, for example, data related to bicycles and motorcycles.

The occupant protection team is developing performance measures, setting objectives, selecting strategies and identifying resources needed, including funding, legislation, staff and lead agencies. Implementing the strategies will require various combinations of the 4E’s: engineering, education, enforcement and emergency management.

The outcome sought by the occupant protection emphasis area team is the implementation of the SHSP through safety-related programs and projects. Implementation may depend on policy changes, media attention, education and awareness campaigns, enforcement mobilization and programs aimed at low seat-belt-use groups. Some efforts will be statewide; others will target geographic areas with low rates of seat belt use.

Members of the emphasis area team, representing the following groups, first met on September 18, 2009:

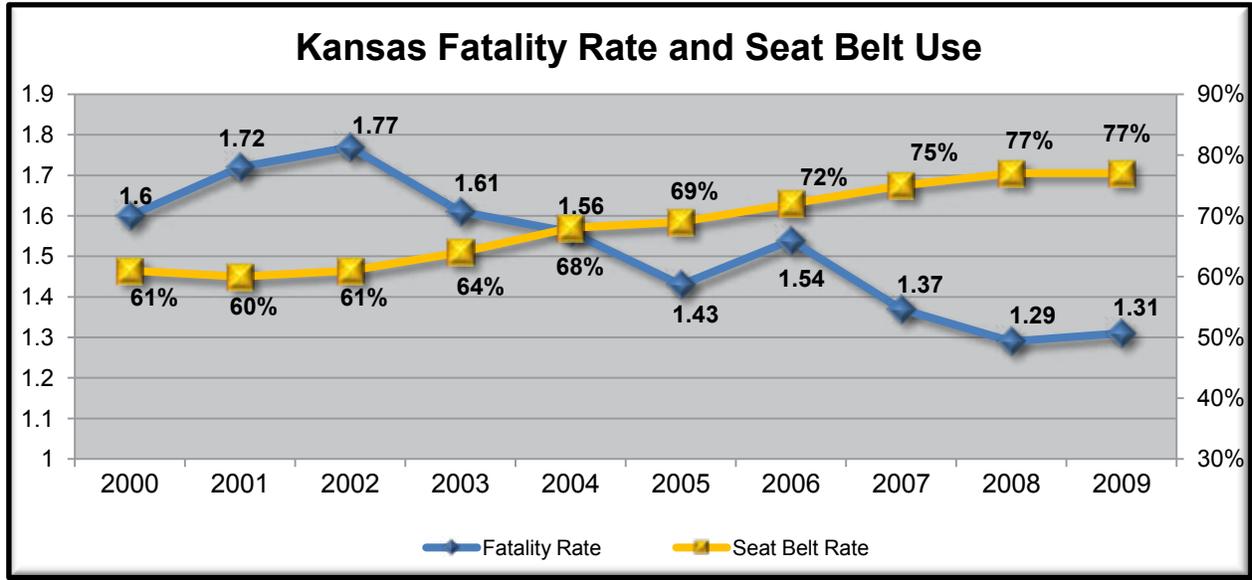
- ❖ Kansas Department of Transportation (KDOT)
- ❖ National Highway Traffic Safety Administration (NHTSA)
- ❖ Kansas Highway Patrol (KHP)
- ❖ Kansas Department of Health and Environment (KDHE)
- ❖ AAA of Kansas
- ❖ Mid-America Regional Council (MARC)
- ❖ Safe Kids Kansas
- ❖ Kansas Traffic Safety Resource Office (KTSRO)
- ❖ Parsons Brinckerhoff



## Data Points

### 1. Buckle them in, then buckle up. Save lives.

In crashes, fatalities fall when drivers and riders buckle up. Of every 10 adults who died in Kansas crashes from 2004 to 2009, 60 to 70 percent (depending on the year) weren't wearing seatbelts.

