



GHSA SPOTLIGHT REPORT

YOUNG DRIVERS AND TRAFFIC FATALITIES:
20 YEARS OF PROGRESS ON THE ROAD TO ZERO

OCTOBER 2023

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EXECUTIVE SUMMARY

The Governors Highway Safety Association (GHSA) analyzed 20 years of Fatality Analysis Reporting System (FARS) data to determine if the fatal crash and crash rates for drivers 15-20 years old declined from 2002 to 2021. Unlike older drivers (21 years of age and older), young drivers are nearly four times more likely to be involved in a fatal crash despite driving less. This is due to immaturity and inexperience; teen brains don't fully develop until the mid-twenties, making it difficult for them to recognize risk and avoid it. At the same time, it takes as many as 1,500 miles of driving to build essential skills.

The data analysis found that fatal crashes involving a young driver decreased by 38.1% during the 20-year period, while fatal crashes involving an older driver increased by 7.5%. Even more striking is that young driver fatalities dropped 44.7%, while older driver fatalities rose 11%. In 2002, young drivers accounted for 14.8% of all driver fatalities. In 2021, that rate fell to 7.9%, a nearly 50% decrease.

Meanwhile, the young driver fatal crash rate — measured by fatal crashes per 10,000 licensed young drivers — decreased from 6.48 in 2002 to 4.27 in 2021, a 34.1% drop. The older driver rate decreased from 1.84 to 1.63, an 11.6% drop. While the proportion of young persons who are licensed drivers has decreased in recent years due to several factors, this drop in teen licensure accounted for less than one-quarter of the decline in young driver fatal crash involvement.

The analysis also examined young driver fatal crash rates and rate changes by state. The 2021 crash rates range from 1.66 per 10,000 licensed young drivers in Minnesota to 17.17 in the District of Columbia (D.C.), with a national rate of 4.27. The change in crash rate from 2002 to 2021 spans from a 7.34 decrease in Wyoming to an 11.07 increase in D.C. The rate decreased in all but three states and D.C., with the changes ranging from a 71.6% reduction in West Virginia to a 181.4% increase in D.C.

Comparing states' young driver fatal crashes and fatal crash rate to older driver data revealed that the young driver rate improved more than the older driver rate in 43 states, with Oregon leading the way. Overall, the national young driver rate decreased by 34.1% during the 20-year period, while the older driver rate improved by 11.6%, a 22.6% improvement for the former.

These gains are attributed to five policy and program activities — Graduated Driver License (GDL) laws, parent involvement, driver education and training, peer-to-peer safety programs, and vehicle and teen-specific technology — and research confirming their impact is highlighted. To continue these gains, GHSA recommends building on these five proven countermeasures and adding a sixth — incorporating evolving vehicle technology (Advanced Driver Assistance Systems, automated vehicles, electric vehicles) and the driver's responsibility for the safety of all road users into driver education programs. These countermeasures align with the Safe System approach and hold the greatest potential for preventing teen driver crashes and fatalities.

INTRODUCTION

In 2002, a young driver in the United States was far more likely to be involved in a fatal crash than an older driver.¹ In that year, there were approximately 12.5 million licensed drivers under 21 years of age in U.S. These novice drivers were involved in 8,099 fatal crashes, which is 6.48 crashes per 10,000 licensed drivers. At the same time, more than 181.7 million licensed drivers 21 and older were involved in 33,445 fatal crashes. That is 1.84 crashes per 10,000 licensed drivers — a significantly lower rate.

The reasons young drivers have higher rates of fatal crash involvement are straightforward. They are immature and inexperienced. The human brain isn't fully developed until the early to mid-twenties, particularly the prefrontal cortex where impulse inhibition, decision-making and judgement are centered (Paus as cited in Shope, 2006). As a result, young drivers are less likely than their older counterparts to recognize risk. In fact, some teens may even seek it.

Driving is a learned activity that takes practice. Building the muscle memory needed to help a driver react quickly and appropriately in a variety of situations takes time. This explains why most novice driver crashes occur — the teen behind the wheel simply doesn't have the skills or experience needed to recognize a hazard and take corrective action. Researchers point to driver error as the most prevalent reason, with recognition (e.g., inadequate surveillance, distraction) and decision errors (e.g., following too closely, driving too fast for conditions) topping the list (Curry et al., 2011).

Over the past 20 years, there has been considerable attention given to reducing the young driver crash rate. This includes [GHSA](#) partnering with [Ford Motor Company Fund](#) (Ford Fund) in 2002 to launch the [Driving Skills for Life program](#) (DSFL). Since then, more than a million teens in the U.S. and around the world have participated in this free, behind-the-wheel training program, designed to introduce young drivers to critical skills that, with practice, can help them become safer drivers. While the GHSA/Ford Fund collaboration is among the most recognized in the teen driver safety arena, there are other notable programs including [Drive it Home](#), [B.R.A.K.E.S.](#), [Teen Drive 365](#) and many others.

This GHSA Spotlight Report commemorates this unique partnership between GHSA and Ford Fund by documenting the fatal crash and crash rate changes that have occurred in the U.S. since 2002, using 20 years of data (2002-2021) from the National Highway Traffic Safety Administration's (NHTSA) FARS database. The report then discusses the young driver policies and programs that have influenced these changes and concludes with a discussion about where we go from here, considering the national transportation safety goal of zero fatalities and serious injuries and the need for equity in all that we do.

¹ Throughout this report young people and young drivers are defined as individuals under 21 years of age. Older drivers and people are defined as individuals 21 and older.



DATA ANALYSIS

Fatal crashes and fatalities involving young drivers

Teens drive less often than all but the oldest drivers, but the number of crashes and deaths attributed to them is disproportionately high. Young drivers’ crash rates are nearly four times that of older drivers per mile driven (Insurance Institute for Highway Safety, 2023a). However, progress is being made. As Table 1 illustrates, GHSA’s analysis of FARS data for 2002-2021 (the latest year for which complete data are available) found that fatal crashes involving a young driver decreased by 38.1%, while fatal crashes involving an older driver increased by 7.5%.

Table 1. All Fatal Crashes, 2002 and 2021

FATAL CRASHES	2002	2021	CHANGE	% CHANGE
With driver under 21	8,099	5,010	-3,089	-38.1%
With driver 21 and up	33,445	35,954	+2,509	+7.5%

The findings from a comparison of traffic fatalities that involved and did not involve a young driver, shown in Table 2, are similar.

Table 2. All Traffic Fatalities, 2002 and 2021

FATALITIES IN CRASHES	2002	2021	CHANGE	% CHANGE
With driver under 21	9,392	5,650	-3,742	-39.8%
With no driver under 21	33,613	37,280	+3,667	+10.9%

Over the 20-year period, fatalities in crashes involving a young driver decreased by 39.8%, while fatalities in crashes where no young driver was involved increased by 10.9%.

Driver fatalities

A comparison of all driver fatalities by age group, shown in Table 3, yields even more striking findings.

Table 3. Young and Older Driver Fatalities, 2002 and 2021

DRIVER FATALITIES	2002	2021	CHANGE	% CHANGE
Drivers under 21	3,935	2,175	-1,760	-44.7%
Drivers 21 and up	22,705	25,198	2,493	11.0%
Total	26,640	27,373	733	2.8%

Young driver fatalities dropped 44.7%, while older driver fatalities rose 11%. In 2002, young drivers accounted for 14.8% of all driver fatalities. In 2021, that rate fell to 7.9%, a nearly 50% decrease.

Fatal crash rates for young drivers

The best measure of young driver fatal crash involvement would be fatal crashes per vehicle miles traveled (VMT). However, national VMT data by driver age are not available. The next best measure is fatal crashes per licensed driver. It's well known that the proportion of young persons who are licensed drivers has decreased in recent years, as shown in Table 4. This decline in teen licensure is being driven by several factors including increased anxiety, financial issues (licensing and vehicle ownership costs), environmental concerns, access to other modes of transportation (e.g., electric scooters, ride-hailing) and the ability to connect via social media (Osaka, 2023).

Table 4. Licensed Drivers, 2002 and 2021

LICENSED DRIVERS	2002	2021	CHANGE	% CHANGE
Age under 21	12,500,602	11,742,064	-758,538	-6.1%
Age 21 and up	181,795,031	221,039,733	39,244,702	21.6%
Total	194,295,633	232,781,797	38,486,164	19.8%

The number of licensed young drivers decreased by 6.1% while licensed older drivers increased by 21.6%. That leads to Table 5, which shows how the rate of fatal crash involvement has changed for both young and older drivers.

Table 5. Fatal Crash Involvement per Licensed Driver, 2002 and 2021

CRASHES PER 10K LICENSED DRIVERS	2002	2021	CHANGE	% CHANGE
Age under 21	6.48	4.27	-2.21	-34.14%
Age 21 and up	1.84	1.63	-0.21	-11.58%

The young driver fatal crash rate — measured by fatal crashes per 10,000 licensed young drivers — decreased from 6.48 in 2002 to 4.27 in 2021, a 34.1% drop. The older driver rate decreased from 1.84 to 1.63, a 11.6% drop. While the young driver rate in 2021 was still

substantially higher than the older driver rate, the difference has narrowed, though not by as much as the difference in fatal crash involvement (as shown in Table 1 on page 6). The drop in teen licensure accounted for less than one-quarter of the decline in young driver fatal crash involvement.

