Disproportionate crash rates involving Hispanics and military personnel: CTS investigates

The Texas Transportation Institute’s Center for Transportation Safety (CTS) is investigating the reasons why two distinct population groups — Hispanics and U.S. military personnel — are experiencing above-average crash rates.

Each is a separate research initiative, and both projects are just getting underway as researchers gather crash data and begin looking for clues.

“We have seen significant reductions in crashes and traffic deaths overall,” CTS Director John Mounce explains. “However, some groups have not been included in these vast improvements. We’ve found two areas that I strongly believe we should investigate further.”

“Latino Initiative

Data show that Hispanics have a disproportionate risk of dying or being injured in traffic crashes. So, CTS has begun a Latino Traffic Safety Initiative (LTSI) to study this complex problem in Texas and offer countermeasure approaches.

“In just nine years, the Hispanic population is expected to outnumber the non-Hispanic population in Texas,” says CTS Senior Research Scientist Katie Womack. “The

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more we learn about the reasons for the lopsided crash statistics, the better head start we will have on making travel safer for what will soon be the majority population. Everyone will benefit as a result.”

Nationally, the figures are alarming:
• Motor-vehicle crashes are the leading cause of death for Hispanics ages 1-34.
• Hispanic children ages 5-12 are 72 percent more likely to die in a motor-vehicle crash than non-Hispanic children and they are less likely to wear a restraint device.
• Hispanics are more likely to drive under the influence of alcohol or other drugs, and are more likely to be driving without a valid license.

The LTSI will first examine the Texas crash and fatality data. Do our state’s Hispanic figures reflect national statistics?

“We have a lot of questions about injuries and fatalities among the Latino population,” Womack points out. “What are the ages of the crash victims? Are more males or females killed and injured? What are the causes of the crashes? Were the occupants wearing safety belts or using child restraints? How big of a problem is impaired driving among Hispanics in Texas?”

Eventually, the goal of the LTSI is to determine if language barriers, education levels, socio-economic status and other cultural differences play a role in the crashes.

“We suspect that the Texas figures will show a disproportionate Hispanic fatality and injury rate similar to the national figures,” Womack predicts. “If they do, how do we best approach this problem?”

Womack says to accomplish the goal of the LTSI, a variety of methods will need to be employed — crash data analysis, focus groups, workshops and surveys. It is important to examine traffic safety from the Latino perspective to get a complete picture.

“This project is in the very beginning stages, and I foresee it being a long-term, multi-year task. It’s a very complex issue,” Womack says.

The more we learn about the reasons for the lopsided crash statistics, the better head start we will have on making travel safer for what will soon be the majority population.

– Katie Womack
Senior Research Scientist

Military Initiative

A March 2011 article in the military publication Medical Surveillance Monthly Report caught the attention of CTS researchers. In it, crash data over an 11-year period was examined.

Citing the study, the article, entitled “Motorcycle and Other Motor Vehicle Accident-related Deaths, U.S. Armed Forces, 1999-2010,” stated: “Motor vehicle accidents (MVA) are the leading cause of deaths of U.S. military members during peacetime. During the four years prior to operations in Iraq and Afghanistan, one-third of all deaths of service members were caused by MVAs. Since the beginning of those operations, there have been nearly as many deaths of service members due to ‘transportation accidents’ as war related injuries.”

The article reported that more than four thousand active-duty service members died in crashes during that period, with CONTINUED ON NEXT PAGE
Hispanic, military safety initiative

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motorcycle deaths accounting for 24 percent of the fatalities.

“This is obviously a problem that not many people have thought about,” Senior Research Engineer Russell Henk says. “As the article points out, many of the crash victims are young, high school-educated, single males — characteristics that could be associated with a higher risk of dying in crashes.”

Henk says that he needs to dig deeper into the military crash rate issue, but already has some ideas about approaching the problem. He points out that CTS is well positioned to tackle the issue of impairment, motorcycle safety and the dangers of younger drivers based on its previous work.

Henk, who is also the director of TTI’s Teens in the Driver Seat (TDS) program, says elements of the successful high school-targeted driver safety program could be applied to the military crash-rate problem.

“TDS uses a peer-to-peer approach with students, who conduct the program and spread safety messages among fellow students. I can foresee that same approach being replicated in a military setting,” he says.