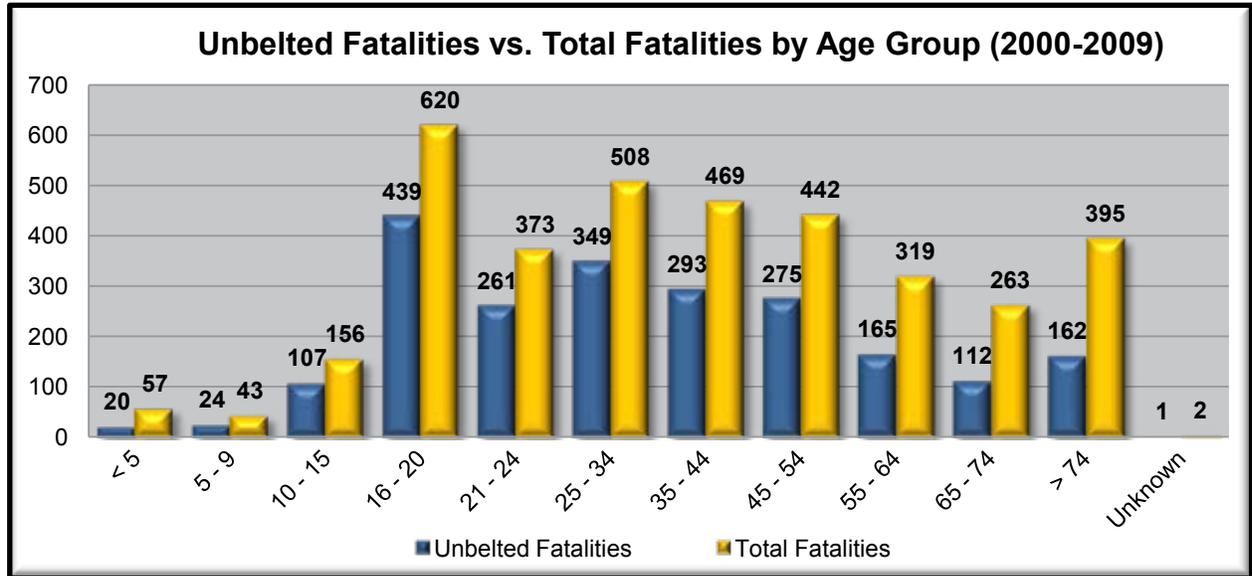


*In the latest reporting year, there were 1.31 fatalities for every 100 million vehicle miles traveled. As the rate of seat belt use increases, fatalities fall.*



## 2. At highest risk: the young.

Not wearing seat belts is especially hazardous for riders and drivers under age 35.



Those ages 16 to 20 are at highest risk of death or serious injury from failing to buckle up. People 25 to 34 are the second most vulnerable group.



## A Test Any College Student Should Pass

Question: What's the leading cause of death for 18-25 year olds?

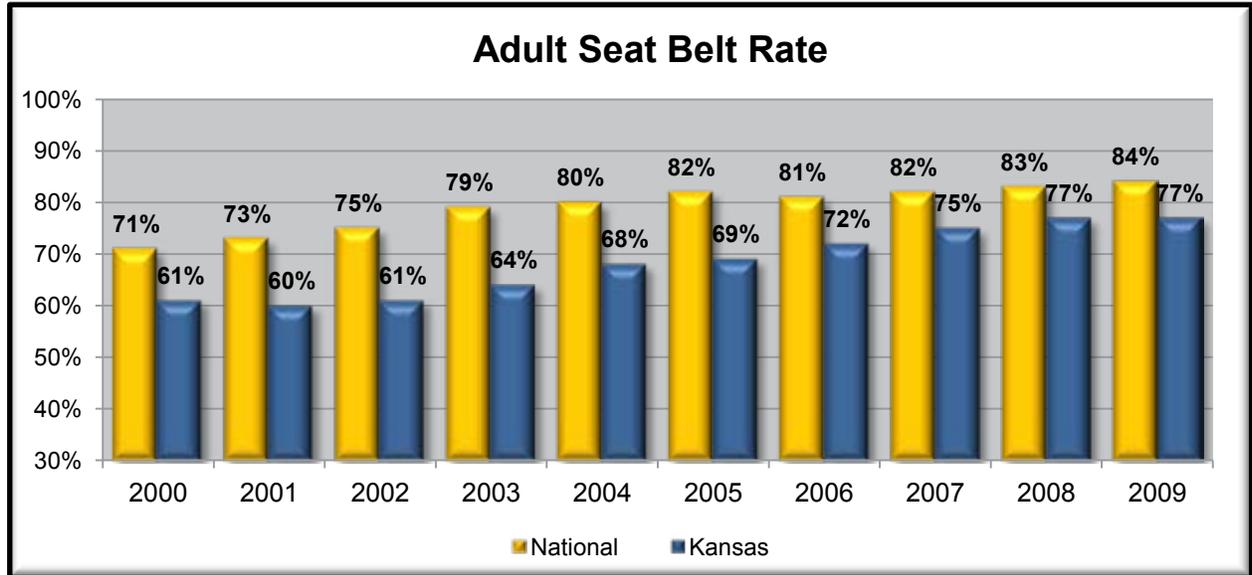
- A. Motor Vehicle Crashes
- B. Motor Vehicle Crashes
- C. Motor Vehicle Crashes
- D. All of the above

