

Young Driver Licensing: Addressing Inexperience

The National Highway Traffic Safety Administration (NHTSA) reports that teens have the highest crash rate among driver age groups. North Dakota is no exception; drivers age 14 to 17 are three times more likely to crash than drivers age 25 to 34. Additionally, teen drivers in North Dakota, which make up only 3.8% of the population, were drivers in 10% of fatal crashes from 2004 to 2006.

This risk is largely attributed to young drivers' inexperience behind the wheel. Teen drivers were cited in 22% of all crashes in 2006. Several states have drastically reduced teen crash rates by adopting policy to form graduated drivers licensing (GDL) programs. These programs aim to address the inexperience component in young drivers' heightened crash risk. Because North Dakota is one of only two states (see table to the right) that allows 14-year-olds to drive unsupervised, this inexperience presents an important local safety concern.

GDL has become a popular program for addressing young driver road safety, allowing states to formulate policies that provide the highest level of risk limits in the initial months of

driving. Risk factors (inexperience) are gradually introduced as the teen gains the baseline experience needed to make dynamic driving decisions. Research reveals three primary areas of inexperience GDL programs may address as they gradually introduce teens to risk factors on the road. These areas include driver decisions, rural roads, and age.

New Driver Minimum Ages		
Supervised Driving		Number of States
	14 years	7
	15 years	33
	16 years	10
Fully Licensed Driving		
	14 years	2
	15 years	0
	16 years	16
	17 years	21
	18 years	11

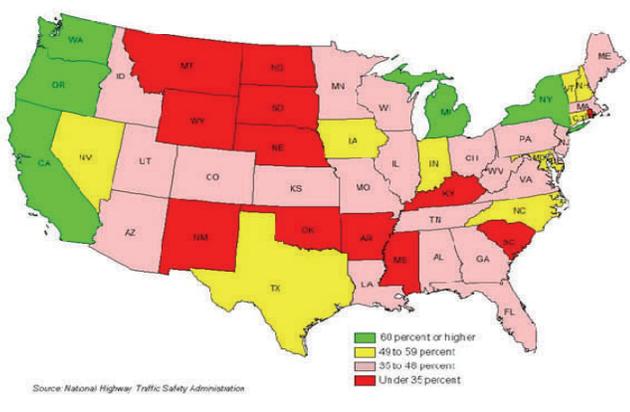
Source: Insurance Institute for Highway Safety, 2008

Driver Decisions

Seatbelt Use

Of the 11 teen drivers killed on ND roads in 2007, five were not wearing seatbelts. Driver seatbelt use in fatal crashes is found to be strongly correlated with statewide observational seatbelt surveys (NHTSA 2001 and 2004). North Dakota is 46 among the 48 contiguous states considering teen seatbelt usage based on fatal crash data with a rate of 20% (see graph below).

Seatbelt Usage Rates for Teen Drivers in Fatal Crashes, 2004 to 2006



Approximately 78% of experienced drivers in ND injury crashes are wearing seatbelts compared to only 68 percent of young teen drivers. A positive correlation between age and seatbelt use indicates experience's role in drivers' safety decisions. Young ND drivers' seatbelt use has been shown to increase with experience. Another aspect of seatbelt usage seems to be attributed to road type. In 2007, seatbelts were used in 79.9% of urban roadway crashes compared to just 64.9% of rural roadway crashes.

Impaired Driving

Alcohol use, while a factor in only about 6% of teen crashes, contributes greatly to risk for an injury crash resulting in death or serious injury. Where alcohol is reported as a factor, teen drivers are 2.9 times more likely to die or be seriously injured. The risk may be associated with engaging in riskier behavior due to reduced inhibitions. Public awareness of this issue is evident in media campaigns surrounding prom- and graduation-type events and with groups such as SADD and MADD.

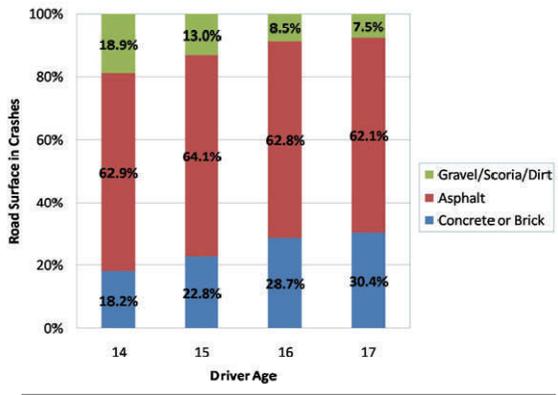
Rural Roads

Teens are nearly six times more likely to die or be seriously injured in rural road crashes than in urban roadway crashes. Rural roads account for 74% of ND annual vehicle-miles (Federal Highway Administration 2007). Approximately 80% of teen driver deaths and serious injuries occurred on these rural roads. Rural roads have a less-controlled driving environment than the urban roadways. Access, signage, speed, and lane markings create a multitude of challenges for drivers, especially those just learning to process roadway and driver elements in their driving decisions. About 36% of the teen driver injury crashes occurred on rural roads. About 80% of the teen driver death and serious injury crashes occurred on rural roads.

