# UNDERUTILIZED STRATEGIES IN TRAFFIC SAFETY: RESULTS OF A NATIONALLY REPRESENTATIVE SURVEY

By

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# Abstract

**Introduction:** About a third of the US traffic crash fatalities are due to speeding, another third are due to alcohol-impaired driving, while almost half of the drivers and passengers in cars who were killed were not wearing their seat belt. Safety improvements in vehicles including air bags and electronic stability control have contributed to a reduction in traffic fatalities over the past few years (NHTSA, October 2018). However, numerous other strategies that are proven effective in reducing crash fatalities have been underutilized. These include: sobriety checkpoints; automated enforcement including speed cameras and red light cameras; lowering the blood alcohol concentration (BAC) limit for driving to .05 g/dL; primary enforcement safety belt and motorcycle helmet use laws; alcohol ignition interlock installations; oral fluid screening for drugged driving; lowering speed limits in residential areas; roundabouts replacing intersections. If implemented widely in every state, these strategies could reduce traffic fatalities by at least 50%.

**Objective:** The purpose of the study was to answer the following question: Which of these underutilized measures would be favorable to the American public given they are educated on the research of their effectiveness?

**Method and Data Sources:** A representative survey of 2,000 U.S. drivers was conducted in October 2018 with 30 questions about these underutilized strategies using NORC's AmeriSpeak® survey instrument. Our objective was to gage the public's opinion of these strategies when they are aware of the research on their effectiveness.

**Results:** Each respondent was given a summary of the research on the effectiveness of these strategies and then asked if they were in favor of them in their community. Below are the weighted percentages of respondents in favor of their utilization. The margin of error in these percentages is plus or minus 2.98%.

- Sobriety Checkpoints: 64.7% of the respondents were in favor of conducting sobriety checkpoints in their community at least monthly. 68.2% were in favor of police using passive alcohol sensors at sobriety checkpoints in their community.
- **Speeding: 60.3%** of respondents were in favor of using speed and red light cameras for automated enforcement in their community.
- Alcohol-Impaired Driving: When asked if they thought the BAC limit should be lowered to .05 in their state, **49.7%** said yes while **49.3%** said no. However, when asked

if the BAC limit should be lowered to .05 if the penalty would be administrative (license suspension, fine) and not criminal, **57.5%** were in favor.

- Seat Belt Usage: 82.4% of the respondents were in favor of a primary seat belt law in their state when primary enforcement and secondary enforcement was explained to them. In addition, 70.1% were in favor of a law that required all cars to have seat belt reminders that continuously chime until the seat belt is buckled including rear seat passengers. 62.5% were in favor of raising the fine in their state for not using a seat belt from \$25 to \$100.
- **Motorcycle Helmets: 85.7%** were in favor of a motorcycle helmet use law in their state that covers all ages.
- Alcohol Ignition Interlock Devices: 82.5% were in favor of requiring all convicted driving-while-intoxicated (DWI) offenders to install an ignition interlock device in their vehicles. 71.9% were in favor of alternative sanctions such as house arrest or an alcohol monitoring ankle bracelet for convicted DWI offenders who refuse ignition interlock devices.
- **Drugged Driving: 74.0%** of respondents were in favor of police using saliva screening devices if they suspect a driver at a traffic stop is impaired by drugs other than alcohol.
- **Speed Limits: 68.6%** were in favor of lowering the speed limits by 5 miles per hour in their community if crash studies justify it.
- **Highway Engineering: 72.9%** of respondents were in favor of roundabouts replacing the most dangerous intersections in their community. **89.6%** were in favor of more rumble strips on certain roads in their community to prevent crossing over the center or lane line.
- **Ridesharing: 72.5%** said they had ridesharing services such as Uber and Lyft in their community. **37.6%** said they had used ridesharing within the past year. Of the respondents who reported using ridesharing, **60.4%** said they used ridesharing at least once in the past year to avoid drinking and driving.

**Conclusions:** The results of this survey indicate that when drivers in the United States are given facts about certain countermeasures or strategies to reduce traffic crash fatalities, the majority are in favor of the underutilized strategies. This information could be useful to legislators and highway safety officials in each state who make the decisions as to whether to implement some of these strategies. We conclude that the majority of drivers are in favor of these strategies if they have potential to save lives.

# Introduction

In 2015, over 35,000 people were killed in traffic crashes in the United States (US) (NHTSA, June 2017). That accounted for 1.3% of all deaths from all causes in the US that year (Sivak & Schoettle, 2017). That may seem like a small percentage, but European countries and Australia had much lower percentages as a comparison (e.g. United Kingdom - 0.3%; Germany – 0.4%; Switzerland – 0.5%; France – 0.6%; Australia – 0.8%). About a third of the US traffic crash fatalities are due to speeding (NHTSA, July 2017), another third are due to alcoholimpaired driving (NHTSA, June 2017), while almost half of the drivers and passengers in cars who were killed were not wearing their seat belt (NHTSA, February 2017).

The most current data in the US indicate that there were 37,133 people killed in crashes in 2017 and the number of urban fatalities was larger than the number of rural fatalities. The fatality rate per 100 million vehicle miles travelled was 1.16 in 2017. Safety improvements in vehicles including air bags and electronic stability control have contributed to a reduction in traffic fatalities over the past few years (NHTSA, October 2018). However, numerous other strategies that are proven effective in reducing crash fatalities have been underutilized.

