

Ohio Motor Vehicle Opinion Survey



Ohio Department of Health
Violence and Injury Prevention Program
October 2013

www.healthy.ohio.gov/vipp/injury



Ohio Department of Health

Division of Prevention and Health Promotion

Bureau of Healthy Ohio

Violence and Injury Prevention Program

www.healthy.ohio.gov/vipp/injury.aspx

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Special Thanks

A special thanks to Dr. Gregory Gibson and his team at the Kent State University Survey Research Lab for all their hard work in helping make this survey possible.

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Dear Motor Vehicle Safety Advocate,

Thank you for taking the time to review the findings of the Ohio Department of Health's (ODH) motor vehicle opinion survey. This survey is an important first step in gauging the knowledge and attitudes of our fellow citizens on policies aimed at reducing death and disability associated with teen driving, driving under the influence of alcohol and crashes involving passengers under the age of 8.

Crashes involving motor vehicles are a serious public health problem. Motor vehicle crashes are the leading killer of US children, teens, and young adults (ages 5 to 34) and are among the top ten causes of death for all ages. In 2011, motor vehicle crashes took the lives of 1,117 Ohioans and resulted in more than 4,700 hospitalizations and 87,000 emergency department visits. In addition to the impact on victims' families and friends, crash deaths cost Ohioans \$1.23 billion per year in medical and work loss costs, or \$3.4 million every day.

Recognized by the Centers for Disease Control and Prevention (CDC) as a "winnable battle," motor vehicle traffic crash deaths in Ohio decreased significantly over the last decade. While we have made great progress, we still have a long way to go. Injury and violence prevention policies can save lives and reduce costs associated with the long-term consequences of motor vehicle crashes. Over the past 20 years, such policies have saved thousands of lives. For example, laws promoting increased seat belt use have resulted in a significant reduction in motor vehicle crash fatalities. The evidence-based injury prevention policies featured in this survey, such as adopting best practices for graduated driver licensing provisions, can lead to significant reductions in crash fatalities and improve the overall health and safety of our state.

I hope you take the time to review the information presented in this report. By working together, we can make the roadways safer and ensure that all Ohioans are leading happy, healthy and productive lives.

For more information about ODH activities related to injury prevention, including motor vehicle safety, please contact the ODH Violence and Injury Prevention Program at (614) 466-2144 or visit our web site at: www.healthy.ohio.gov/vipp/injury.

Sincerely,

A handwritten signature in black ink that reads "Theodore E. Wymyslo MD". The signature is written in a cursive style with a stylized "MD" at the end.

Theodore E. Wymyslo, MD
Director
Ohio Department of Health

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The Ohio Department of Health's Violence and Injury Prevention Program (VIPP) contracted with the Survey Research Lab (SRL) at Kent State University to assess Ohioan's knowledge and attitudes on policies related to motor vehicle safety. The survey was in the field from July 5, 2013 to July 23, 2013 and is divided into the following topic areas:

- Teen Driving
- Ignition Interlock Devices
- Child Passenger Safety

The purpose of the survey is to gauge the knowledge of current policies, facilitate discussion amongst the public and to examine the adoption of these policies in Ohio.

Survey Findings

Teen Driving

Respondents indicated support for the following teen driving survey items:

- ⇒ Law enforcement being able to stop teen drivers solely for violating night time driving restrictions (56% support).
- ⇒ Driving restrictions for 16 year-old drivers starting either at 9 PM (75.7% support) or 10PM (74.6% support), with the exception of driving to and from work and school.
- ⇒ Driving restrictions for 17 year-old drivers starting either at 9 PM (59.2% support) or 10PM (68.6% support), with the exception of driving to and from work and school.
- ⇒ Increasing the minimum learners' permit age to 16 (75.5% support).
- ⇒ Increasing the minimum licensing age to 16.5 (61% support).
- ⇒ Prohibiting 16 year-old teen drivers from having other teens in the vehicle unless accompanied by a parent/guardian (73.8% support)
- ⇒ Restricting 17 year-old teen drivers to just one teen passenger unless accompanied by a parent/guardian (74.5% support).
- ⇒ Increasing supervised practice driving time from the current 50 hours to 60 hours (71% support).
- ⇒ Allowing law enforcement to pull over teen drivers and ticketing them solely for not wearing a seatbelt (74.2% support).
- ⇒ Utilization of a detachable, magnetic decal to assist law enforcement in identifying a teen driver (71.9% support).
- ⇒ Requiring parents to complete a 1-hour training course on teen driving laws (77.9% support).

Ignition Interlock Devices

Respondents indicated support for the following ignition interlock* survey items:

- ⇒ Mandatory use of ignition interlocks for first time offenders convicted of driving under the influence of alcohol (DUI**) (79.1% support).
- ⇒ Mandatory use of ignition interlocks for DUI offenders with two or more DUIs (95.6% support).

Child Passenger Safety

- ⇒ Respondents indicated support for allowing law enforcement offers to stop a vehicle if they observe a child who is not properly restrained in a booster seat (81% support).

Survey Demographics

Of the 773 respondents completing the survey, the majority—57.8 percent—were female. For this study, 35.9 percent of respondents completing the survey were on a cellular phone. The mean age of respondents was 55.43 years of age. The median income category was \$45,000 - \$59,999, which captures the U.S. Census (2007 – 2011) median Ohio household income of \$48,071. Respondents appear to be well-educated with 22.2% report having Bachelor Degrees and 16.2% report having graduate (MA, MS, MSc, MLS, MSW, or Ph.D.) or professional degrees (law, dentistry, or medicine). The majority of respondents (72.5%) report not having children under the age of 18 living in their homes.

Margin of Error

The margin of error is +/- 3.58 at the 95% confident interval.

*Ignition interlocks are devices that can be installed in vehicles to prevent someone from operating a vehicle with a blood alcohol concentration (BAC) above a specified level. The devices work by sampling the driver's breath before the vehicle can be started and periodically while it is operating.

**Driving under the influence (DUI) is the crime of driving a motor vehicle with blood levels of alcohol in excess of a legal limit ("Blood Alcohol Content", or "BAC").

Get the Facts...

- ⇒ In Ohio, motor vehicle crashes kill more teens than any other cause of death.¹
- ⇒ In 2012, 109 young Ohioans were killed and more than 14,900 were injured in motor vehicle crashes.²
- ⇒ In one year alone, motor vehicle crash-related injuries and deaths among Ohio teen drivers cost more than an estimated \$1.2 billion in direct medical care expenses or more than \$109 for every Ohio resident.³



Graduated Driver Licensing Laws

In Ohio and across the country, motor vehicle crashes kill more teens than any other cause of death. Two factors in particular work against young drivers putting them at increased risk of a crash. One is their inexperience behind the wheel, and the other is immaturity. Young drivers tend to overestimate their own driving abilities and, at the same time, underestimate the dangers on the road. Young beginners are more likely than older drivers to take risks such as speeding and, because of their inexperience behind the wheel, they are a lot less able to cope with hazardous driving situations.⁴

Graduated driver licensing (GDL) laws are designed to delay full licensure while allowing teens to get their initial driving experience under low-risk conditions.⁵ The three stages of a GDL system include: a supervised learner's period, probationary license (after passing road test) that limits driving in high-risk situations (such as driving at night and with other passengers in the car) and a license with full privileges.

Ohio's GDL at a Glance⁶

Stage	Ohio GDL Provisions
1. Supervised Learner's Period (i.e. Learner's Permit)	<ul style="list-style-type: none"> ⇒ Teen must be at least 15 ½ to receive a learner's permit. ⇒ The permit holder must complete 50 hours of supervised driving with at least 10 hours at night. ⇒ The learner's permit must be held for no less than six months before a teen is allowed to complete the skills test and obtain a probationary Ohio driver license. <u>The minimum age to obtain a probationary Ohio driver license is 16.</u>
2. Probationary Licensing Stage	<p><u>Probationary driver license holders under the age of 17</u></p> <ul style="list-style-type: none"> ⇒ Not permitted to operate a motor vehicle with more than one person who is not a family member in the vehicle, unless accompanied by the license holder's parent, guardian, or legal custodian. ⇒ Prohibited from driving between midnight and 6 a.m. unless accompanied by a parent or guardian with the same exceptions as above. Secondary enforcement. <p><u>Probationary driver license holders between 17 and 18 years of age</u></p> <ul style="list-style-type: none"> ⇒ Restricted from driving between the hours of 1 a.m. and 5 a.m. unless the holder is accompanied by a parent or guardian, with the following exceptions: an emergency situation, driving to or from a school activity, or driving to or from work. Secondary enforcement.
3. License with Full Privileges	No restrictions if license holder is 18 years or older.

GDL laws are effective at reducing crashes among novice drivers. Evaluations of Graduated Driver Licensing (GDL) programs in the United States, Canada, and New Zealand have consistently found that GDL reduces the crash risk among teen drivers. In fact, studies show that most comprehensive GDL systems are associated with reductions of 38% and 40% in fatal and injury crashes, respectively, among teen drivers.⁷

While all states and the District of Columbia have a three-stage GDL system, components in some states are stronger than others. According to the Insurance Institute on Highway Safety (IIHS), the current best practices are a minimum probationary license age of 17 (New Jersey), a minimum permit age of 16 (Connecticut, Delaware, District of Columbia, Kentucky, New Jersey, New York, Pennsylvania, Massachusetts and Rhode Island), 65 - 70 supervised practice hours (Pennsylvania [65] & Maine [70]) and, during the probationary stage, a nighttime driving restriction starting at 8 p.m. (Idaho and in South Carolina during daylight saving time) and a ban on all teen passengers (15 states and D.C.).⁸

In this chapter, Ohioans were asked their knowledge of current provisions in Ohio's GDL and potential changes that could prevent crashes among Ohio's youngest and most inexperienced drivers. While parents and guardians of teens were twice as likely to have a high knowledge of teen related driving laws compared to non-parents/guardians (OR=1.99, p-value<0.01), a majority of Ohioans polled support policies that would bring the state closer to current best practice (**see Appendix 3** for a further analysis of responses to teen driving policy questions based on parent/guardian status).

Nighttime Driving Restrictions

Fatal crash risk is higher at night for drivers of all ages, but especially for young drivers. Teen drivers are at greater risk during this time because they are likely to have less practice driving at night and the task of driving is more difficult in the dark.⁹ The rate of nighttime fatal crashes for 16 and 17 year-old drivers is 4 times greater at 23 crashes per 100 million miles travelled, compared to a rate of 5.5 crashes per 100 million miles travelled for daytime fatal crashes. Limits on night driving are associated with a 40-60 percent crash reduction during restricted hours.¹⁰

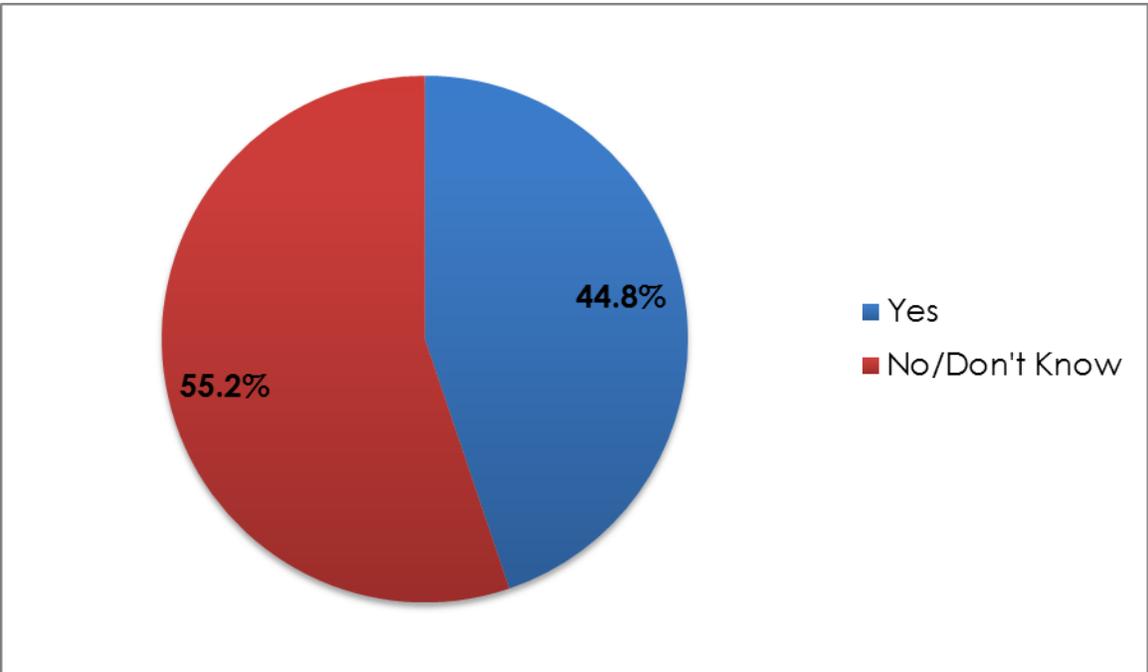
Currently, Ohio has two of the latest starting times for nighttime driving curfew among all states with such laws.¹¹ Sixteen year-olds in Ohio are prohibited from driving between the hours of midnight and 6 a.m.; seventeen year-olds cannot drive from 1 a.m. to 5 a.m.

DID YOU KNOW?

⇒ **59 percent of fatal crashes involving Ohio teens in 2011 occurred between the hours of 8 p.m. and 5 a.m.**¹²

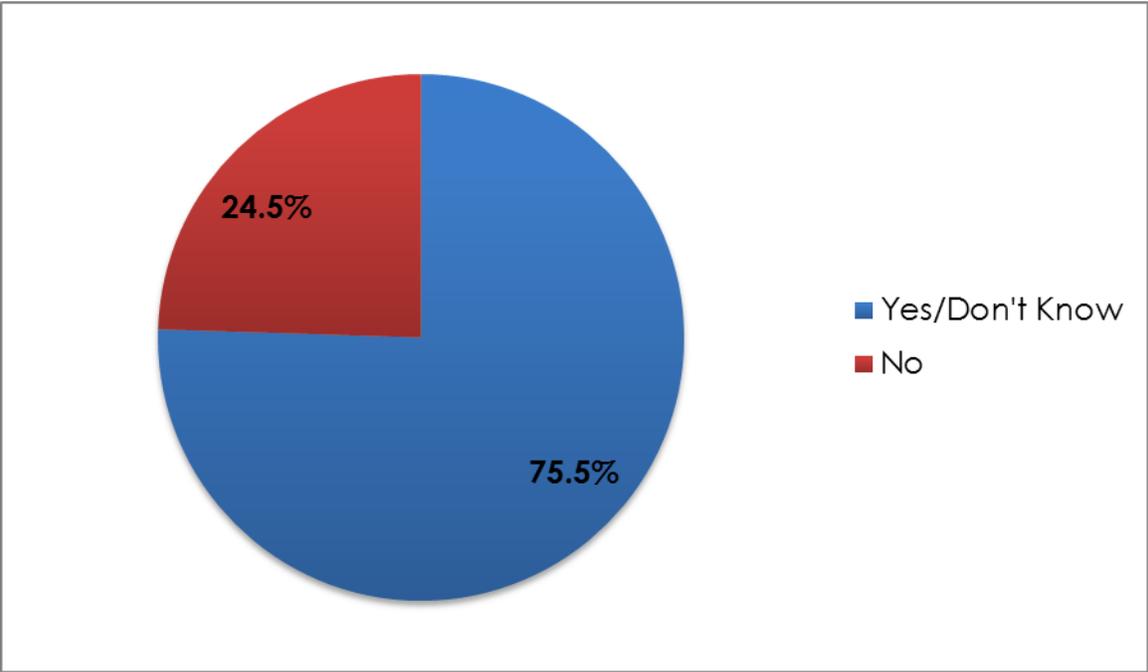
Currently, nighttime driving restrictions for teen drivers in Ohio are a secondary offense, meaning that law enforcement officers can only cite teen drivers for a violation of the law if they have committed another citable traffic infraction. Laws with secondary enforcement are less effective than primary laws, meaning that teens are less likely to obey the law and more likely to be at risk. A majority of those surveyed either did not know that nighttime restrictions for teen drivers existed nor did they know a violation of the restriction is a secondary offense (**see Figure 1 and Figure 2**). Regardless of their knowledge of the current law, a majority of respondents (56 percent) support the primary enforcement of nighttime driving restrictions for teen drivers (**see Figure 3**).