Fatal crash rate changes by state

Young driver fatal crash rates and rate changes vary substantially by state, as shown in Table 6.

Table 6. Fatal Crash Involvement Rates per 10,000 Licensed Drivers Under 21

DRIVERS UNDER 21	2002	2021	CHANGE	% CHANGE
Alabama	6.81	4.79	-2.02	-29.6%
Alaska	4.50	2.57	-1.93	-42.8%
Arizona	9.76	5.45	-4.31	-44.2%
Arkansas	8.45	6.44	-2.00	-23.7%
California	6.03	4.12	-1.91	-31.6%
Colorado	6.47	4.31	-2.16	-33.4%
Connecticut	4.97	2.70	-2.27	-45.7%
Delaware	7.24	4.73	-2.51	-34.7%
D.C.	6.10	17.17	11.07	181.4%
Florida	7.70	6.85	-0.85	-11.0%
Georgia	6.51	4.93	-1.59	-24.4%
Hawaii	3.91	3.42	-0.50	-12.7%
Idaho	6.57	3.83	-2.74	-41.7%
Illinois	4.68	3.33	-1.35	-28.8%
Indiana	4.89	4.45	-0.44	-8.9%
Iowa	4.61	2.37	-2.24	-48.6%
Kansas	6.65	3.43	-3.22	-48.4%
Kentucky	10.55	9.66	-0.89	-8.4%
Louisiana	10.25	6.96	-3.30	-32.2%
Maine	6.14	2.65	-3.49	-56.9%
Maryland	5.44	2.89	-2.55	-46.9%
Massachusetts	3.59	1.99	-1.59	-44.4%
Michigan	5.43	3.17	-2.26	-41.7%
Minnesota	5.76	1.66	-4.10	-71.2%
Mississippi	9.06	9.13	0.07	0.8%
Missouri	8.76	5.04	-3.72	-42.5%
Montana	6.75	7.70	0.94	14.0%

Table 6. Fatal Crash Involvement Rates per 10,000 Licensed Drivers Under 21, continued

DRIVERS UNDER 21	2002	2021	CHANGE	% CHANGE
Nebraska	5.48	2.93	-2.55	-46.5%
Nevada	7.56	3.82	-3.74	-49.5%
New Hampshire	2.43	1.76	-0.66	-27.3%
New Jersey	4.14	2.36	-1.78	-42.9%
New Mexico	9.49	9.18	-0.31	-3.3%
New York	4.86	3.63	-1.23	-25.2%
North Carolina	9.18	5.96	-3.22	-35.1%
North Dakota	3.53	5.63	2.10	59.7%
Ohio	5.39	3.33	-2.06	-38.2%
Oklahoma	7.40	4.69	-2.71	-36.7%
Oregon	4.38	2.95	-1.43	-32.7%
Pennsylvania	6.81	2.86	-3.94	-57.9%
Rhode Island	5.52	2.39	-3.13	-56.7%
South Carolina	7.36	5.18	-2.18	-29.7%
South Dakota	7.99	3.01	-4.97	-62.3%
Tennessee	8.73	5.79	-2.94	-33.7%
Texas	7.94	5.20	-2.74	-34.5%
Utah	3.85	2.65	-1.21	-31.4%
Vermont	4.96	4.35	-0.62	-12.5%
Virginia	6.14	3.87	-2.27	-37.0%
Washington	4.50	2.95	-1.55	-34.5%
West Virginia	9.90	2.81	-7.09	-71.6%
Wisconsin	7.01	3.57	-3.44	-49.1%
Wyoming	12.04	4.69	-7.34	-61.0%
National	6.48	4.27	-2.21	-34.1%

Table 7 sorts the states by the 2021 fatal crash rate, the change in crash rate from 2002 to 2021, and the percent change from 2002 to 2021, respectively.

Table 7. Fatal Crash Involvement Rates per 10,000 Licensed Drivers Under 21 (sorted)

DRIVERS UNDER 21	2021	DRIVERS UNDER 21	CHANGE (2002-2021)	DRIVERS UNDER 21	% CHANGE (2002-2021)
Minnesota	1.66	Wyoming	-7.34	West Virginia	-71.6%
New Hampshire	1.76	West Virginia	-7.09	Minnesota	-71.2%
Massachusetts	1.99	South Dakota	-4.97	South Dakota	-62.3%
New Jersey	2.36	Arizona	-4.31	Wyoming	-61.0%
Iowa	2.37	Minnesota	-4.10	Pennsylvania	-57.9%
Rhode Island	2.39	Pennsylvania	-3.94	Maine	-56.9%
Alaska	2.57	Nevada	-3.74	Rhode Island	-56.7%
Utah	2.65	Missouri	-3.72	Nevada	-49.5%
Maine	2.65	Maine	-3.49	Wisconsin	-49.1%
Connecticut	2.70	Wisconsin	-3.44	Iowa	-48.6%
West Virginia	2.81	Louisiana	-3.30	Kansas	-48.4%
Pennsylvania	2.86	North Carolina	-3.22	Maryland	-46.9%
Maryland	2.89	Kansas	-3.22	Nebraska	-46.5%
Nebraska	2.93	Rhode Island	-3.13	Connecticut	-45.7%
Washington	2.95	Tennessee	-2.94	Massachusetts	-44.4%
Oregon	2.95	Texas	-2.74	Arizona	-44.2%
South Dakota	3.01	Idaho	-2.74	New Jersey	-42.9%
Michigan	3.17	Oklahoma	-2.71	Alaska	-42.8%
Illinois	3.33	Maryland	-2.55	Missouri	-42.5%
Ohio	3.33	Nebraska	-2.55	Idaho	-41.7%
Hawaii	3.42	Delaware	-2.51	Michigan	-41.7%
Kansas	3.43	Connecticut	-2.27	Ohio	-38.2%
Wisconsin	3.57	Virginia	-2.27	Virginia	-37.0%
New York	3.63	Michigan	-2.26	Oklahoma	-36.7%
Nevada	3.82	Iowa	-2.24	North Carolina	-35.1%
Idaho	3.83	South Carolina	-2.18	Delaware	-34.7%
Virginia	3.87	Colorado	-2.16	Texas	-34.5%
California	4.12	Ohio	-2.06	Washington	-34.5%
Colorado	4.31	Alabama	-2.02	Tennessee	-33.7%
Vermont	4.35	Arkansas	-2.00	Colorado	-33.4%
Indiana	4.45	Alaska	-1.93	Oregon	-32.7%

Table 7. Fatal Crash Involvement Rates per 10,000 Licensed Drivers Under 21 (sorted), continued

DRIVERS UNDER 21	2021	DRIVERS UNDER 21	CHANGE	DRIVERS UNDER 21	% CHANGE
Oklahoma	4.69	California	-1.91	Louisiana	-32.2%
Wyoming	4.69	New Jersey	-1.78	California	-31.6%
Delaware	4.73	Massachusetts	-1.59	Utah	-31.4%
Alabama	4.79	Georgia	-1.59	South Carolina	-29.7%
Georgia	4.93	Washington	-1.55	Alabama	-29.6%
Missouri	5.04	Oregon	-1.43	Illinois	-28.8%
South Carolina	5.18	Illinois	-1.35	New Hampshire	-27.3%
Texas	5.20	New York	-1.23	New York	-25.2%
Arizona	5.45	Utah	-1.21	Georgia	-24.4%
North Dakota	5.63	Kentucky	-0.89	Arkansas	-23.7%
Tennessee	5.79	Florida	-0.85	Hawaii	-12.7%
North Carolina	5.96	New Hampshire	-0.66	Vermont	-12.4%
Arkansas	6.44	Vermont	-0.62	Florida	-11.1%
Florida	6.85	Hawaii	-0.50	Indiana	-8.9%
Louisiana	6.96	Indiana	-0.44	Kentucky	-8.4%
Montana	7.70	New Mexico	-0.31	New Mexico	-3.3%
Mississippi	9.13	Mississippi	0.07	Mississippi	0.8%
New Mexico	9.18	Montana	0.94	Montana	14.0%
Kentucky	9.66	North Dakota	2.10	North Dakota	59.7%
D.C.	17.17	D.C.	11.07	D.C.	181.4%
National	4.27	National	-2.21	National	-34.1%

The 2021 crash rates range from 1.66 per 10,000 licensed young drivers in Minnesota to 17.17 in D.C., with a national rate of 4.27. The change in crash rate from 2002 to 2021 ranges from a decrease of 7.34 in Wyoming to an increase of 11.07 in D.C., with a national decrease of 2.21. Note that the rate decreased in all but three states and D.C, with the changes ranging from a 71.6% decrease in West Virginia to a 181.4% increase in D.C. Nationally, the rate improved by 34.1%.

Small states can have large swings in fatal crashes and crash rates from year to year. D.C. is a striking example. It had the highest crash rate in 2021 and the greatest increase in crash rate from 2002 to 2021, both absolutely and proportionally. D.C. had six fatal crash involvements in 2002 and three in 2021, which at first glance suggests a major improvement. But the number of licensed young drivers decreased from 9,832 in 2002 to 1,747 in 2021, a far more substantial decrease than any state. The crash rate increase is completely due to a decrease in licensed young drivers.

