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Teen driving safety case study: Garland, Texas and Mesquite, Texas

Summary

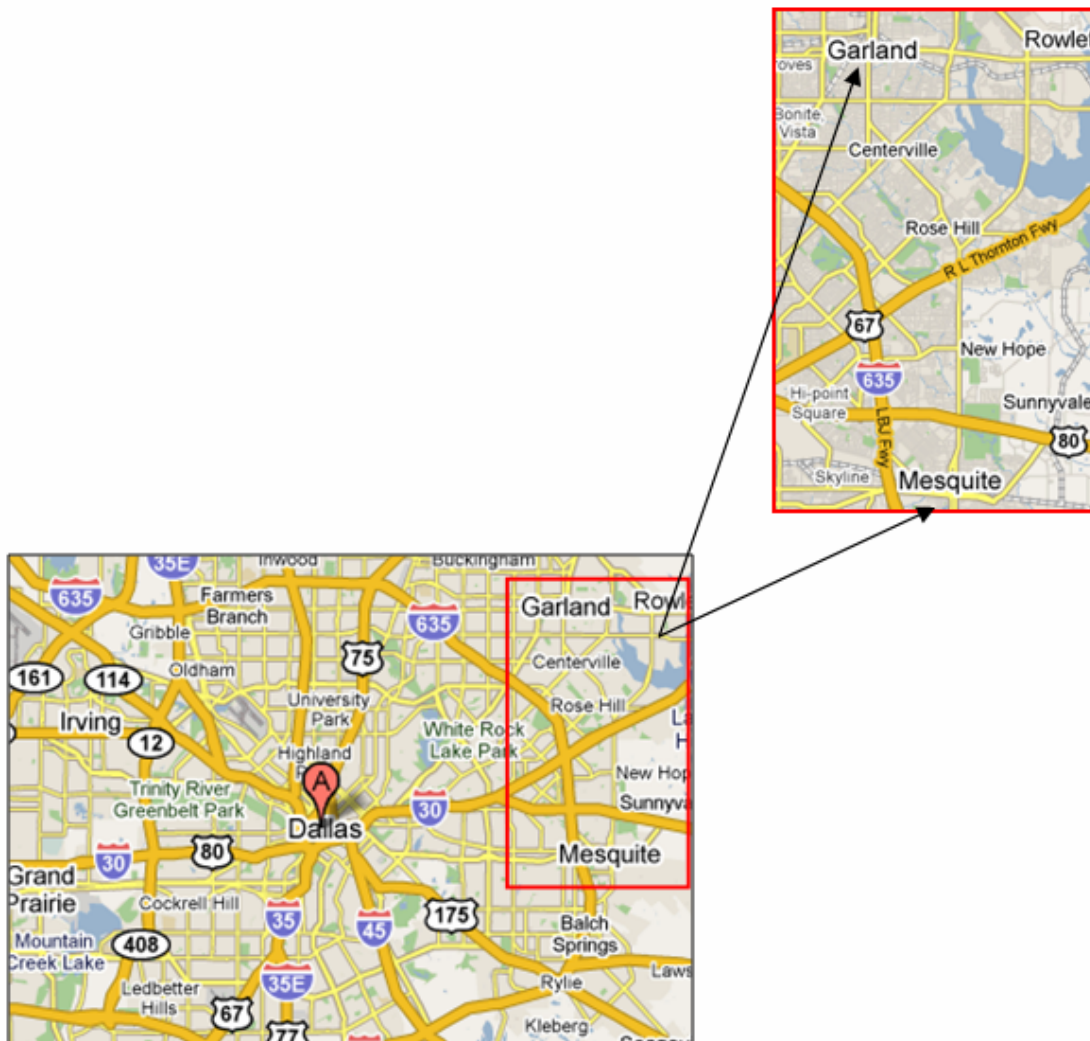
Within the past decade, there have been two significant changes related to novice drivers in Texas. The first was the implementation of the state's Graduated Driver License (GDL) law on January 1, 2002, and the second was the introduction of the Teens in the Driver Seat (TDS) safety program for young drivers in 2003.