Figure 1: Less than half of respondents correctly reported that Ohio had nighttime driving restrictions for teen drivers.



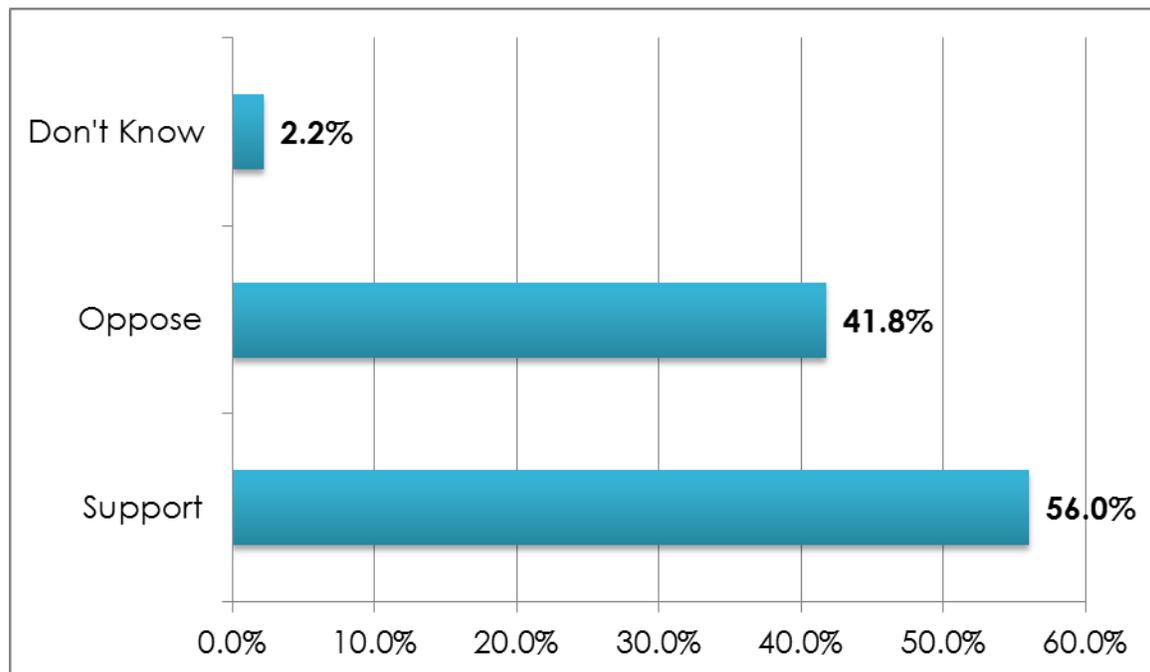
Under current Ohio law, sixteen year-olds in Ohio are prohibited from driving between the hours of midnight and 6 a.m.; seventeen year-olds cannot drive from 1 a.m. to 5 a.m.

Figure 2: Only one quarter of Ohioans correctly indicated that a teen driver cannot be pulled over and ticketed solely for violating nighttime driving restrictions.



Under current law, Ohio teens cannot be pulled over for violating nighttime driving restrictions.

Figure 3: A majority of Ohioans support allowing law enforcement officers to stop teen drivers for violating nighttime driving restrictions when no other traffic laws are broken.



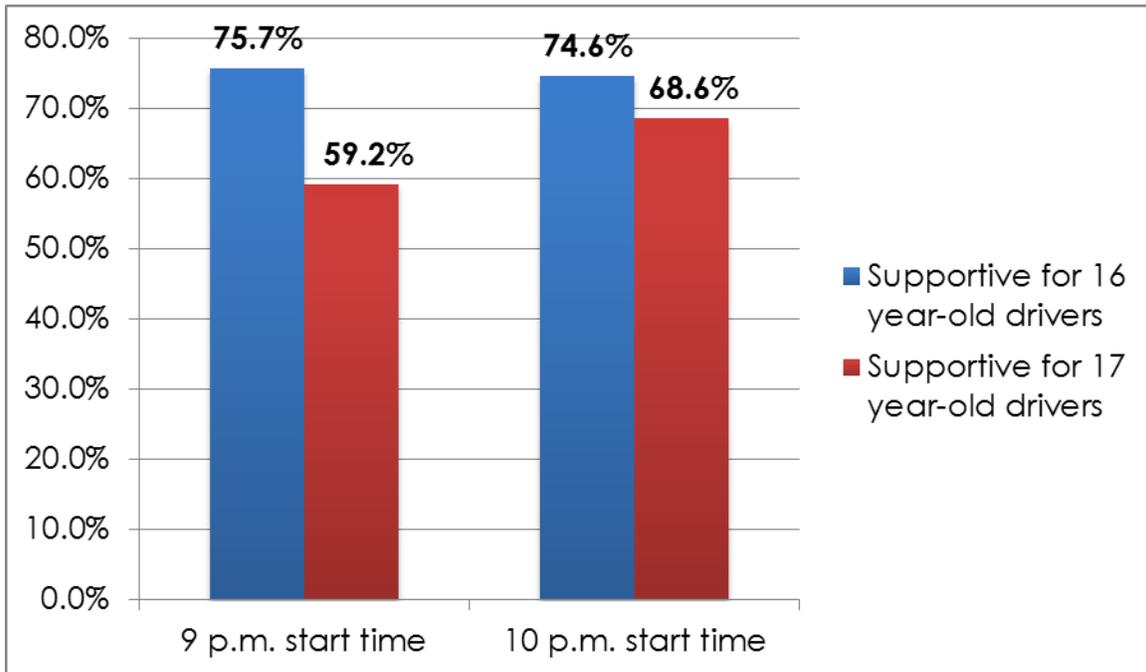
Although many states, including Ohio, do not begin nighttime teen driver restrictions until midnight or 1 a.m., risk of a fatal crash at night among 16 and 17 year-old drivers is actually much higher between the hours of 9 p.m. and midnight.¹³ For this reason, six states begin nighttime driving restrictions for teen drivers at or before 9 p.m. with an additional seven states beginning at 10 pm.¹¹ The IIHS estimates that shifting Ohio's starting time for teen driving restrictions to 10 p.m. could reduce the fatal crash rate among teen drivers by an estimated five percent. Moving the starting time to 9 p.m. could reduce the fatal crash rate by approximately seven percent, saving an estimated five to seven Ohio teens each year.¹⁴

Respondents were generally supportive of earlier nighttime driving restrictions for teen drivers (see Figure 4). However, there was a sharp decrease in support between restrictions starting at 9 pm for 16 year-old drivers (75.7 percent) and 17 year-old drivers (59.2 percent).

DID YOU KNOW?

⇒ **The Insurance Institute on Highway Safety (IIHS) estimates that shifting Ohio's starting time for teen driving restrictions to 10 p.m. could reduce the fatal crash rate among teen drivers by an estimated five percent. Moving the starting time to 9 p.m. could reduce the fatal crash rate by approximately seven percent, saving an estimated 5 to 7 Ohio teens each year.¹⁴**

Figure 4: Ohioans generally support increasing nighttime driving restrictions for 16 and 17 year-olds with exceptions for driving to and from work or school.



Teen Driver Age

Age is an important risk factor for motor vehicle crash-related injuries and fatalities among teen drivers. The crashes of young beginners are more likely than those of older drivers to involve single vehicle events, speeding, and driver error, reflecting their risk taking tendencies and inexperience.¹⁵ Research indicates that age and experience behind the wheel contribute to the risk of motor vehicle crashes.¹⁵ In fact, studies addressing age as it relates to crash risk found that crash rates for novice 16 year-olds were higher than rates for novice 17 year-olds.¹⁶

Increasing the age at which teens are able to receive a learner's permit or a probationary license reduces their risk of a fatal crash.^{17 18 19} Delaying permit and, subsequently, probationary licensure reduces the risk of exposure at ages when teen drivers are most vulnerable and allows for additional maturation to occur before putting teens behind the wheel unsupervised.¹⁹

Experts estimate that delaying the required age for a learner's permit in Ohio by six months (from age 15 ½ to 16) could reduce the fatal crash rate among teen drivers by seven percent. This effect could also be achieved by increasing the minimum age for a probationary driver's license. Increasing the age of unsupervised driving in Ohio (from age 16 to 16 ½ years) yields the same seven percent rate reduction as delaying the learner's permit age, saving an estimated seven Ohio teens each year.¹⁴

A majority of Ohioans surveyed knew that 15 ½ is the age at which a learners' permit can be obtained in Ohio (see Figure 6). An even larger proportion believes that the age when a teen can obtain a learner's permit should be increased to 16 years of age (see Figure 7).

Figure 6: Most Ohioans knew that 15 ½ is the age at which a teen obtain their learners' permit.

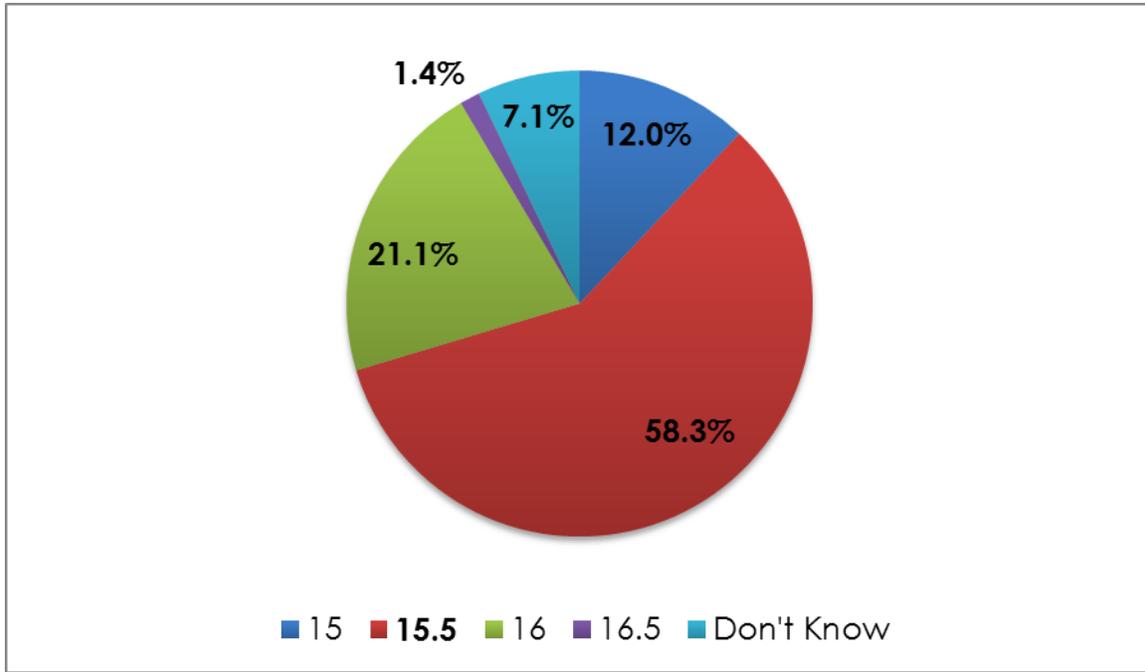
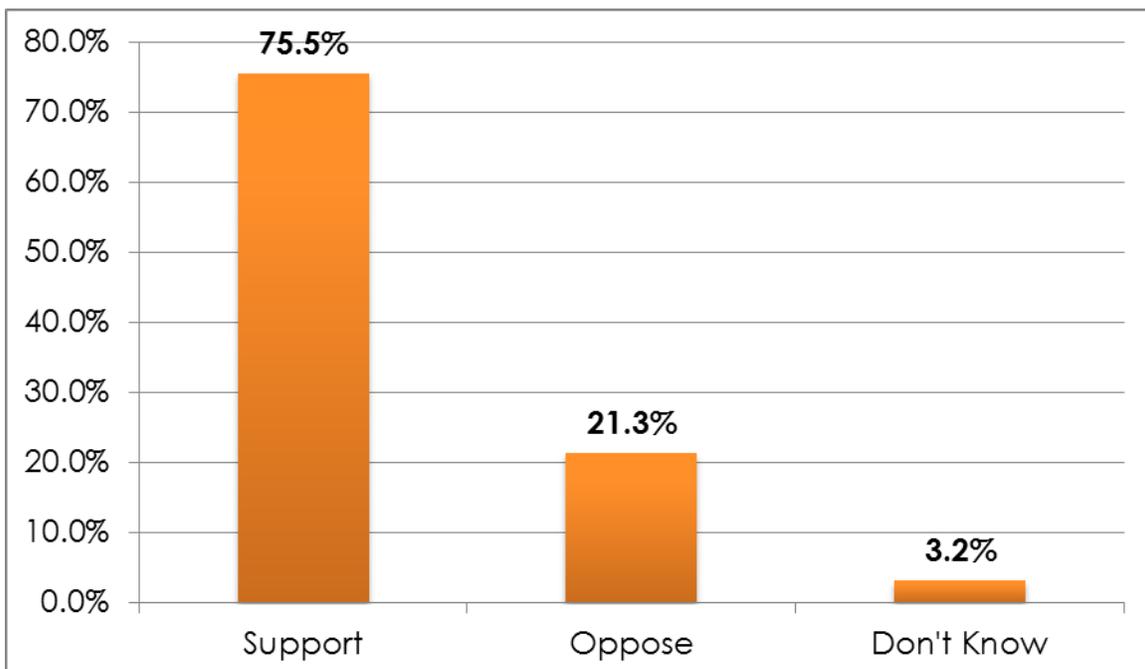


Figure 7: Ohioans surveyed support making 16 the minimum age in which a teen driver can obtain their learners' permit



The current best practice among states is to have a minimum licensing age of 17. This would require those to hold a learner's permit until the age of 17 before they are able to enter the probationary stage of the GDL.¹¹ It is estimated that an increase in the licensing age to 17 would decrease teen driver fatalities in Ohio by 13 percent, saving 14 Ohio teens each year.¹⁴ While participants responded favorably to increasing the minimum licensing age to 16 ½ (see Figure 8), they remained almost evenly split when it came to increasing the minimum licensing age to 17 (see Figure 9).

Figure 8: A clear majority of Ohioans support raising the minimum licensing age from 16 to 16 ½.