### Buckle Up. Every Trip. Every Time

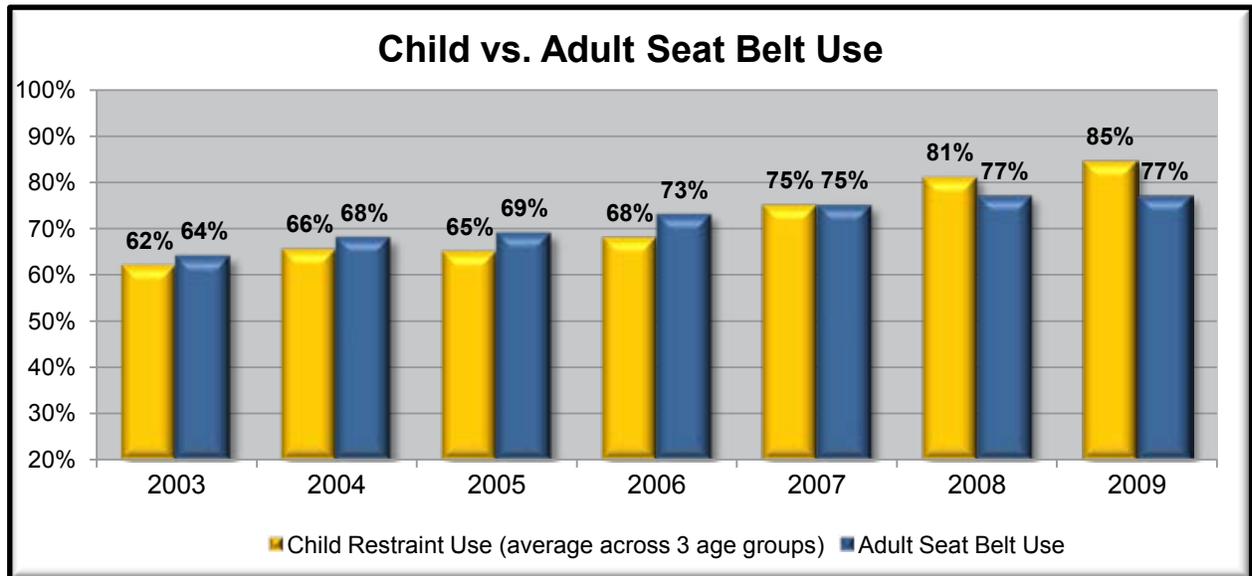
The Kansas Department of Transportation

### 3. More Kansans are keeping themselves and their kids safe.

Kansas still falls below the national average in terms of adult use of seat belts, but the state gained ground between 2000 and 2009. And Kansans are increasingly buckling their children into safety seats or getting them to buckle up.

