After Graduated Driver Licensing, what’s next?

The role of peer influence in changing safety culture among young drivers

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Introduction

Throughout the United States, more teens die in car crashes than from any other cause. And while the number of teens involved in fatal crashes has shown a downward trend in recent years, the number of deaths still exceeds 5,000 each year. Drivers aged 16 to 19 travel fewer miles than other drivers, but they are disproportionately responsible for more crashes. The severity of this public health crisis strongly suggests that it cannot be effectively addressed through any single countermeasure. The solution toolbox must include proper training, effective laws, consistent enforcement of those laws and parental involvement. In addition, recent experience in Texas suggests that peer influence is another invaluable tool to reduce the frequency of teen car crashes. This tool, as demonstrated by the Teens in the Driver Seat (TDS) program, can be coupled with effective Graduated Driver Licensing (GDL) laws to deliver an effective one-two punch in the fight to reverse the young driver crash epidemic.

Recently reported crash and fatality trends reflect an encouraging decline in U.S. crash fatalities. Still, a growing number of safety professionals agree that further declines will be incremental at best if safety efforts are limited to engineering and law enforcement. To bring about truly meaningful improvements, motorists must bring about a fundamental change in the way they think about driving – they must change the driving safety culture. While this need has become more widely recognized in recent years, there are few examples of its application in the United States. The TDS program, however, is one such example, as it is designed to bring about a cultural change in the teen driving population. The positive results of the program demonstrate that a cultural change of this type is possible.

![Figure 1. Teen Driver Fatal Crashes in Texas](image-url)
Recent crash trends involving young drivers

Federal statistics in recent years show a nationwide decline in young driver-related fatal crashes, but the decline in Texas has been steadier than in any other state, and Texas is the only major state in the nation to experience a decline every single year from 2002 to 2009. (see Figure 1).

Teenage drivers in Texas also have fared especially well when compared with more experienced drivers, as illustrated by fatal crash involvement over the period of this study. From 2002 to 2009, the number of 16- to 19-year-old drivers involved in fatal crashes in Texas fell by 40 percent, while the number of those drivers age 20 and older declined by only 16 percent.

Clearly, Texas is improving more steadily than the nation as a whole, but what is especially noteworthy is that the improvement is being seen despite three obstacles that the state has faced:

1. Texas is one of only a few states permitting teen drivers to secure a license through parent-taught driver education. Parent-taught teen drivers are nearly three times more likely to be involved in a fatal crash in their early months of full licensure. (Pezoldt, et al., 2007)

2. Until 2009, the GDL law in Texas was rated as only “fair” by the Insurance Institute for Highway Safety, while 33 states had laws rated as “good” (i.e., better). In other words, Texas improved in the face of stiffer competition, because states with stronger GDL laws should expect those laws to have a more positive effect on the frequency of crashes and fatalities.

3. Until 2009, Texas was the only state in the nation that did not require an on-road driving test for novice drivers seeking a license. Again in this case, Texas has performed better in the face of stiffer competition, because states which require this on-road test should expect it to have a more positive effect on crash frequency because the test helps to ensure that novice drivers are kept off the roads until they have learned and ably demonstrated the skills they need to be safe drivers. (Legislation enacted by the Texas Legislature in 2009 reinstated the on-road test requirement, which resumed on September 1, 2009).

Given these obstacles, the expected safety performance in Texas would be modest at best. The number of fatal crashes involving teen drivers would reasonably be expected to remain relatively constant, or – like many other states – Texas might have actually experienced an upturn in this measure rather than the significant improvement it has seen.

From 2002 to 2009, the state also did not expand any existing safety education or outreach programs (which, apart from policy, tend to be the most visible countermeasures in place). Texas Department of Transportation spending on established safety outreach and education programs increased by only a few percent each year, consistent with inflation. These programs typically are aimed at a general population, not specifically to teenagers. Evaluations of the state’s Teen-focused “Click it or Ticket” safety belt campaign indicate that the effort was successful, but the campaign was not initiated until mid-way through the year in 2009.

During the 2002-2009 timeframe, the most notable new element in Texas was the introduction and expansion of the Teens in the Driver Seat (TDS) program. TDS is the nation’s first grassroots peer-to-peer safety program for young drivers focused solely on traffic safety. The program relies upon young people to develop and deliver safety messages that are consistent with foundational research that has
identified and documented the risks most commonly associated with novice drivers, in particular nighttime driving and distractions created in large part by young passengers (Mayhew, et al., 2006; Preusser, et al., 1998 and Chen, et al., 2000). Evidence strongly suggests that it is the combination of the state’s GDL law and the TDS program (the design and content of which augment and complement GDL restrictions) that are primarily responsible for the state’s significant improvement in teen crash frequencies.