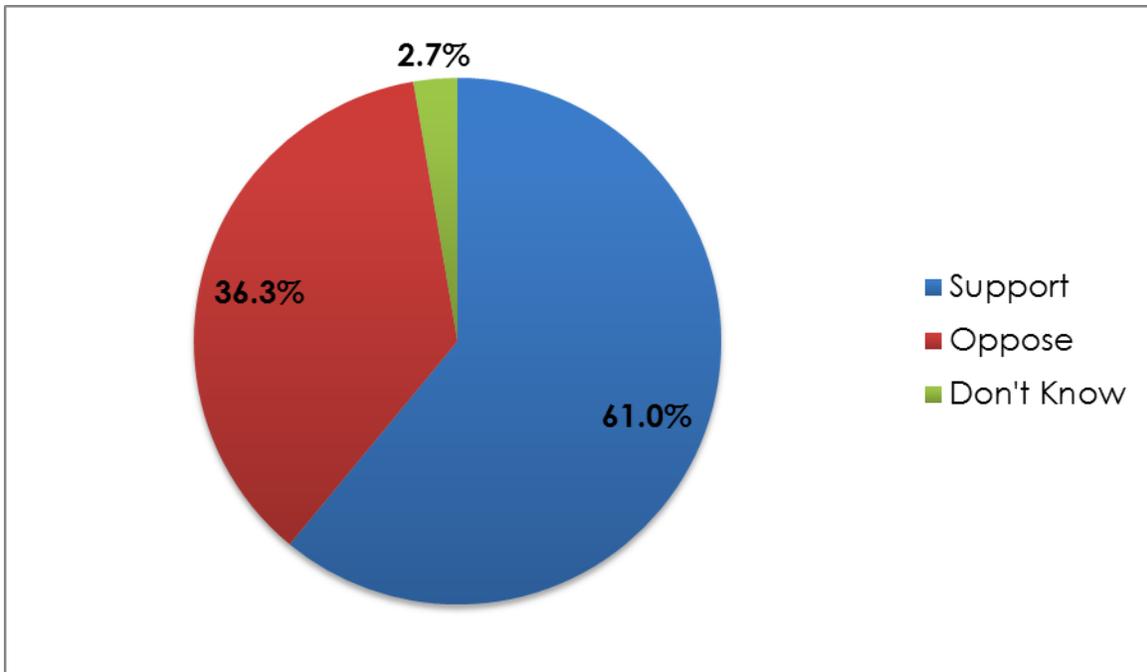
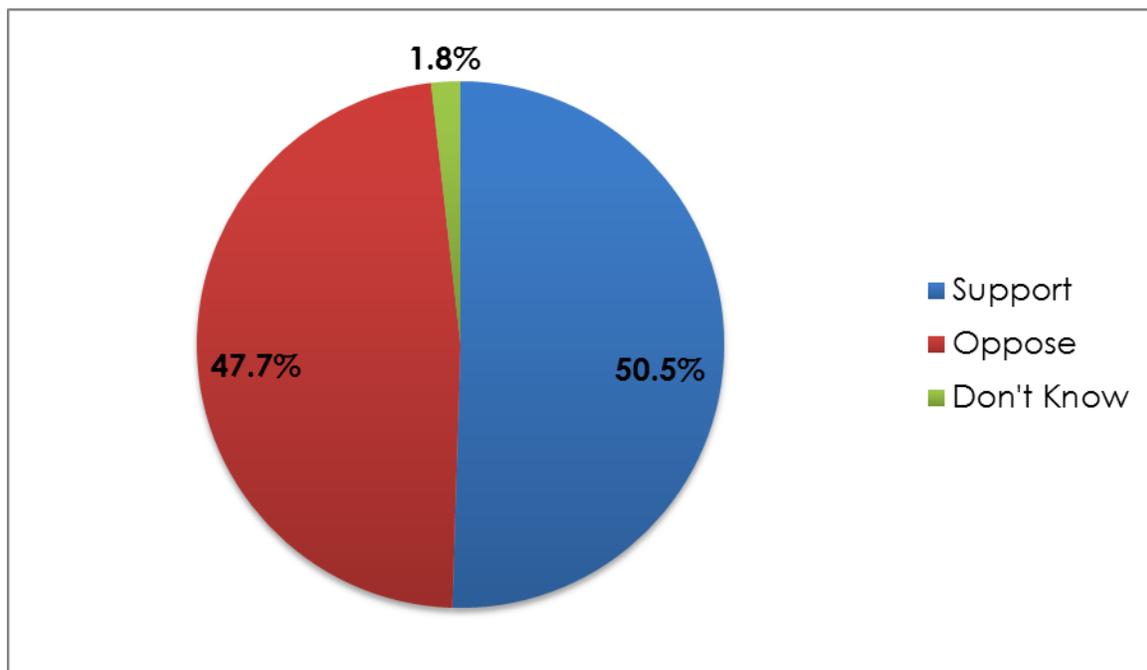


Figure 9: Ohioans were split when asked about raising the minimum licensing age from 16 to 17.



Passenger Restrictions

Research shows that teen drivers are at higher risk of being involved in a motor vehicle crash when there are other teens in the vehicle. This risk increases with each additional passenger. For example, one study found that among 16 year-old drivers, the death rate increased from 1.99 deaths per 10 million trips for drivers with no passengers to 2.76, 3.69, and 5.61 for drivers with one, two, and three or more passengers, respectively. The rates for 17 year-old drivers were only slightly lower.²⁰

Passengers can adversely impact teen drivers through a variety of mechanisms. Teen drivers with passengers in the vehicle are more likely to be distracted and exhibit risk taking behaviors than those driving alone.^{21 22} In addition, male teens are more likely to engage in aggressive driving or perform illegal driving maneuvers when passengers are in the vehicle.²² Current Ohio law prohibits a 16 year-old from driving with more than one person who is not a family member in the vehicle, unless accompanied by the license holder's parent, guardian, or legal custodian.

While there are passenger restrictions in place for teen drivers, further restrictions have the potential to reduce traffic crash deaths. According to the IIHS, it is estimated that reducing the number of teen passengers allowed by teen drivers (age 16) in Ohio from one passenger to zero passengers could reduce the fatal crash rate among drivers by 16%, saving 17 Ohio teens each year.¹⁴ Motor vehicle-related injuries and fatalities could also be prevented by expanding passenger restrictions beyond 16 year-old drivers; for example, by limiting the number of teen passengers allowed by 17 year-old drivers.

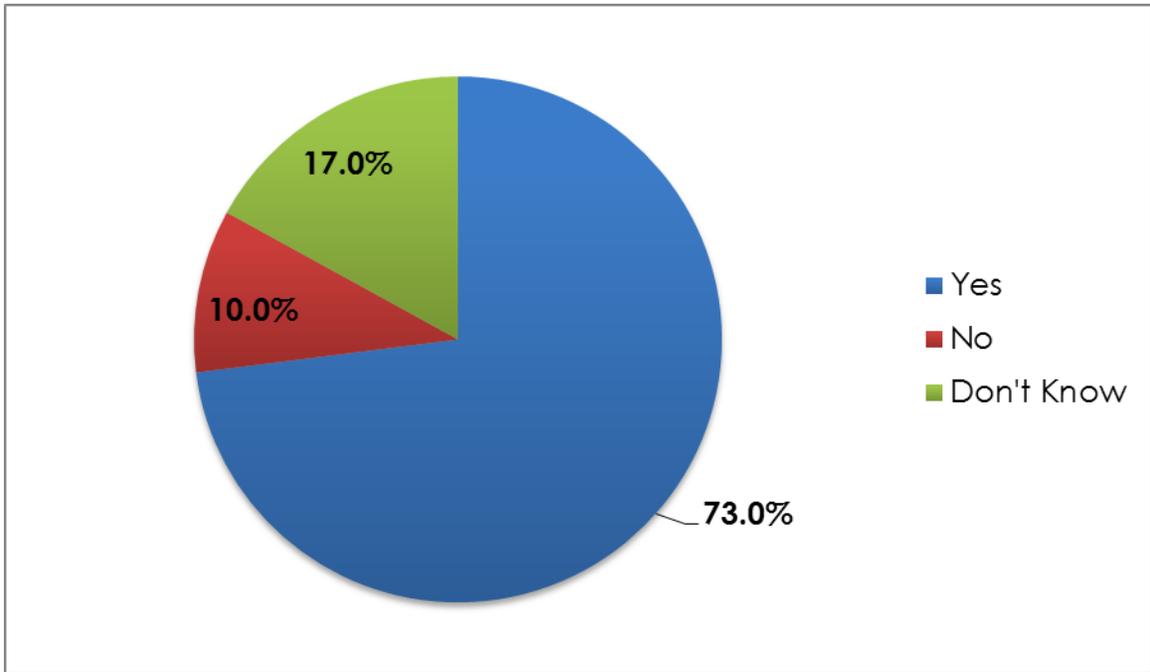
Currently 15 states and the District of Columbia prohibit teen drivers from having any teen passengers in the vehicle for at least the first 6 months of probationary licensure.¹¹

73 percent of respondents were aware of the current passenger restrictions for teens under the age of 17 (**see Figure 10**). Ohioans indicated support for further passenger restrictions on teen drivers with 73.8 percent supporting a ban on all teenage passengers for 16 year-old drivers (**see Figure 11**) and 74.5 percent who support limiting 17 year-old drivers to one teen passenger (**see Figure 12**).

DID YOU KNOW?

⇒ **In 2010, 59% of teen passenger deaths occurred in vehicles driven by another teen.**²³

Figure 10: A majority of Ohioans correctly reported that Ohio law includes restrictions on who can ride in a car with a driver under the age of 17.



Current Ohio law prohibits a 16 year-old from operating a motor vehicle with more than one person who is not a family member in the vehicle, unless accompanied by the license holder's parent, guardian, or legal custodian.

Figure 11: There is strong support in Ohio for prohibiting 16 year-old drivers from having teen passengers in the vehicle unless accompanied by their parent or legal guardian.

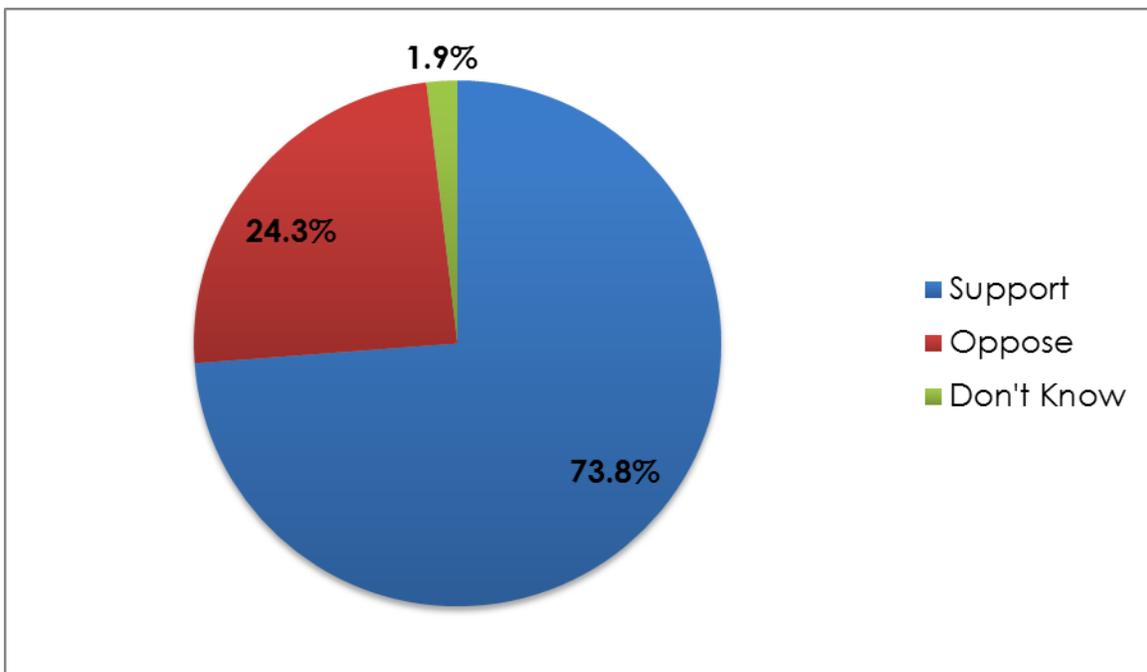
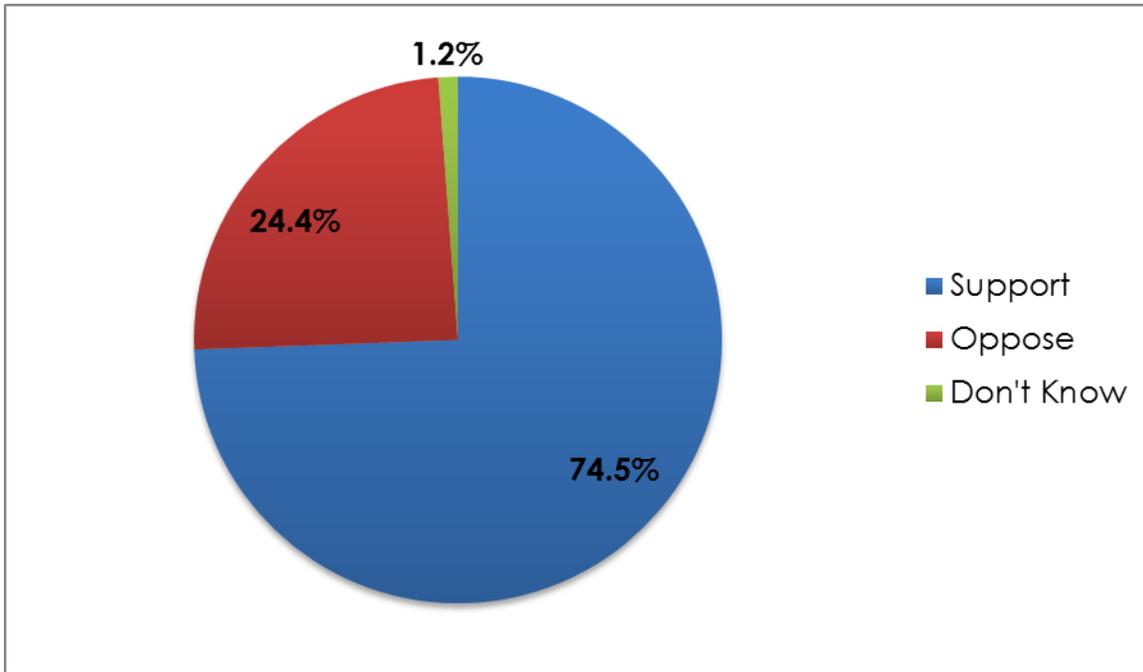


Figure 12: Ohioans support prohibiting 17 year-old drivers from having no more than one teen passenger in the vehicle unless accompanied by their parent or legal guardian.



Arminda's Story

I was 14 years old and staying at my aunt's house about 45 minutes from my home. We were riding in the car to take home my cousin's friend, who lived nearby. None of us put on our seat belts because of the short ride. Ten minutes into our trip the van began to swerve and then nothing...

I woke up on the ground covered in blood. Everyone was screaming. I tried to sit up but it felt like someone was twisting knives in my abdomen. A paramedic was kneeling next to me begging me to be still. She had my mother on the phone and I needed to hear her voice. I was transported to a local hospital by ambulance.

Once there, doctors and nurses scrambled around me. To this day, it is impossible to fully recover this memory. I do remember my parents entering the room. All I could muster was an apology for not wearing my seat belt. Everything was my fault. One simple decision brought me face-to-face with death. I was transferred to the top trauma hospital in the area. I had a broken pelvis and sacrum, third-degree lower abdomen lacerations, and countless other injuries. I had multiple surgeries in the days following and spent three days in critical care. My first hospital stay was six weeks.

I cannot recall the number of surgeries I've had or can predict how many more I will need. I've had a bladder reconstruction, a permanent urostomy, and I'm facing a possible colostomy. I have steel pins in my sacrum. As a result of the bladder reconstruction, I face multiple kidney infections every year, many requiring extended hospital stays. I endured years of physical therapy to learn to walk again, first with a walker and then a cane. I can now walk, but not as well as I once did.