Researchers at the Texas Transportation Institute have conducted a regional case study to examine the impact of these changes in the North Texas cities of Garland and Mesquite by assessing teen driver risk awareness, driving behavior and crash statistics. The TDS Program was implemented extensively (at all seven high schools) in Garland, whereas the program was not deployed at any schools in Mesquite. During the study period, Garland experienced significant improvements in several measures: fewer teen traffic fatalities, reduced teen crash involvement, reduced cell phone use while driving and increased safety belt use. Improvements seen in Mesquite during the same time were far more modest.

Case study findings suggest that the more significant improvements in Garland resulted from the combination of the GDL law and Teens in the Driver Seat. The GDL – for the first six months that a new driver is licensed – restricts nighttime driving, prohibits cell phone use, and limits teen passengers. TDS focuses on the most common dangers for young drivers (including nighttime driving and distractions, including cell phones, texting and teen passengers). By design, the TDS Program helps to reinforce and augment the GDL law at the grassroots level.

More modest changes in Mesquite are consistent with what would be expected from a GDL law rated as “fair” (ratings by the Insurance Institute for Highway Safety). Recent Legislative actions have raised the Texas law to a “good” rating, but those actions took effect after the period examined in this case study.

The primary comparisons in this case study were based on two periods: from 2002 through 2006, and from 2007 (when the TDS Program began in Garland) through 2009.



Graduated Driver Licensing

Graduated Driver License laws typically follow a three-stage process for licensing novice drivers. The process includes a learning stage (that requires full adult supervision), then a provisional stage (that

includes a range of restrictions on unsupervised driving, followed by full licensure. The most common restrictions during the young driver's provisional stage include limitations on the number of passengers and the time of day when driving is allowed. The nature and extent of those restrictions is the basis of a rating system developed by the Insurance Institute for Highway Safety, in which laws receive a grade of good, fair, marginal or poor. A total of 33 states hold "good" ratings, 10 are rated as "fair," and 7 are rated "marginal." The varying strength of these laws from state to state has recently prompted the filing of federal legislation in 2009 – the Safe Teen and Novice Driver Uniform Protection (STANDUP) Act – which would establish minimum national standards for GDL laws and require states to adopt those minimum standards or face the partial loss of federal highway funding.

Generally speaking, the most stringent GDL restrictions tend to produce the most positive results. Evidence suggests that these restrictions, when properly enforced, can help reduce both the number and severity of crashes involving the youngest drivers on the road. Specifically, according to research prepared for the AAA Foundation for Traffic Safety, GDL laws nationwide have brought about an 11 percent reduction in fatal crashes and a 19 percent drop in injury crashes. Similarly, a recent analysis by the Insurance Institute for Highway Safety noted that states which enact a GDL law (rated as fair) should expect an average reduction of 11 percent in fatal crashes involving 16-year old drivers. Additional research states that GDL restrictions were responsible for a 5.8 percent decrease in traffic deaths for 15- to 17-year olds, assigning direct credit to GDL for preventing 131 fatalities annually in the United States for this age group.

GDL laws also have a positive effect on the frequency of collision insurance claims. A 2009 study by the Highway Loss Data Institute states that the collision claim frequency for 16-year-old drivers is 22 percent lower for GDL laws rated as "good" as compared to those rated as "poor." The study noted that collision claims are typically dominated by minor crashes, and that roughly half of all collision claims involve damage below \$2,000 (excluding deductible). The similarity between GDL effect on these crashes and that of more serious fatal crashes, the study notes, highlights the positive effect that GDL laws have on the extensive range of crashes involving young drivers.

Teens in the Driver Seat

Teens in the Driver seat is a peer-to-peer outreach effort in which young drivers and passengers are directly involved in developing and delivering safety messages to each other, with some support and

resources provided by program staff. The program has grown significantly across Texas since its initiation in 2003, and has now been deployed in more than 300 schools across the state. Garland is one of the most vibrant examples of that growth, with TDS Programs active in all seven high schools comprising the Garland Independent School District. In those schools, members of the TDS student leadership teams, with periodic support from program staff members, developed their own action plans for communicating safety messages to their peers. Some examples of student-directed activities included:

- Conducting their own press conference
- Running TDS public service announcements on local school cable channel GRS-TV
- Writing and performing a song about teen driving dangers called “Learn to Live”
- Hosting safety events at local shopping malls
- Conducting periodic interviews with news media representatives
- Developing and filming their own PSAs
- Establishing a partnership with the Garland Youth Council <http://garlandyouthcouncil.org>
- Participating in focus groups – personal interviews indicate the program is popular with teens, they feel the peer-to-peer approach is productive and serves a number of beneficial purposes for them
- Passing out safety-message bookmarks at lunch time, led by a different class group each week
- Designing unique "stop sign" hand fans with TDS top risks listed on back and distributing these and other materials at school-sponsored outdoor sports events
- Placing safety messages in cars that were valet parked at the school prom

Risk awareness assessments

In this case study, researchers examined the effectiveness of TDS in the cities of Garland and Mesquite, the latter of which served as a control group because no TDS Programs had been initiated in that school district.