Many countries around the world are committed to the vision of eliminating fatalities on their Nation's roads. The Zero Deaths vision is a way of describing how a combination of strategies is going to affect safety: *Toward Zero Deaths*. The goal was first adopted by Sweden in 1997 and "Vision Zero" has evolved across the world and in many US states. The approach uses a data-driven multidisciplinary approach involving highway design, vehicle safety features and the integration of education, enforcement, engineering and emergency medical services (www.TowardZeroDeaths.org). The Toward Zero Deaths Steering Committee includes:

- American Association of Motor Vehicle Administrators (AAMVA)
- American Association of State Highway and Transportation Officials (AASHTO)
- Commercial Vehicle Safety Alliance (CVSA)
- Governors Highway Safety Association (GHSA)
- International Association of Chiefs of Police (IACP)
- National Association of County Engineers (NACE)
- National Association of State Emergency Medical Systems Officials (NASEMSO)
- National LTAP/TTAP Association: Advancing Excellence in Local Road & Bridge Agencies

In 2016, the National Safety Council established the "Road to Zero" coalition in partnership with the U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA), Federal Highway Administration (FHWA) and Federal Motor Carrier Safety Administration (FMCSA). The goal is to get to zero deaths in the next 30 years. The coalition is focused on incorporating all the initiatives that have been seen through *Toward Zero Deaths*, *Vision Zero* and other groups. *Road to Zero* is a collaboration of almost 400 stakeholder organizations working toward zero traffic fatalities by 2050. www.nsc.org/RoadToZero

Road to Zero expands the effort to include not only representatives of road, behavioral and vehicle safety, but public health officials, technology companies, non-profit groups and others to develop a coordinated approach to highway safety.

As stated earlier, proven effective strategies have been woefully underutilized in the United States. The reasons for this vary, but lacking the knowledge on their effectiveness could be a major factor. For example, the following strategies could substantially reduce traffic fatalities:

# 1. Sobriety Checkpoints

Checkpoints are highly effective in deterring drinking and driving (Shults et al., 2001; Elder et al., 2002; Fell et al., 2004; Voas et al., 2005). Checkpoints are safer for both police and the public than individual traffic stops. Widespread use of checkpoints could reduce fatalities by at least 8%. In 2017, there were 10,874 fatalities in crashes involving drivers with BACs  $\geq$  .08 g/dL (NHTSA, November 2018). Only 38 states use sobriety checkpoints. Only 12 states conduct them on a weekly basis. Using passive alcohol sensors at the checkpoints to detect drinking drivers would increase detection of drinking drivers by 50% (Ferguson et al., 1995).

# 2. Automated Enforcement: Speed cameras/Red light cameras

Speed and red light cameras are highly effective in reducing speeding and red light running. However, they are only used in a few US communities. The US Congress will not allow federal grant funding for their use. Studies show they could reduce fatalities in the US by 19% (Retting et al., 2008A; Retting et al., 2008B; Retting & Farmer, 2003; TRB, 1998). In a recent survey, almost 43% of drivers admitted driving through a red light when they could have stopped safely in the past 30 days (AAA Foundation for Traffic Safety, March 2018).

# 3. Lowering the BAC limit for driving to .05 g/dL

Studies in Australia and Europe show that lowering the BAC to .05 could reduce traffic fatalities by 11% (Fell & Scherer, 2017). Administrative sanctions (license suspension, fine) could be used for drivers with BACs=.05-.07 (highly effective in Canada) (Fell et al., 2016).

# 4. Primary Safety Belt and Motorcycle Helmet Use Laws

Primary safety belt laws result in a 91% seat belt usage rate (in the 34 states and DC) compared to a 79% usage rate in states with secondary laws (16 states). The use of seat belts saved 14,000 lives in 2015 (NHTSA, February 2017). An additional 2,800 lives would have been saved if all occupants in crashes were wearing their safety belt. Motorcycle helmet laws saved 1859 lives in 2016 and an additional 802 lives could have been saved if all motorcyclists had worn helmets, but only 20 states have such laws (NHTSA, May 2018).

## 5. Alcohol Ignition Interlock Installations

All states have alcohol ignition interlock device (IID) laws. Studies show that all offender laws are associated with a 6% reduction in drinking driver fatal crashes (IIHS, 2017). Yet in the best states, only 50% of eligible offenders actually install the device on their car. Loopholes in the laws must be closed.

# 6. Oral Fluid Screening for Drugged Driving

Roadside surveys on week-end nights indicate that about 16-20% of drivers have impairing drugs in their systems (Kelley-Baker et al., May 2017). Australia uses an oral

fluid drug screening device that can detect drug presence in about 3 minutes (Pathtech Drugwipe 2). These need to be approved for use in the states in order to detect and reduce drugged driving.

# 7. Lowering Speed Limits in Residential Areas

When communities lower speed limits in residential areas, pedestrian and bicyclist fatalities are reduced by as much as 25% (Teft, 2011).

# 8. Highway Engineering

**Roundabouts** that replace signalized intersections practically eliminate T-bone side collisions which can result in serious and fatal injuries. One study showed that roundabouts reduced crashes of all severities by 38% (Retting et al., 2001). **Rumble strips** on the road edge and the center line have been shown to keep drowsy drivers awake and avoid run-off-the-road and head-on collisions. One study found significant crash modifications for run-off-road, head-on and sideswipe-opposite-direction crashes due to rumble strips in a multi-state study (Lyon, Bhagwant & Eccles (2015).

# 9. Ridesharing

There are anecdotal reports that many would-be drinking drivers have switched to ridesharing to get them to and from drinking establishments. Providence College also studied the relationship between Uber, fatal crashes and criminal arrests (Dills & Mulholland, 2016). They examined over 150 cities and counties that introduced Uber between 2010 and 2013, and found that Uber was associated with decreases in fatal vehicular crashes and in arrests for DUI, assaults and disorderly conduct.

If implemented widely, these strategies could substantially reduce traffic fatalities.