I am 21 years old and the decision I made not to buckle my seat belt over seven years ago still determines every daily decision I make. I would give anything to be able to change the decision I made.

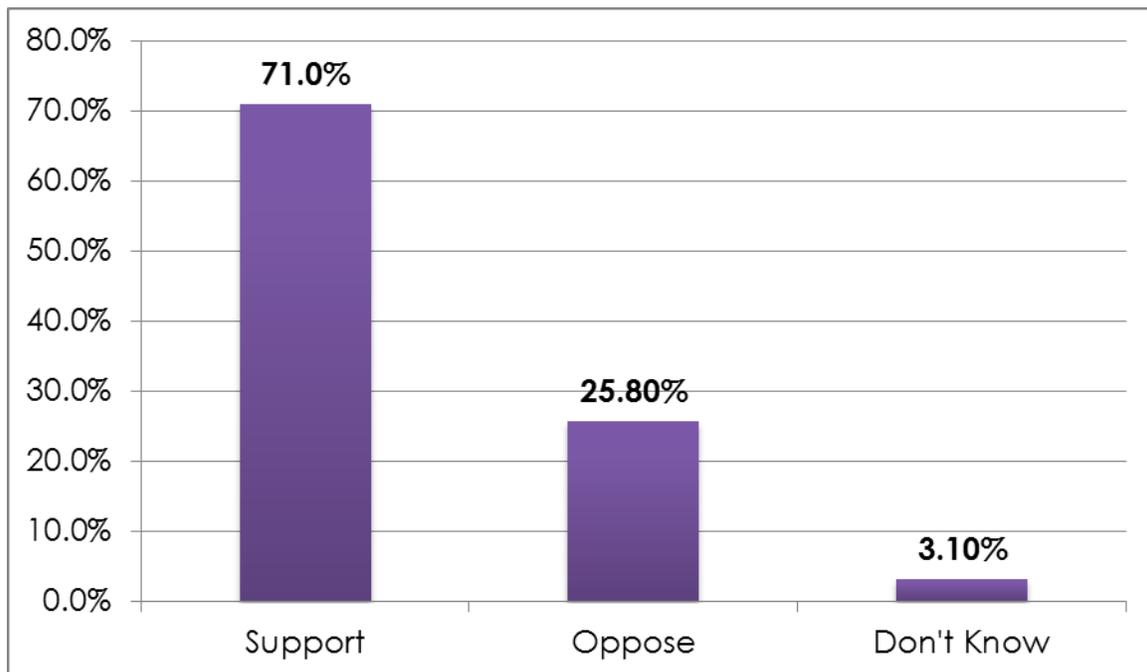


Story adapted from: Ohio Injury Prevention Partnership, Preventing Injuries in Ohio: A Resource for Policy Makers. 2013-2014 Edition. Columbus, OH; 2013. <https://sites.google.com/site/lippaag/home/guide>.

Practice Hours

Most states require a minimum number of supervised hours behind the wheel before progressing from the learner stage to a probationary license. Experts indicate that more practice hours reduces the number of collision claims filed for novice drivers.¹⁴ The current best practice in the United States is between 65 and 70 supervised driving hours. A majority of respondents (71.1 percent) support increasing the number of supervised practice hours for Ohio teens from the current 50 hours to 65 hours (see Figure 13).

Figure 13: Survey respondents were supportive of increasing supervised practice hours for teen drivers from the current 50 hours to 65 hours.



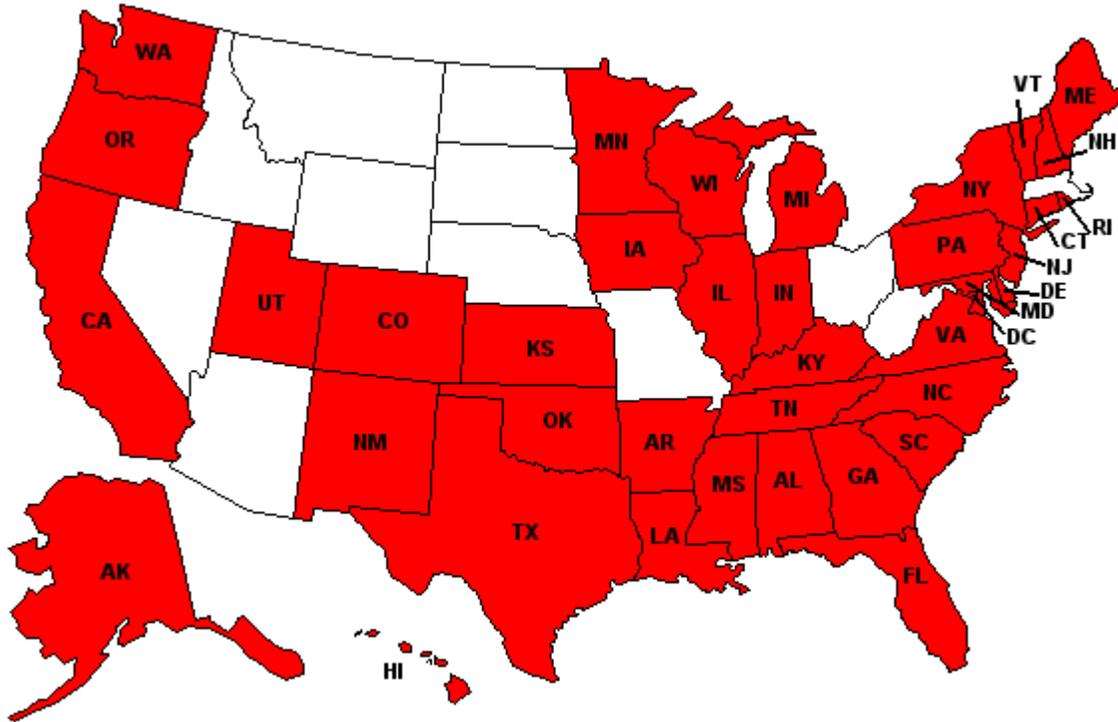
Primary Seat Belt Law for Teen Drivers

Seat belt laws are divided into two categories: primary and secondary. Primary seat belt laws allow law enforcement officers to ticket a driver or passenger for not wearing a seat belt, without any other traffic offense taking place. Secondary seat belt laws state that law enforcement officers may issue a ticket for not wearing a seat belt only when there is another citable traffic infraction. Ohio has a secondary seat belt law while 38 states have primary seat belt laws for teen drivers (See map on next page).²⁵

DID YOU KNOW?

⇒ **In 2011, Ohio's seat belt use rate was 85%. However, among young Ohioans (15-25), the seat belt use rate was only 77%.²⁴**

38 States and the District of Columbia Have Primary Seat Belt Laws for Teen Drivers²⁵



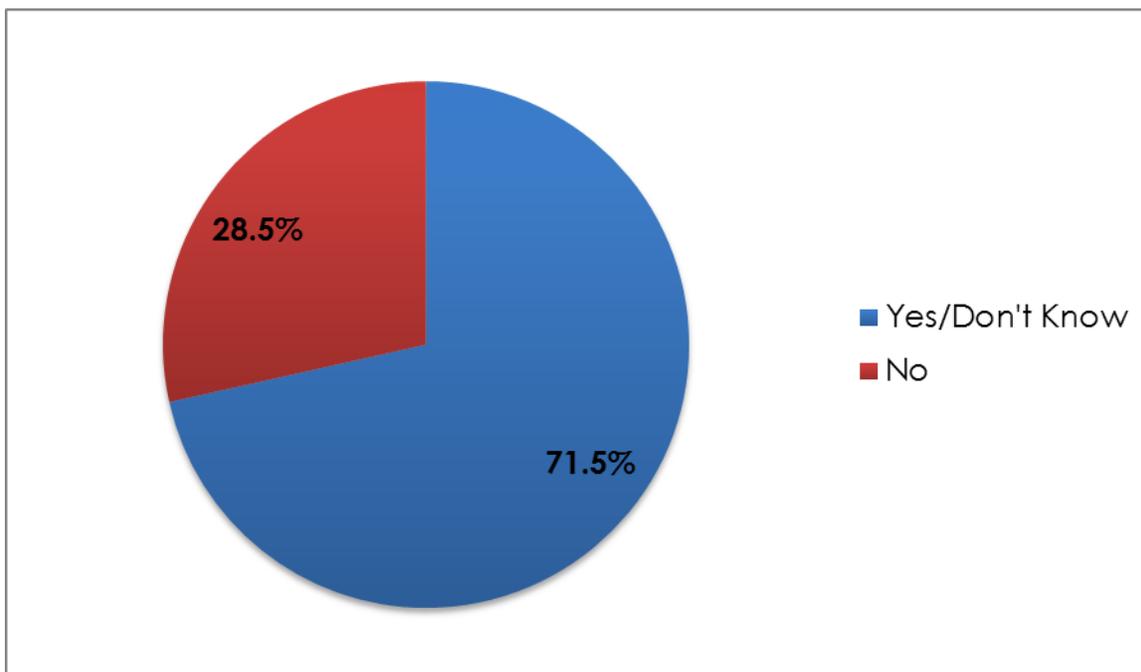
Primary enforcement laws are associated with higher safety belt use among teens as compared to states with secondary enforcement laws. A recent study of more than 3,000 high school students found that 12 percent were less likely to report often/always wearing a seat belt as drivers and 15 percent less likely to report wearing one as a passenger in states with a secondary seat belt law compared to states with a primary law.²⁶

Teens in secondary enforcement states are also more likely to reduce seat belt use as they progress through the licensing process. Research shows that in secondary enforcement states, seat belt use declines 10 percentage points (69.7 to 59.6) when moving from a learner's permit to an unrestricted license. A similar decline is not observed in states with primary laws.³⁴ Evidence indicates that primary seat belt laws are effective at preventing this decline because they allow for stricter enforcement, increased awareness of the law and a perception of greater enforcement.²⁷

Due to higher seat belt use among teens, primary seat belt laws are also associated with significant reductions in fatalities compared with secondary enforcement states. A review of national fatality statistics found that teen crash death rates are higher in states with secondary enforcement laws (25.7 per 100,000) compared with primary enforcement states (21.2 per 100,000).²⁸

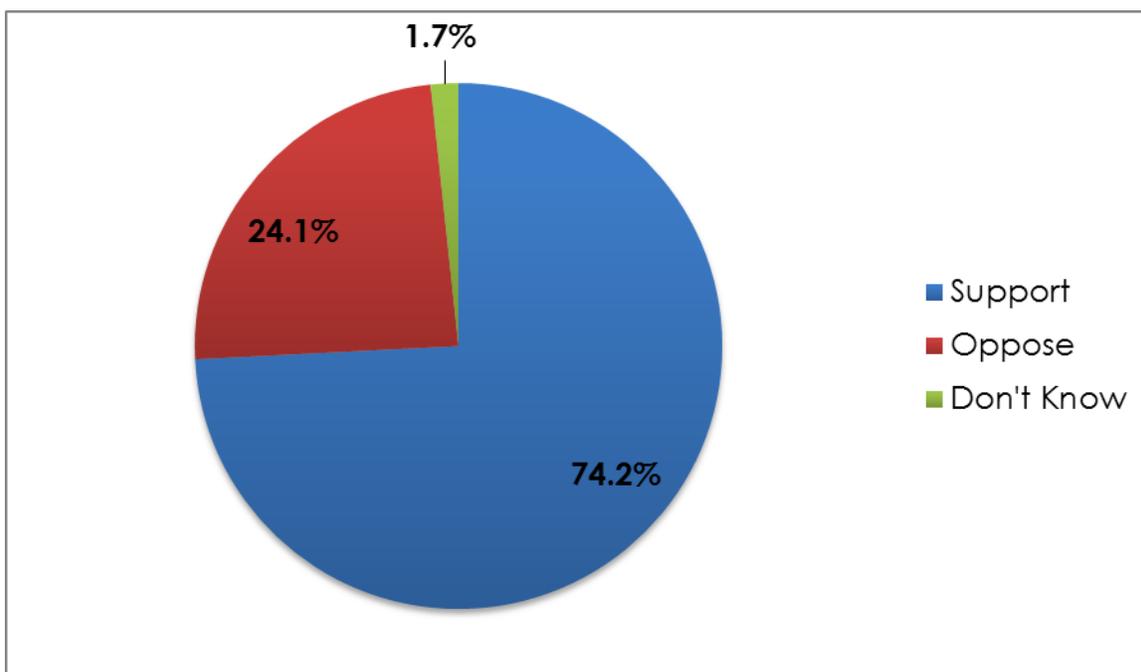
Respondents were generally unaware that Ohio did not have a primary seat belt law for teen drivers, with 71.5 percent reporting that Ohio did have a law or did not know (see **Figure 14**). While there was a lack of awareness regarding a primary seat belt law for teens, a clear majority of respondents (74.2 percent) support allowing law enforcement officers to pull over and ticket teen drivers for not wearing their seatbelts (see **Figure 15**).

Figure 14: About one quarter of Ohioans correctly reported that a teen driver cannot be pulled over and ticketed solely for not wearing a seatbelt.



In Ohio, a teen driver cannot be pulled over and ticketed solely for not wearing a seatbelt.

Figure 15: Three-quarters of Ohioans support allowing law enforcement officers to pull over and ticket teen drivers solely for not wearing a seatbelt.



Kyleigh's Law – Decals for Teen Drivers

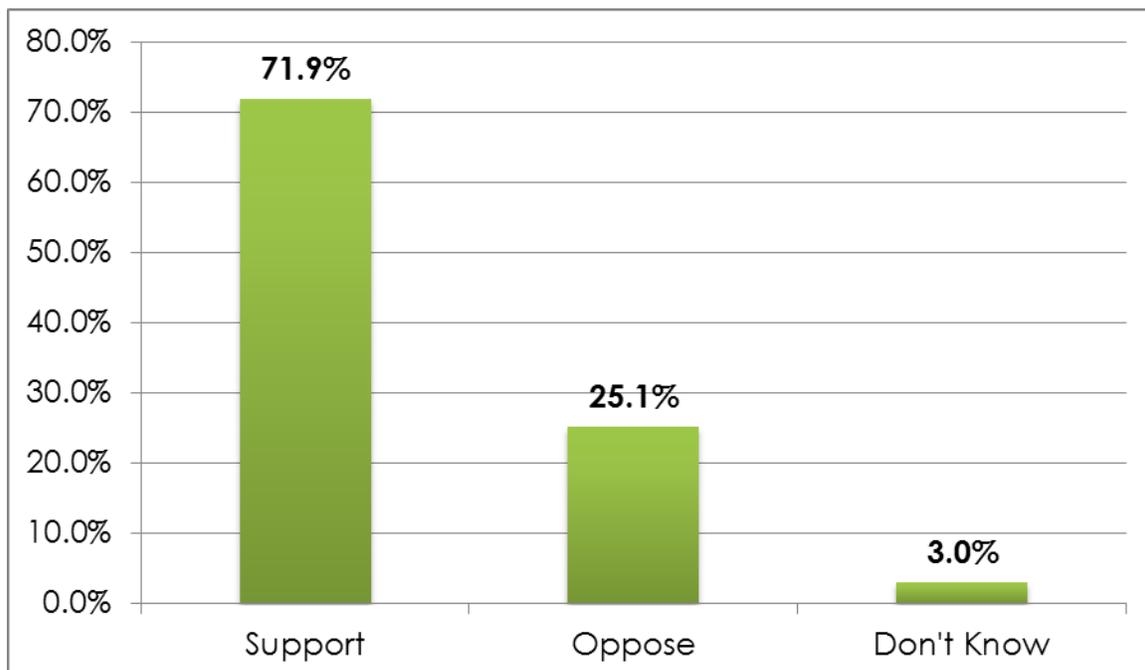
Starting May 1, 2010, New Jersey requires any driver under age 21 who holds a learner's permit or probationary driver's license to display a \$4 pair of detachable decals on the top left corner of the front and rear license plates of their vehicles. The purpose of the decal, known as Kyleigh's Law, is that it allows police officers to identify teen drivers to improve enforcement of GDL laws. The decals are only required to be displayed for teen drivers. Parents and older drivers can remove the decals from a license plate when the car is not operated by a teen. A recent evaluation of the law conducted by the Children's Hospital of Philadelphia's Research Institute found, that in the first year post-law, New Jersey saw:



- ⇒ a 14 percent increase in the GDL citation rate;
- ⇒ a 9 percent reduction in the police-reported crash rate; and
- ⇒ an estimated 1,624 young probationary drivers for whom a crash was prevented.²⁹

When explained the provisions and purpose of the law, more than 71 percent of Ohioans indicated their support for a similar provision in Ohio (**See Figure 16**). Those who did not support the idea were asked to provide the rationale for their opposition. Of those who oppose detachable decals for Ohio drivers, most indicated concerns with profiling, including police harassment and safety concerns as a result of being able to easily identify young drivers. Other concerns raised included cost of the decals, implementation difficulties, the general effectiveness of the law and issues relating to violations of personal freedom.