Approximately 17% of crashes occur on gravel roads for the young driver group, compared to 6% for other drivers. Differences within the young driver crash location, based on road surface, suggest safety does improve with age among the youngest drivers with regard to navigating gravel and dirt roadways. As illustrated in the graph to the right, about 18.9 percent of the crashes among 14-year-olds occur on gravel roads, compared to just 7.5% for the more experienced 17-year-old drivers.

It is assumed that experience and skill contributes to the declining share of crashes on gravel surfaces for teen drivers. The gravel surfaces create challenges in characteristics such as loose rock surface, washboard worn areas, and undefined lanes.

Many teens have little instruction or behind-the-wheel experience for recognizing or dealing with these challenges.



Rural Road Teen Driver Crashes, 2001 to 2007 by Surface

This lack of instruction is addressed by gradual exposure offered by GDL programs already in use in states across the U.S.

Age

The experience factor is especially evident when examining trends by age. Fourteen-year-old drivers are 3.1 times more likely than 17-year-old drivers to be killed or seriously injured. While 15-year-old drivers' crash likelihood does not vary significantly from that of 17-year-olds, the 16-year-old driver group does have a 1.5 time greater chance for death or serious injury than drivers just one year older. The greater risk in the 16-year-old group may be associated with those new drivers entering the population without completing the behind-the-wheel instruction that is required for licensure for those under age 16.

Conclusion

North Dakota's teen drivers are highly over-represented as drivers in the state's injury crashes. While this isn't unexpected given their inexperience, findings from other states suggest that a staged or graduated licensing process may better prepare young drivers and reduce their rates of traffic death and injury. The danger attached to inexperience, lack of seat belt use, and impaired driving are evident in findings. While literature on best practices and experiences elsewhere offer guidance for designing an enhanced teen licensing system, these findings provide a local perspective for the

potential to save lives and prevent injuries through policies that give teens the experience needed to be safe drivers.

Recent research has shown that teen crash rates decreased at rates between 40% and 60% in states where GDL provisions have been in effect for at least 10 years. These studies show that seemingly random teen crash incidence may be positively impacted by experience gained in the lower-risk driving environment that is provided through GDL programs. The varying crash rate reductions are attributed to many factors such as GDL requirements/limitations, enforcement, and parental support.

References

- Chen, Li-Hui, Susan Baker, and Guohua Li, 2006, Graduated Driver Licensing Programs and Fatal Crashes of 16-Year-Old Drivers: A National Evaluation, *Pediatrics*, 118: 56-62.
- Dee, Thomas, David Grabowski, and Michael Morrissey, 2005, Graduated Driver Licensing and Teen Traffic Fatalities, *Journal of Health Economics*, 2005: 571-589.
- Federal Highway Administration, 2007. Highway Statistics 2005. U.S. Department of Transportation, accessed online February 16, 2007 at www.fhwa.dot.gov/policy/ohpi/hss/index.htm.
- Hedlund, James, Ruth Shults, and Richard Compton, 2006, Graduated Drivers Licensing and Teenage Driver Research in 2006, *Journal of Safety Research*, 37: 107-121.
- Morrissey, Michael, David Grabowski, Thomas Dee, and Christine Campbell, 2006, The Strength of Graduated License Programs and Fatalities Among Teen Drivers and Passengers, *Accident Analysis and Prevention*, 38: 135-141.
- National Highway Traffic Safety Administration (NHTSA), 2006, Beginning Teen Drivers, January 23, 2008, www.nhtsa.dot.gov/people/injury/NewDriver/BeginDrivers/index.htm
- National Highway Traffic Safety Administration. Various Years, Fatality Reporting System, National Center for Statistics and Analysis, Purchased Data CD, Washington, D.C.; and data accessed online October 31, 2006 at [ftp://ftp.nhtsa.dot.gov/FARS](http://ftp.nhtsa.dot.gov/FARS).



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