# **Success Stories:**

- In 1976 in Victoria, Australia, there were 1,061 traffic fatalities. In that year, random breath testing (RBT) was implemented as an enforcement measure and has been used every year since. RBT involves police randomly stopping vehicles and mandating a breath alcohol test from each driver. If the driver refuses, or if the BAC is ≥.05 g/dL, the driver is charged with DWI. Since 1976, traffic fatalities have been decreasing. In 2016, there were 291 fatalities, a 73% decrease in that total (TRB, 2010). <u>http://www.nap.edu/catalog/13046.html</u>
- In 2002 in **France**, the French president announced that road safety would be one of his priority initiatives in his new term of office. Political sponsorship at the highest level allowed for prompt action. Thousands of speed cameras were installed around the nation, but especially in places where speed was a factor in fatal crashes. Due to speed cameras and impaired driving enforcement activities, traffic fatalities in France declined from 8,000 in 2002 to 4,000 in 2008, a reduction of 50% (TRB, 2010).
- In 2006 in **Edmonton, Alberta, Canada**, there were 8,246 serious injuries and fatalities in traffic crashes, about half to pedestrians. After installing left-turn only green flashing arrows at 90 locations, modifying the angles of right turn lanes at 24 major intersections, implementing pedestrian crossing controls at 35 locations, and other roadway measures, serious injuries and fatalities declined to 3,396 in 2016, a 59% decrease (Vision Zero Edmonton, 2017). <a href="https://www.edmonton.ca/transportation/RoadsTraffic/VisionZero\_2016-Annual-Report.pdf">https://www.edmonton.ca/transportation/RoadsTraffic/VisionZero\_2016-Annual-Report.pdf</a>

Any of the above strategies can be implemented in the US. The cost may be significant, but the benefit to cost ratio would be substantial. In the US, we are killing 96 people per day on our roads, 4 deaths each hour, 1 death every 15 minutes of every day. Is that acceptable? We asked the American public about these underutilized strategies.

# **Objective: Public Opinion of These Strategies**

Which of these underutilized measures would be favorable to the American public? A representative survey of 2,000 respondents was conducted in October 2018 with 30 questions about these underutilized strategies using the NORC at the University of Chicago AmeriSpeak® survey instrument. Our objective was to gage the public's opinion of these strategies after learning about their effectiveness.

# **Survey Methods**

NORC conducted the Underutilized Strategies in Traffic Safety Survey using NORC's AmeriSpeak® Panel for the sample source. The main focus of the research was to ask adult drivers age 18 and older about their opinions regarding various traffic safety strategies. This study was offered in English only by web and phone. Please refer to the NORC Card (Appendix A) for information useful for compliance with the AAPOR Transparency Initiative, in addition to information provided in this AmeriSpeak® Field Report. See Appendix B for a Technical Overview of the AmeriSpeak® Panel.

#### Sampling

A general population sample of U.S. adults age 18+ was selected from NORC's AmeriSpeak® Panel for this study. Survey respondents who indicated that they drove a car or motorized vehicle at some point during the year met the screening criteria.

The sample for a specific study is selected from the AmeriSpeak® Panel using sampling strata based on age, race/Hispanic ethnicity, education, and gender (48 sampling strata in total). The size of the selected sample per sampling stratum is determined by the population distribution for each stratum. In addition, sample selection takes into account expected differential survey completion rates by demographic groups so that the set of panel members with a completed interview for a study is a representative sample of the target population. If the panel household has one more than one active adult panel member, only one adult in the household is eligible for selection (random within-household sampling). Panelists selected for an AmeriSpeak® study earlier in the business week are not eligible for sample selection until the following business week.

#### Field

A small sample of English-speaking AmeriSpeak® web-mode panelists were invited on September 19 for a pretest. In total, NORC collected 25 pretest interviews. The initial data from the pretest was reviewed by NORC. A single logic change was made and a question added before fielding the Main survey to collect the 2000 interviews. See Appendix C for a description of how the survey was conducted on the phone and over the web and the wording of the 30 questions.

In total NORC collected 2044 interviews, 1818 by web mode and 226 by phone mode. Please see NORC Card for field period, sample sizes, and the AAPOR response rate documentation. To encourage study cooperation, NORC sent email and SMS reminders to sampled web-mode panelists once a week throughout data collection. To administer the phonesurvey, NORC dialed the sampled phone-mode panelists throughout the field period. In addition, AmeriSpeak® web-mode panelists for whom AmeriSpeak® had a phone number were also called to encourage response. These web panelists were allowed to complete the survey via phone if convenient. Panelists were offered the cash equivalent of \$3

#### **Statistical Weighting**

Statistical weights for the study eligible respondents were calculated using panel base sampling weights to start. Panel base sampling weights for all sampled housing units are computed as the inverse of probability of selection from the NORC National Frame (the sampling frame that is used to sample housing units for AmeriSpeak®) or address-based sample. The sample design and recruitment protocol for the AmeriSpeak® Panel involves subsampling of initial non-respondent housing units. These subsampled non-respondent housing units are selected for an in-person follow-up. The subsample of housing units that are selected for the nonresponse follow-up (NRFU) have their panel base sampling weights inflated by the inverse of the subsampling rate. The base sampling weights are further adjusted to account for unknown eligibility and nonresponse among eligible housing units. The household-level nonresponse adjusted weights are then post-stratified to external counts for number of households obtained from the Current Population Survey. Then, these household-level post-stratified weights are assigned to each eligible adult in every recruited household. Furthermore, a person-level nonresponse adjustment accounts for nonresponding adults within a recruited household.

Finally, panel weights are raked to external population totals associated with age, sex, education, race/Hispanic ethnicity, housing tenure, telephone status, and Census Division. The external population totals are obtained from the Current Population Survey. The weights adjusted to the external population totals are the final panel weights.

Study-specific base sampling weights are derived using a combination of the final panel weight and the probability of selection associated with the sampled panel member. Since not all sampled panel members respond to the survey interview, an adjustment is needed to account for and adjust for survey non-respondents. This adjustment decreases potential nonresponse bias associated with sampled panel members who did not complete the survey interview for the study. Thus, the nonresponse adjusted survey weights for the study are adjusted via a raking ratio method to general adult population totals associated with the following socio-demographic characteristics: age, sex, education, race/Hispanic ethnicity, and Census Division. The weights adjusted to the external population totals are the final study weights.

For example, 31.3% of the weighted sample were between the ages of 18 and 34; 24.2% were between 35 and 49 years of age; 24.4% were between 50 and 64; while 20.1% were 65 and older. Males comprised 47.9% of the weighted sample while 52.1% were female. Non-Hispanic Whites accounted for 64.4% of the weighted sample; 10.6% were Non-Hispanic Black; 16.5% were Hispanic; while 4.1% were Non-Hispanic Asian/Pacific Islander and 4.3% were Non-Hispanic others. Concerning education status, 9.3% had less than high school; 27.6% had a high school equivalent; 29.0% had some college or an Associate Degree; 20.6% had a Bachelor's Degree and 13.5% had a Graduate Degree. The percent who had a household income of less than \$34,999 was 27.3%; 36.3% had a household income of between \$35,000 and \$75,000; 23.3% had a household income between \$75,000 and \$99, 999 while 13.1% were at \$100,000 or above.