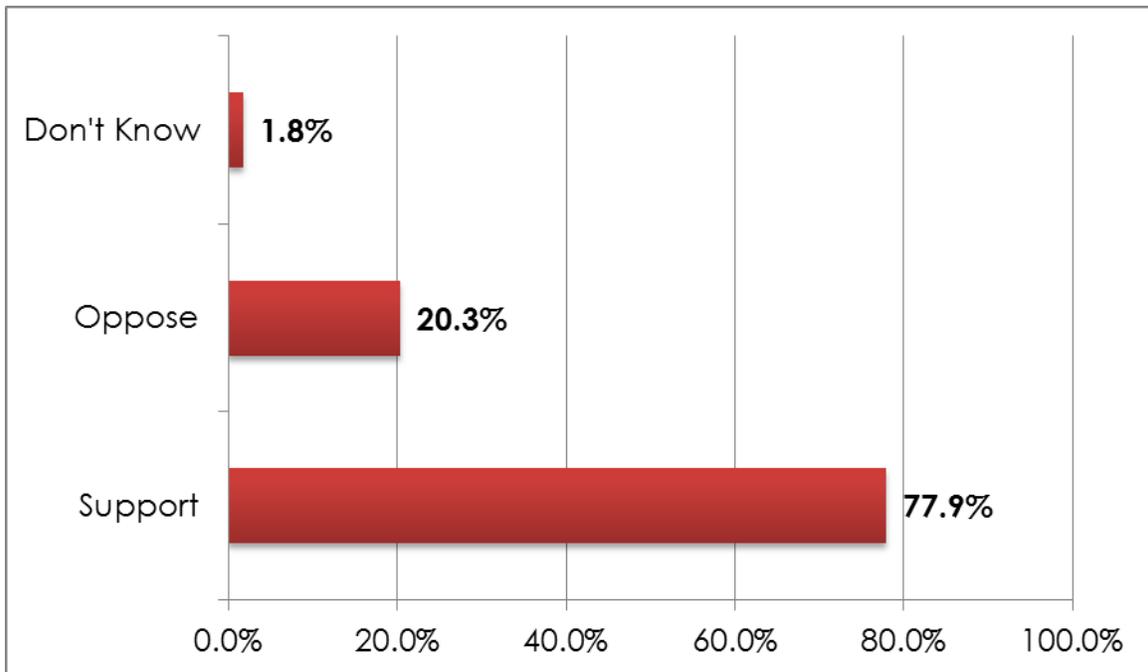
Figure 16: Respondents were generally supportive of implementing a teen driver decal law in Ohio.



Parent/Guardian Training Class

Parents and guardians have influence over their teen's driving behavior. In fact, leading experts believe parents/guardians play a key role in preventing teen car crashes and deaths.³⁰ A GDL law can be more effective if a parent or guardian understands the law and helps to enforce its provisions. Given the importance of parents in enforcing GDL requirements, survey respondents support (77.9 percent) a requirement that parents complete a one hour training course on teen driving laws (see Figure 17).

Figure 17: Ohioans support requiring parents to complete a one hour training course on teen driving laws before their teen is licensed?

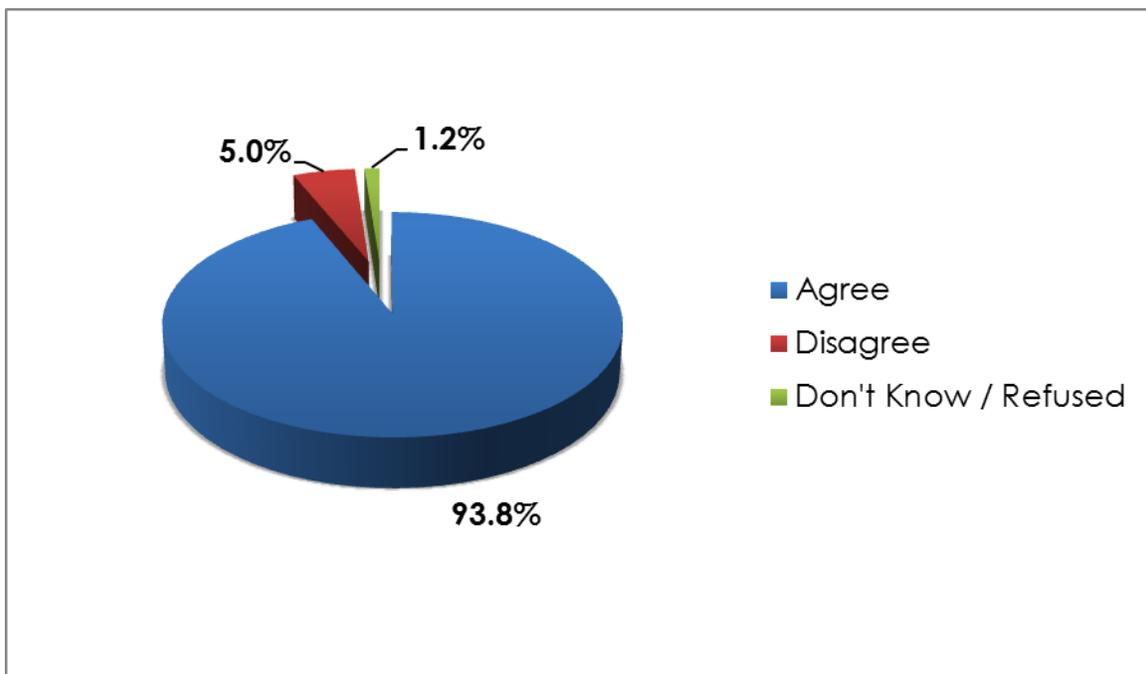


Seatbelt Use

Ohioans were also surveyed regarding their attitudes on seat belt use. Overwhelmingly, 93.4 percent of respondents agreed that seat belts are effective at reducing injury and death in the event of a car crash (see **Figure 18**).

Figure 18: Seatbelts prevent someone from being injured or dying in a car crash.

Do you...



DID YOU KNOW?

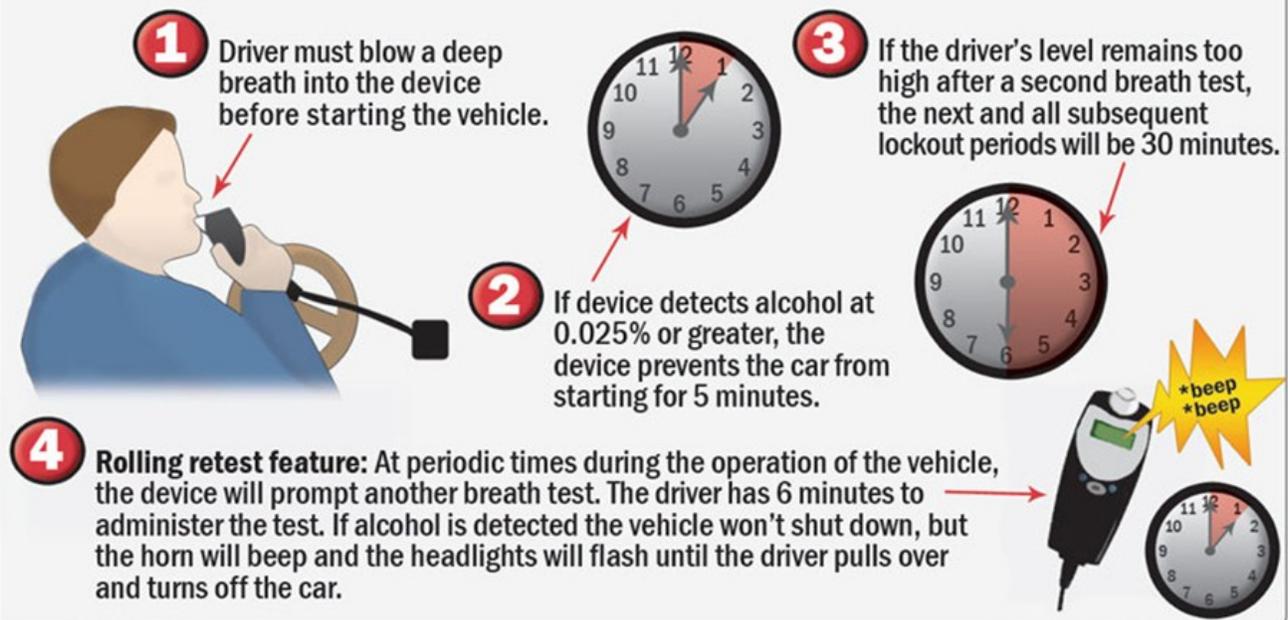
In 2011 in Ohio...

- ⇒ The seatbelt use rate of pickup truck occupants (75 percent) is significantly lower than that of occupants of passenger cars (85 percent), minivans (88 percent), or SUVs (85 percent).²⁴
- ⇒ Female vehicle occupants continue to have a significant higher rate of seat belt use (88 percent) than male occupants (81 percent).²⁴
- ⇒ Caucasian vehicle occupants have a significantly higher rate of seat belt use (85 percent) than African-American occupants (75 percent).²⁴

Get the Facts...

⇒ In 2012, 463 Ohioans died in alcohol-related motor vehicle crashes and more than 6,900 were injured.²

How an Ignition Interlock Device works



Source: PA DUI Association

Graphic Illustration/Morgaine Ford

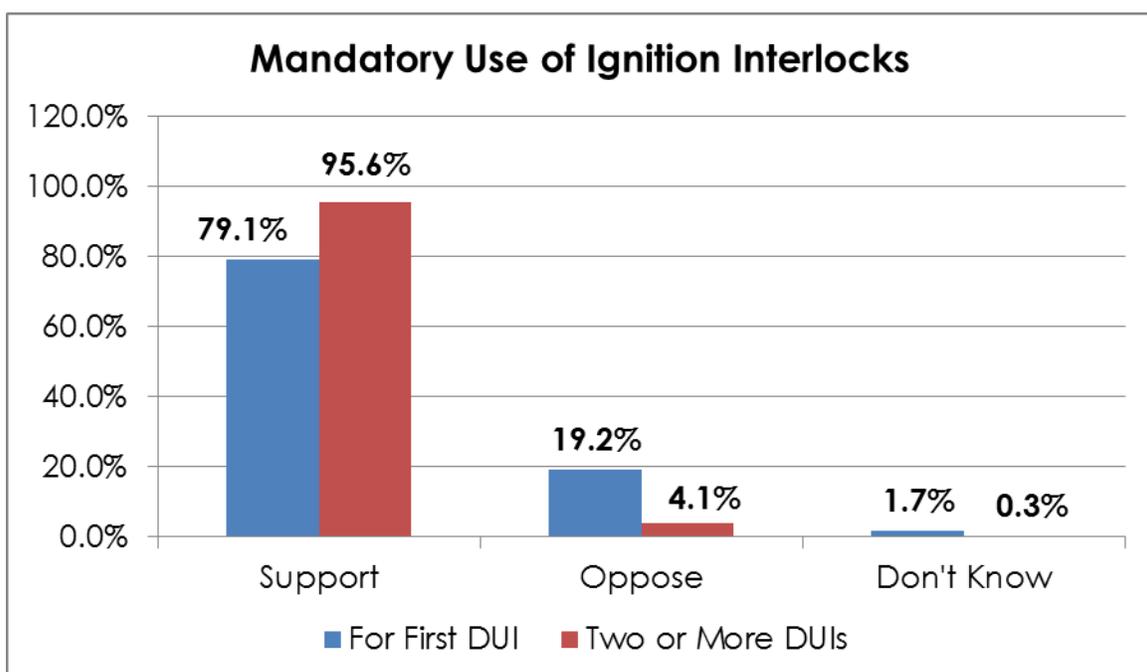
Ignition interlocks are devices that can be installed in vehicles to prevent someone from operating a vehicle with a blood alcohol concentration (BAC) above a specified level. This level is usually 0.02 to 0.04 grams per deciliter (g/dL); the minimum illegal BAC level is 0.08 g/dL in every state. The devices work by sampling the driver's breath before the vehicle can be started and periodically while it is operating.³¹

Drivers with interlocks installed have fewer alcohol-related crashes than those who had licenses suspended for an alcohol-impaired driving conviction (commonly referred to as a DUI), as 50 to 75 percent of convicted drunk drivers continue to drive on a suspended license.^{32 33 34} Ignition interlock devices are also cost effective. The public saves between \$3 and \$7 dollars for every \$1 spent on ignition interlock devices. The CDC recommends that these devices be installed for all convicted DUI offenders.³⁵

In 20 states and four California counties, all alcohol-impaired driving offenders, including first time offenders, must install interlocks to resume driving. Another 19 states require interlocks for those who receive more than one DUI. Ohio is one of only seven states that have no mandatory ignition interlock requirements.³⁶

Respondents favor mandatory use of ignition interlocks for both first time DUI offenders and for those with two or more DUIs. While almost 80 percent of Ohioans support mandatory interlock use for first time offenders, support increases dramatically to 96 percent for the use mandatory interlocks for those convicted of two or more DUIs (see Figure 19).

Figure 19: Ohioans are supportive of mandatory use of ignition interlocks for first time DUI offenders and are overwhelmingly supportive of mandatory use for offenders with two or more DUIs.



Get the Facts...