In exploring the CTS military initiative, contacts have been made with the Corps of Cadets at Texas A&M University, Ft. Hood in Killeen and with military officials in San Antonio, where Henk is based.

CTS Advisory Council helps Center peer into future

Announcing an ambitious goal of doubling its research over the next five to seven years, Center for Transportation Safety (CTS) Director John Mounce addressed members of the center’s advisory council Oct. 6 in College Station. The annual gathering of advisory council members took on special significance — CTS celebrates its 10-year anniversary this year.

“We’ve been appropriated $6 million in our 10 years,” Mounce told the 10 voluntary council members. “But we’ve procured $36 million in research during that time.”

Mounce told the gathering that CTS hopes to double that research funding by 2018, acknowledging the goal as a lofty one considering the current economy.

The CTS Advisory Council is designed to assist, guide and oversee the center’s activities. The 10 members represent a wide cross section of safety and engineering professions, most of whom have transportation-related careers.

“You come at this from very different points of view,” Executive Associate Agency Director Bill Stockton said in welcoming the council members on behalf of the Institute. “Of all the things the Texas Transportation Institute is doing, there is none more important than what’s being done here at the safety center. This is where we have a real human impact. We appreciate your willingness to come. It’s a great opportunity to get your feedback and direction.”

Council members were updated on many of the center’s ongoing projects: seat-belt-monitoring efforts, distracted and impaired driving research, red-light camera studies and teen driver safety efforts.

“For every 1 percent increase in belt use in Texas, there are 25 fewer fatalities and 586 fewer serious injuries,” Senior Research Scientist Katie Womack, who leads the center’s occupant restraint surveys, told the group. And during his presentation, Teens in the Driver Seat® Director Russell Henk said, “Texas is the only state that has had a significant drop each and every year [over the last 7 years]...and TDS is certainly part of that.”

During the open-discussion section of the meeting, council members asked numerous questions about various specific research efforts designed to save lives.

In pointing out the importance of continuing the CTS safety effort, Mounce told the group that Texas’ fatality rate dropped nearly 25 percent over the last eight years. “In terms of comprehensive societal costs, the lower number of deaths and serious injuries has meant a savings to the state of approximately $22 billion,” he said.
New study says texting doubles a driver’s reaction time

Researchers at the Texas Transportation Institute (TTI) have determined that a driver’s reaction time is doubled when distracted by reading or sending a text message. The study reveals how the texting impairment is even greater than many experts believed, and demonstrates how texting drivers are less able to react to sudden roadway hazards.

The study — the first published work in the United States to examine texting while driving in an actual driving environment — consisted of three major steps. First, participants typed a story of their choice (usually a simple fairy tale) and also read and answered questions related to another story, both on their smart phone in a laboratory setting. Each participant then navigated a test-track course involving both an open section and a section lined by construction barrels. Drivers first drove the course without texting and then repeated both lab tasks separately while driving through the course again. Throughout the test-track exercise, each participant’s reaction time to a periodic flashing light was recorded.

Reaction times with no texting activity were typically between one and two seconds. Reaction times while texting, however, were at least three to four seconds. Worse yet, drivers were more than 11 times more likely to miss the flashing light altogether when they were texting. The researchers say that the study findings extend to other driving distractions that involve reading or writing, such as checking e-mail or Facebook.

The study, sponsored by the Southwest Region University Transportation Center, was managed by Christine Yager, an Associate Transportation Researcher in TTI’s Center for Transportation Safety. Forty-two drivers between the ages of 16 and 54 participated in the research.

In addition to the reaction-time element, researchers also measured each driver’s ability to maintain proper lane position and a constant speed. Major findings further documented the impairment of texting when compared to the controlled driving conditions. Drivers were less able to:

• safely maintain their position in the driving lane when they were texting, and their swerving was worse in the open sections of the course than in barreled sections.
• maintain a constant speed while texting, tending to slow down in an effort to reduce the demand of the multiple tasks. By slowing down, a driver gains more time to correct for driving errors (such as the tendency to swerve while texting). Speed variance was also greater for texting drivers than for non-texting drivers.

