MODIFY THE GRADUATED DRIVER LICENSE PROGRAM TO DECREASE TRAFFIC FATALITIES

In 2016, a car crash occurred every 57 seconds in Texas. Every two hours and 20 minutes, an individual died, resulting in 3,776 deaths. Texas ranks twelfth in the U.S. for the greatest number of deaths per mile driven, and fatalities in the state have increased. This environment poses disproportionate risks to younger drivers. Nationally, teenage drivers are three times more likely to crash per mile driven than adult drivers. Texas had 479 traffic fatalities in crashes involving young drivers, accounting for nearly 13.0 percent of all traffic-related fatalities in 2016.

To introduce young drivers into developing their driving skills and minimize exposure to high-risk situations, all 50 U.S. states have adopted a three-stage graduated driver licensing system. Teenage drivers begin the program in a fully supervised learning period, enter an intermediate stage with restrictions on high-risk conditions, and finally receive full driving privileges. Restrictions include limiting nighttime driving, restricting the number of teenaged passengers, and requiring drivers to have supervised practice. These restrictions are implemented differently across the U.S. Evidence shows that establishing the optimal graduated driver license program can be challenging. However, graduated driver license programs have been an effective method for decreasing the crash risk of the youngest beginning drivers.

FACTS AND FINDINGS

- ◆ Texas restricts provisional drivers from driving from 12:00 AM to 5:00 AM.
- ♦ As required by the Texas Transportation Code, the Department of Public Safety develops a Collision Rate Statistics Publication each year for young drivers. Data is collected on the number and severity of teenage driver collisions and driver education providers to produce a collision rate of students per driver education entity. According to the Department of Public Safety, from July 2017 to June 2018, the collision reports have been viewed four times, and the Department of Public Safety has no record of calls or questions regarding the data.

CONCERNS

♦ One of the most deadly periods for teenage motor vehicle-related fatalities is from 9:00 PM to 12:00

- AM, and the second is from 6:00 PM to 9:00 PM. In addition, nearly all trips for drivers ages 16 and 17 end before 12:00 AM. Therefore, restrictions that begin at 12:00 AM are not addressing this risk.
- ♦ Linking driver education providers in the Department of Public Safety collision report to a crash is problematic due to the number of complex causes that lead to crashes, such as social and environmental factors. Data in the Department of Public Safety collision report do not account for factors that influence crashes accidents that are outside of the driver education provider's control, such as location, time of day, or the number of passengers present. The data cannot distinguish fault and encompass all crashes involving new teen drivers.

OPTIONS

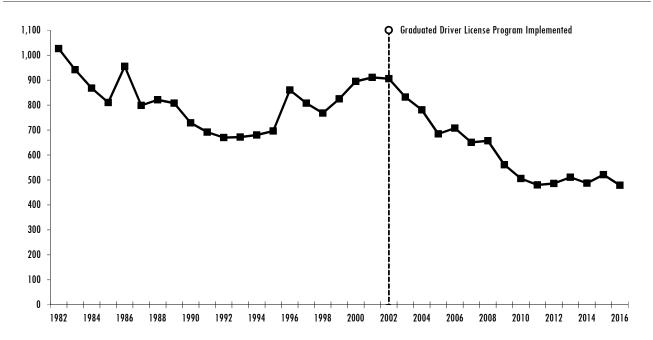
- ◆ Option 1: Amend statute to restrict teenage driving after 9:00 pm.
- ◆ Option 2: Amend statute to eliminate the data collection and publication requirement for the Department of Public Safety's Collision Rate Statistics Publication.

DISCUSSION

Teenage crash rates have decreased significantly, most notably since the adoption of graduated driver license programs. However, according to the Centers for Disease Control, motor vehicle crashes remain the leading cause of death for adolescents from ages 15 to 20. In 2015, motor vehicle traffic fatalities represented more than 60.0 percent of deaths caused by unintentional injury and almost 25.0 percent of deaths overall for the age group. **Figure 1** shows the number of Texas fatalities involving young drivers from ages 15 to 20. This number includes passengers, occupants of other vehicles, and nonoccupants, such as pedestrians or cyclists. Teenagers also are overrepresented in fatal crashes. Nationally, young drivers from ages 15 to 20 accounted for 5.4 percent of the total number of licensed drivers in 2016, but young drivers were involved in 9.0 percent of all fatal crashes.