A state's young driver fatal crashes and fatal crash rate should be compared to its older driver crashes and rate. Table 8 provides the complete data for older drivers.

Table 8. Fatal Crash Involvement Rates per 10,000 Licensed Drivers 21 and Up

DRIVERS OVER 21	2002	2021	CHANGE (2002-2021)	% CHANGE (2002-2021)
Alabama	2.48	2.14	-0.34	-13.6%
Alaska	1.62	1.10	-0.52	-32.2%
Arizona	2.32	1.70	-0.63	-27.0%
Arkansas	2.64	2.74	0.09	3.5%
California	1.48	1.36	-0.12	-8.1%
Colorado	1.96	1.39	-0.57	-29.0%
Connecticut	0.99	1.02	0.02	2.3%
Delaware	1.79	1.48	-0.32	-17.7%
D.C.	1.34	0.67	-0.67	-50.0%
Florida	2.08	2.03	-0.04	-2.1%
Georgia	2.14	2.15	0.01	0.2%
Hawaii	1.39	0.95	-0.44	-31.6%
Idaho	2.38	1.79	-0.60	-25.0%
Illinois	1.48	1.37	-0.11	-7.7%
Indiana	1.61	1.78	0.18	11.1%
Iowa	1.85	1.39	-0.46	-24.8%
Kansas	2.14	1.82	-0.31	-14.7%
Kentucky	2.78	2.37	-0.41	-14.6%
Louisiana	2.38	2.45	0.07	2.9%
Maine	1.81	1.27	-0.55	-30.2%
Maryland	1.61	1.10	-0.51	-31.9%
Massachusetts	0.83	0.78	-0.05	-5.8%
Michigan	1.55	1.31	-0.25	-15.9%
Minnesota	1.89	1.09	-0.80	-42.2%
Mississippi	4.00	3.28	-0.71	-17.8%
Missouri	2.52	2.11	-0.42	-16.5%
Montana	3.20	2.36	-0.84	-26.4%
Nebraska	2.03	1.33	-0.70	-34.5%
Nevada	2.07	1.62	-0.45	-21.6%
New Hampshire	1.24	0.91	-0.33	-26.7%
New Jersey	1.15	0.98	-0.17	-14.5%

Table 8. Fatal Crash Involvement Rates per 10,000 Licensed Drivers 21 and Up, continued

DRIVERS OVER 21	2002	2021	CHANGE (2002-2021)	% CHANGE (2002-2021)
New Mexico	2.84	2.59	-0.25	-8.9%
New York	1.17	0.87	-0.31	-26.2%
North Carolina	2.24	1.91	-0.33	-14.6%
North Dakota	1.78	1.44	-0.34	-18.9%
Ohio	1.57	1.45	-0.12	-7.6%
Oklahoma	2.64	2.60	-0.04	-1.5%
Oregon	1.44	1.76	0.32	22.2%
Pennsylvania	1.61	1.22	-0.40	-24.5%
Rhode Island	1.01	0.78	-0.23	-23.0%
South Carolina	3.13	2.78	-0.35	-11.1%
South Dakota	2.60	2.03	-0.57	-22.0%
Tennessee	2.34	2.40	0.06	2.5%
Texas	2.36	2.13	-0.23	-9.9%
Utah	1.70	1.33	-0.37	-21.8%
Vermont	1.29	1.34	0.05	3.8%
Virginia	1.44	1.49	0.04	3.0%
Washington	1.24	0.98	-0.26	-20.92%
West Virginia	2.80	2.22	-0.58	-20.7%
Wisconsin	1.91	1.29	-0.63	-32.7%
Wyoming	4.69	2.31	-2.38	-50.8%
National	1.84	1.63	-0.21	-11.6%

Table 9 sorts the states' data for fatal crashes and involvement rates per 10,000 licensed older drivers from highest to lowest, as Table 7 did for young drivers. The rate decreased in all but nine states.

Table 9. Fatal Crash Involvement Rates per 10,000 Licensed Drivers 21 and Up (sorted)

DRIVERS 21 AND UP	2021	DRIVERS 21 AND UP	CHANGE (2002-2021)	DRIVERS 21 AND UP	% CHANGE (2002-2021)
D.C.	0.67	Wyoming	-2.38	Wyoming	-50.8%
Rhode Island	0.78	Montana	-0.84	D.C.	-50.0%
Massachusetts	0.78	Minnesota	-0.80	Minnesota	-42.2%
New York	0.87	Mississippi	-0.71	Nebraska	-34.2%
New Hampshire	0.91	Nebraska	-0.70	Wisconsin	-32.7%
Hawaii	0.95	D.C.	-0.67	Alaska	-32.2%
Washington	0.98	Arizona	-0.63	Maryland	-31.9%
New Jersey	0.98	Wisconsin	-0.63	Hawaii	-31.6%
Connecticut	1.02	Idaho	-0.60	Maine	-30.2%
Minnesota	1.09	West Virginia	-0.58	Colorado	-29.0%
Maryland	1.10	South Dakota	-0.57	Arizona	-27.0%
Alaska	1.10	Colorado	-0.57	New Hampshire	-26.7%
Pennsylvania	1.22	Maine	-0.55	Montana	-26.4%
Maine	1.27	Alaska	-0.52	New York	-26.2%
Wisconsin	1.29	Maryland	-0.51	Idaho	-25.0%
Michigan	1.31	Iowa	-0.46	Iowa	-24.8%
Utah	1.33	Nevada	-0.45	Pennsylvania	-24.5%
Nebraska	1.33	Hawaii	-0.44	Rhode Island	-23.0%
Vermont	1.34	Missouri	-0.42	South Dakota	-22.0%
California	1.36	Kentucky	-0.41	Utah	-21.8%
Illinois	1.37	Pennsylvania	-0.40	Nevada	-21.6%
Iowa	1.39	Utah	-0.37	Washington	-20.9%
Colorado	1.39	South Carolina	-0.35	West Virginia	-20.7%
North Dakota	1.44	Alabama	-0.34	North Dakota	-18.9%
Ohio	1.45	North Dakota	-0.34	Mississippi	-17.8%
Delaware	1.48	New Hampshire	-0.33	Delaware	-17.7%
Virginia	1.49	North Carolina	-0.33	Missouri	-16.5%
Nevada	1.62	Delaware	-0.32	Michigan	-15.9%

Table 9. Fatal Crash Involvement Rates per 10,000 Licensed Drivers 21 and Up (sorted), continued

DRIVERS 21 AND UP	2021	DRIVERS 21 AND UP	CHANGE (2002-2021)	DRIVERS 21 AND UP	% CHANGE (2002-2021)
Arizona	1.70	Kansas	-0.31	Kansas	-14.7%
Oregon	1.76	New York	-0.31	North Carolina	-14.6%
Indiana	1.78	Washington	-0.26	Kentucky	-14.6%
Idaho	1.79	New Mexico	-0.25	New Jersey	-14.5%
Kansas	1.82	Michigan	-0.25	Alabama	-13.6%
North Carolina	1.91	Texas	-0.23	South Carolina	-11.1%
South Dakota	2.03	Rhode Island	-0.23	Texas	-9.9%
Florida	2.03	New Jersey	-0.17	New Mexico	-8.9%
Missouri	2.11	Ohio	-0.12	California	-8.1%
Texas	2.13	California	-0.12	Illinois	-7.7%
Alabama	2.14	Illinois	-0.11	Ohio	-7.6%
Georgia	2.15	Massachusetts	-0.05	Massachusetts	-5.8%
West Virginia	2.22	Florida	-0.04	Florida	-2.1%
Wyoming	2.31	Oklahoma	-0.04	Oklahoma	-1.5%
Montana	2.36	Georgia	0.01	Georgia	0.2%
Kentucky	2.37	Connecticut	0.02	Connecticut	2.3%
Tennessee	2.40	Virginia	0.04	Tennessee	2.5%
Louisiana	2.45	Vermont	0.05	Louisiana	2.9%
New Mexico	2.59	Tennessee	0.06	Virginia	3.0%
Oklahoma	2.60	Louisiana	0.07	Arkansas	3.5%
Arkansas	2.74	Arkansas	0.09	Vermont	3.8%
South Carolina	2.78	Indiana	0.18	Indiana	11.1%
Mississippi	3.28	Oregon	0.32	Oregon	22.2%
National	1.63	National	-0.21	National	-11.6%

Finally, Table 10 compares the rate changes from 2002 to 2021 for young and older drivers by subtracting the older driver change from the young driver change. At the bottom of the first two columns, the national young driver rate improved (that is, decreased) by 34.1% during the 20-year period, while the older driver rate improved by 11.6%. The young driver rate improvement was 22.6% better than the older driver rate.

The final column of Table 10 sorts the states by this comparison of young and older driver rate reductions. Oregon leads the way with a young driver rate reduction that is 54.9% better than the older driver reduction, while D.C. is at the bottom. In 43 states, the young driver rate improved more than the older driver rate.