- ⇒ From 2008 to 2010, motor vehicle crashes were the leading cause of injury death for Ohio children ages 5 to 9 and the third-leading cause for ages 1 to 4.³⁷
- ⇒ From 2001 to 2010, 240 Ohioans under the age of 8 were killed as occupants in traffic crashes.³⁸
- ⇒ In 2012, more than 4,000 young passengers were injured in motor vehicle crashes in Ohio.³⁹
- ⇒ A five-year review of child fatalities related to motor vehicle crashes in Ohio (2006-2010) determined that only 43 percent of fatally-injured youth occupants were properly restrained.⁴⁰

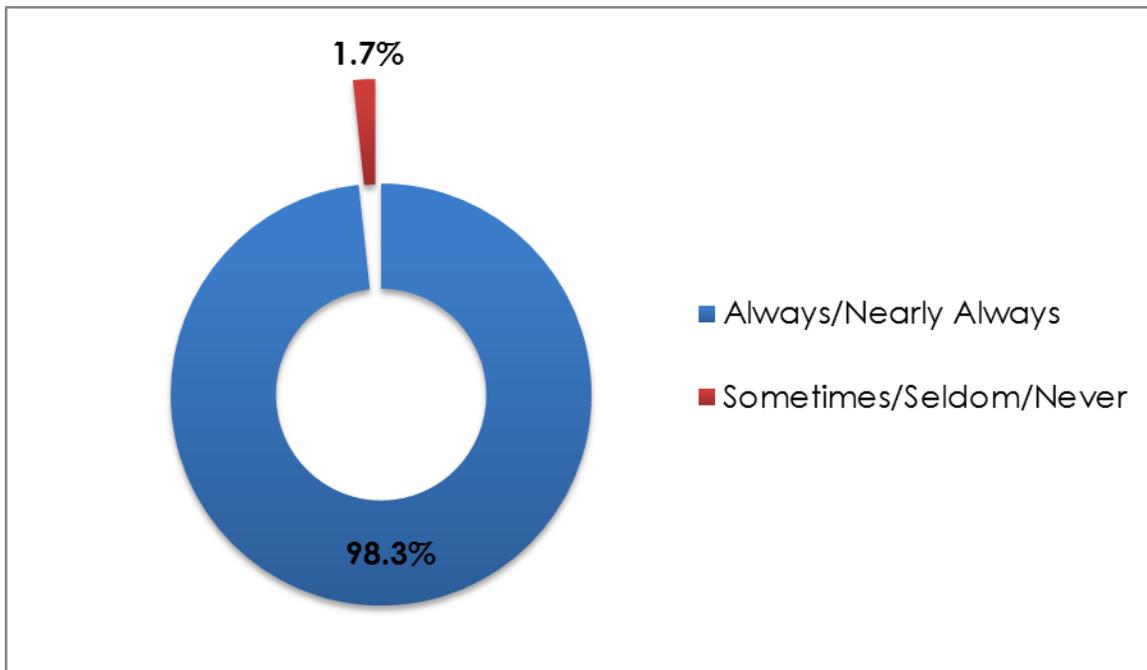


Motor vehicle injuries are the leading cause of death among children in the United States. But many of these deaths can be prevented. Child safety seats (car seats and booster seats) are the most effective strategy for preventing injury and death to children involved in car crashes. From 1975 to 2009, approximately 9,310 lives have been saved by the use of child restraints. However, only 50 percent of children ages 4 to 7 are appropriately restrained in child safety seats.⁴¹ Child restraints are also cost effective. Every \$46 child safety seat saves \$330 in insurance and tax payments, including \$160 in auto insurance costs, \$100 in health costs, and \$70 in taxes.⁴²

Child Safety Seat Use

Of the 414 respondents* who regularly drive with children under 4, a significant proportion always or nearly always used a car seat (98.3 percent) (**see Figure 20**). Of those Ohioans who never, seldom or sometimes used a car seat (1.7 percent), respondents cited reasons relating to cost, failure to see the usefulness of the seat and a preference for holding the child rather than using a car seat.

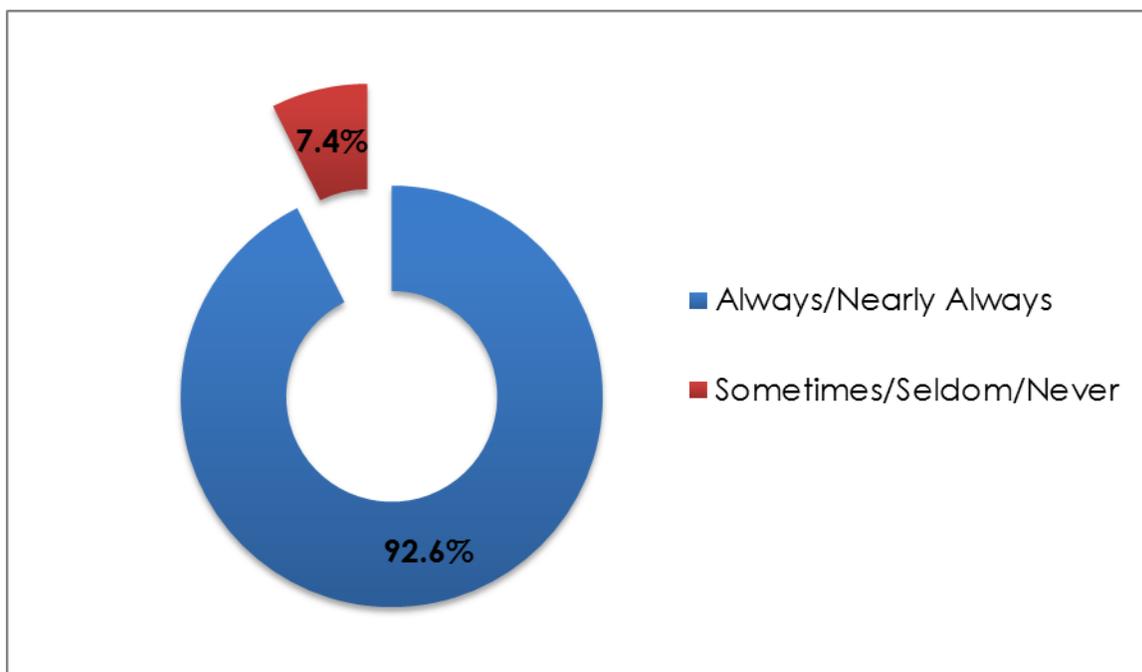
Figure 20: Ohioans reported high levels of child safety seat use when driving children under the age of 4.



*353 or 45.7 percent of the respondents reported that they do not drive with children under the age of four.

Of the 366 respondents* who regularly drive with children between the ages of 4 and 8, a significant proportion always or nearly always used a booster seat (92.6 percent) (see Figure 21). However, the number of Ohioans who always or nearly always use booster seats is lower than the proportion reported by those who use car seats (see Figure 20). Of those who never, seldom or sometimes used a booster seat (7.4 percent), respondents cited reasons relating to space constraints, the child not being able to fit properly, the child is over the weight/height limit, does not see the usefulness of the seat and installation issues.

Figure 21: A significant proportion of Ohioans reported using booster seats when driving with children between the ages of 4 and 8.



Enforcement of Ohio's Booster Seat Law

In 2009, Ohio enacted a booster seat law that requires the use of belt-positioning booster seats once a child outgrows their safety seat (usually at 4 years old and 40 pounds) until they are 8 years old, unless they are at least 4 feet, 9 inches (57 inches) tall.

The passage of the law differed from the existing car seat law for children 4 and under in that it is not a primary enforcement law. Primary enforcement laws, which allow police officers to pull over and ticket solely for a child passenger safety violation, are effective at increasing restraint use.⁴³ Ohio is only one of four states where proper booster seat use is considered a secondary offense, which means that a police officer cannot stop and ticket a driver for failing to have a child properly restrained.⁴⁴ Lack of a primary provision is cited as one of the top barriers to the enforcement of the booster seat law, as it creates uncertainty among law enforcement.⁴⁵

*407 or 52.7 percent of the respondents reported that they do not drive with children under the age of four or did not respond to the question.

In assessing Ohioans' knowledge of the booster seat law, a sizable proportion (83.7 percent) of respondents correctly answered that Ohio has a law requiring booster seats for young children (see Figure 22). However, more respondents (43.5 percent) reported that the law is primary compared to those who correctly reported that the law is secondary (42.4 percent) (see Figure 23). In terms of changing Ohio's booster seat law to primary enforcement, 81 percent of Ohioans support the change (see Figure 24).

Figure 22: Ohioans correctly reported that the state has a law requiring booster seats for young children.

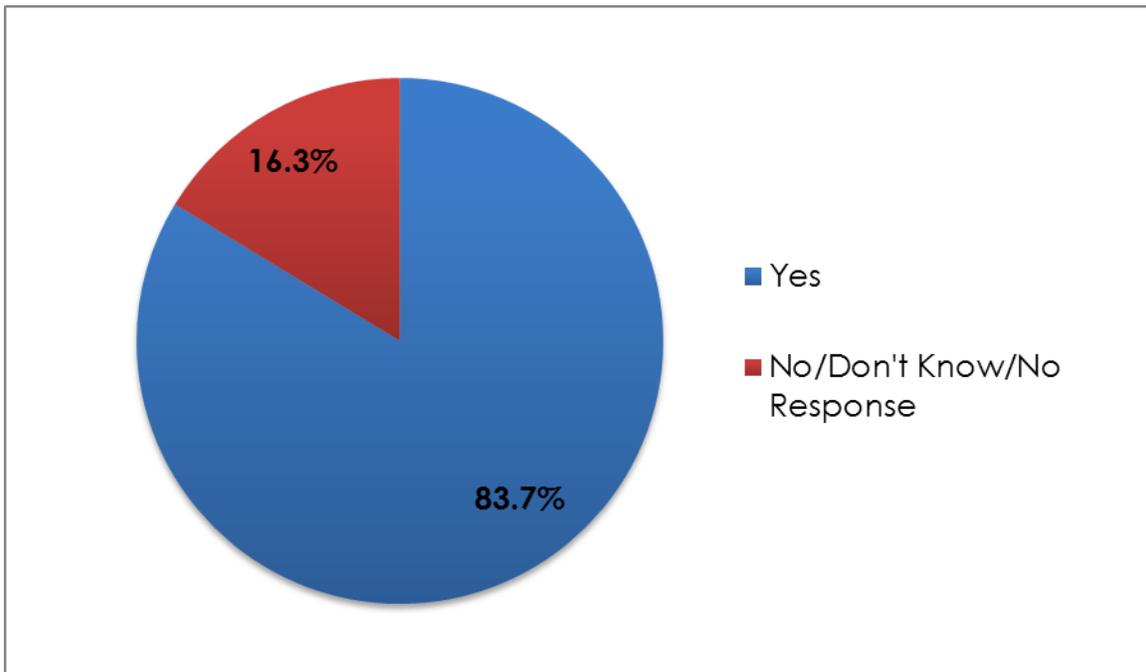


Figure 23: Ohio residents were split over whether Ohio law permits police officers to stop a vehicle if they observe a child who is not properly restrained in a booster seat when no other offense was observed.

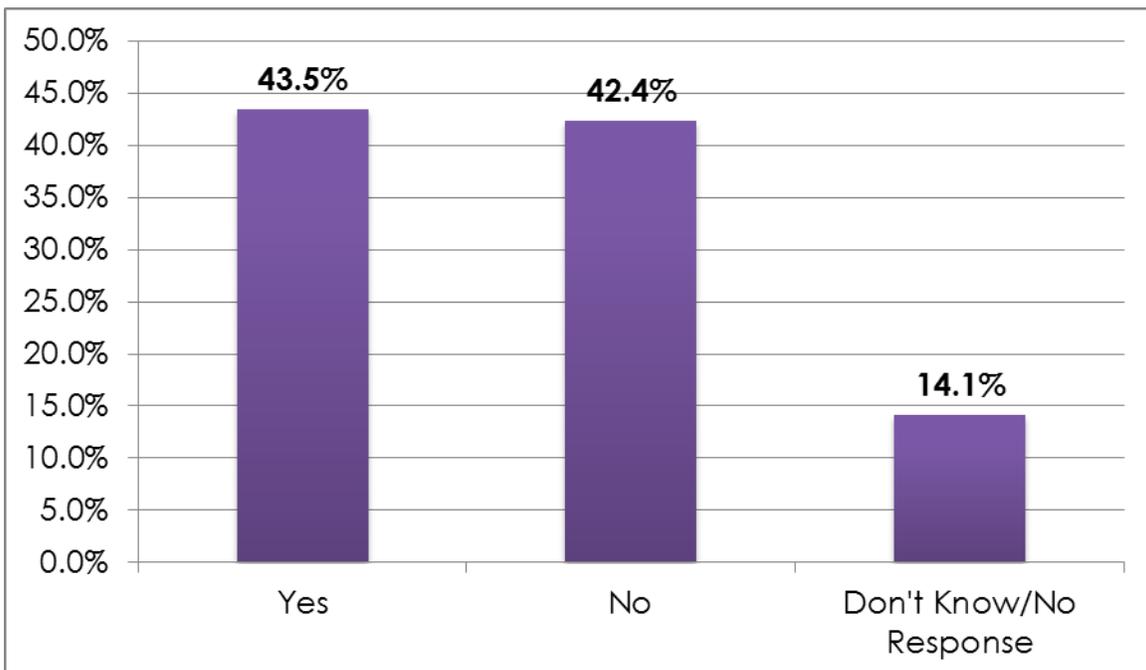
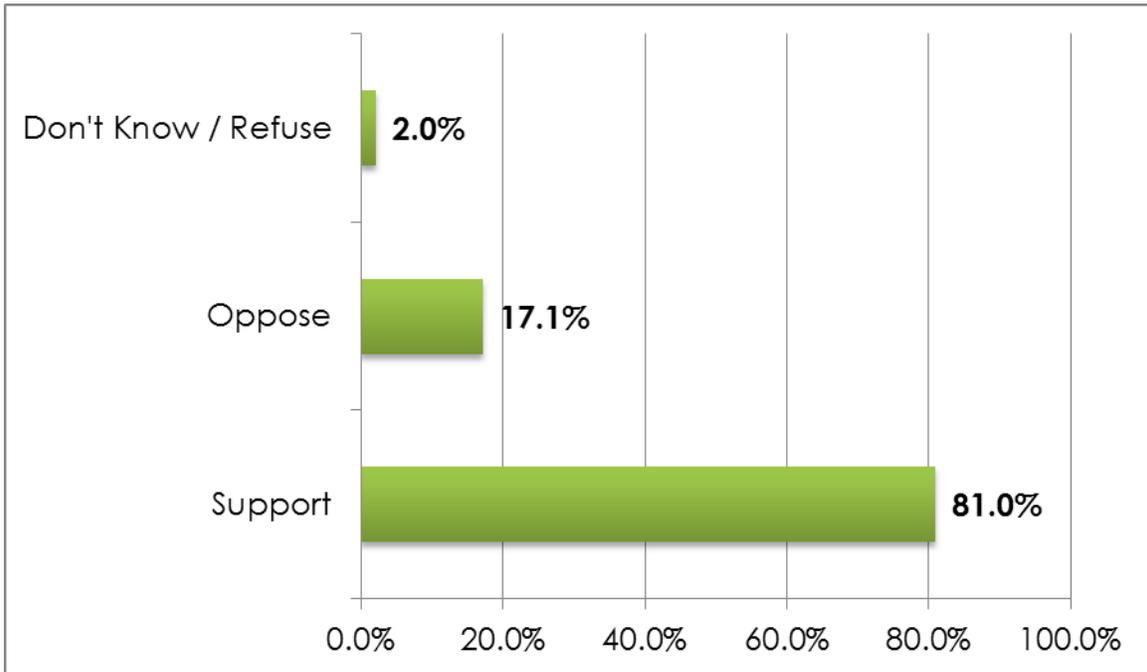
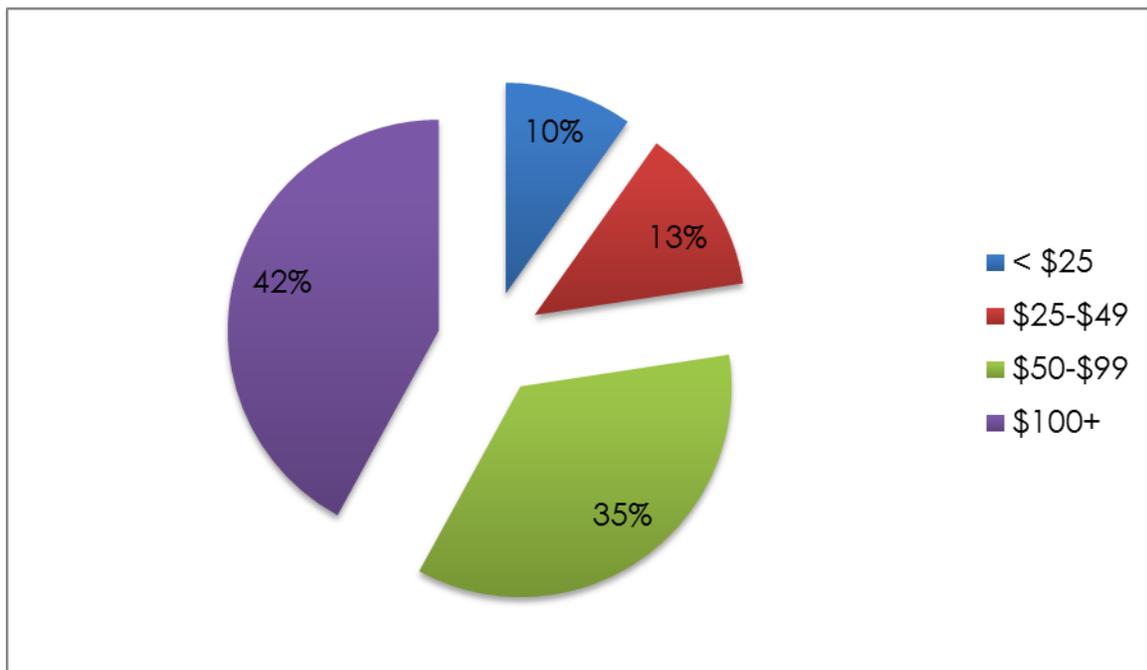


Figure 24: Ohioans support permitting law enforcement officers to stop a vehicle if they observe a child who is not properly restrained in a booster seat, as is required by law, when no other offense was observed.