The GDL component

Graduated Driver License laws typically follow a three-stage process for licensing novice drivers. The process includes a learning stage (requiring full supervision), and then a provisional stage (involving 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. (Baker, et al., 2007) 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. (McCart, et al., 2009) 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 this age group. (Dee, et al., 2005)

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.

Studies demonstrate that states with stronger GDL laws can expect correspondingly greater effectiveness and more reduced crash frequencies among young drivers. The same studies also state that 16-year-old drivers are the most likely to be positively affected by GDL laws, with somewhat less impact expected for older teenage drivers. The following figure (Figure 2) reflects the expected fatal crash reduction effect of GDL laws (rated as “fair”) by age, compared to the actual fatal crash reduction experienced in Texas from 2002 to 2009. These comparisons suggest that other influences apart from GDL are present to account for the state’s significantly higher improvement levels.
Figure 2. Impact comparison: Expected improvement resulting from GDL law compared to actual improvement in Texas teenage driver fatal crash involvement, by age, 2002-2009

Although part of Texas’ improvement can accurately be attributed to GDL, an assessment of young drivers conducted by the Texas Transportation Institute suggests that GDL’s impact in the state may be limited. In 2007 and 2008, TTI studied the responses of nearly 11,000 teens representing 24 high schools across the state. Of those respondents, more than half – 54 percent – said that the state’s GDL law had no impact on their driving habits, and another 35 percent said the law had impacted their habits only a little.

Like any law, a GDL law’s effectiveness is directly tied to compliance. That compliance depends upon a number of factors, including law enforcement and influence that teen drivers receive from parents and from each other. The previously-cited research for the AAA Foundation for Traffic Safety similarly noted that “a major determinant of the impact of GDL is compliance, which is likely to reflect parental restrictions, peer pressure, and law enforcement.” The AAA study states further that such factors “vary among states and are difficult to measure.” The TDS program, however, represents a rare example of a peer-based safety program that has been measured through pre-and post-implementation assessments of risk awareness and driving behavior, documented field observations (described in detail later in this paper) and further supported by the state and national data presented herein.

The peer influence component

Numerous studies have focused on the effects – both negative and positive – of peer pressure on teens’ behavior. Although the success of any peer education effort depends on a wide range of factors (strategic, cultural, environmental, etc.), many studies and analyses underscore the power of peer-to-peer communication in general.

One study examining the link between peer pressure and driving behavior, the findings of which were summarized in Criminal Justice Studies in March 2008, pointed out that “Young drivers’ perceptions of driving as a means of attaining social prestige and their apprehension about their friends’
evaluations correlated positively and significantly with their involvement in traffic violations and car accidents” and that these perceptions “increase the drivers’ tendency to take risks.” The study also suggests that peer pressure can be applied in a positive sense, noting that the findings “have practical implications for prevention and intervention among young drivers: the significant effect found for young drivers’ perceptions of peer pressure from friends riding in the car might be taken into account, for example, in education for road safety and drivers’ education.” (Sela-Shayovitz, 2008)

Researchers also point out that positive peer pressure can be applied successfully in health promotion – an important consideration, given the growing sentiment among experts that the teen driver safety topic has become not only a traffic safety issue, but a public health issue as well at both the national and global level. A 1999 national survey of 513 teens and 303 parents conducted for the National Campaign to Prevent Teen Pregnancy suggests that the same positive effects can be expected when employing peer education efforts to limit prevent teenage pregnancy. “Despite conventional wisdom about ‘peer pressure,’ the consensus among parents and teens is that peers exert a positive influence when it comes to decisions about sex. Nearly six of ten parents and teens (59%) describe peer influence as either very positive or somewhat positive.”

And, a 1992 article in The Peer Facilitator Quarterly notes that “For youth, peers are the significant others that can destroy most effectively the feeling of safety or worth if social support is withheld. On the other hand, peers are also the most powerful to provide that support. With the ever-increasing number of teenage tragedies such as suicide, eating disorders, alcoholism and pregnancies, peer programs are an absolute necessity if many youth today are to survive as adults with any kind of health.” The same article noted that “as social problems have increased dramatically, more and more professionals have come to realize the need to supplement the scarcity of helping resources and are turning to peer helping as an answer to this need.” (Varenhorst, 1992)

For the most part, these “social problems” for which peer influence has been employed as a countermeasure include efforts to curb or prevent cigarette smoking, drug and alcohol use, and teen pregnancy. Until recently, however, this strategy has not been applied to driving safety, and the absence of that application is conspicuous, given the fact that many health and safety officials believe that the teen driver safety problem has reached epidemic proportions, making it one of the most serious public health crises in recent memory.