The fact that the study was conducted in an actual driving environment is important, the researchers say. While simulators are useful, the dynamics of an actual vehicle are different, and some driver cues can’t be replicated in a simulator. By using a closed course, researchers can create an environment similar to real-world driving conditions while providing a high degree of safety for the participants.

“One of the more important things we know now that we didn’t know before is that response times are even slower than we previously thought.”

– Christine Yager
Associate Transportation Researcher
Texting and driving study
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vehicle,” Yager says. “So one of the more important things we know now that we didn’t know before is that response times are even slower than we previously thought.”

The total distance covered by each driver in the study was slightly less than 11 miles. In the interest of safety for both participants and the research staff, researchers minimized the complexity of the driving task, using a straight-line course that contained no hills, traffic or potential conflicts other than the construction zone barrels. Consequently, the driving demands that participants encountered were considerably lower than those they would encounter under real-world conditions.

“It is frightening,” the researchers wrote, “to think of how much more poorly our participants may have performed if the driving conditions were more consistent with routine driving.”

Federal statistics suggest that distracted driving contributes to as much as 20 percent of all fatal crashes, and that cell phones constitute the primary source of driver distraction. Researchers point to two numbers to illustrate the magnitude of the texting while driving problem: an estimated 5 billion text messages are sent each day in the United States, and at least 20 percent of all drivers have admitted to texting while driving.

Texting study puts TTI on the air, front page

TTI’s findings made news worldwide among more than 500 radio stations, television stations and newspapers.

“Most texting while driving research has been done using driving simulators,” Associate Transportation Researcher Christine Yager says. “We put participants behind the wheel of our instrumented vehicle in a closed course at our Riverside Campus. The results showed drivers swerving out of their lane, failing to maintain consistent speeds and failing to see a flashing light installed on the course.”

As a result of the study, Yager participated in live radio and television station interviews, and was quoted in newspapers across the globe.

Efforts to generate news coverage for the study were planned and coordinated by TTI Communications Director Richard Cole, and Bernie Fette, Public Affairs Manager for the Center for Transportation Safety.

“Working with the media is an essential part of the overall marketing strategy for the Institute because it helps to position TTI as a reliable and credible source of information,” Fette says. “In this case, we had a strong research product, and we put a lot of time into preparation so we could take full advantage of this opportunity for TTI.”
The Texas Transportation Institute’s (TTI’s) Teens in the Driver Seat® program has been honored with a 2011 highway safety award from the Governors Highway Safety Association (GHSA), the Peter K. O’Rourke Special Achievement Award. The award was presented to Texas Department of Transportation (TxDOT) Director of Traffic Safety Terry Pence during a ceremony in Cincinnati, Ohio, on Sept. 27. TxDOT has supported the program since its creation in 2002.

In pointing out the accomplishments of the program, the GHSA news release states, “TDS has had a strong positive impact in Texas, and its influence is beginning to be felt in other states. Since the program’s inception in 2002, Texas has seen a 40 percent decrease in the frequency of teen drivers involved in fatal crashes.”

The Teens in the Driver Seat® program was recognized last year in the GHSA’s Guidebook for State Highway Safety Offices, National Best Practices Guide and is a six-time national award-winning program.

Russell Henk, director of the Teens in the Driver Seat® program, has also recently accepted a nomination to be on the GHSA/State Farm Teen Driving Expert Panel. The panel was formed to oversee a GHSA case study on teen driving. State Farm Insurance has been a sponsor of the program since 2007.

The Pan American Health Organization (PAHO), a regional office of the World Health Organization (WHO), and the Texas Transportation Institute (TTI) have partnered to collaborate on roadway safety research.

TTI’s discussions with PAHO first began in 2007, when the organization expressed an interest in the Teens in the Driver Seat® program. In April of that year, Transportation Commissioner Hope Andrade and Texas State Rep. Patrick Rose joined PAHO officials at the State Capitol to hold a press conference in observance of Global Road Safety Week. Several discussions with PAHO since that time have resulted in the two organizations entering into a formal partnership agreement. Because vehicle crashes rank as the number-one cause of death for people under age 25 worldwide, PAHO has a strong interest in roadway safety improvements.

Road traffic crashes rank 10th on the major causes of death list, accounting for 1.2 million deaths worldwide each year. According to WHO, “research suggests road deaths are increasing in most regions of the world and that if trends continue unabated, they will rise to an estimated 2.4 million a year by 2030.”