Researchers examined risk awareness levels of teen drivers in Garland both before and after implementation of the TDS Program. In each case, respondents were asked to name the most common dangers that (coupled with inexperience) contribute to death and injury in crashes involving teen

drivers. Many noteworthy improvements in awareness occurred in Garland for the majority of top risk factors faced by teens while driving.

Summary of Garland High School Risk Awareness Data

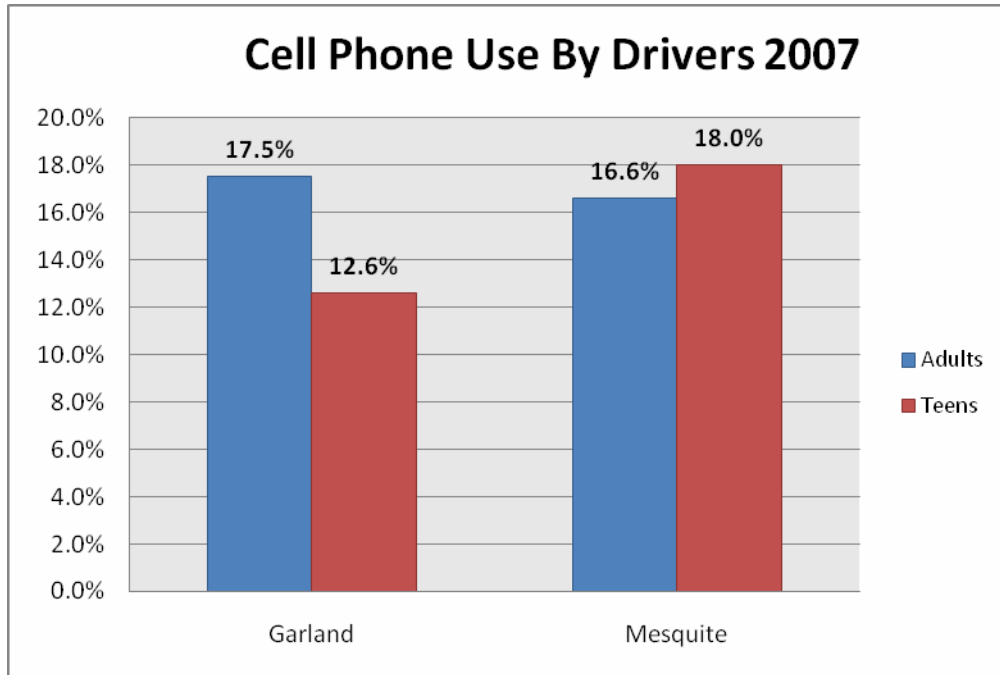
Teen Driving Risk	Pre-TDS % Aware (n = 1,105)	Post-TDS % Aware (n = 617)	Net Change	Percent Change
Driving at night	1	14	+ 13	+ 1,300%
Teen passengers	31	43	+ 12	+ 39%
Cell phone/"texting"	60	83	+ 23	+ 38%
Seat belt use	13	16	+ 3	+ 23%
Speeding	48	47	- 1	- 2%
Drinking & driving	84	77	-7	- 8%