Texas has the second-highest amount of vehicle miles driven in the U.S., and in 2016 the state had the twelfth-highest number of deaths per mile driven. The Texas Strategic

FIGURE 1
TEXAS FATALITIES IN CRASHES INVOLVING DRIVERS AGES 15 TO 20
CALENDAR YEARS 1982 TO 2016



Source: National Highway Traffic Safety Administration.

Highway Safety Plan has a long-term goal of zero traffic-related fatalities. However, the Texas Department of Transportation expects the number of young drivers involved in fatal crashes to continue to increase during the next two years, as shown in **Figure 2**. To accomplish the long-term goal of zero traffic-related fatalities, the state would need to adopt multiple engineering improvements and behavioral modification strategies.

To determine which policy changes would have the greatest effects on traffic-related fatalities, decision makers can use a public health framework. The framework can help to develop a comprehensive plan that identifies risk factors and potential crash-reduction strategies. The Legislative Budget Board staff report *Align State Transportation Policy to Reduce Traffic Fatalities*, January 2017, reported that one model to evaluate solutions is the hierarchy of control. The model is intended to remove or decrease risk in complex systems, and it is used by the National Institute for Occupational Safety and Health. Interventions at the top of the hierarchy typically are more effective, but they cost more to implement. Interventions at the bottom of the hierarchy, such as personal protective equipment, rely on user compliance and are, thus, less effective. The following examples of policy changes

FIGURE 2
TEXAS DEPARTMENT OF TRANSPORTATION
PERFORMANCE MEASURE: NUMBER OF YOUNG DRIVERS
AGE 20 OR YOUNGER INVOLVED IN FATAL CRASHES ,
FISCAL YEARS 2014 TO 2019

YEAR	TARGET	ACTUAL
2014	415	444
2015	457	438
2016	438	457
2017	436	451
2018	477	N/A
2019	482	N/A

NOTE: Actual data for fiscal years 2018 and 2019 is not available. SOURCE: Texas Department of Transportation.

intended to decrease traffic fatalities, in order of effectiveness, use this framework:

- elimination eliminate hazardous conditions or remove risk, such as providing solutions that decrease automobile travel;
- substitution provide safer alternatives to driving, such as public transportation;

FIGURE 3
TEXAS GRADUATED DRIVER LICENSE PROGRAM. AS OF FISCAL YEAR 2019

PHASE	AGE	RESTRICTIONS
Phase One: Learner License	At least 15	 complete a driver education course and pass a knowledge exam; complete 30.0 hours of supervised driving, 10.0 hours at night; drive only when accompanied by a qualified driver
		 21 or over; nighttime restriction – 12:00 AM to 5:00 AM; and hold learner license for 6 months
Phase Two: Provisional License	At least 16	 pass a driving skills test and complete the Impact Texas Teen Drivers course; nighttime restriction – 12:00 AM to 5:00 AM; passenger limit – no more than 1 passenger age 20 or younger, with exceptions for immediate family members; and no use of a wireless communication device
Phase Three: Full License	18	No restrictions
Source: Department of Public Safety.		

- engineering controls construct or add physical safety features to roads that decrease risk;
- administrative controls changing policies, which is most effective when used in conjunction with the changes previously mentioned; and
- personal protective equipment seatbelts, airbags, helmets.

One of the most significant factors in crashes involving this age group is inexperience, combined with a tendency toward risky behaviors. The graduated driver license program is an administrative control that is used to gradually expose young drivers to the tools needed to be safe while driving and to decrease exposure to hazardous conditions.

Research on the components of graduated driver license programs dates to the 1970s. However, many states did not begin adopting modern graduated driver license (GDL) systems until the late 1990s. Since that time, multiple studies have confirmed the effectiveness of a graduated driver license system in decreasing the number of fatal crashes. The programs vary widely among states, including differences in requirements and enforcement.

As the state of Texas works toward its goal of zero traffic fatalities and serious injuries, adjusting the graduated driver license program could decrease the number of deaths caused by motor vehicle injuries.

PHASES OF THE TEXAS GRADUATED DRIVER LICENSE PROGRAM

The Seventy-seventh Legislature, 2001, first adopted a GDL program, effective January 2002. The program is a set of requirements and restrictions that young drivers must meet to receive a license provided by the Texas Department of Public Safety (DPS). The program has three phases, shown in **Figure 3**.

In Phase One of the program, young drivers ages 15 to 17 can obtain a learner license. This license enables new drivers to practice in a supervised environment before entering the second phase. Before obtaining the learner license, student drivers must complete a driver education course through an approved driver training school, parent-taught program, or public high school. The course must consist of at least 32.0 hours of classroom instruction, 7.0 hours of in-vehicle training, and 7.0 hours of in-car observation. After passing a knowledge test and vision exam, the student driver can receive a learner license.