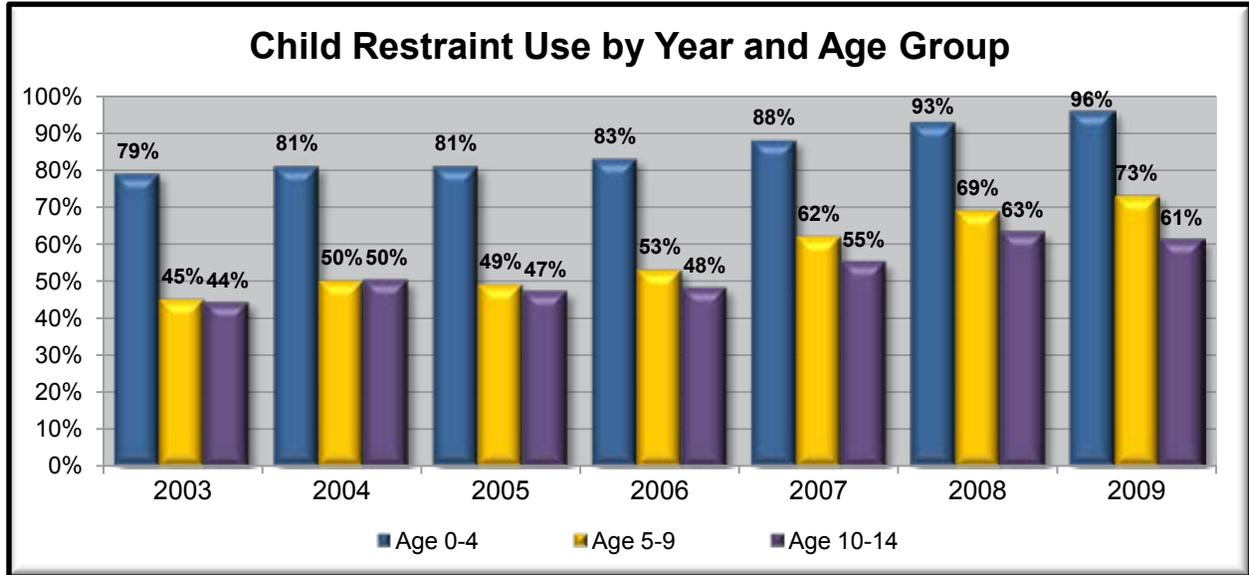


*In 2009, Kansas ranked 43rd in the nation in terms of seat belt use -- but was closing the gap relative to the national average.*



*The first year that child restraint use equaled adult seat belt use was 2007. Now child restraint use surpasses adult seat belt use.*

**4. Yet as children become teenagers, their seat belt use drops.**



*From 2004 to 2009, the percentage gains in seat belt use among children were greatest among children under 10. But use of restraints falls off sharply between the toddler and teenage years: from 96 percent to 61 percent in 2009. It should be noted that the child observational survey only measures whether the children were restrained. It does not show whether the restraints are correctly installed, or whether the type of restraint is appropriate for the age and size of the child.*



**5. Still, on every type of road, more people are using seat belts.**

Seat Belt Survey						
	2004	2005	2006	2007	2008	2009
Seat Belt Rate	68%	69%	72%	75%	77%	77%
Seat Belt Use by Road Type						
Rural Interstate	80%	76%	83%	83%	89%	89%
Rural State Roads	69%	68%	71%	72%	76%	75%
Rural County Roads	59%	56%	57%	63%	66%	66%
Urban Interstate	74%	75%	84%	86%	84%	82%
Urban State Roads	65%	64%	69%	68%	76%	76%
Urban City Streets	60%	58%	57%	59%	70%	69%
Child Restraint Use						
0-4	81%	81%	83%	88%	93%	96%
5-9	50%	49%	53%	62%	69%	73%
10-14	50%	47%	48%	55%	63%	61%
Seat Belt Use by Fatality Victims						
	34%	30%	40%	39%	30%	30%

Seat belt surveys are conducted by trained observers. They occur in a representative sample of Kansas counties, based on population. Among the findings: People are most likely to buckle up on interstates, least likely on rural county roads or urban city streets. Yet between 2004 and 2009, seat belt use increased on each of the six classes of roads in Kansas. See <http://www.ksdot.org/burTrafficSaf/safblt/safbltusag.asp> for more details.



## Performance Measures

The goal of the occupant protection emphasis area team is to halve motor vehicle fatalities and serious injuries within 20 years by increasing the use of safety restraints. Interim goals will help us measure our progress along the way. By doing so, we can adjust our strategies if they're not having the desired effect.

