

I. RESEARCH PROJECT TITLE

Identification of Safety Belt Restraint Usage Characteristics Related to 5-14 yr Olds

II. RESEARCH PROBLEM STATEMENT

Unlike the adult seatbelt use law in Kansas, which is secondary, the child passenger safety act enacted in July 1981 is a primary law. Even though research has clearly shown that the adult primary seat belt laws are significantly increasing the seat belt usage rates, same trend does not seem to prevail regarding children. Kansas child observational safety belt restraint usage rates are presented in the table below.

Age Group	Year				
	2003	2004	2005	2005	2006
Children (age 0-4)	79	81	81	83	88
Children (age 5-9)	45	50	49	53	62
Children (age 10-14)	44	50	47	48	55
Overall % Belted	55	61	59	61	68

(Source: KSDOT Bureau of Traffic Safety
<http://www.ksdot.org/burTrafficSaf/safblt/safbltusag.asp>)

Based on this data, 0-4 year old group's restraint use remains relatively high even though it could also be improved further. However, restraint use among 5-9 yr olds and 10-14 yr olds remains alarmingly low. Occupant protection is one of the six key areas needing attention as identified by the Kansas Strategic Highway Safety Plan (SHSP) and if the goals of SHSP are to be achieved it is important to identify the restraint usage characteristics associated with the 5-14 yr old children. In fact SHSP has an objective of raising the rate for 5-9 and 10-14 yr old groups by 4% per year and there is much work needed in achieving that.

III. RESEARCH OBJECTIVES

The main objective of this study is to identify safety belt restraint usage characteristics related to 5-14 yr old children in Kansas and to identify focus areas needing particular attention. Potential actions that might be helpful in increasing child observational safety belt restraint usage rates would also be suggested.

Following major tasks will be completed in accomplishing the above objectives.

Task 1: Literature Review

Conduct a detailed literature review on studies conducted throughout the country related to child restraint use.

Task 2: Gather Data

Collect or extract all data related to crashes involving 5 – 14 year old children in Kansas. If the amount of details available in the electronic crash database is insufficient, hard copies of crashes, particularly those of fatal crashes would be gathered. In addition, observational safety belt restraint usage values will be gathered in detail if available.

Task 3: Data Analysis

Analyze the data collected in Task 2 and identify potential problem situations, locations, facilities and other characteristics related to restraint use patterns related to children of ages 5-14 yrs. Since the issues and concerns related to 5-9 yr olds could be vastly different from those of 10-14 year olds the data will be analyzed separately at least initially. Effectiveness of restraints in reducing injuries to children will also be estimated for each age group.

Task 4: Conduct a Survey

Conduct a short survey among the parents of kids of the selected age group and children if possible to better understand the circumstances surrounding the restraint use.

Task 5: Recommendations of Improvement

Based on the knowledge gathered through the above tasks, develop appropriate recommendations to increase child safety belt restraint usage rates in Kansas.

Task 6: Report Preparation

Document all the tasks of the project in a final report.

IV. ESTIMATE OF FUNDING AND RESEARCH PERIOD

Research Period: 18 months from the beginning of the project.

Funding: Estimated project cost is \$ 92,000. K-TRAN (\$ 40,000), KSU-UTC (\$ 52,000)

V. URGENCY AND PAYOFF POTENTIAL

Seat belts have proven to reduce fatalities and serious injuries to adults involved in crashes and the effectiveness could be even higher for children. When the life saving capability of restraints is considered economic benefits associated with this project is expected to be very high. In addition to that, sensitivity of children being injured and killed and emotional impacts are hard to measure.

VI. IMPLEMENTATION STRATEGY

Based on the findings, the project will provide the recommendations for improving safety belt restraint usage among 5-14 year olds in Kansas, which could be used by Bureau of Traffic Safety and Kansas Safety Belt Education Office.

VII. PROJECT PERSONNEL

The principal investigator of this project will be Dr. Sunanda Dissanayake (Assistant Professor in Civil Engineering) who has many years of experience in the areas of traffic

engineering, safety, crash data analysis and access management related issues. She has already completed two K-TRAN projects related to adult seat belt usage and very familiar with the topic. One Graduate Research Assistant will work on this project whose master thesis would be focused on this study. Every effort will be made to recruit a qualified female and/or minority student to work on this project.

VIII. SUBMISSION INFORMATION

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