Table 10. Differences in Fatal Crash Involvement Rate Reductions for Young and Older Drivers, 2002 to 2021

	UNDER 21	21 AND UP	DIFFERENCE	DIFFERENCE (SORTED)	
Alabama	-29.6%	-13.6%	-16.0%	Oregon	-54.9%
Alaska	-42.8%	-32.2%	-10.6%	West Virginia	-50.9%
Arizona	-44.1%	-27.0%	-17.2%	Connecticut	-47.9%
Arkansas	-23.7%	3.5%	-27.2%	South Dakota	-40.3%
California	-31.6%	-8.1%	-23.5%	Virginia	-39.9%
Colorado	-33.4%	-29.0%	-4.4%	Massachusetts	-38.6%
Connecticut	-45.7%	2.3%	-47.9%	Tennessee	-36.2%
Delaware	-34.7%	-17.7%	-17.0%	Oklahoma	-35.2%
D.C.	181.4%	-50.0%	231.4%	Louisiana	-35.1%
Florida	-11.1%	-2.1%	-8.9%	Rhode Island	-33.7%
Georgia	-24.3%	0.2%	-24.6%	Kansas	-33.7%
Hawaii	-12.7%	-31.6%	18.9%	Pennsylvania	-33.4%
Idaho	-41.7%	-25.0%	-16.8%	Ohio	-30.5%
Illinois	-28.8%	-7.7%	-21.1%	Minnesota	-28.9%
Indiana	-8.9%	11.1%	-20.0%	New Jersey	-28.4%
Iowa	-48.6%	-24.8%	-23.7%	Nevada	-27.9%
Kansas	-48.4%	-14.7%	-33.7%	Arkansas	-27.2%
Kentucky	-8.4%	-14.6%	6.2%	Maine	-26.7%
Louisiana	-32.2%	2.9%	-35.1%	Missouri	-26.0%
Maine	-56.9%	-30.1%	-26.7%	Michigan	-25.8%
Maryland	-46.9%	-31.9%	-15.1%	Texas	-24.6%
Massachusetts	-44.4%	-5.8%	-38.6%	Georgia	-24.6%
Michigan	-41.7%	-15.9%	-25.8%	Iowa	-23.7%
Minnesota	-71.2%	-42.2%	-28.9%	California	-23.5%

Table 10. Differences in Fatal Crash Involvement Rate Reductions for Young and Older Drivers, 2002 to 2021, continued

	UNDER 21	21 AND UP	DIFFERENCE	DIFFERENCE (SORTED)	
Mississippi	0.8%	-17.8%	18.6%	Illinois	-21.1%
Missouri	-42.5%	-16.5%	-26.0%	North Carolina	-20.5%
Montana	14.0%	-26.4%	40.3%	Indiana	-20.0%
Nebraska	-46.5%	-34.5%	-12.0%	South Carolina	-18.5%
Nevada	-49.5%	-21.6%	-27.9%	Arizona	-17.2%
New Hampshire	-27.3%	-26.6%	-0.7%	Delaware	-17.0%
New Jersey	-42.9%	-14.5%	-28.4%	Idaho	-16.8%
New Mexico	-3.3%	-8.9%	5.6%	Wisconsin	-16.4%
New York	-25.2%	-26.2%	1.0%	Vermont	-16.3%
North Carolina	-35.1%	-14.6%	-20.5%	Alabama	-16.0%
North Dakota	59.7%	-18.9%	78.5%	Maryland	-15.1%
Ohio	-38.2%	-7.6%	-30.5%	Washington	-13.5%
Oklahoma	-36.7%	-1.5%	-35.2%	Nebraska	-12.0%
Oregon	-32.7%	22.2%	-54.9%	Alaska	-10.6%
Pennsylvania	-57.9%	-24.5%	-33.4%	Wyoming	-10.2%
Rhode Island	-56.7%	-23.0%	-33.7%	Utah	-9.6%
South Carolina	-29.7%	-11.1%	-18.5%	Florida	-8.9%
South Dakota	-62.3%	-22.0%	-40.3%	Colorado	-4.4%
Tennessee	-33.7%	2.5%	-36.2%	New Hampshire	-0.7%
Texas	-34.5%	-9.9%	-24.6%	New York	1.0%
Utah	-31.4%	-21.7%	-9.6%	New Mexico	5.6%
Vermont	-12.5%	3.8%	-16.3%	Kentucky	6.2%
Virginia	-37.0%	3.0%	-39.9%	Mississippi	18.6%
Washington	-34.5%	-20.9%	-13.5%	Hawaii	18.9%
West Virginia	-71.6%	-20.7%	-50.9%	Montana	40.3%
Wisconsin	-49.1%	-32.7%	-16.4%	North Dakota	78.5%
Wyoming	-61.0%	-50.8%	-10.2%	D.C.	231.4%
National	-34.1%	-11.6%	-22.6%	National	-22.6%



YOUNG DRIVER POLICIES AND PROGRAMS, 2002 TO 2021

What's contributing to these significant declines in lives lost? The drop in young driver fatal crashes and crash rates over the past 20 years can be attributed to both policy and program activities. The five that research confirms have had the greatest impact are discussed in this section.

A three-step driver license system

Graduated Driver Licensing is a three-step system that includes a supervised learner's period; an intermediate phase that allows a novice to drive unsupervised but with restrictions that address high-risk situations, such as at night and with teen passengers; and a license with all privileges. GDL provisions vary by state, with some stronger than others, and most allow exceptions so that teens may drive for specified purposes during restricted hours. GDL was enacted first in Florida

in 1996 and subsequently adopted by all states and D.C. over the next decade. Except for Maryland and New Jersey, the policy applies only to novice drivers under 18.

Numerous studies have confirmed that GDL significantly reduces novice driver crashes, with declines ranging from 20% to 40% (Shope as cited in Williams, 2011). In addition, national research conducted by the Insurance Institute for Highway Safety (IIHS) and the Highway Loss Data Institute found that strong restrictions on nighttime driving and teen passengers, as well as delayed licensure age, reduce fatal crashes and insurance losses for young drivers (McCartt et al., 2010; Trempe, 2009, as cited in IIHS, 2023a). These studies also confirmed that delaying permit age reduces fatal crashes and that increasing practice hours reduces insurance losses (IIHS, 2023a).

There is no disputing GDL's effectiveness, particularly when examining young driver crash data by age. An analysis of 10 years of teen crash data (2005-2014) segmented by younger (16-17) and older teen drivers (18-19) found the decline in fatal crashes was greater (56%) for the former than the latter (44%). There is also disparity among younger and older teen drivers as to the time of day when fatal crashes occur, with older teens twice as likely as their younger counterparts to be involved in a fatal crash between midnight and 6 a.m. (Fischer & Retting, 2015). This is likely due to states enacting GDL laws that ban younger teens from late night driving and the fact that teens in nearly all states age out of GDL at 18.

The critical role of parents and guardians

Efforts to promote the critical role parents and guardians play in monitoring and coaching their teens also has contributed to the reduction in young driver crashes and crash rates. Landmark research conducted by the Center for Injury Research and Prevention at the Children's Hospital of Philadelphia (CHOP) determined that teens are less likely to crash and violate the law if they have parents who set, monitor and enforce safe driving practices. Involved or "authoritative" parents who set high expectations, as well as nurture their young drivers, will see their children more likely to drive safely at far greater rates than teens with permissive or uninvolved parents (CHOP, 2009).



As a result, a handful of states, including Connecticut, Massachusetts, Minnesota, Montana and Virginia, have instituted a parent education or orientation program as a prerequisite for teens to obtain a driver's license. In some states, high schools link participation at a parent/teen driving program to parking privileges and/or prom attendance. Others host teen driving information nights where driving lessons, auto club memberships and gift cards, among other incentives, are raffled off, and students who attend with a parent or guardian receive extra credit in driver education or another subject area. These programs typically address the critical role parents play in shaping their teens' driving behavior, the risk for young drivers, state GDL laws, and coaching and monitoring tips and tools such as parent-teen driving agreements.

Whether participation is mandated or encouraged, parents who have completed these programs give them high marks. A study of Connecticut parents who attended the state's mandatory two-hour program found that 87% agree

with the requirement and 85% either strongly agreed or somewhat agreed that the information was helpful (Preusser Research Group as cited in The DMV Center for Teen Safe Driving, 2012). Meanwhile, a study of parents who participated in New Jersey's voluntary Share the Keys program found that more than three-quarters gained a better understanding of the critical role they play in ensuring their teens increase their practice driving, while 84% said they understood the GDL law and would enforce key provisions (Marrero, 2012).

Many insurance providers have developed web-based programs and apps to help parents and guardians teach and supervise their young drivers. They include a monetary incentive (discount) that kicks in upon completion. State licensing agencies, State Highway Safety Offices (SHSOs) and safety organizations have added content to their websites designed to convey teen driving information to parents and have developed and disseminate young driver training materials directed specifically to parents.

While teens say parents are their number one influencer when it comes to learning to drive (The Allstate Foundation, 2015), not all teens have a parent or guardian who is willing or able to be engaged.

In 2015, GHSA, in partnership with Ford Fund, issued a [report](#) to raise awareness of the opportunity and capacity other adults have to positively influence young drivers. This includes teachers, coaches, clergy, club advisors and employers, among others who interact daily with teens. Over the past decade, efforts to educate adult influencers about teen safe driving have helped them not only understand the extent and nature of the problem, but also become safety champions (Fischer, 2015).