An annual survey in Kansas is conducted by trained observers to monitor vehicles and record seat belt use. Between 2005 and 2009, the average annual observed seat belt use was 75 percent. Our goal is to increase the five-year average to 80 percent by 2012 and to 86 percent by 2016. Statistics support that success in increasing proper seat belt use would naturally decrease the number of fatalities.



## Goals and Strategies

The occupant protection team has chosen six goals as the focus of its efforts. It seeks to

1. Influence policymakers to pass laws that increase seat belt use
2. Create data-driven safety programs that promote, through media, education and law enforcement, the use of restraints by everyone
3. Collaborate with state and local partners to promote a consistent message regarding restraint use
4. Develop tactics to get all law enforcement officers to buckle up
5. Provide resources and support for efforts to enforce occupant protection laws
6. Use data to target areas of Kansas where restraint use is low

The challenge is to identify the strategies, or combination of strategies, with the greatest impact on the behavior of drivers and passengers.

### Goal 1: Influence policymakers to pass laws that increase seat belt use in Kansas

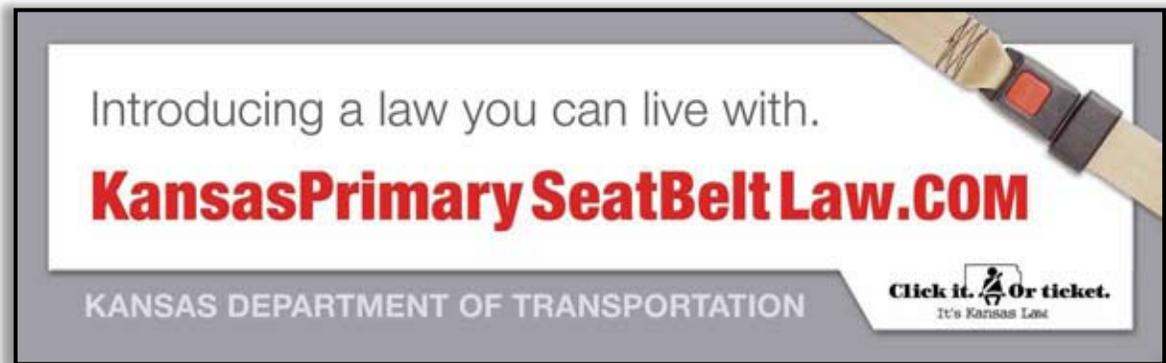
Current Strategy:

- ❖ Utilize KDOT staff and its safety partners to garner grassroots support, testify before the Kansas Legislature and provide information to the media on the benefits of strong safety restraint laws

New Strategies:

- ❖ Focus policy efforts on passing a seat belt law that requires primary enforcement in all seating positions
  - ❖ Background: Data from other states and the National Highway Traffic Safety Administration show that requiring seat belt use by everyone has a stronger effect on changing seat-belt-related behavior than requiring restraints only for minors and front-seat occupants.
  - ❖ Method: legislation
  - ❖ Costs: minimal
  - ❖ Lead agency and contact: KDOT, Traffic Safety Section
  - ❖ Challenges: generating legislative support for expanding required seat belt use
  - ❖ Target date: by the end of the 2013 legislative session
- ❖ Focus policy efforts on increasing the fine for a seat belt violation to \$60
  - ❖ Background: Data from other states and NHTSA show that a substantial fine for seat belt violations has more effect than a small fine.
  - ❖ Method: legislation
  - ❖ Costs: minimal
  - ❖ Lead agency and contact: KDOT, Traffic Safety Section
  - ❖ Challenges: legislative support
  - ❖ Target date: by the end of the 2013 legislative session

- ❖ Conduct study to determine comparative post-crash costs of hospitalization for belted and unbelted occupants
  - ❖ Background: Studies in other states show much higher medical costs for individuals in crashes who are not wearing seat belts, compared with those who are. The findings of a Kansas study could be presented to the Legislature.
  - ❖ Method: research
  - ❖ Costs: \$250,000 (estimated)
  - ❖ Lead agency and contact: KDHE, Kansas Trauma Program
  - ❖ Challenges: data access
  - ❖ Target date: December 2013