Fines collected for non-compliance with Ohio's child safety seat laws are used to purchase child safety seats for low-income families. Currently the minimum fine permitted by Ohio law is \$25 dollars.⁴⁶ 42 percent of Ohioans surveyed believed that the minimum fine should be \$100 or greater and 77 percent of thought the minimum fine should be \$50 or greater (see Figure 25).

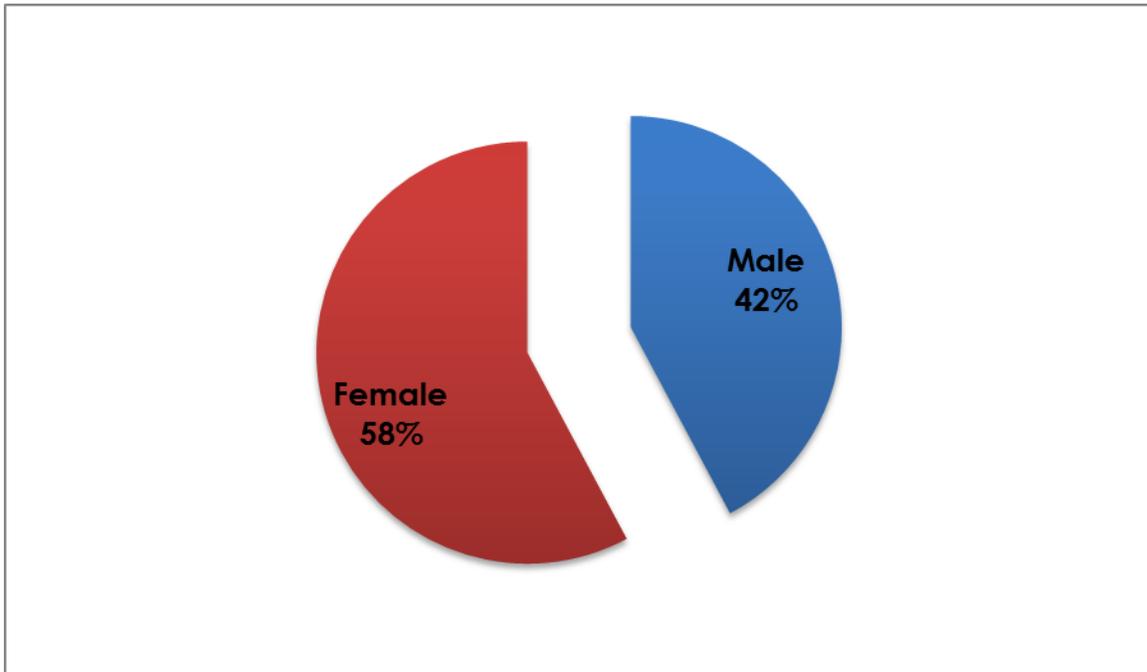
Figure 25: Respondents support drivers paying higher fines if they are ticketed for violations of Ohio's child passenger safety laws.



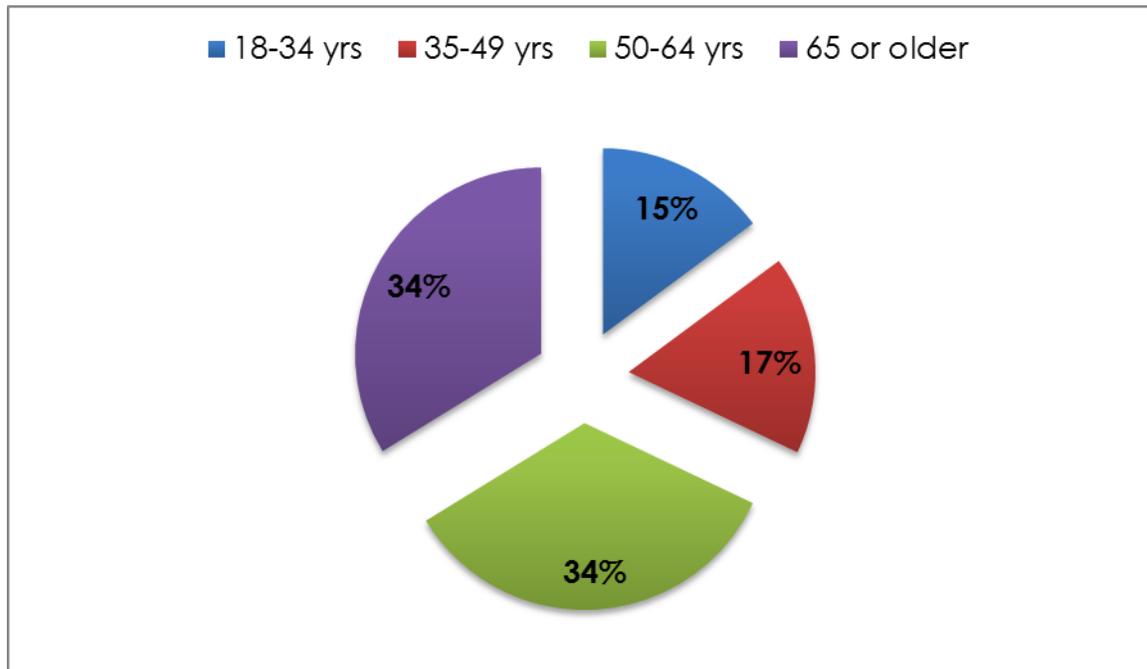
Of the 773 respondents completing the survey, the majority—57.8—were female. For this study, 35.9% of respondents completing the survey were on a cellular phone. The mean age of respondents was 55.43 years of age. The median income category was \$45,000 - \$59,999, which captures the U.S. Census (2007 – 2011) median Ohio household income of \$48,071. Respondents appear to be well-educated with 22.2% report having Bachelor Degrees and 16.2% report having graduate (MA, MS, MSc, MLS, MSW, or Ph.D.) or professional degrees (law, dentistry, or medicine). The majority of respondents (72.5%) report not having children under the age of 18 living in their homes.

Chapter 4: Demographics

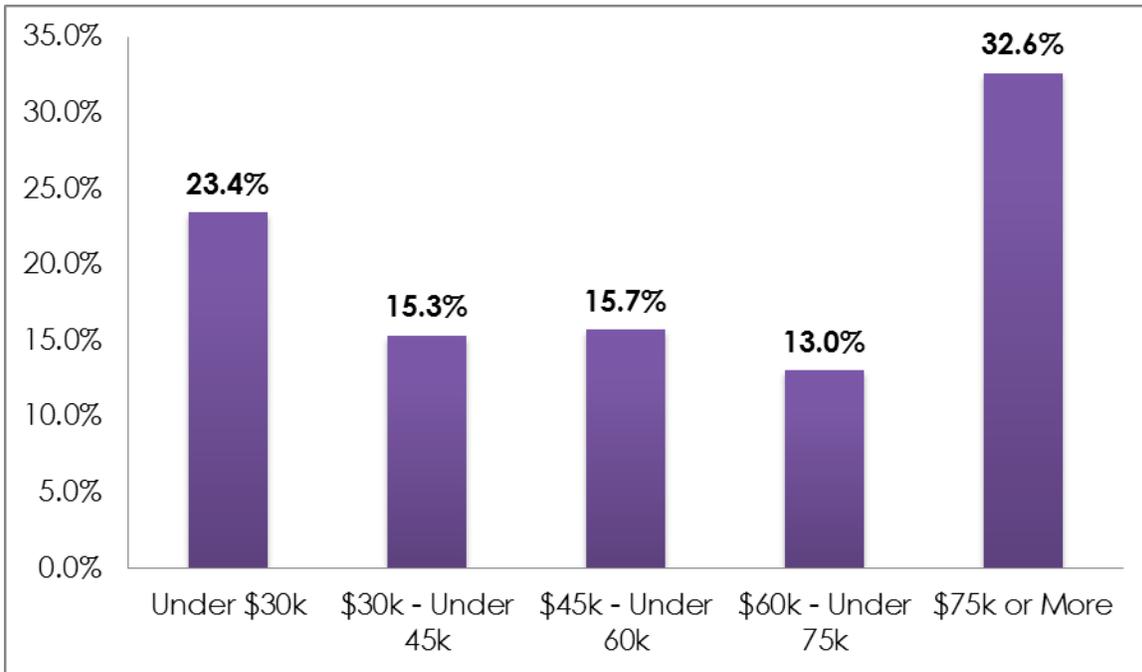
Demographics #1: Respondent Gender



Demographics #2: What is your age?



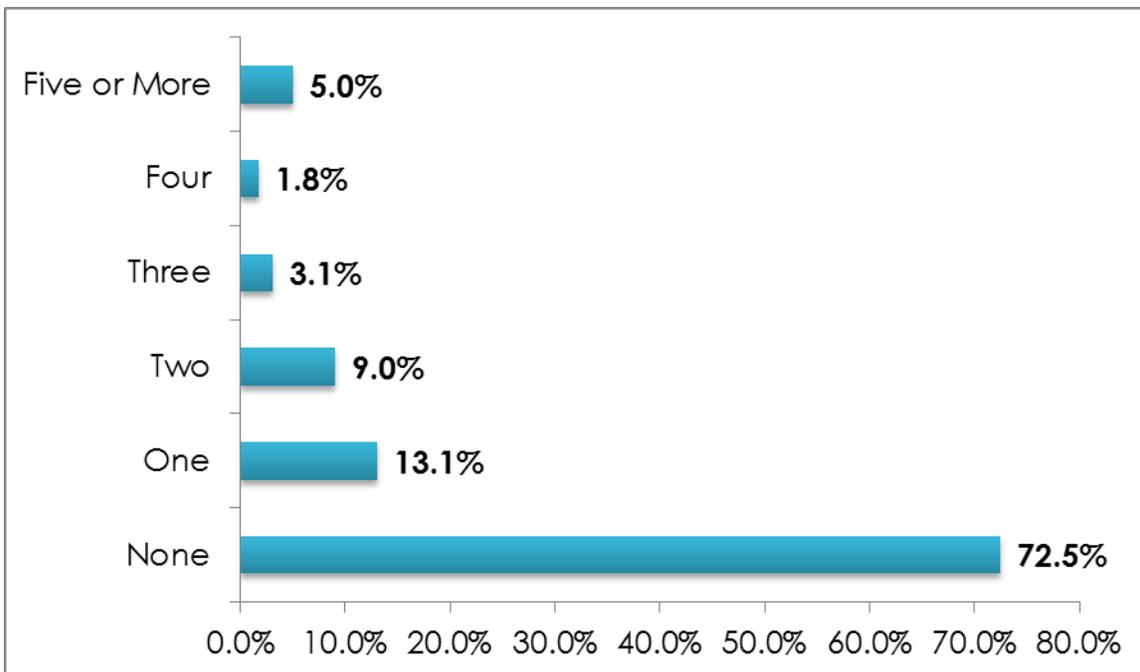
Demographics #3: Please stop me when I reach the category that best describes your annual household income from all sources, before taxes, for the last year:



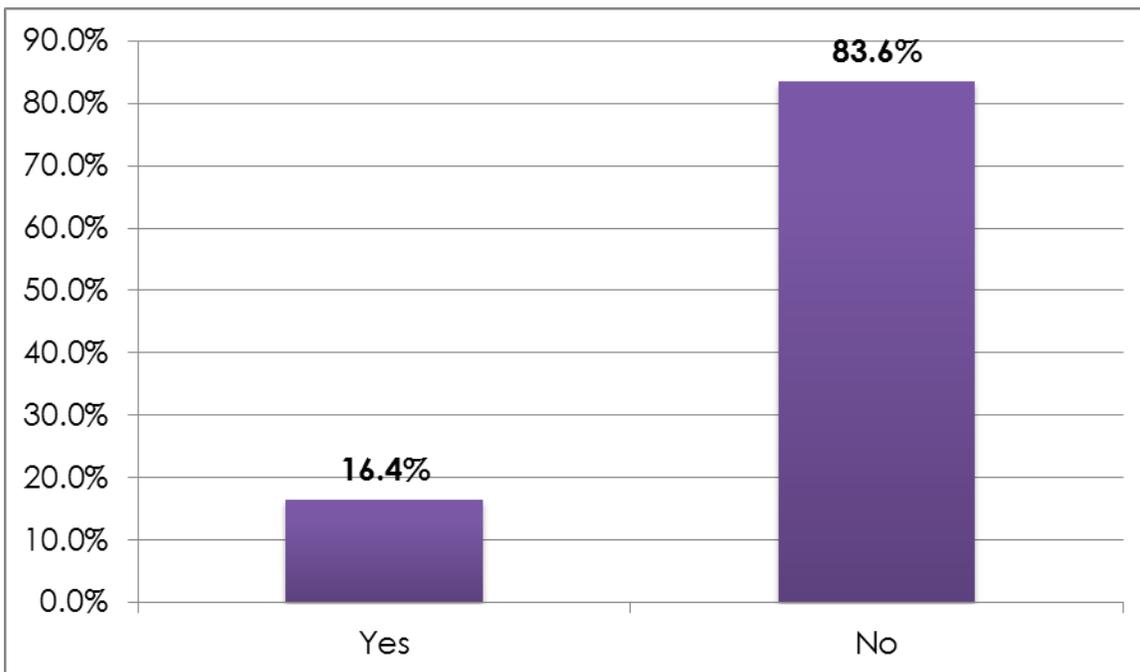
Demographics #4: What is the highest level of education you have completed?

Answer	Frequency	Percent
Some high school/junior high	35	4.5
Completed high school	178	23.0
Some community college	20	2.6
Some technical school	18	2.3
Completed community college	42	5.4
Completed technical school	35	4.5
Some University	146	18.9
Completed Bachelor s Degree (Arts, Science, Engineering, etc.)	171	22.1
Completed Master s degree: MA, MSc, MLS, MSW, etc.	98	12.7
Completed Doctoral Degree: PhD, "Doctorate"	18	2.3
Professional Degree (Law, Medicine, Dentistry)	9	1.2
Refused	3	.4
Total	773	

Demographics #5: How many children 18 years of age or younger currently live in your home?