Driver education and behind-the-wheel training

There has been significant debate about whether driver education and training positively impact young driver crash risk. The findings of the three-decade long DeKalb County (Ga.) study released in the mid-1980s prompted many states to cut funding for novice driver education and training. As a result, many schools dropped it from their curriculum. However, more recent research suggests that driver education and training positively impact novice driver safety, particularly when tied to GDL.

In Oregon, for example, teens who completed a Department of Transportation-approved driver education course had fewer crashes, convictions and suspensions compared to their peers who did not (Raymond et al., 2007). A study of Nebraska teens

that completed driver education revealed similar findings that included not only lower crash and violation rates compared to their peers who did not complete formal training, but also reductions in convictions involving alcohol during the first two years of licensure (Shell et al., 2015).

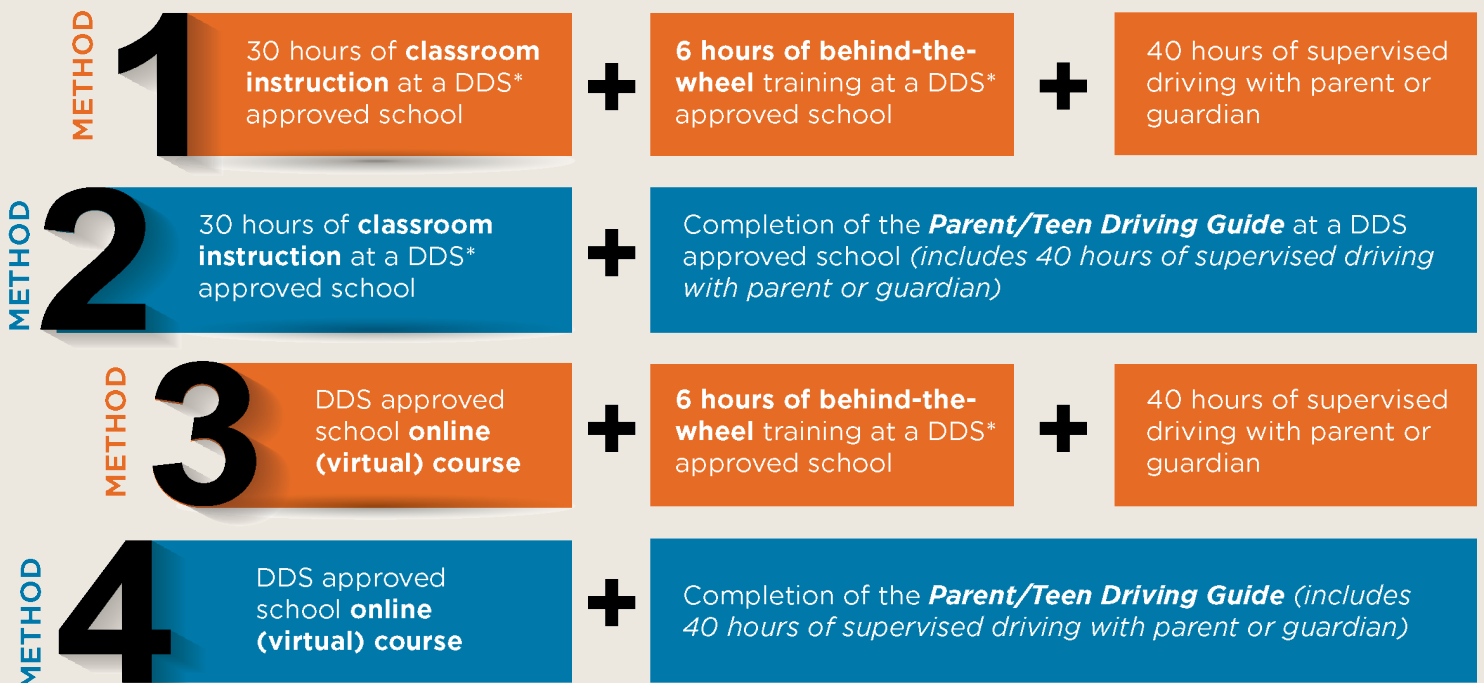
Approximately half the states require all drivers under 18 years old to complete driver education and/or behind-the-wheel instruction before they can be licensed (ANSTSE, 2021). One of those states is Ohio, which partnered with CHOP to conduct an analysis of crash data for 130,000 drivers 16-24 years old in the year after they obtained a driver's license. Researchers found that compared with drivers licensed at 18, those licensed at 16 had a 27% lower crash rate in their first

two months of licensure and a 14% lower rate in the first year. Looking at these same timeframes for 17-year-olds, the rates were 19% and 6% lower, respectively, when compared to drivers licensed at 18. In addition, the study found that among drivers under 25, 16-year-olds were the most successful during their on-road license examination. Their failure rate was 22% compared to 37% for 18-year-olds (Walshe, et al., 2022).

Georgia’s GDL law, known as the Teenage and Adult Driver Responsibility Act (TADRA), requires young drivers 15-18 years old to complete driver education and training through one of four methods

(see Figure 1). Independent research conducted for the state found that teens who completed method one, which includes 30 hours of classroom instruction, six hours of professionally instructed behind-the-wheel training and 50 hours of supervised driving with a parent or guardian, had better and safer outcomes in comparison to the other methods. These young drivers had fewer crashes and crashes resulting in serious injuries or fatalities compared to their teen counterparts who completed the driver education and training requirement using one of the other methods (Strategic Research Group, 2021).

Figure 1. Georgia GDL Driver Education and Training Options



*Department of Driver Services (DDS)

Peer-to-peer traffic safety education programs

Enlisting teens to educate their peers about traffic safety issues is a proven countermeasure that has played a role in young driver crash reduction. Teens who regularly participate in positive social projects designed to help their peers and others are less likely to engage in risky behaviors (Benton, as cited in Varenhorst, 2004). However, research confirms that for these programs to specifically prevent young driver crashes, they should be one component of a broader environmental strategy that includes families, schools, neighborhoods and communities (Fischer, 2019).

The number of peer-to-peer programs — particularly those addressing teen traffic safety — has grown significantly over the past 20 years. Some SHSOs have developed and implemented teen traffic safety programs that address the behavioral issues typically associated with young driver crashes — alcohol, drugs, distraction caused by cell phones and other teen passengers, drowsiness, late-night driving, low seat belt use and speeding. Other SHSOs provide grant funding to organizations with expertise in delivering novice driver interventions, such as Students Against Destructive Decisions (SADD) and Family, Career and Community Leaders of America (FCCLA), among others. Whether administered by a state or another entity, many of these are peer-to-peer, school-based programs designed to help teens not only identify the behaviors that produce the greatest

risk on the road, but also recognize that they have the ability and power to address them.

One of the most effective examples is [Teens in the Driver Seat](#) (TDS). Established in 2002 as a pilot program to facilitate and support a peer-to-peer traffic safety intervention at a high school in San Antonio, Tex., it has evolved to include a junior high component and a college edition, [U in the Driver Seat](#) (UDS). TDS' largest footprint is in Texas, but the program is also active in 15 other states. Meanwhile, UDS is active on more than 20 college campuses across Texas, with 550 student leaders engaging with approximately 270,000 of their peers.

Since 2007, TDS effectiveness has been gauged annually through a voluntary and anonymous survey that assesses students' awareness of top teen driving risks (distraction caused by electronic devices and peer passengers, driving at night, speeding, lack of seat belt use and driving impaired) along with self-reported driving behavior. The survey shows awareness levels increasing by up to 200% in all risk areas, with cell phone use dropping by 30% and seat

belt use increasing 14%. In addition, a rigorous 20-county control group analysis for Texas found the program produced an average decrease of 14.6% in injury and fatal crashes (total) in counties where the program had been sustained for three or more years compared with areas without the program (TDS, 2023).



Safer vehicles and teen-specific technologies

Over the past 20 years, vehicles have become increasingly safer for drivers and passengers of all ages. But one technology that has been particularly beneficial to young drivers is electronic stability control (ESC). Required on most passenger vehicles starting with model year 2012, ESC substantially reduces fatal crash risk resulting from loss of vehicle control (IIHS, 2023c).

Since the introduction of ESC, other safety features have been added to many vehicles as standard or optional equipment that can benefit young drivers, including:

- Blind spot monitoring that alerts the driver when there is a vehicle in the rear quarter area of their vehicle.
- Lane-keeping assist that provides feedback when the driver strays out of the travel lane.
- Automatic emergency braking (AEB), which automatically activates the vehicle's brake system, to some degree, when necessary.
- Adaptive cruise control, which automatically adjusts vehicle speed to maintain a safe distance from vehicles ahead.
- Speed limit recognition that can warn drivers when they're exceeding the posted speed limit.

Automakers and software developers have also invested in developing technologies designed specifically for teen drivers. The first was Ford's MyKey in 2009, followed by Kia's UVO system and Mercedes-Benz mbrace2 in 2011, the Hyundai BlueLink app in 2014 and GM's Teen Driver in 2016. The Ford and GM systems feature parent-controlled speed limiters and gearshift or stereo system interlocks that activate when the front seat occupants aren't

buckled up. Hyundai's BlueLink sends real-time alerts to parents when their teens exceed the speed limit.

Other apps that have been introduced in the past decade include Life360, Bouncie and American Family Insurance's (AMI) Teen Safe Driver (TSD). All give parents the ability to monitor their teens' driving in real time and send text alerts for actions like hard braking, rapid acceleration and speeding. To incentivize TSD use, AMI awards young drivers a 10% discount after they complete 3,000 miles of driving or one year of app use.