While holding this learner license, a licensed driver 21 or over must accompany the student driver at all times. Furthermore, the young driver must complete 30.0 hours of supervised driving, 10.0 hours of which are at night. In addition to practicing their driving skills, teenage drivers must complete the Impact Texas Teen Drivers program. The two-hour program is offered free of charge by DPS, and it contains videos and educational materials intended to decrease distracted driving. In comparison, new drivers from

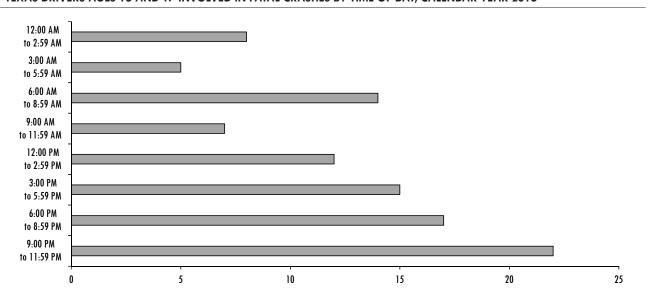


FIGURE 4
TEXAS DRIVERS AGES 16 AND 17 INVOLVED IN FATAL CRASHES BY TIME OF DAY, CALENDAR YEAR 2016

Source: National Highway Traffic Safety Administration, Person Level Fatal Crashes, calendar year 2016.

ages 18 to 24 must complete at least 6.0 hours of driver education and complete a one-hour Impact Texas Young Drivers video program. After holding the learner license for six months, drivers age 16 and older are able to perform a driving skills test.

After teenage drivers have completed Phase One requirements and passed the driving skills test, they can receive provisional licenses. Phase Two of the program restricts the driving privileges of young drivers that have provisional licenses until they are age 18. Teenagers may not drive a vehicle with more than one nonfamily passenger age 20 or younger. These drivers are restricted from driving from 12:00 AM to 5:00 AM, unless the operation of a vehicle is necessary to attend or participate in employment or a school-related activity or is necessary for a medical emergency. Furthermore, individuals age 17 and younger are restricted from using wireless communication devices, including hands-free devices, except for emergencies. The Eighty-fifth Legislature, Regular Session, 2017, passed legislation prohibiting texting while driving for all adults; however, the law does not limit the use of all hands-free devices, which is included in the restriction for drivers in Phase Two. When a licensed driver turns age 18, these provisional license restrictions expire.

RISKS AND MITIGATION OPTIONS

The Legislature has amended the GDL program since it was adopted in 2001. Although the rate of fatalities involving

teenage drivers has decreased, the risk factors leading to crashes primarily are the same: inexperience and driving in high-risk situations, such as at night. Adjusting the GDL program to further decrease these risks could lead to greater decreases in the number of fatalities.

DRIVING AT NIGHT

Driving at night is a risk for all drivers, but it is particularly dangerous for inexperienced drivers. In calendar year 2016, teenage motor vehicle-related fatalities occurred most often from 9:00 pm to 12:00 am, and the second most dangerous period was from 6:00 pm to 9:00 pm. Overall, 58.0 percent of crashes involving teenage drivers occur from 6:00 pm to 6:00 am. For drivers ages 16 and 17, almost all driving trips end before 12:00 am. Therefore, restrictions that apply only after 12:00 am have minimal effects on drivers age 17 or younger. **Figure 4** shows the number of Texas teenage drivers ages 16 and 17 that were involved in fatal crashes by the hour of the day.

According to the National Highway Traffic Safety Administration (NHTSA), nighttime restrictions are one of the most effective ways to decrease crashes. NHTSA recommends a night restriction of 10:00 pm, with an exception for emergencies, to cover the most risk effectively. This restriction does not take into account exceptions for teenagers that have work or school responsibilities. However, NHTSA recommends that the benefits are greater the earlier

the restriction begins. Option 1 would amend the Texas Transportation Code, Section 545.424, to change the nighttime restriction to 9:00 pm with the same work, school, and emergency-related exceptions, to maximize the benefit of this restriction.