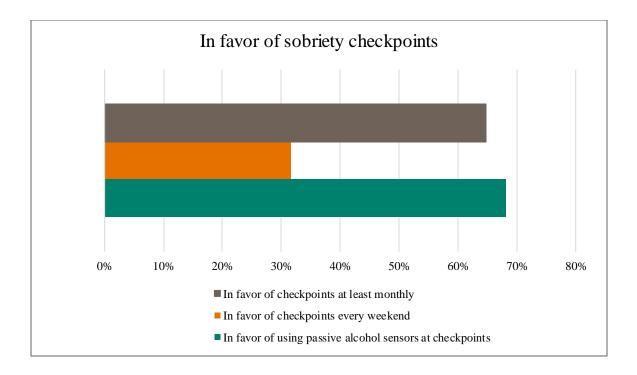
Funded and operated by NORC at the University of Chicago, AmeriSpeak® is a probability-based panel designed to be representative of the US household population. Randomly selected US households are sampled using area probability and address-based sampling, with a known, non-zero probability of selection from the NORC National Sample Frame. These sampled households are then contacted by US mail, telephone, and field interviewers (face to face). The panel provides sample coverage of approximately 97% of the U.S. household population. Those excluded from the sample include people with P.O. Box only addresses, some addresses not listed in the USPS Delivery Sequence File, and some newly constructed dwellings. While most AmeriSpeak® households participate in surveys by web, non-internet households can participate in AmeriSpeak® surveys by telephone. Households without conventional internet access but having web access via smartphones are allowed to participate in AmeriSpeak® surveys by web. AmeriSpeak® panelists participate in NORC studies or studies conducted by NORC on behalf of governmental agencies, academic researchers, and media and commercial organizations. For more information, email <u>AmeriSpeak-BD@norc.org</u> or visit AmeriSpeak.norc.org.

# **Survey Results**

Given a summary of the studies of the effectiveness of these strategies, below are the weighted percentages of respondents in favor of their utilization. The margin of error in these percentages is plus or minus 2.98%.

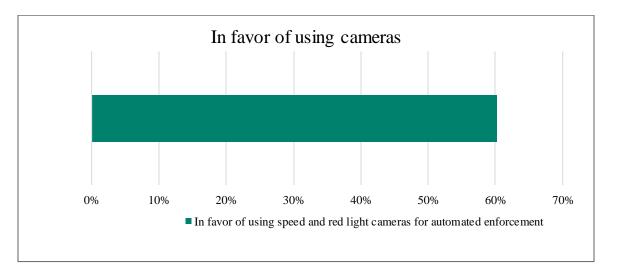
#### **Sobriety Checkpoints**

- **64.7%** of the respondents were in favor of conducting sobriety checkpoints in their community at least monthly. Almost a third of the respondents (31.7%) said that checkpoints should be conducted every weekend.
- **68.2%** were in favor of police using passive alcohol sensors at sobriety checkpoints in their community.



# Speeding

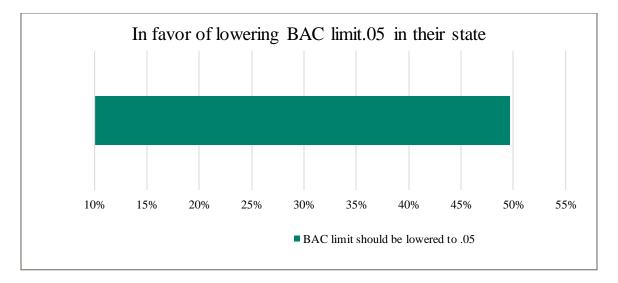
**60.3%** of respondents were in favor of using speed and red light cameras for automated enforcement in their community. **65.2%** of females were in favor while **55.0%** of males were in favor. Even those respondents who said they speed often were in favor of speed cameras (**54.3%**) and those who reported running red lights were in favor of red light cameras (**51.5%**).



# **Alcohol-Impaired Driving**

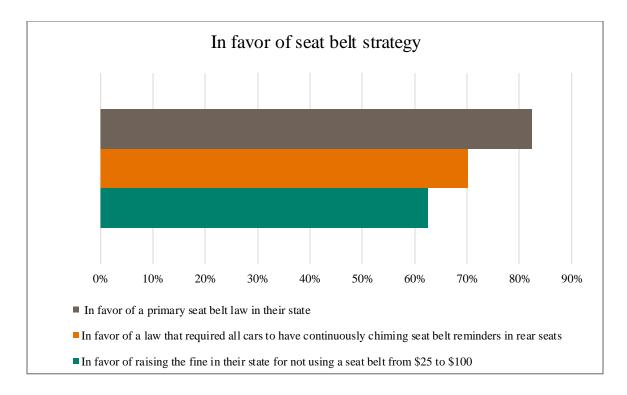
**88.8%** of the respondents said they had heard of blood alcohol concentration (BAC) limits for driving and **88.7%** felt that most drivers with a BAC of .08 or higher were a danger on the road. When asked if they thought the BAC limit should be lowered to .05 in their state, **49.7%** said yes while **49.3%** said no. **54.1%** of females were in favor while **44.8%** of males were in favor. As

would be expected, those who reported drinking and driving, only 37.2% were in favor of lowering the BAC limit to .05. However, when asked if the BAC limit should be lowered to .05 if the penalty would be administrative (license suspension, fine) and not criminal, **57.5%** were in favor.