**Goal 2: Create data-driven safety programs that promote, through media, education and law enforcement, the use of restraints by everyone**

Current Strategies:

- ❖ Continue Click It or Ticket (CIOT) media/enforcement campaign
- ❖ Research methods for retaining and recertifying law enforcement personnel trained in child passenger safety
- ❖ Support continuing education opportunities for such personnel and their instructors

New Strategies:

- ❖ Expand Seatbelts Are For Everyone, or SAFE, program
  - ❖ Background: The SAFE program, launched in 2008 in Crawford County in six schools, led to impressive increases in seat belt usage. It was successfully expanded to Cowley, Wyandotte, Montgomery and Neosho Counties in 2010. As of June 2011, it has expanded to 29 counties and 95 schools while another eight counties



have expressed interest in the program. Groups such as AAA, State Farm, KDHE Regional Trauma Programs and local communities have all supported the program. To date, at all participating schools there has been a combined increase of 14 percent in seatbelt usage. An annual 20-county seatbelt survey also indicates that there has been a large jump in most of the counties where SAFE has been implemented.

- ❖ Method: program
- ❖ Costs: \$85,000 to date (estimate)
- ❖ Performance measures:
  - ❖ Maintain the SAFE program in schools now using it
  - ❖ In the short run, establish SAFE in every county within the jurisdiction of KHP Troop B (NE Kansas) and Troop H (SE Kansas)
  - ❖ In the long run, establish SAFE in every Kansas County
- ❖ Lead agency and contact: Kansas Traffic Safety Resource Office



- ❖ Challenges: Curricular requirements leave schools little time to sponsor new programs. It is difficult to start the program in large school districts. Where there is limited involvement from law enforcement the program is not as effective.
- ❖ Target date: June 2012 (short term)
- ❖ Expand use of non-traditional media (social networking sites, internet, games) to promote CIOT message
  - ❖ Background: KDOT uses Twitter, Facebook and YouTube to reach target audiences. It's also studying the possibility of using on-line gaming sites to promote CIOT.
  - ❖ Method: program
  - ❖ Costs: \$35,000 (estimated)
  - ❖ Performance measure: number of impressions (views) by target audience
  - ❖ Lead agency and contact: KDOT, Traffic Safety Section
  - ❖ Challenges: finding cost-effective ways to use nontraditional media to reach the target audience in their particular internet community
  - ❖ Target date: ongoing




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What's on your mind?

**Kansas Department of Transportation**  
Linn County High School students will soon be participating in a Seatbelts Are For Everyone (SAFE) program sponsored by AAA of Kansas, KDOT, Linn County Sheriff's Office, the county, County Counselor Gary Thompson and others who would like to donate.

29 Kansas counties have utilized the program and, overall, have raised the rate of seatbelt compliance by students from 61 percent to 72 percent. Hit the jump for the full story and share with your friends...

**County to reinforce seatbelt use among youths**  
www.kccommunitynews.com

1,028 like this

81 talking about this

675 Impressions · 0.74% Feedback

Unlike · Comment · Reshare · 23 hours ago

Future Strategies:

- ❖ Provide model transportation policies to groups like churches, day-care agencies and schools that regularly transport children
- ❖ Promote employer buckle-up programs
- ❖ Promote teen-driven community surveys and presentations in coordination with local events



**Goal 3: Collaborate with state and local partners to promote a consistent message regarding restraint use**

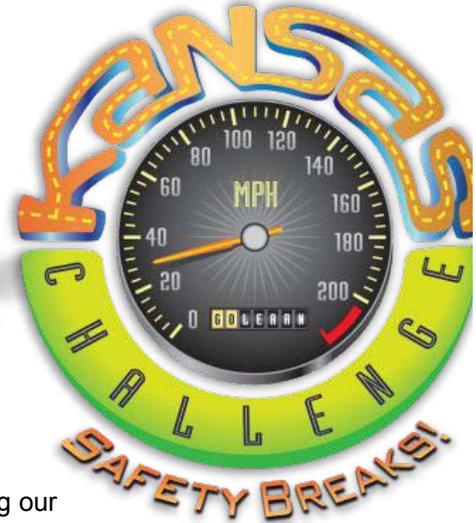
Current Strategies:

- ❖ Continue funding support for a Kansas representative on the National Child Passenger Safety Board
- ❖ Promote such curricula as Boosters to Belts and Safety Breaks

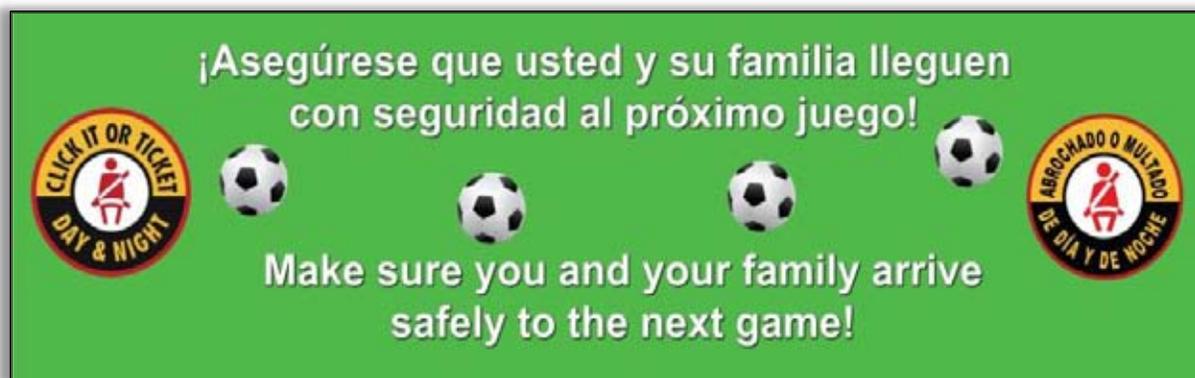


New Strategies:

- ❖ Survey attitudes about and knowledge of seat belt laws annually and use the results in public education efforts
  - ❖ Background: NHTSA and the Governors Highway Safety Association agree that a survey of this type would be a cost-effective, informative way of targeting our safety messages.
  - ❖ Method: research
  - ❖ Costs: \$22,000/year (estimated)
  - ❖ Performance measure: percentage of respondents aware of seat belt laws and programs before and after the education programs
  - ❖ Lead agency and contact: KDOT, Traffic Safety Section
  - ❖ Challenges: designing a scientific survey that produces accurate and credible results
  - ❖ Target date: September (annually)
- ❖ Reach out to school resource officers and school nurses in order to provide seat belt education and information to students
  - ❖ Background: The earlier a child wears a seat belt, the more likely he or she is to continue – and influence others to do so.
  - ❖ Method: program
  - ❖ Costs: minimal
  - ❖ Performance measure: number of students reached
  - ❖ Lead agencies: Kansas Traffic Safety Resource Office
  - ❖ Challenges: existing curricular requirements leave little time for new programs
  - ❖ Target date: Academic year 2011/2012



- ❖ Develop partnerships with the medical and faith communities to promote occupant protection strategies to senior citizens and minority group members
  - ❖ Background: Research indicates that when communicating messages to some demographic groups with the goal of changing behavior, it helps to team with organizations or leaders trusted by the groups.
  - ❖ Method: project
  - ❖ Costs: minimal
  - ❖ Performance measure: the number of group members reached
  - ❖ Lead agency and contact: Kansas Traffic Safety Resource Office
  - ❖ Challenges: Identifying leaders within these communities to promote partnering
  - ❖ Target date: 2012



## Goal 4: Develop tactics to get all law enforcement officers to use seat belts

### Current Strategy:

- ❖ Continue presentations on occupant protection at the KDOT Traffic Safety Conference and Special Traffic Enforcement Program luncheon



### New Strategy:

- ❖ Require all agencies that receive KDOT grants to have an enforceable seat belt usage policy
  - ❖ Background: Those who receive KDOT grants are more likely to promote seat belt use, and officers who obey the law are more likely to enforce it than those who don't.
  - ❖ Method: policy
  - ❖ Costs: none
  - ❖ Lead agency and contact: KDOT, Traffic Safety Section
  - ❖ Challenges: law enforcement agency resistance to the seat belt law in some regions of Kansas
  - ❖ Target date: December 2011