Demographics #6: Do you regularly have children between the ages of 14 and 18 in your care?



Question #1: Seatbelts prevent someone from being injured or dying in a car crash. Do you...

Answer	Frequency	Percent
Strongly Agree	601	78
Somewhat Agree	122	15.8
Somewhat Disagree	24	3.1
Strongly Disagree	15	1.9
Don't Know	9	1.2

Question #2: Do you think there are night-time driving restrictions in Ohio for teen drivers?

Answer	Frequency	Percent
Yes	346	44.8
No	189	24.5
Don't Know	238	30.7

Question #3: Under current state law, can a teen driver be pulled over and ticketed solely for violating night time driving restrictions?

Answer	Frequency	Percent
Yes	352	45.6
No	174	22.5
Don't Know	246	31.9

Question #4: How strongly do you support allowing law enforcement officers to stop teen drivers for violating night time driving restrictions when no other traffic laws are broken?

Answer	Frequency	Percent
Strongly Support	274	35.4
Somewhat Support	159	20.6
Somewhat Oppose	113	14.6
Strongly Oppose	210	27.2
Don't Know	17	2.2

Question #5: How strongly do you oppose or support a driving restriction for 16 year olds that starts at 9 p.m. and ends at 6 a.m. (with exceptions for driving to and from work or school)?

Answer	Frequency	Percent
Strongly Support	426	55.1
Somewhat Support	159	20.6
Somewhat Oppose	85	11.0
Strongly Oppose	86	11.1
Don't Know	17	2.2

Question #6: How strongly do you oppose or support a driving restriction for 16 year olds that starts at 10 p.m. and ends at 6 a.m. (with exceptions for driving to and from work or school)?

Answer	Frequency	Percent
Strongly Support	392	50.8
Somewhat Support	184	23.8
Somewhat Oppose	85	11.0
Strongly Oppose	95	12.3
Don't Know	16	2.1

Question #7: How strongly do you oppose or support a driving restriction for 17 year olds that starts at 9 p.m. and ends at 6 a.m. (with exceptions for driving to and from work or school)?

Answer	Frequency	Percent
Strongly Support	261	33.9
Somewhat Support	195	25.3
Somewhat Oppose	156	20.2
Strongly Oppose	145	18.8
Don't Know	14	1.8

Question #8: How strongly do you oppose or support a driving restriction for 17 year olds that starts at 10 p.m. and ends at 6 a.m. (with exceptions for driving to and from work or school)?

Answer	Frequency	Percent
Strongly Support	318	41.2
Somewhat Support	211	27.4
Somewhat Oppose	101	13.1
Strongly Oppose	127	16.5
Don't Know	14	1.8

Question #9: At what age can an Ohio teen obtain their learners' permit?

Answer	Frequency	Percent
15 years old	93	12.0
15 ½ years old	451	58.3
16 years old	163	21.1
16 ½ years old	11	1.4
Don't Know	55	7.1

Question #10: How strongly do you support making 16 the minimum age in which a teen driver can obtain their learners' permit?

Answer	Frequency	Percent
Strongly Support	477	61.8
Somewhat Support	106	13.7
Somewhat Oppose	73	9.5
Strongly Oppose	91	11.8
Don't Know	25	3.2

Question #11: How strongly do you support or oppose raising the minimum licensing age from 16 to 16.5?

Answer	Frequency	Percent
Strongly Support	269	43.6
Somewhat Support	121	17.4
Somewhat Oppose	117	15.4
Strongly Oppose	251	20.9
Don't Know	14	2.7

Question #12: How strongly do you support or oppose raising the minimum licensing age from 16 to 17?

Answer	Frequency	Percent
Strongly Support	269	34.8
Somewhat Support	121	15.7
Somewhat Oppose	117	15.2
Strongly Oppose	251	32.5
Don't Know	14	1.8

Question #13: Are there restrictions in Ohio on who can ride in a car with a driver under the age of 17?

Answer	Frequency	Percent
Yes	564	73.0
No	77	10.0
Don't Know	132	17.0

Question#14: How strongly do you support or oppose prohibiting 16 year old drivers from having teen passengers in the vehicle unless accompanied by their parent or legal guardian?

Answer	Frequency	Percent
Strongly Support	465	60.3
Somewhat Support	104	13.5
Somewhat Oppose	80	10.4
Strongly Oppose	107	13.9
Don't Know	15	1.9

Question #15: How strongly do you support or oppose prohibiting 17 year old drivers from having no more than one teen passenger in the vehicle unless accompanied by their parent or legal guardian?

Answer	Frequency	Percent
Strongly Support	402	52.1
Somewhat Support	179	22.4
Somewhat Oppose	90	11.7
Strongly Oppose	98	12.7
Don't Know	9	1.2

Question #16: How strongly to do you support an increase in practice hours for teen drivers from the current 50 hours to 65 hours?

Answer	Frequency	Percent
Strongly Support	409	52.9
Somewhat Support	140	18.1
Somewhat Oppose	107	13.8
Strongly Oppose	93	12.0
Don't Know	24	3.1

Question #17: Under current Ohio law, can a teen driver be pulled over and ticketed solely for not wearing a seatbelt?

Answer	Frequency	Percent
Yes	490	63.4
No	220	28.5
Don't Know	63	8.1

Question #18: How strongly would you support or oppose allowing law enforcement officers to pull over and ticket teen drivers solely for not wearing a seatbelt?

Answer	Frequency	Percent
Strongly Support	474	61.3
Somewhat Support	100	12.9
Somewhat Oppose	65	8.4
Strongly Oppose	121	15.7
Don't Know	13	1.7

Question #19: How strongly do you support or oppose a similar idea [detachable decals] in Ohio?

Answer	Frequency	Percent
Strongly Support	393	51
Somewhat Support	161	20.9
Somewhat Oppose	54	7.0
Strongly Oppose	140	18.2
Don't Know	23	3.0

Question #20: How strongly do you support or oppose requiring parents to complete a one hour training course on teen driving laws before their teen is licensed?

Answer	Frequency	Percent
Strongly Support	430	55.6
Somewhat Support	172	22.3
Somewhat Oppose	56	7.2
Strongly Oppose	101	13.1
Don't Know	14	1.8

Question#21: How strongly do you support mandatory use of ignition interlocks for first time DUI offenders?

Answer	Frequency	Percent
Strongly Support	461	59.6
Somewhat Support	151	19.5
Somewhat Oppose	61	7.9
Strongly Oppose	87	11.3
Don't Know	13	1.7
Total	773	

Question #22: How strongly do you support or oppose mandatory use of ignition interlocks for offenders with two or more DUIs?

Answer	Frequency	Percent
Strongly Support	685	88.7
Somewhat Support	53	6.9
Somewhat Oppose	11	1.4
Strongly Oppose	21	2.7
Don't Know	2	.3

Question #23: When driving children under the age of 4, how often do you use a car seat?

Answer	Frequency	Percent
Never	2	.3
Seldom	1	.1
Sometimes	4	.5
Nearly Always	3	.4
Always	404	52.3
I Don't Drive with Children Under the Age of Four in My Car	353	45.7
Don't Know/No Response	5	.6

Question #24: When driving with children between the ages of 4 and 8 in your vehicle, how often do you use booster seats?

Answer	Frequency	Percent
Never	10	1.3
Seldom	7	.9
Sometimes	10	1.3
Nearly Always	13	1.7
Always	326	42.2
I Don't Drive with Children Between the Ages of 4 and 8	401	51.9
Don't Know/No Response	6	.8

Question #25: Does Ohio have a law requiring booster seats for young children?

Answer	Frequency	Percent
Yes	647	83.7
No	40	5.2
Don't Know/No Response	86	11.1

Question #26: Do you think Ohio law enforcement officers can stop a vehicle if they observe a child who is not properly restrained in a booster seat, as is required by law, when no other offense was observed?

Answer	Frequency	Percent
Yes	336	43.5
No	328	42.4
Don't Know/No Response	109	14.1

Question#27: How strongly would you support or oppose permitting law enforcement officers to stop a vehicle if they observe a child who is not properly restrained in a booster seat, as is required by law, when no other offense was observed.

Answer	Frequency	Percent
Strongly Support	494	64.0
Somewhat Support	131	17.0
Somewhat Oppose	63	8.2
Strongly Oppose	69	8.9
Don't Know	15	1.9

Notes:

- ⇒ Percent totals may exceed 100 percent due to rounding.
- ⇒ Frequency totals may not equal 773, as refusals were not included in the tables.
- ⇒ For a complete set of descriptive tables, please email your request to the Ohio Department of Health's Violence and Injury Prevention Program at HealthyO@odh.ohio.gov.

A telephone survey approach was utilized to collect data for the study. The Kent State University Survey Research Lab (SRL) was contracted by the Ohio Department of Health (ODH) to obtain 750 completed interviews. The data collection instrument was drafted and refined with input from ODH. The final draft of the survey was approximately 12 minutes long depending upon a respondent's answers and questionnaire skip patterns. Two senior interviewers at the SRL cognitively tested the survey instrument with 10 individuals. Testing revealed no issues that needed to be addressed. The final version of the survey instrument consisted of approximately 42 items, formatted with an appropriate array of yes/no, categorical (including attitudinal scales), text, and "choose all" response options (interviewer reads all responses options and records yes responses for all items selected). A test version of the survey was created by the KSU Principal Investigator, Dr. Gregory Gibson, utilizing mock interviews to ensure data were being collected properly in an SPSS file.

The sampling approach was a dual frame (landline and cellular) random digit dial (RDD) telephone sample constructed to meet the specifications required by ODH. The RDD phone numbers are randomly selected by WinCATI Supervisor software which manages all aspects of respondent selection and call dispositions (i.e., completed survey, refusal, break-off, etc.). With this software, SRL interviewers are able to establish and fulfill callback times convenient for respondents. Each question and response option was reviewed and discussed. The survey was placed in the field on July 5, 2013 with telephone interviewing occurring during day and evening hours, ranging between 1PM to 9PM on Monday through Friday, 10AM to 5PM on Saturdays, and 2PM to 9PM on Sundays. Spanish speaking respondents were interviewed by bilingual interviewers. During the data collection effort, all interviewers were periodically monitored to assure standardization and quality interviewing practices. Data were downloaded and checked daily to ensure proper data collection.

Data collection finished on July 23, 2013. Upon completion of the data collection effort, the data file was annotated (labeled and question values added) and frequencies for all survey items were run using SPSS. A copy of these frequencies was prepared in a Microsoft Word file and sent to ODH for their review. Based upon ODH input, a summary was prepared by Dr. Gibson along with a "Driving Policy" document consisting of frequencies, mean scores, and percentages for items selected by ODH.

Appendix 2: Methodology

Summary Data

Demographics	Parents/Guardians	Non-Parents/Guardians
Age	49.2	56.7
Gender (Female)	61%	57%
Education Level (At least Bachelors)	42%	37%
Income (\geq \$45,000)	69%	48%
Number of Children in Home	1.48	0.3

Teen Driving

Attitude Regarding Teen Driving Policies	Parents/Guardians (n=127)	Non- Parents/Guardians (n= 646)
Attitude	Support (%)	Support (%)
How strongly do you oppose or support a driving restriction for 16 year-olds that starts at 9 p.m. and ends at 6 a.m. (with exceptions for driving to and from work or school)?	94 (74)	491 (78.1)
How about starting the restriction for 16 year-olds at 10 p.m. with the same exceptions for driving to and from work or school?	96 (75.6)	629 (76.3)
How strongly do you oppose or support a driving restriction for 17 year olds that starts at 9 p.m. and ends at 6 a.m. (with exceptions for driving to and from work or school)?	76 (60.3)	380 (60.2)
How about starting the restriction for 17 year-olds at 10 p.m. with the same exceptions for driving to and from work or school?	89 (70.1)	440 (69.8)
How strongly do you support or oppose raising the minimum licensing age from 16 to 16.5?	70 (56.5)	400 (63.9)
How strongly do you support or oppose raising the minimum licensing age from 16 to 17?	52 (41.3)	338 (53.5)

Attitude and Regarding Teen Driving Policies	Parents/Guardians (n=127)	Non- Parents/ Guardians (n= 646)
Attitude	Support (%)	Support (%)
How strongly do you support or oppose prohibiting 16 year-old drivers from having teen passengers in the vehicle unless accompanied by their parent or legal guardian?	78 (62.9)	491 (77.7)
How strongly do you support or oppose prohibiting 17 year-old drivers from having no more than one teen passenger in the vehicle unless accompanied by their parent or legal guardian?	84 (66.7)	491 (77.1)
How strongly do you support an increase in practice hours for teen drivers from the current 50 hours to 65 hours?	94 (75.2)	455 (72.9)
How strongly would you support or oppose allowing law enforcement officers to pull over and ticket teen drivers solely for not wearing a seatbelt?	100 (82)	474 (74.3)
How strongly do you support or oppose a similar idea [detachable decals] in Ohio?	89 (71.2)	465 (74.6)
How strongly do you support or oppose requiring parents to complete a one hour training course on teen driving laws before their teen is licensed?	97 (76.4)	505 (78.2)

Child Passenger Safety

Attitude and Regarding Child Passenger Safety Policies	Parents/Guardians (n=127)	Non- Parents/ Guardians (n= 646)
Attitude	Support (%)	Support (%)
How strongly would you support or oppose permitting law enforcement officers to stop a vehicle if they observe a child who is not properly restrained in a booster seat, as is required by law, when no other offense was observed.	105 (82.7)	520 (80.5)

- 1 Centers for Disease Control and Prevention. Motor Vehicle Safety - Ohio. www.cdc.gov/motorvehiclesafety/statecosts/oh.html;
- 2 Ohio Department of Public Safety. Ohio Crash Statistics 2012. <https://ext.dps.state.oh.us/crashreports/crashreports.aspx>.
- 3 Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS). www.cdc.gov/injury/wisqars/index.html. Costs expressed in 2010 dollars.
- 4 Insurance Institute for Highway Safety (IIHS). Q&A: Teenagers — Graduated driver licensing. Arlington (VA): The Institute; 2012. <http://www.iihs.org/research/qanda/gdl.aspx#cite-text-0-1>
- 5 Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Teen Drivers: Fact Sheet. http://www.cdc.gov/motorvehiclesafety/teen_drivers/teendrivers_factsheet.html
- 6 Ohio Department of Public Safety. Ohio Bureau of Motor Vehicles Graduated Driver Licensing & Teen Driving Laws. http://bmv.ohio.gov/graduated_dl_teen_laws.stm
- 7 Baker SP, Chen L, Li G. Nationwide review of graduated driver licensing. Washington (DC): AAA Foundation for Traffic Safety; 2007. <http://www.aaafoundation.org/pdf/NationwideReviewOfGDL.pdf>
- 8 Insurance Institute for Highway Safety (IIHS). Overview: Teenagers – Graduated driver licensing. Arlington (VA): The Institute; 2012. <http://www.iihs.org/iihs/topics/t/teenagers/topicoverview>
- 9 Williams AF. 2003. Teenage Drivers: Patterns of Risk. *Journal of Safety Research*, 34, 5-15. http://www.nsc.org/safety_road/TeenDriving/Documents/Teenage%20Drivers%20Patterns%20of%20Risk.pdf;
- 10 Graduated Licensing Laws and Fatal Crashes of Teenage Drivers: A National Study. <http://www.iihs.org/research/topics/pdf/r1122.pdf>;
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