Using U.S. crash data from 2016 to 2019, researchers examined the potential safety benefits of three crash avoidance features (front crash prevention, lane departure prevention and blind spot monitoring) and three teen driver-specific technologies (speeding prevention, nighttime curfew violation alerts, and seat belt reminders/interlocks). They found the teen driver technologies have the largest potential for reducing young driver injuries and fatalities, followed by lane departure and front crash prevention and blind spot monitoring. Altogether, however, these technologies have the potential to prevent more than three-quarters (78%) of teen driver fatalities, nearly half (47%) of teen driver injuries and 41% of crashes involving teen drivers (Mueller & Cicchino, 2022).



Ford's MyKey is among the in-vehicle systems that allow parents to set speed controls and other safety features for their teen drivers.

WHERE DO WE GO FROM HERE

Continuing the gains made in young driver crashes and crash rates over the past two decades is essential for achieving the U.S. roadway goal of zero fatalities. Some might even suggest that this age group — more than any other — has the greatest potential for reaching this milestone first. But what will it take to get there?

GHSA recommends building on the five proven countermeasures discussed in the previous section as well as a sixth, each of which are discussed below. These countermeasures support the six principles of the Safe System approach (see Figure 2), which is the foundation of the U.S. Department of Transportation's (U.S. DOT) *National Roadway Safety Strategy*. They also align with three of the five Safe System elements — Safe Road Users, Safe Vehicles, Safe Speeds — which

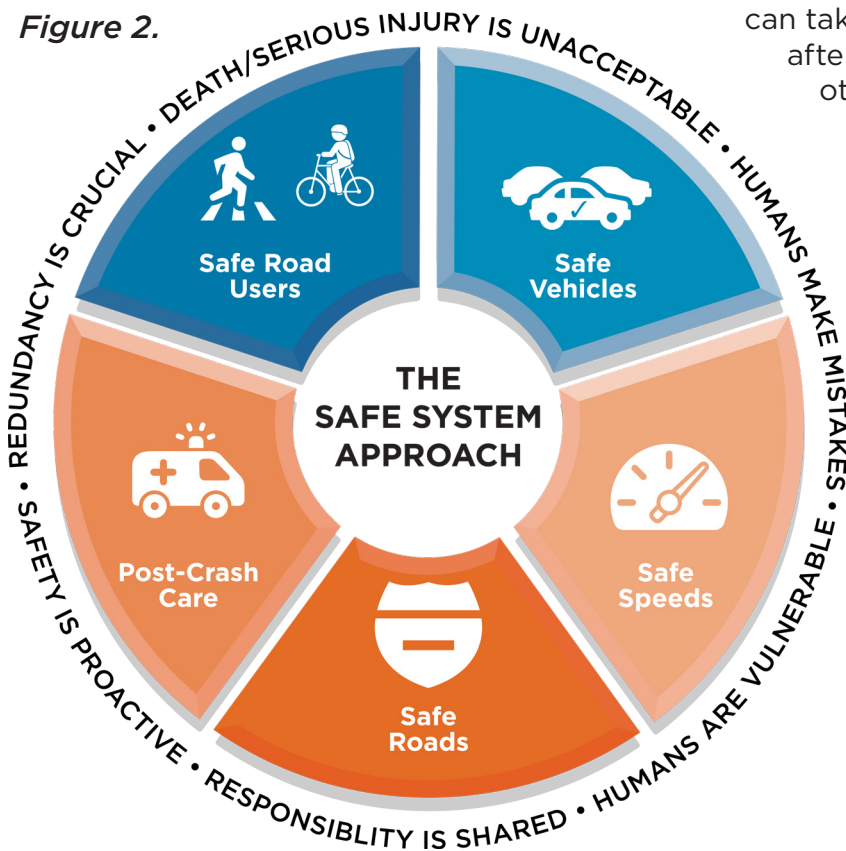
together create layers of protection to help keep young drivers and those they're sharing the road with safe. The Safe System approach also emphasizes equity across all disciplines and a greater focus on prioritizing the safety of all road users, not just drivers.

Strengthen GDL laws

No state's GDL law is perfect. Current best practice recommends a minimum permit age of 16 that includes at least 70 hours of supervised practice driving and an intermediate license age of 17. During the intermediate phase, a nighttime driving restriction should start at 8 p.m. and no teen passengers should be permitted in the vehicle (IIHS, 2023a). This sounds draconian, but it's grounded in research.

Raising the minimum licensing age is one of the more important steps states can take to reduce teen fatalities. Even after controlling for the effects of the other components of graduated licensing — most notably, the nighttime curfew and ban on teen passengers — young drivers in states with older licensing ages have lower fatal crash rates and fewer insurance collision claims. Raising the driver's license age from 16 to 17, for example, is associated with a 13% lower fatal crash rate among 15- to 17-year-olds (McCartt et al., 2010, as cited in IIHS, 2023a) and a 9% reduction in collision claim rates among 16-year-old licensed drivers (Trepel, 2009, as cited in IIHS, 2023a).

Figure 2.



Source: Federal Highway Administration

New Jersey is currently the only state with a minimum restricted licensing age of 17. This policy has been in effect much longer than the state's GDL law. Not surprisingly, it eliminates most crashes involving 16-year-old drivers (the state's minimum age to obtain a learner's permit) and research confirms it has resulted in much lower combined crash rates for New Jersey 16- and 17-year-old drivers compared to their peers in neighboring states (Ferguson et al., Williams et al., 1983, as cited in IIHS, 2023a). But New Jersey's GDL law has another unique provision: It applies to all young drivers under 21 years old and, as a result, the benefits of this policy have resulted in reductions in crashes for 18-year-olds. Studies support states extending GDL to 18- to 20-year-olds (Curry et al., 2017; Curry et al., 2018).

When it comes to practice, more is better for young drivers. Requiring them to hold a learner's permit for a longer period would provide additional opportunities for them to log more supervised miles and be exposed to more demanding driving situations, both critical steps for teens preparing to drive unsupervised (Williams, 2011). A recent study of Ohio drivers, for example, found that for every month in the learner's permit stage, crash rates were reduced 2% (Walshe et al., 2022). Most states currently require a holding period of at least six months, which is often treated as the maximum to reach rather than the minimum standard. To gain skill, teens must drive. Researchers point to the need for a novice driver to

log at least 1,000-1,500 miles of driving, in a variety of conditions and on all types of roadways, to experience a significant reduction in crash risk (National Safety Council, 2009).

Strengthening GDL laws will not only benefit young drivers, but all road users. When teens crash, they don't just injure or kill themselves and their peers. According to NHTSA, 5,565 people were killed in crashes involving young drivers (ages 15-20) in 2021.

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A closer look at that number reveals that 2,116 (or 38%) of the victims were the teen drivers, while the remaining 63% were either the teen drivers' passengers (1,065), occupants of other vehicles (1,666) or pedestrians or bicyclists (718) (National Center for Statistics and Analysis, 2023). Looking at these numbers under an equity lens is critical, as Black, Indigenous and People of Color (BIPOC) account for the greatest

proportion of those killed while walking or bicycling (U.S. DOT, 2022).

IIHS has an online [calculator](#) that shows how changes to a state's GDL law might affect fatal crash rates and collision claims for young drivers. The projected effects of strengthening or weakening five crucial provisions — permit age, practice driving hours, intermediate license age, and nighttime driving and passenger restrictions — are provided for all 50 states and D.C.

Bolster parent/guardian and other adult involvement

Young driver behavior experts agree that parents and guardians play a key role in GDL. Parents who know about their state's GDL law, including how and why it works to help address their teens' crash risk, can be effective champions and enforcers. In fact, the earlier parents are involved in the licensing system — helping to coach their teen in the permit phase and subsequently setting and monitoring limits that address risky behaviors in the intermediate license phase — the better the outcome (Zakrajsek et al., 2012).

But surveys of parents across the country have reported a mixed bag of responses about their knowledge of GDL and awareness of the risk for their teens. Building a parent education component into state young driver licensing requirements is recommended. The newly updated [Novice Teen Driver Education and Training Administrative Standards](#) (Standards) developed by the Association of National Stakeholders in Traffic Safety Education (ANSTSE), of which GHSA is a member, call on states to require a novice

driver's parent or guardian to complete a seminar. The core elements of a parent seminar are outlined in a [guidance document](#) that can be found online (ANSTSE, 2023).

The seminar may be delivered face-to-face or online. However, research indicates that facilitated, face-to-face parent programs are the optimal way to clear up confusion about how and why GDL programs work. Parents who receive materials in conjunction with facilitated guidance — at a parent-teen orientation or seminar, for instance — are more likely to recall receiving them and, more importantly, use them (Zakrajsek et al., 2012). These programs also help parents make the link between GDL restrictions and young driver risk. Once they understand this, parents are more likely to view GDL as a supportive program rather than a government dictate. This is critical because GDL is first and foremost a parent program, one designed to help them help their teen survive their most dangerous driving years.