Driving behavior field observations

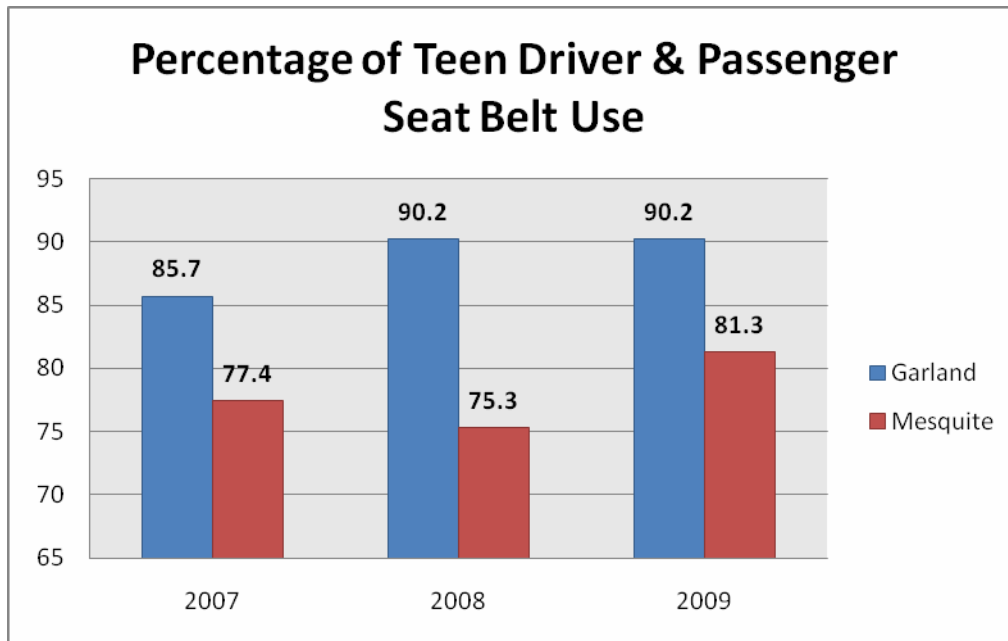
In addition to measuring risk awareness levels among Garland teens, researchers also conducted field observations on weekdays at signalized intersections near high schools in both Garland and Mesquite to measure seat belt use as well as cell phone use by drivers. Of noteworthy interest is the fact that this field assessment also included observation of adult drivers.

Teen drivers in Garland schools were (post TDS Program deployment) observed to be doing a better job of not using wireless devices in comparison to their counterparts in Mesquite schools. In relative terms, the use of these devices by Garland teen drivers was 30 percent less than teens in Mesquite. Teens in Garland were also doing better in comparison to their parents/adult counterparts in their community, while the teen and adult users of devices while driving in Mesquite was very similar. These data perhaps point out an additional positive impact of the TDS Program, as well as the importance of parents/adults to set a positive example of safe driving habits for young drivers. With parent-taught driving allowed in Texas and roughly half of teens currently getting their driving instruction in this fashion, this role of adults "setting good examples" is particularly important. Stated

alternatively (as it relates to the data from Mesquite), teen drivers in Mesquite appear to be mimicking (i.e., doing the same thing as) their parents and/or adults in their community.