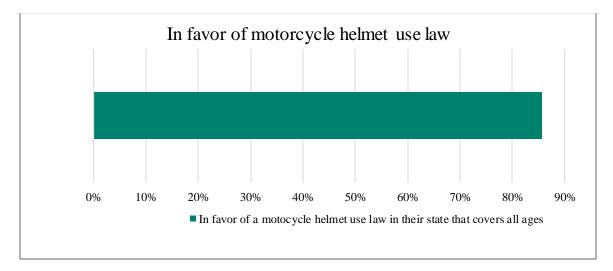
## Seat Belt Usage

84.9% of the respondents said they wear a seat belt when driving on every trip. 82.4% of the respondents were in favor of a primary seat belt law in their state when primary enforcement and secondary enforcement was explained to them. That broke out to 87.2% for females and 77.2% for males. In addition, 70.1% were in favor of a law that required all cars to have seat belt reminders that continuously chime until the seat belt is buckled including rear seat passengers.
62.5% were in favor of raising the fine in their state for not using a seat belt from \$25 to \$100. Of those respondents who reported not wearing a seat belt often, 44.6% were in favor of a seat belt law, 35.1% were in favor of seat belt reminders and 32.2% were in favor of raising the seat belt fine.



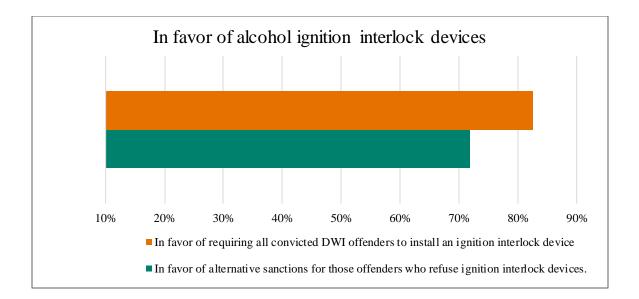
# **Motorcycle Helmets**

85.7% were in favor of a motorcycle helmet use law in their state that covers all ages.



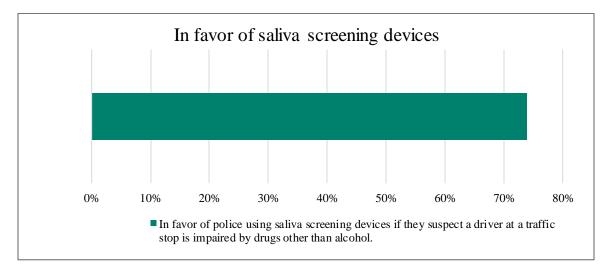
# **Alcohol Ignition Interlock Devices**

**82.5%** were in favor of requiring all convicted driving-while-intoxicated (DWI) offenders to install an ignition interlock device in their vehicles. **71.9%** were in favor of alternative sanctions such as house arrest or an alcohol monitoring ankle bracelet for convicted DWI offenders who refuse ignition interlock devices.



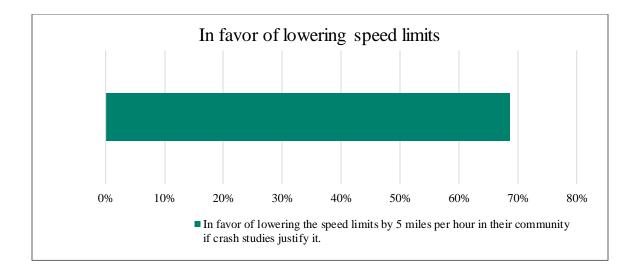
# **Drugged Driving**

**74.0%** of respondents were in favor of police using saliva screening devices if they suspect a driver at a traffic stop is impaired by drugs other than alcohol. However, of those who reported driving within 2 hours of using marijuana, **36.2%** were in favor of saliva screening.



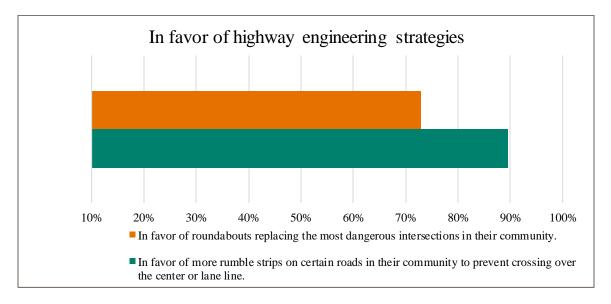
## **Speed Limits**

**68.6%** were in favor of lowering the speed limits by 5 miles per hour in their community if crash studies justify it.



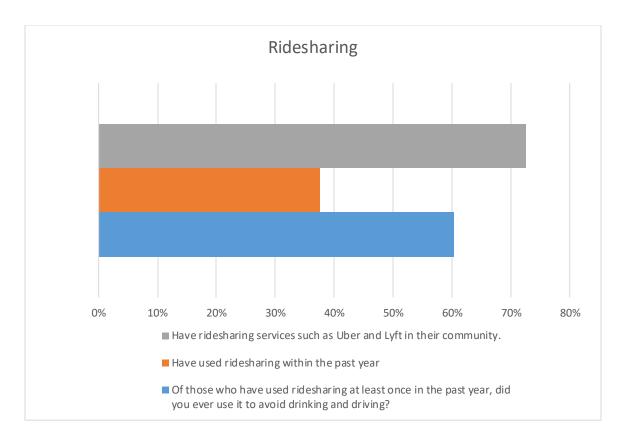
# **Highway Engineering**

**72.9%** of respondents were in favor of roundabouts replacing the most dangerous intersections in their community. **89.6%** were in favor of more rumble strips on certain roads in their community to prevent crossing over the center or lane line.



## Ridesharing

**72.5%** said they had ridesharing services such as Uber and Lyft in their community. **37.6%** said they had used ridesharing within the past year. Of the respondents who reported using ridesharing, **60.4%** said they used ridesharing at least once in the past year to avoid drinking and driving. Of the 18-35 year old respondents who used ridesharing, **75.6%** used it at least once in the past year to avoid drinking and driving compared to **47.6%** of the respondents aged 36 and older.



# Conclusions

The results of this survey indicate that when drivers in the United States are given facts about certain countermeasures or strategies to reduce traffic crash fatalities, the majority are in favor of the underutilized strategies if they have the potential to save lives.

# **Other Promising Strategies:**

There are also many other promising strategies that could also impact traffic fatalities. More research is needed on these strategies, but some of the strategies/technologies are available today.