At a minimum, SHSOs and state licensing agencies should review their teen driving and GDL educational materials for parents to ensure they emphasize that GDL works because it gets to the heart of why teens crash and die on our roadways. At the very least, parents need to know that GDL may (Fischer, 2013):

- Delay full licensure, which is a good thing because of the developmental and behavioral issues detailed earlier in this report.
- Restrict or limit passengers and ban texting and/or the use of electronic devices, which are key sources of teen driver distraction.
- Keep teens off the road late at night when they're likely to be fatigued and/or joyriding and older drivers may be speeding or impaired.
- Require seat belt use, which is critical due to teens' elevated crash risk and the lifesaving benefit of proper restraint.

Spelling out the penalties (e.g., fines, fees, license suspension, additional training) for failing to comply with these and other provisions also is important. Parents need to know what these are since they are likely to impact their teens' license status, mobility and insurance rates. The fact that driving is a privilege, not a right, is a key message parents need to hear and convey repeatedly to their teens. And lastly, parents must understand their state's GDL

law is the minimum standard they may exceed, not a guideline or the maximum to aim for.

Other adult influencers also need to understand the risk for teens (why and how great it is), how GDL works to address that risk and the role they can play to promote the law's proven value to teens. In New Jersey, teen safe driving advocates developed the nation's first "GDL Game Plan for Coaches" to help coaches and athletic directors educate student-athletes about the proven principles of GDL. Along with information and statistics about how and why GDL works to reduce teen crash risk and a checklist for engaging teens, parents and fans, the document includes sample safe driving and GDL compliance language that can be included in a school's student-athlete code of conduct.

Other adults also can help reinforce safe driving rules and practices. Since 2009, The UPS Foundation has partnered with Boys & Girls Clubs of America to deliver [UPS Road Code](#), a free program

based on the same safety training UPS uses for its drivers. More than 150 UPS employees trained as volunteer instructors teach the program's safe driving techniques to teens. The program focuses on different safety principles, from basic instruction to the consequences of risky behaviors such as speeding and driving distracted or impaired (Boys & Girls Clubs of America, 2023).

Parents must understand their state's **GDL law is the minimum standard** they may exceed, not a guideline or the maximum to aim for.

Raise the bar and make training available to all

Research confirms the value of driver education and training in reducing young driver crash risk. But more must be done to ensure the training our highest-risk drivers receive meets their needs. GHSA recommends states improve their driver education and training programs incrementally by implementing the national Standards discussed previously. The Standards were developed and substantiated using research findings and the collective knowledge of subject matter experts in the field. They address five key areas: program administration; education and training; instructor, mentor and instructor trainer qualifications; coordination, communication and collaboration with driver licensing; and parent/guardian involvement (ANSTSE, 2023).

To help states do this, free consultation services addressing specific areas of need are available from ANSTSE. Additionally, states are encouraged to conduct a State Self-Assessment (utilizing the Standards State [Self-Assessment tool](#)) and/or conduct a NHTSA Driver Education and Training Assessment and use the findings to make incremental improvements over time.

Raising the bar also means ensuring that driver education and training are available to all — regardless of race, gender, language, age and any other characteristic — and that the curricula are culturally equitable. The U.S. population is rapidly changing and, as a result, there is a need for culturally responsible teaching. This method uses cultural characteristics, geographic experiences and the perspectives of ethnically diverse students

as conduits for teaching. As a result, the students' achievement and skills improve because teaching is done through their own cultural and experiential filters (Saint, 2022). ANSTSE developed an [information sheet](#) that includes a checklist to help states and providers apply cultural equity to their programs.

Another valuable resource for ensuring programs are culturally equitable is [Project C.R.U.I.S.E](#) (Culturally Responsive Understanding in Safety Education). Developed by the Texas Education Service Center Region 13 with funding from the Texas Department of Transportation, C.R.U.I.S.E identifies and discusses multicultural education principles, guidelines and best practices for implementation by driver education and training professionals (Larke, 2013).

Financial barriers that may prevent some teens from enrolling in driver education and training also must be addressed. As discussed previously, young drivers who complete mandatory driver education do better than their non-trained counterparts. But the cost associated with this training — particularly in states where it's only available through private, for-profit schools — can be prohibitive. As a result, some teens must wait until they're 18 to get a driver's license and that means they're not realizing the benefits of GDL.

In Washington state, for example, between 2016 and 2020, less than half (44%) of drivers 25 and under completed a driver education course. A 2020 survey conducted by the Washington Traffic Safety Commission (WTSC) found that non-white young



people are more likely to wait until they're 18 years of age to obtain a license, with more than half citing cost as the reason. At the same time, BIPOC 15- to 24-year-olds are disproportionately represented in the state's fatal crashes. According to a WTSC official, "they're being sorted into that higher risk category because of that financial barrier" (Kroman, 2023).

The Washington State Legislature is currently considering two bills addressing driver education. One would require anyone 25 or younger to complete driver education as a prerequisite for licensure and another would provide vouchers to anyone who can't afford the cost. The former is supported by data from the WTSC that estimate a 70% higher rate of injury or death for people who did not complete a driver education course. In addition, young drivers who got their license at 18 were 50% more likely to get into a crash in their first year of driving than those who did so at 16 years old (Kroman, 2023).

Two states — Ohio and Missouri — are making scholarships available to help address the driver education access gap. Ohio's "Drive to Succeed" scholarship program, administered by the SHSO, has made more than half a million dollars in competitive grant funds available to local governmental agencies (e.g., police and health departments, sheriffs' offices) to help teens attend an eligible state-approved driving school in their area at little to no cost (Office of Governor Mike DeWine, 2022). Missouri, meanwhile, is leveraging a grant provided by GHSA and Ford Fund to sponsor driver education training opportunities for teens in foster care to help them obtain the instruction required under that state's GDL law. Currently, there are more than 4,500 teens in Missouri's foster care system, and many don't have the resources or support needed to meet this requirement (GHSA, 2023a).



Invest in impactful peer-to-peer education programs

Peer-to-peer education is a viable component of a broader teen traffic safety strategy, but not all programs are created equally. It's critically important that teens have a voice in leading these efforts. States looking to build or assess their own teen traffic safety program, or invest in one run by another organization, should ensure it has the following key success indicators:

- **Teen-led** — Teens, rather than adults, are in charge. The ideal program ensures that young people take the initiative, provide leadership and make all the decisions. That means adults step back and allow youth to be the catalysts unless or until they ask for assistance (Fischer, 2019).
- **Inclusive** — Teens representing a myriad of cultures, ethnicities, genders and economic backgrounds, not just the most popular or active, are engaged (Fischer, 2019).
- **Sustainable** — Adults are there to provide support and guidance along with the resources needed to keep the initiative going. These advisors or adult allies must understand youth culture, have strong group facilitation skills, and provide positive

reinforcement and meaningful feedback that motivates and inspires teens (Kelly, 2004, as cited in Fischer, 2019).

- **Facilitated training** — Teens should receive training (preferably led by program alumni) that aligns with what they're expected to do, as well as how to work together as a team. Adults should receive training to help them communicate and facilitate meetings with young people as well as serve as mentors and positive role models (Fischer, 2019).
- **Measurable objectives** — Teens should develop and implement clearly defined, measurable learning objectives for their programs that are tied to a safety problem they've identified. These objectives need to be developed before teens select, plan and implement any activities (Fischer, 2019).
- **Positive** — Teens are more likely to choose safe behaviors when the learning experiences and messaging are positive rather than "scare-oriented" (Hobart & William Smith Colleges, 2017, as cited in Fischer, 2019). In addition, focusing on the

Peer-to-Peer Education Program Success Indicators

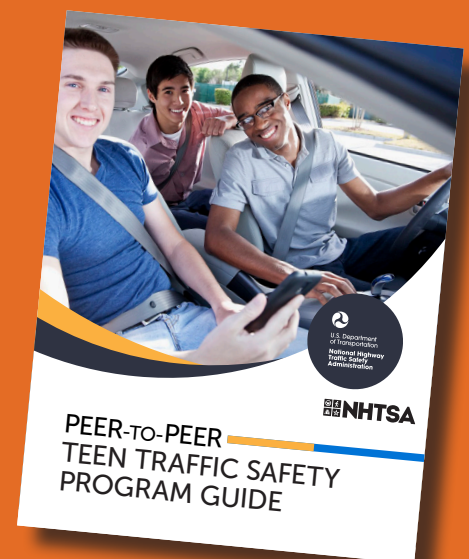




social norm — what teens are doing, rather than what they perceive their peers are doing — can help correct misperceptions and promote positive behavior (National Social Norms Center, 2017, as cited in Fischer, 2019).

- **Incentives and recognition** — Teens are motivated by incentives and recognition, but there are caveats. Incentives usually work in the short-term, while recognition can help keep some youth engaged. The most effective motivators, however, are opportunities for personal growth, recognition, responsibility and challenging work (Baer, 2014, as cited in Fischer, 2019).
- **Evaluation** — Teens should evaluate their programs to determine whether they were conducted as planned (process evaluation) and achieved the learning objectives (outcome evaluation) they established during the planning process. Evaluation should be included at the start of the peer-led project to help frame the questions that will be asked and clarify the problems teens will attempt to address (Seufert-Pullent et al., 2008, as cited in Fischer, 2019).