**Peer influence and Teens in the Driver Seat**

Established in 2003, Teens in the Driver Seat is the nation’s first widespread, grassroots, peer-to-peer program focused exclusively on teen driver safety. TDS is distinct in three primary ways. First, it focuses attention on the five risks that are most common to teen drivers (nighttime driving, speeding, distractions such as cell phones and other teen passengers, low seat belt use, and alcohol). Second, it involves teen drivers directly in developing and delivering safety messages. Third, the program features three different components – one for junior high/middle schools, one for high schools, and another for college peer-to-peer outreach. Teen driving safety campaigns in the past have typically focused exclusively on alcohol (at the expense of risk factors that are more common to novice drivers), and they have also typically been designed and implemented by adults, failing to involve the target audience directly or indirectly in their development. This peer-to-peer dynamic is essential to ensure that messages carry sufficient credibility and target audience influence (particularly on content) to maximize their effectiveness.
TDS programs are routinely conducted through the school system(s) and are led by student groups. Although the participating groups receive resources and staff assistance from TDS program developers and teacher sponsors, it is the students themselves who are responsible for action plans and activities designed to raise risk awareness and affect the driving behavior of the target audience. The programs are most effectively deployed when they follow a four-step process:

1. Identification of project leaders and team members, which typically involves a recognized group such as student council, though any other existing or newly formed group are free to take on this role as well. With the assistance of an assigned school faculty or administration sponsor, the team develops an action plan for designing and delivering safety messages to their peers. The action plan is based in part on the findings of a pre-program assessment.

2. Administration of a pre-program assessment, in which students complete a questionnaire to determine their levels of awareness regarding the top five risks for young drivers (nighttime driving, speeding, distractions including cell phones and other teen passengers, lack of seat belt use and alcohol) along with their self-reported frequency of engaging in those driving risks. The assessment also collects other information, including the respondent’s age, the method of driver education through which they were instructed.

3. Execution of the action plan, which usually includes student-led press conferences, school showcase pages on the TDS web site, hands-on project activities such as obstacle races with various forms of driving risks and distractions, skits, assemblies, observational surveys of student driving behavior, activities at athletic events and community fairs, and a wide range of other efforts. The one characteristic common to all such efforts is that the teenage participants are exclusively responsible for both the development and delivery of all messages. Action plans are constructed to ensure sustained levels of message delivery throughout the school year, rather than concentrating resources on only one project activity. A wide variety of promotional items, downloadable print and video materials, and project ideas are provided as part of the support system for teen activities.

4. Administration of a post-program assessment, in which the pre-program assessment is replicated to determine changes in risk awareness or driving behavior.

Throughout the process, the student-led TDS teams have the option to seek assistance from professional staff at TTI. This assistance is provided at the request of the teams, but it is provided without direct involvement in the individual programs, ensuring that those programs bear as few adult “fingerprints” as possible to ensure that a premium is placed on credibility with the target audience. Funding for TDS is provided through the Texas Department of Transportation and the Texas Zone of State Farm Insurance.

TDS has grown rapidly in Texas. Active programs have been established in nearly 380 schools in Texas, reaching well in excess of 500,000 teens. Signs of the program’s success and effectiveness are evident in a review of city and county crash data, as well as a detailed case study in one community.

Effectiveness measures -- City and County data

TDS programs have been implemented at schools in virtually all regions of Texas. There are some areas, however, where the concentration and penetration of the program have been especially noteworthy. Two of those cities are San Antonio and Garland. As noted in the following illustrations,
those two cities experienced particularly significant reductions in crash injuries from 2003 to 2008. By comparison, Austin and Travis County – where no schools have yet adopted the TDS program – has seen a significant increase in injuries. Corpus Christi has seen modest deployment to date and has experienced small but noteworthy improvement. Similarly, four counties with strong TDS activity – El Paso, Bexar, Dallas and Harris – all experienced noteworthy declines in teen crash fatalities, whereas Travis County (with no TDS activity), saw an increase in teen crash deaths. (See Figures 3, 4, & 5.)

![Figure 3. Injuries suffered by teenage passengers, 2003-2008.](image-url)
Figure 4. Injuries suffered by Texas teenage drivers, 2003-2008.

Figure 5. Fatal Texas crashes involving teenage drivers, 2003-2008.
Figure 6. Fatal Texas crashes involving teenage drivers, 2003-2008.