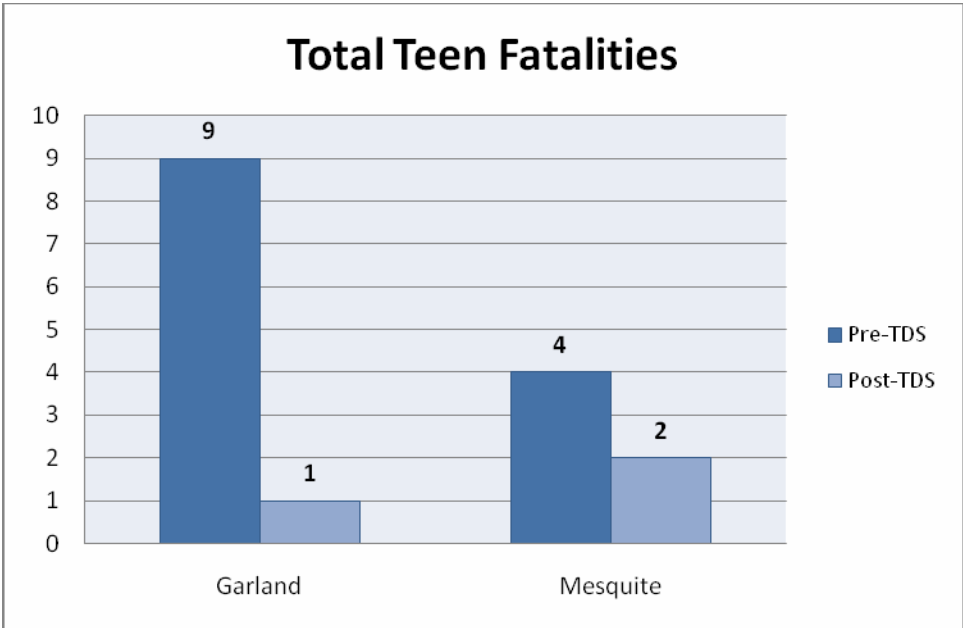
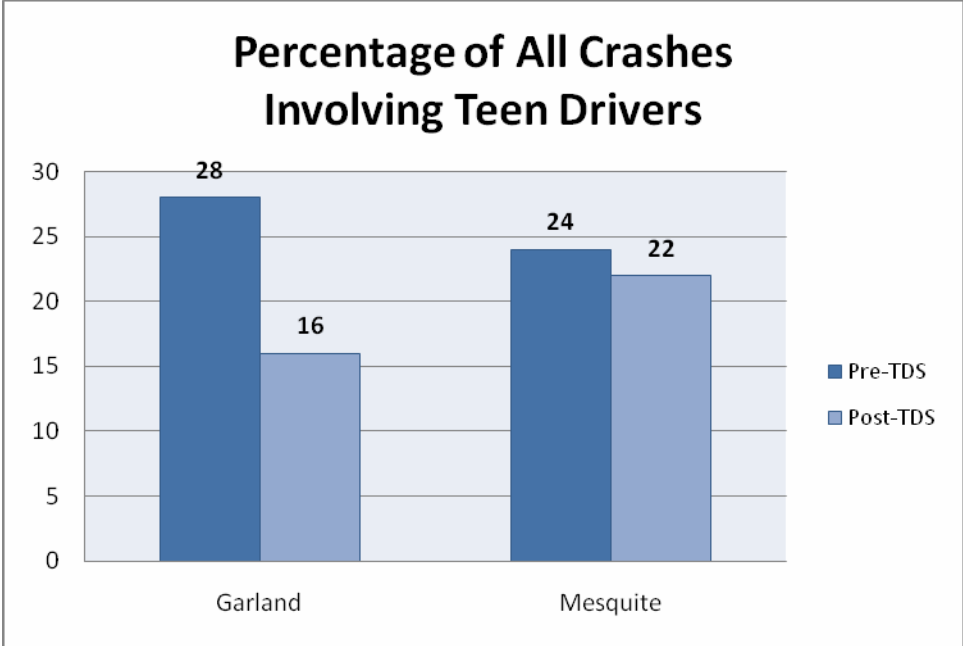
Additional field observations since 2007 demonstrate that Garland teen drivers and passengers have improved and sustained their rate of seat belt use, recently exceeding the 90 percent mark. More modest improvements in belt use were also seen among Mesquite teens. Study findings suggest that the improvement in seat belt use for Mesquite teens in 2009 was likely due to a first-ever teen audience emphasis in the annual Click it or Ticket campaign conducted that year by the Texas Department of Transportation.



Crash statistics

While improvements in risk awareness and driving behavior are important and valid measures of effectiveness, it is also desirable to see these improvements bring about reductions in crashes involving teenage drivers. The findings of this case study indicate that those reductions were experienced to significant degrees in Garland after implementation of the TDS Program.

As is outlined in the following chart, in the four years prior to TDS implementation in Garland, teen drivers were involved in 28 percent of all crashes (i.e., ranging in severity from property damage only to fatalities). Teen driver involvement in crashes has dropped to an average of 16 percent since the implementation of the program in Garland. Additionally, the city experienced 9 teen traffic fatalities in the four years prior to TDS, while there has been only one teen traffic fatality in the three years since the program began. In comparison, the number of teen fatalities and the teen involvement crash percentage saw only modest changes in Mesquite from one period to the next.



Conclusion

The results seen in Garland can be expected to represent the high end of program impacts in Texas, as this area has been one of the most consistent and aggressive in their deployment of the TDS Program in recent years. Additional case studies are underway in Texas to further examine and document the impacts of the TDS Program on a broader range of deployment intensity.

Experience in Garland strongly suggests that the greatest improvements in safety for young drivers and passengers will result from a combination of countermeasures that complement one another. GDL and TDS represent one such combination. By employing the TDS Program to reinforce and augment the fundamental requirements of the GDL law, Garland teens were able to raise awareness of driving dangers that they face, develop safer driving behaviors, and ultimately reduce the frequency of teen traffic fatalities and teen-driver crashes.