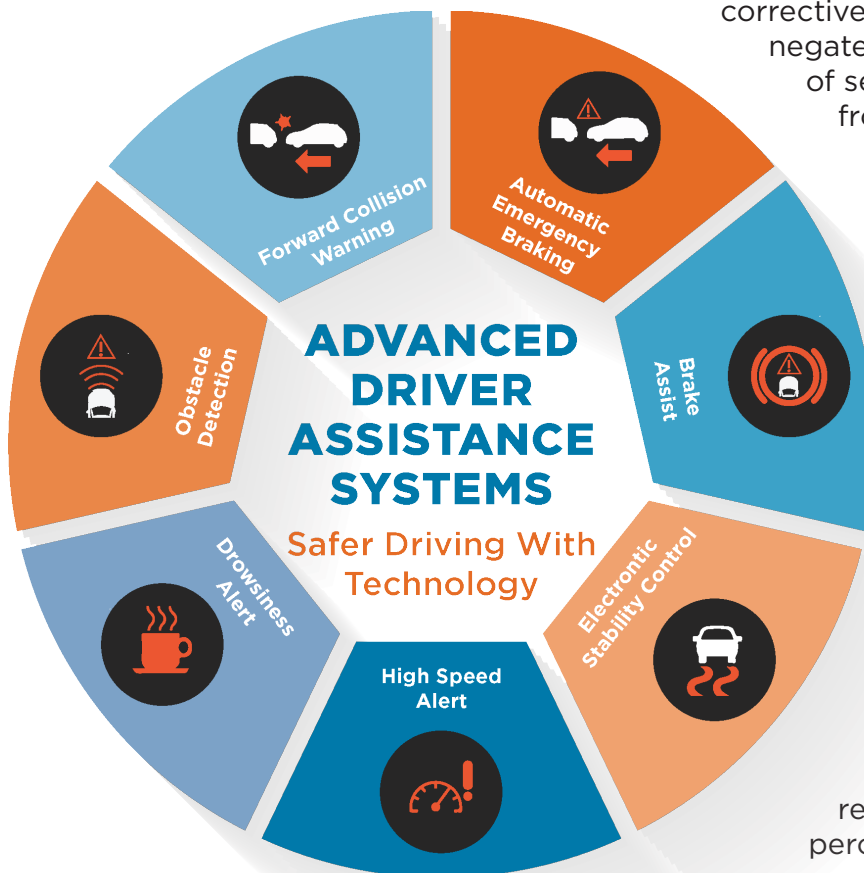
A NHTSA produced **Peer-to-Peer Teen Traffic Safety Program Guide** discusses in detail how to implement these essential elements. It also includes a compendium of teen led traffic safety programs that incorporate all or many of these elements. These programs are benchmarks against which SHSOs and their partners can assess their own programs or others.



Leverage driver assistance technology and apps

Choosing a vehicle is one of the most important decisions parents make for their young drivers. While parents may be tempted to put their teens in older “beaters,” experts recommend opting for vehicles that have as many safety features as possible. Putting young drivers in newer vehicles will give them access to driver assistance features (discussed earlier) that have the potential to prevent or mitigate up to 75% of their fatal crashes (IIHS, 2023b; 2021). But some parents are reluctant to introduce these features because they worry their teens will become dependent on them. (A vehicle’s most effective safety feature is an attentive, sober driver.)

Figure 3.
Advanced Driver Assistance Systems (ADAS) in Vehicles



Source: MyCarDoesWhat?/NSC

Parents need to understand that young drivers have difficulty recognizing hazards and maintaining vehicle control. They’re also more prone to losing focus and less likely to slow down in inclement weather. As a result, they have more loss-of-control, run-off-the road, rear-end and right-angle crashes, which crash avoidance technologies can help mitigate (IIHS, 2021). The key is promoting more widespread adoption of their use by teens.

This can be done through parent education programs and other materials, as discussed previously. But parents also need to understand how these technologies work. Drivers turning these safety systems off due to mistrust or annoyance, as has been reported, undermines their benefit. At the same time, if drivers don’t understand how these assistance features work, are overwhelmed by them or fail to take corrective action, their effectiveness is negated. Observations at dealerships of seven automakers found that front crash prevention systems were activated in 93% of the vehicles brought in for service and nearly all the blind-spot detection and rear-cross traffic alerts were activated (Reagan, et al., 2018, as cited in IIHS, 2023c). Activation of systems that help with lane-keeping, however, were substantially lower at just 52% (IIHS, 2023c).

Research indicates that lane departure warning, blind spot monitoring and AEB reduce the types of crashes they’re designed to prevent by 11%, 14% and 50%, respectively. Based on these percentages, it’s estimated that

today's lane departure warning technology could prevent approximately 6,500 young drivers crashes a year, while blind spot monitoring and AEB could avert another 4,500 and 110,000, respectively (IIHS, 2021). Clearly, more must be done by automakers and dealerships to educate drivers — of all ages — about the lifesaving benefit of this technology.

This need for education also extends to vehicles equipped with young driver-specific technologies. An IIHS study of parents who owned Ford vehicles equipped with MyKey found that only about half were aware their vehicles had this technology. Of the parents that knew, approximately one-third didn't use it with their teens, with some indicating they didn't believe it provided a safety benefit. As discussed earlier, these teen-specific features provide critical information to parents as well as help address common risky driving behaviors such as speeding and lack of seat belt use, each of which contributes to approximately 40% of teen driver deaths. Having access to these data can help parents coach and monitor their teens. IIHS also estimates that “even if these technologies are only moderately effective, they could prevent many injuries” (IIHS, 2021).



Driver Assistance Technology Reduces Crashes

Departure warning

11%
fewer crashes

Blind Spot Monitoring

14%
fewer crashes

AEB Braking

50%
fewer crashes

While this in-vehicle technology could be out of reach for some families, low or no-cost apps are a viable alternative for monitoring young drivers. Cell phones are ubiquitous with teens; using these devices to keep tabs on their driving would not be difficult. For example, about 30% of fatalities involving 16- and 17-year-old drivers happen between 9 p.m. and 6 a.m. An app that notifies parents about curfew violations could help them better enforce a nighttime driving restriction. The challenge is not only to promote the use of these apps, but also for parents to monitor these alerts and act when their young drivers violate restrictions (IIHS, 2021).

Incorporate technology and driver responsibility into education

As vehicle technology continues to evolve, ensuring that our youngest and riskiest drivers understand and use it correctly is critical. That understanding should include how the technology functions, its limitations and the conditions or situation that it was or wasn't designed for. Inaccuracies can lead to driver overreliance and/or overestimation of the technology's capabilities, which can be particularly deadly for young drivers (AAA Foundation for Traffic Safety, 2023).

As discussed previously, drivers don't have a good understanding of the current advanced driver assistance systems (ADAS) in their vehicles (e.g., lane-keeping assist or automatic emergency braking) and, as a result, are not reaping their benefits. Introducing teens to today's ADAS, including opportunities to try them out in a controlled setting, can help bridge the knowledge gap and bolster use and safety. This is critical because teens may assume that a Level 2 or 3 automated vehicle can drive itself without any attention from the driver, which is simply not the case. This lack of understanding has been the cause of many crashes. This generation of young drivers is more likely than their parents to embrace technology, but it's vital they're provided accurate information about what exists today and how it works, so their interaction with this technology is safe and appropriate (AAA FTS, 2023).

This behind-the-wheel experience should also extend to electric vehicles (EVs). EVs accounted for just over 7% of registered light vehicles in the U.S. in January 2023, a year-over-year increase of 74% (Kane, 2023), and their share will continue to increase rapidly. EVs often feel faster to drivers due to their ability to quickly produce maximum torque, plus many have one-pedal driving. Teens may find it easy to adapt to the latter, but not recognize

the danger associated with the former. That's because speed is a problem for young drivers; they account for a greater proportion of speed-related fatalities than older drivers (Retting & Fischer, 2021). As young drivers get more comfortable behind the wheel, their speed tends to increase. Education can help temper a teen's enthusiasm to see just how fast that EV can go.

Young driver education must also address the safety of people outside the vehicle — pedestrians, bicyclists, people in wheelchairs, scooter riders and other micromobility users. U.S. pedestrian and bicyclist fatalities have reached record levels not seen in four decades (GHSA, 2023b). Educating young drivers about the critical role they play in keeping others safe is essential for reversing this trend. Ford Fund has broadened its focus beyond drivers to call for safe mobility for all road users and partnered with GHSA to incorporate this into the DSFL program. Other providers of young driver programs are urged to incorporate this into their curricula as well.



A teen uses virtual reality to simulate riding a bicycle in traffic to emphasize how unsafe driving puts people outside the vehicle in danger.



CONCLUSION

Young driver safety must continue to be a priority in the nation's quest to achieve zero traffic fatalities. Teens historically have been among the most dangerous drivers, so investing in their safety benefits all road users. This is best accomplished by continuing to leverage the proven countermeasures addressed in this report, as well focusing on newer issues such as equity, vehicle technology and the responsibility drivers have for the safety of all road users.

GHSA is committed to working with State Highway Safety Offices and an array of national partners — automakers, safety

organizations, advocates, insurance companies, technology providers and many others — to advance the recommendations discussed in this report to ensure young driver fatal crashes and crash rates continue to decrease. GHSA also is excited to continue its 20-year partnership with Ford Motor Company Fund to make free, skills-based, behind-the-wheel training available to teens that includes educating their parents and/or guardians about the critical role they play in coaching and monitoring their young drivers.

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