- Install guardrails to reduce the severity of run-off-the-road crashes.
- Develop and use new guidelines to reduce the risk of pedestrian fatalities.
- Enact and enforce bicycle helmet laws for all ages.
- Seat Belt Use interlocks-vehicle will not drive unless every occupant uses the safety belts
- Speed Governors limiting how fast vehicles can drive (e.g. 80 mph)
- Develop and implement evidence-based emergency vehicle operations standards.
- Driver Alcohol Detection System for Safety (DADSS) involving a passive alcohol reading via the driver's touch or breath before the vehicle can drive.
- Autonomous vehicles (self-driving vehicles to eliminate human error)

In 2017, NHTSA identified 10 proven countermeasures that, if adopted, would help states achieve progress toward zero deaths (Sung, Mizenko and Coleman, October 2017):

(1) Administrative License Revocation or Suspension Laws

- (2) Publicized Sobriety Checkpoints
- (3) Alcohol Interlock Devices
- (4) Primary Enforcement Seat Belt Laws
- (5) Strengthening Child Occupant Restraint Laws
- (6) Automated Enforcement (Speed Cameras)
- (7) High Visibility Cell Phone Texting Enforcement
- (8) Universal Motorcycle Helmet Laws
- (9) Graduated Driver Licensing Laws
- (10) Bicycle Helmet Laws

A World Health Organization (WHO) publication (Peden and Khayes, 2018) recommended 22 interventions that could make a difference in road safety. Below are 10 of the most prominent strategies:

- Build or modify roads that calm traffic (e.g., speed humps, rumble strips, roundabouts and road narrowing)
- Provide safe infrastructure for all road users (e.g., sidewalks, safe crossings, overpasses, underpasses)
- Put in place bicycle and motorcycle lanes on roadways
- Provide better and safer routes for public transportation
- Require car makers to install new technologies such as intelligent speed adaptation to help drivers comply with speed limits
- Establish and enforce motor vehicle safety standards related to pedestrian protection
- Develop organized and integrated pre-hospital and facility-based emergency care systems
- Promote community first responder training
- Monitor road safety by strengthening data systems
- Evaluate the impact of road safety strategies

There are dozens of other measures described in the publication: "Toward Zero Deaths." <u>www.TowardZeroDeaths.org</u> and in the TRB Report: "Achieving Traffic Safety Goals in the United States, Lessons from Other Countries, Special Report 300, 2010,

http://www.nap.edu/catalog/13046.html. For effective laws, see Advocates for Highway & Auto Safety (January 2017). Have We Forgotten What Saves Lives? 2017 Roadmap of State Highway Safety Laws, Washington, DC. http://saferoads.org/

# Acknowledgements

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# **APPENDIX A:**

# **NORC CARD**





#### OVERVIEW

- Date of Report:
   Oct 25,2018

   Project Title:
   NSC Traffic Safety Strategies

   Project Number:
   G097

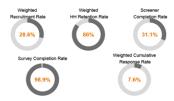
   Prepared For:
   National Safety Council

   Expected Elig:
   93.0%

   Observed Elig:
   93.2%

   Study Population:
   Age 18+ General Population
- Start Date:September 27, 2018End Date:October 15, 2018Sampled Units:7125Completed Interviews:2044Design Effect:1.89Margin of Error:2.98%Median Intrw. Length:8 minutes

#### **RESPONSE RATES**



#### **BENCHMARK COMPARISON**

	Unweighted	Weighted	Benchmark	Difference	10.0% 10.0%
Household Income				0.5	
Less than \$34,999	25.8	27.3	26.5	0.8	
\$35,000 to \$74,999	38.3	36.3	36.3	0	
\$75,000 to \$99,999	23.5	23.3	24.3	1	1
\$100,000 Plus	12.4	13.1	13	0.1	
Age				0.2	
18 - 34	26.9	31.3	31	0.3	
35 - 49	23	24.2	24.5	0.3	
50 - 64	26.6	24.4	24.4	0	
65+	23.5	20.1	20.1	0	
Race/Ethnicity				0.1	
Non-Hispanic White	66.7	64.4	64.4	0	
Non-Hispanic Black	10.4	10.6	10.6	0	
Hispanic	15	16.5	16.5	0	
Non-Hispanic Asian/Pacific Islander	3.2	4.1	4.3	0.2	
Non-Hispanic Others	4.6	4.3	4.2	0.1	
Education Status				0	
Less than High School	4.5	9.3	9.3	0	
High School Equivalent	17.8	27.6	27.6	0	
Some College/Associate Degree	43.1	29	29	0	
Bachelor's Degree	20.4	20.6	20.6	0	
Graduate Degree	14.3	13.5	13.5	0	
Household Ownership				2.9	1
Owner Occupied	66.7	71.6	74.5	2.9	
Renter Occupied/Other	33.3	28.4	25.5	2.9	
Children in Household				0.6	
With 1+ Under 18 Years	31.5	33.8	34.4	0.6	1 I I I I I I I I I I I I I I I I I I I
Without Children Under 18	68.5	66.2	65.6	0.6	i i
Marital Status				0.8	Í
Currently Married	46.6	45.1	45.9	0.8	i i
Separated/Divorced/Widowed/Single	53.4	54.9	54.1	0.8	i i
Sex				0	
Male	47.6	47.9	47.9	0	
Female	52.4	52.1	52.1	0	
Average Difference				0.6	

# Ameri Speak



#### **Overview Section**

Sampled Units: The number of panel members sampled for the survey.

*Start/End Dates:* Start and end dates represent the earliest and latest *contact* dates of cases sampled for the survey.

*Completed Interviews*: The number of members completing the interview through the "thank you" screen of the interview. It does not include any interviews removed during data processing.

Interview length: Length of time for completed interviews. Interview length is calculated differently depending upon whether the interview was conducted over the phone or via web. For telephone mode, it is the time from when the respondent picks up the telephone until they hang up the telephone. For web interviews, it is the time from when they first connect to the web system to the time they log off the system or become inactive. In the case of multiple contacts, this number represents the sum of those contacts.

Margin of Error: The Margin of Error is calculated by assuming we have a binomial variable where 50% of respondents give each answer (giving the most conservative margin of error). We then calculate the Margin of Error at a 95% confidence level for that hypothetical variable assuming all completed interviews answer the question and taking into account the design effect.