The two institutions will jointly pursue research and program opportunities related to roadway safety. The first venture will be to conduct a binational pilot project in which young drivers in Ciudad Juarez will be introduced to the Teens in the Driver Seat® (TDS) concept, with TDS students in El Paso being directly involved.

The formal agreement was signed by PAHO representatives Dr. Maria Teresa Cerqueira, chief of the PAHO/WHO U.S.-Mexico Border Office; Dr. Eugenia Maria Rodrigues, PAHO/WHO road safety advisor; and Dr. Dennis Christiansen, TTI director. Dr. Cerqueira, Dr. Rodrigues and Dr. Gustavo Iturralde, PAHO/WHO health promotion and family health technical officer, attended briefings on TTI research during a recent visit to the Institute.

Eugenia Maria Rodrigues, PAHO/WHO Road Safety Advisor; Dennis Christiansen, TTI Executive Director; and Maria Teresa Cerqueira, Chief of the PAHO/WHO U.S. – Mexico Border Office.
TITI focuses on continuing momentum for improving motorcycle safety

Motorcycle fatalities in Texas declined in 2009, halting an 11-year trend of steady increases, but there is no complacency among state officials. The Texas Department of Transportation (TxDOT) Traffic Safety Program funded several projects to keep the momentum going and continue statewide efforts to improve motorcycle safety.

Center for Transportation Safety (CTS) Research Scientist Patricia Turner leads the projects, which range from increasing driver awareness of motorcycles to expanding educational opportunities for motorcycle training instructors.

“The key to keeping the downward trend for motorcycle fatalities in Texas is education and outreach,” said Karen Peoples, TxDOT’s Interim Motorcycle Safety Project Manager.

“This includes making sure that all motorcycle safety trainers and instructors have access to professional development opportunities,” said Peoples. “We need more and better qualified instructors to meet the growing demand for rider training courses, especially now that everyone must complete the course to get a motorcycle license or endorsement.”

“We are very excited to be working with TxDOT to improve rider safety,” Turner said. “We’ve made a lot of progress over the past several years, but motorcyclists still account for 14 percent of all traffic fatalities, so it’s important that we continue our efforts.”

The Center’s motorcycle projects include:

Increasing recruitment/retention of motorcyclist safety training instructors

This project addresses the need for a more efficient way to deliver training and recertification to qualified motorcycle safety course instructors and trainers. TTI will work collaboratively with TxDOT and Texas Department of Public Safety (TxDPS) to conduct eight regionally diverse professional development workshops. TTI will also will film and produce several “on-bike” training videos to use in a web-based motorcycle safety instructor certification program currently under development.

Statewide motorist awareness and motorcycle safety outreach

Over several years, TTI has worked with TxDOT and the TxDPS to develop and promote public information messages and educational materials for drivers and riders to improve motorcyclist safety and reduce the number of motorcycle crashes and related injuries. This project continues these efforts through the implementation of a statewide motorist awareness and motorcyclist safety outreach program. The project includes updating / developing motorist and rider awareness materials, including those associated with the “Share the Road,” “Take the Course,” “Ride Safe,” and “Drink.Ride.Lose.”

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campaigns; facilitating meetings, including the annual motorcycle safety forum, for the Texas Motorcycle Safety Coalition (TMSC), Board, and standing committees; maintaining and updating the motorcycle safety website, www.looklearnlive.org; and distributing and promoting campaign materials and messages at public events, motorcycle gatherings, rallies, and conferences.

Texas law enforcement motorcycle safety and enforcement training course – web-based conversion

Law enforcement play a significant role in reducing unsafe motorcycle riding through the enforcement of traffic laws and the promotion of safe riding behaviors and safe driving practices around motorcycles. Under a FY 2011 grant, TTI developed the State of Texas Law Enforcement Motorcycle Safety and Awareness Training course. The course informs officers about motorcycle laws, safety issues, and enforcement strategies to aid in reducing motorcycle crashes and injuries. This project involves the conversion of the classroom-based curriculum into a web-based training (WBT) program with the goal of reaching a larger number of Texas peace officers more efficiently.

For more information, contact Patricia Turner at (979) 458-2619 or email p-turner@tamu.edu.