The data shown in Figure 5 are also shown with regard to geographic location and TDS Program activity in Figure 6 (program deployment/activity is shown as green dots). This illustration helps convey the fact that significant improvements have occurred in areas with significant TDS deployment, while urban areas that have seen no deployment (e.g., Travis County) have actually seen an increase in fatal crashes involving teens.
Effectiveness measures – community case study

In a detailed regional case study, researchers examined the effectiveness of TDS in the city of Garland, Texas, where all seven of the high schools in the Garland Independent School District launched the program in the Spring of 2006. Researchers conducted observational studies in Garland and a few miles away in the neighboring community of Mesquite (see Figure 6), the latter of which served as a control group because no TDS programs had been initiated in that area/school district.

Field observations at program schools (in school parking lots and nearby streets/intersections) revealed a 30 percent drop in cell phone use while driving, along with an increase in seat belt use of 14 percent. 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 in the three years TDS programs have been in place. Additionally, the city experienced 12 teen traffic fatalities in the four years prior to TDS, while there has been only one such death in the three years since the program began. (See Figure 6.)

Figure 6. City of Garland data
The following table summarizes seat belt use data for teens in Garland (exposed to the TDS Program) for the years 2007, 2008, and 2009 as compared to the control group/area of teens in Mesquite. Two points worth noting are the fact that, in most cases, Garland teens buckle up more frequently in every position in the vehicle than teens in Mesquite, and that there continue to be year-over-year improvements in seat belt use in Garland schools, while teens in Mesquite continue to buckle up at a consistently lower rate.

**Teen Belt Use, Post-TDS Garland compared to Mesquite School District, 2007-2009**

<table>
<thead>
<tr>
<th>Category</th>
<th>Garland, with TDS Program</th>
<th>Mesquite, no TDS Program</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2007</td>
<td>2008</td>
</tr>
<tr>
<td>Driver</td>
<td>90.8</td>
<td>93.5</td>
</tr>
<tr>
<td>Front Passengers</td>
<td>77.3</td>
<td>89.1</td>
</tr>
<tr>
<td>Back Passengers</td>
<td>48.8</td>
<td>40.6</td>
</tr>
<tr>
<td>Overall</td>
<td>85.7</td>
<td>90.2</td>
</tr>
</tbody>
</table>

The Garland experience 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.

**Estimated Benefits**

A recent document from the United States Department of Transportation (USDOT) recommends that the value of a human life that is saved be placed at $5.8 million. (USDOT, 2008; Viscusi, 2004) This same document outlines economic values to estimate costs associated with crashes of varying degrees of severity. Applying these federally-recommended economic values with a (conservative) assumption that the TDS Program can be credited with a mere 25 percent of the net improvements in teen crashes in Texas, the estimated economic benefit of this initiative is approximately $500 million per year. With an annual operating budget of roughly $1 million per year (this includes all program materials, video productions, media buys and web site development/maintenance), the benefits of the TDS Program outweigh its cost by a dramatic margin.

**Conclusions**

A number of peer-based traffic safety programs have been initiated in the years following the launch of TDS in 2003. And while many of them have emulated one or more specific aspects of TDS, none have incorporated all of the key components of TDS – those being a focus on previously-underemphasized driving risks, a true grassroots deployment strategy, a strong base of technical support for teens deploying the program, and a commitment to ongoing evaluation and effectiveness measurement, as well as continuing maintenance and refinement of program resources.
The positive influence of GDL laws on teen traffic crashes is well documented. While GDLs represent a useful component in an overall strategy to improve safety for novice drivers, they do not constitute a panacea in and of themselves. While GDL is important, additional strategies are needed to dramatically curb an epidemic that annually kills more teenagers each year – across the U.S. and worldwide – than any other single cause.

In addition to effective laws, quality training and meaningful parental involvement, positive peer pressure is an essential element in the solution mix. Experience in Texas strongly suggests that this peer-to-peer element – as demonstrated by Teens in the Driver Seat – can contribute significantly to lessening the frequency of teen driver crash fatalities and injuries. Recent studies have asserted that GDL laws reduce crash frequencies by anywhere from 5 to 15 percent for the youngest teen drivers, assigning credit directly to those laws for saving young lives. When the crash frequency reduction in Texas is more than twice that percentage for 16-year olds, and double-digit improvements are also prevalent amongst older teens – the latter of which is something even GDL laws have not impacted in a positive way – some other major element(s) must be in play in Texas. The establishment and rapid expansion of the Teens in the Driver Seat program clearly offers one logical explanation for these changes and should, accordingly, be associated with an appropriate share of credit for these positive results in Texas. The results of deployment to date in Texas suggest that the TDS Program shows significant potential to be a valuable new addition to the safety toolbox for addressing the teen crash challenges that currently plague nations worldwide.

REFERENCES


Are peers getting a bad rap? A summary of findings from a nationally representative survey, conducted for the National Campaign to Prevent Teen Pregnancy (1999).