Design Effect: The design effect is the amount of variance under the complex design divided by the variance under the SRS (simple random sampling). This is calculated for a minimum of five key substantive survey variables and the median value is reported.



NORC Card is provided to AmeriSpeak clients in support of the AAPOR Transparency Initiative.

#### **Response Rate Section**

Weighted Recruitment Rate: The weighted AAPOR RR III for the AmeriSpeak panel recruitment for recruitment cohorts sampled for the study. A recruited sample unit is defined as a household where at least one adult successfully completed the recruitment survey and joined the panel.

Weighted Household Retention Rate: Calculated at the household level, it represents the weighted percent of recruited households still available for sampling for this survey among the recruitment cohorts sampled for the study.

Screener Completion Rate: Calculated at the member level, it represents the percent of sampled members who completed the screening questions and therefore with known eligibility status for the current study. Studies without a screener have the screener completion rate as 100 percent.

#### Survey Completion Rate: Calculated at the member level,

For a study without a screener: it is the percent of final respondents among sampled units for the study;
For a study with screener: it is the percent of final respondents among eligible respondents who finished the screener;
For a follow-up study: it is the percent of follow-up respondents among baseline respondents.

Weighted Cumulative Response Rate: The overall rate represents the product of the recruitment rate, the retention rate, and the survey completion rate. It is weighted to account for the sample design and face-to-face non-response follow-up of the initial recruitment survey.

#### **Benchmark Comparison Section**

We compare nationwide demographics to those of our survey respondents who completed the interview, both on a weighted and unweighted basis. We use this information to determine how well the survey respondents represent the demographics of the target population. For this study, there were no direct nationwide benchmarks. The benchmarks used in this section were estimated from sample members who completed the screener.

# **APPENDIX B**

# TECHNICAL OVERVIEW OF THE AMERISPEAK PANEL

# TECHNICAL OVERVIEW OF THE AMERISPEAK® PANEL NORC'S PROBABILITY-BASED RESEARCH PANEL

## Updated February 6, 2018 Prepared by J. Michael Dennis, Ph.D.

Funded and operated by NORC at the University of Chicago, AmeriSpeak<sup>®</sup> is a probability-based panel designed to be representative of the US household population. Randomly selected US households are sampled with a known, non-zero probability of selection from the NORC National Frame and address-based sample, and then contacted by US mail, telephone interviewers, overnight express mailers, and field interviewers (face to face). AmeriSpeak panelists participate in NORC studies or studies conducted by NORC on behalf of NORC's clients.

In 2017, the AmeriSpeak Panel expanded to 27,000 households and will expand to 30,000 households in 2018. The AmeriSpeak Panel includes sample support for surveys of various segments through AmeriSpeak Latino, AmeriSpeak Teen, and AmeriSpeak Young Adult (which includes an oversample of African Americans, Hispanics, and Asians age 18-34). AmeriSpeak also supports large-sample size surveys and surveys of low-incidence populations through AmeriSpeak Calibration, which combines probability-based AmeriSpeak and non-probability online samples using calibrating statistical weights derived from AmeriSpeak.

#### Sample Frame

In order to provide a nationally representative sample, AmeriSpeak leverages the NORC National Frame, which provides sample coverage for over 97 percent of the U.S. households. The 2010 National Frame used a two-stage probability sample design to select a representative sample of households in the United States. The first stage—the sampling unit—is a National Frame Area (NFA), which is either an entire metropolitan area (made up of one or more counties) or a county (some counties were combined so that each NFA contains a population of at least 10,000). The largest NFAs with a population of at least 1,543,728 (0.5 percent of the 2010 Census U.S. population) were selected with certainty; these areas have a high-population density, and are dominated by tracts with street-style addresses. These areas contain 56 percent of the population within 8 percent of the geographic area of the United States. The remaining areas were stratified into areas where street-style addresses predominate, and the remaining areas, which are less likely to have street -style addresses. The latter stratum ("rural" areas) comprises 81 percent of the geographic area, but only 14 percent of the population.

Within the selected NFAs, the second stage sampling unit is a segment, defined either in terms of Census tracts or block groups, containing at least 300 housing units according to the 2010 Census. A stratified probability sample of 1,514 segments was selected with probability proportional to size. For most of the 1,514 segments, the U.S. Postal Service Delivery Sequence File (DSF) provided over 90 percent coverage of the segments in terms of city-style addresses that are geo-codeable. For the 123 segments where the DSF provided insufficient coverage, we enhanced the DSF address list with in-person listing. The National Frame contains almost 3 million households, including over 80,000 rural households added through the in-person listing.

The National Frame involves addresses in almost every state. For the remaining states, AmeriSpeak added some address-based sampling (ABS) addresses in 2016 and 2017 from the USPS DSF to assure AmeriSpeak sample representation for all US States and Washington, DC.

In 2017, a targeted address-based sample was added to AmeriSpeak recruitment in order to develop a new Latino Panel with adequate representation of Spanish-language-dominant Hispanics. Census tracts with high

incidence (at least 30%) of Spanish-dominant Hispanics were targeted for this recruitment. Furthermore, within these Census tracts, households that were flagged as Hispanic based on consumer vendor data (that are typically used for direct-mail marketing) were oversampled. This new AmeriSpeak Latino Panel contains approximately 5,400 Hispanic panelists with 24% of those panelists being Spanish-language dominant. As of August 2017, 13% of AmeriSpeak Panel (including the Latino Panel) recruited adults were sourced from the ABS and 87% from the National Frame. Proper weights allow the full use of the combined sample.

#### Sample Selection for Panel Recruitment

The 2014-2017 AmeriSpeak Panel sample consists of nationally representative housing units drawn from the 2010 NORC National Sample Frame and 14% from address-based sampling (which was primarily to develop AmeriSpeak Latino). The 2010 NORC National Sample Frame is stratified based on segment (Census tract or Census block group) characteristics such as age and race/ethnicity composition of the segment, and then, a stratified simple random sample of housing units is selected. Specifically, based on Census tract-level data, segments were classified as having a higher concentration of 18-24 year old adults or not, and a higher concentration of Hispanics, non-Hispanic African Americans, and other. Based on these strata definitions, 6 strata (2 based on age times 3 based on race/ethnicity) were used to oversample housing units in segments higher in young adults and/or Hispanics and non-Hispanic African-Americans. This is referred to as the initial sample or first stage of panel recruitment.