OTHER STATE GDL PROGRAMS

All 50 U.S. states have adopted graduated driver license systems. However, restrictions vary, and the number of supplemental programs used to address fatalities involving teenage drivers also varies. Other states have expanded the requirements and restrictions of their graduated driver license programs in an attempt to maximize the lifesaving benefits. Figure 5 shows examples of other states' GDL programs, based on their overall driving environment or the implementation of more innovative GDL restrictions. In calendar year 2016, California recorded the greatest number of overall vehicle miles traveled in the U.S., 100.0 million miles more than Texas, but California's fatality rate was less than the rate in Texas. Florida has the third greatest number of overall vehicle miles traveled and has a similar fatality rate to Texas. New York has the fourth greatest number of vehicle miles traveled, 127.0 million less than Texas, and has the fourth lowest fatality rate nationwide. Maryland and New Jersey are also in the top 10 for lowest fatality rates. When examining each component within a GDL program, it is difficult to determine the exact effectiveness. However, NHTSA commissioned a meta-analysis that found that none of the programs were counterproductive for young drivers who are ages 16 and 17.

States have taken various approaches to implement their GDL programs. In addition to the restrictions shown in Figure 5, Maryland's Rookie Driver graduated licensing system applies to all applicants who have never held a license, regardless of age. As a result, one study found that, after the program began, nonfatal crashes involving drivers age 18 decreased 6.9 percent. The program delays licensure to a later age for the youngest drivers and extends the driver education and supervised practice portion of the GDL to all new drivers. The time to license varies, depending on age, and the most stringent restrictions are applied to the youngest age groups. Young drivers are eligible to receive learner permits at age 15 and nine months, compared to age 15 in Texas. All applicants complete a version of the three-stage process, beginning with 30.0 hours of classroom instruction and 6.0 hours of in-vehicle instruction. Novice drivers age 24 and younger must have the permit for nine months and complete a minimum of 60.0 hours of supervised practice, 10.0 hours of which are at night. Drivers age 25 and older are eligible to take the driving skills test after 45 days, if they have taken the standardized education program and completed at least 14.0 hours of supervised practice, including 3.0 hours at night.

After the requirements are met to receive the provisional license and the driving skills test is passed, new drivers age 17 and younger must be supervised if driving from 12:00 AM to 5:00 AM. These drivers may not have passengers age 17 or younger during the first five months of having this provisional license, with exceptions for direct family members.

FIGURE 5
VARIATION IN STATE GRADUATED DRIVER LICENSE PROGRAMS, CALENDAR YEAR 2016

STATE	MINIMUM LEARNER AGE	SUPERVISED DRIVING PRACTICE	NIGHTTIME RESTRICTION	PASSENGER RESTRICTION
California	15 and 6 months	50.0 hours, 10.0 hours at night	11:00 рм to 5:00 ам	No passengers age 19 or younger
Florida	15	50.0 hours, 10.0 hours at night	age 16 – 11:00 РМ to 6:00 АМ;	None
			age 17 – 1:00 ам to 5:00 ам	
Maryland	15 and 9 months	60.0 hours, 10.0 hours at night	12:00 am to 5:00 am	No passengers age 17 or younger
New Jersey	16	None	11:00 рм to 5:00 ам	No more than one passenger
New York	16	50.0 hours, 15.0 hours at night	9:00 pm to 5:00 am	No more than one passenger age 20 or younger
Texas	15	30.0 hours, 10.0 hours at night	12:00 am to 5:00 am	No more than one passenger age 20 or younger

Note: Passenger restrictions may include exemptions for immediate family members.

Source: Insurance Institute for Highway Safety

The state of New Jersey also has adopted several approaches to decrease the number of crashes involving new drivers. New Jersey has one of the lowest crash rates overall and for teenagers. The state also has one of the most comprehensive GDL programs. It is the only state where the graduated driver license provisions apply to all new drivers for 12 months or until age 21. Furthermore, new drivers age 22 and older must follow a modified version of the GDL program.

New Jersey is one of eight states where drivers are eligible for a permit starting at age 16, instead of age 15. Young drivers are more likely to commit a driving error, an effect that decreases with age. Evidence suggests that brain development affects a young driver's ability to make judgments. Drivers age 16 must complete a supervised driving course for a minimum of 6.0 hours before earning an examination permit; however, drivers starting at age 17 do not need to complete the course. After practicing for six months with an examination permit, a driver can receive the probationary license, which is held for at least 12 months. With this license, drivers are not permitted to drive from 11:01 PM to 5:00 AM or to have more than one passenger in the car, unless accompanied by a parent or guardian. At age 18, drivers are eligible to receive a full, unrestricted driver license, after holding the probationary license for at least one year.