**Goal 5: Provide funding and other forms of support for law enforcement efforts to uphold occupant protection laws.**

Current Strategies:

- ❖ Support child passenger safety training and certification for law enforcement agencies
- ❖ Provide grants to pay for equipment and overtime related to the conduct of seat belt enforcement activities



New Strategies:

- ❖ Support Traffic Occupant Protection Strategies training
  - ❖ Background: Law enforcement officers are more likely to enforce occupant protection laws if they are trained in the importance of using safety restraints at every stage of life.
  - ❖ Method: program
  - ❖ Costs: \$10,000 (estimate)
  - ❖ Lead agency and contact: KDOT, Traffic Safety Section, Law Enforcement Liaisons
  - ❖ Challenges: scheduling time for officers to attend training
  - ❖ Target date: 2012
- ❖ Establish “Chief’s Challenge” awards for enforcement of occupant protection laws
  - ❖ Background: Recognizing officers’ efforts energizes them and reinforces the importance of occupant protection.
  - ❖ Method: program
  - ❖ Costs: \$10,000 (estimate)
  - ❖ Performance measure: the number of agencies that participate
  - ❖ Lead agency and contact: AAA Kansas
  - ❖ Challenges: creating and organizing the program
  - ❖ Target date: 2012
- ❖ Pilot a program to enforce nighttime seat belt use
  - ❖ Background: Data show that seat belt use decreases at night, a time when more impaired drivers are also on the road.
  - ❖ Method: program
  - ❖ Costs: \$10,000 (estimate)
  - ❖ Performance measure: percent increase in seatbelt usage at night
  - ❖ Lead agency and contact: KDOT, Traffic Safety Section, Law Enforcement Liaisons
  - ❖ Challenges: spotting unbelted drivers and passengers at night
  - ❖ Target date: 2012



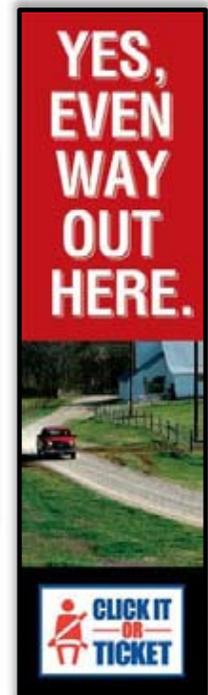
## Goal 6: Use data to target areas in Kansas where restraint use is low

### Current Strategies:

- ❖ Continue support for local child passenger safety inspection stations and provision of safety seats for low-income families
- ❖ Continue observational surveys conforming to NHTSTA standards

### New Strategies:

- ❖ Increase enforcement efforts in traffic corridors with low rates of seat belt use
  - ❖ Background: Extra enforcement efforts often increase seat belt use.
  - ❖ Method: project
  - ❖ Costs: minimal
  - ❖ Performance measure: increased use of seat belts in target areas
  - ❖ Lead agency and contact: KDOT, Traffic Safety Section, Law Enforcement Liaisons
  - ❖ Challenges: lack of law enforcement officers to staff the effort
  - ❖ Target date: 2011
- ❖ Use billboards to communicate messages in parts of Kansas with low rates of seat belt use
  - ❖ Background: Some regions of the state are served by few media.
  - ❖ Method: policy
  - ❖ Costs: \$100,000 (estimate)
  - ❖ Lead agency and contact: KDOT, Traffic Safety Section
  - ❖ Challenges: lack of billboard space in some regions
  - ❖ Target date: 2012
- ❖ Target members of some minority groups for occupant protection education
  - ❖ Background: Members of some minority groups use seat belts less frequently than members of other groups.
  - ❖ Method: project (community needs assessment)
  - ❖ Costs: minimal
  - ❖ Performance measure: increased seat belt use
  - ❖ Lead agency and contact: Kansas Traffic Safety Resource Office
  - ❖ Challenges: determining the best message and media to reach these groups
  - ❖ Target date: 2011



### Future Strategies:

- ❖ Evaluate effectiveness of changes to the graduated driver's license law
- ❖ Evaluate effectiveness of primary seat belt law