New drivers in New Jersey age 22 and older must complete a modified version of the GDL program. The examination permit has to be held for three months, rather than six months. The new driver must be accompanied by a qualified driver during this time. After the three months of supervised driving, the new adult driver must hold the probationary license for 12 months. The night and passenger restrictions do not apply.

Ultimately, graduated driver license programs use administrative controls in an effort to decrease exposure to hazardous conditions. Although outside the scope of this review, more effective solutions available to the Legislature would eliminate the risk to young drivers by further decreasing vehicle miles traveled. These strategies might include increasing use of public transportation and evidence-based engineering controls.

ADDITIONAL PROGRAMS FOR DECREASING CRASHES AND FATALITIES INVOLVING YOUNG DRIVERS

Texas has several campaigns intended to decrease young driver-involved crashes in addition to the GDL program. For example, the Texas Department of Transportation (TxDOT) develops teenager-focused safety campaigns,

such as Teen Click It or Ticket, and uses crash data to determine which areas have the greatest need. The Texas A&M Transportation Institute (TTI) has two programs targeting young drivers at school: Teens in the Driver Seat (TDS) for high school students, and U in the Driver Seat for young drivers in college. Teens in the Driver Seat was started in 2002. This peer-to-peer program focuses on traffic safety risks for teenagers. Since starting, TDS has expanded to other states and has been implemented in more than 1,300 schools, including more than 850 schools in Texas, reaching more than 1.0 million teens. Teenagers lead the program, including planning activities and outreach, with the help of research that TTI provides to increase awareness of risky driving behaviors.

Both TTI programs have been developed and maintained by competing for NHTSA federal funding that TxDOT administers. Federal funding provides 90.0 percent of the support for Teens in the Driver Seat in Texas; 10.0 percent is provided by private sector support, primarily from State Farm Insurance. From fiscal years 2014 to 2019, \$6.4 million in federal traffic safety funding has been awarded to programs that work to decrease teenage driver crashes. This amount includes \$4.1 million for Teens in the Driver Seat. According to TxDOT, funding is allocated based on several factors, including the availability of funds and data showing which populations and areas have an overrepresentation in traffic fatalities and serious injuries.

DRIVER EDUCATION PROGRAM DATA REQUIREMENTS

DPS collects data regarding the collision rates of students who completed a driver education through a licensed provider, their school, or were taught by their parents. The collision data includes the number of student drivers who had collisions during their first 12 months of driving. The data also includes the percentage of collisions by students who completed a course with each driving education entity. The severity of the collisions also is included. DPS gathers the collision data from TxDOT and retains completion information from driver education providers and documents. Reports typically are two years behind because of the time needed to compile the data.

In 2015, DPS reviewed and coded 152,000 driver records to verify school names and students involved in collisions. According to DPS, the Driver License Division receives the crash data each year by August and must complete the report by October 1. From 2.0 to 3.0 full-time-equivalent positions are assigned to complete the Collision Rate Statistics

Publication, which requires up to three weeks to produce. DPS has posted the collision reports for fiscal years 2011 to 2015 on its website in the Teen Driver information. From July 2017 to June 2018, the collision reports have been viewed four times, and DPS has no record of calls or questions regarding the data.

According to supporters, the data collection was intended to help legislators evaluate the different ways students receive driver education and enable parents to identify programs with lower collision rates. However, the data do not provide context for each crash, which can be influenced by environmental factors, such as the time of day or location, or situational factors, including the number of passengers present. The data cannot distinguish fault and encompass all crashes involving new teen drivers.

Evaluations of driver education programs are critical. However, the Texas Department of Licensing and Regulation, the agency that regulates private driver education providers, indicated that it does not evaluate outcomes for students that complete driver education courses. Furthermore, basing the reports solely on collisions limits understanding of education programs' effectiveness. Evaluations of these programs should ensure that the curriculum is relevant, focused on behaviors and motivations for risk, limits exposure to hazardous situations, and builds skills. Due to the time needed to collect this data and the limited use of the reports, Option 2 would eliminate this requirement in the Texas Transportation Code, Section 521,206.

TxDOT would continue to collect motor vehicle crash data submitted by law enforcement, as part of overall traffic safety measures. TxDOT uses this data to develop traffic safety campaigns and reports and makes it available to other agencies upon request.

FISCAL IMPACT OF THE OPTIONS

No significant fiscal impact is anticipated as a result of these options. Option 1 would decrease the risk of teenage driver accidents. Implementing Option 2 would provide DPS staff time that could be used for other critical functions.

The introduced 2020–21 General Appropriations Bill does not include any adjustments as a result of these options.