In the second stage of panel recruitment, initially sampled but nonresponding housing units are subsampled for a nonresponse follow-up (NRFU). At this stage, consumer vendor data are matched to housing units, and housing units that are flagged (based on consumer vendor data) as having a young adult (18-34 years of age) or minority (Hispanic and non-Hispanic African American) are oversampled for the NRFU. Overall, approximately one in five initially nonresponding housing units are subsampled for NRFU. However, as mentioned previously, selection of housing units for NRFU is a stratified simple random sample based on consumer vendor data. Due to NRFU, these initially nonresponding housing units have a much higher selection probability compared to the housing units that were recruited during the first stage of panel recruitment. Note that a small fraction of initially nonresponding housing units are not eligible for NRFU due to these housing units being classified as "hard refusals" or having an appointment for a call back from NORC.

In summary, there are two reasons why the sampling design for AmeriSpeak Panel recruitment deviates from Equal Probability of Selection Method (EPSEM) sampling: (a) oversampling of housing units in segments with a higher concentration of young adults and minorities results in the sample selection probabilities being higher for housing units in these segments; and (b) the nonresponse follow-up effort results in initially nonresponding housing units having a much higher selection probability. Furthermore, oversampling associated with NRFU results in higher selection probabilities for initially nonresponding housing units that are flagged (based on consumer vendor data) as having a young adult or minority.

#### AmeriSpeak Panel Recruitment Procedures

Recruitment is a two-stage process: initial recruitment using less expensive methods and then non-response follow-up using personal interviewers. For the initial recruitment, sample units are invited to join AmeriSpeak online by visiting the panel website AmeriSpeak.org or by telephone (in-bound/outbound supported). English and Spanish language are supported for both online and telephone recruitment. Study invitations are communicated via an over-sized pre-notification postcard, a USPS recruitment package in a 9"x12" envelope (containing a cover letter, a summary of the privacy policy, FAQs, and a study brochure), two follow-up post cards, and also contact by NORC's telephone research center for sample units matched to a telephone number.

The second-stage non-response follow-up targets a stratified random sub-sample of the non-responders from the initial recruitment. Stratification is based on consumer vendor data and stratification variables from the initial recruitment stage in order to increase sample representation of young adults (18-34 years of age), non-

Hispanic African Americans, and Hispanics. Units sampled for the non-response follow-up are sent by Federal Express a new recruitment package with an enhanced incentive offer. NORC field interviewers then make personal, face-to-face visits to the respondents' homes to encourage participation. NORC field interviewers administer the recruitment survey in-person using CAPI or else encourage the respondents to register at AmeriSpeak.org or call the toll-free AmeriSpeak telephone number to register.

#### **Recruiting Non-Internet and "Net Averse" Households**

Under certain conditions, AmeriSpeak gives respondents a choice regarding their preferred mode for future participation in AmeriSpeak surveys. For the 2014-2017 recruitment, 82% of panelists were enrolled in AmeriSpeak to receive online surveys, while 18% of the panelists agreed to participate in AmeriSpeak telephone mode surveys. For the 2016 and 2017 recruitment, respondents provided an option of online or telephone modes include: persons without internet access, persons whose only internet access is via a smartphone, and persons with internet access but unwilling to share an email address. A recruited household can consist of both web-mode and phone-mode panelists residing in the same household.

#### Impact of Non-Response Follow-up

The non-response follow-up (NRFU) reduces non-response bias significantly by improving the representativeness of the AmeriSpeak panel sample with respect to certain demographic segments, including but not limited to rural and/or lower income households, cell-phone only households, persons age 18 to 34, African Americans, Hispanics, and persons without a high school degree or have only a high school degree (no college). Even though NRFU panelists are more reluctant to complete surveys, the addition of NRFU panelists reduced absolute bias on average 35-40% when compared to the initial stage recruits (among examined surveys). Compared to panelists recruited in the initial stage, panelists recruited via the non-response follow-up campaign are more politically conservative, are less knowledgeable about science, report less likely to read a print newspaper (more likely to read the news online and use social media). They are also more likely to attend church, be against gun control, and more likely to eat at a fast food restaurant than the initial stage recruits. Accordingly, NRFU panelists make the substantive estimates in any AmeriSpeak study more representative and accurate.

#### AmeriSpeak Panel Recruitment Response Rate and Other Sample Metrics

The AAPOR RR3 (response rate) for the 2014-2017 panel recruitment 33.7% (weighted to take into account selection probabilities).<sup>1</sup> The estimated cumulative AAPOR RR3 for client surveys is 10% to 20% (varying according to study parameters and taking into account all sources of non-response including panel recruitment, panel household attrition, and survey participation).<sup>2</sup> NORC documented the AAPOR response rate calculation methodology for 2014-2015 recruitment.<sup>3</sup>

Key statistics with respect to the 2014-2017 recruited households are as follows: 52% recruited via the non-response follow-up recruitment using overnight Federal Express mailers and face-to-face methodology (with NORC field staff visiting households); 18% indicated a preference for the telephone mode of data collection for participating in AmeriSpeak studies; 22% of the recruited households are non-Internet; 80% are cell-

<sup>&</sup>lt;sup>1</sup> The response rate calculation incorporates the selection probabilities of the samples for the initial recruitment and non-response follow-up stages, as calculated by the US Bureau of the Census for the American Community Survey.

<sup>&</sup>lt;sup>2</sup> A properly calculated AAPOR response rate for panel-based research takes into account all sources of nonresponse at each stage of the panel recruitment, management, and survey administration process. A common misapplication of the term "response rate" in online panel surveys is represent the survey-specific cooperation rate as the "survey response rate."

<sup>&</sup>lt;sup>3</sup>See "Response Rate Calculation Methodology for Recruitment of a Two-Phase Probability-Based Panel: The Case of AmeriSpeak" authored by Robert Montgomery, J. Michael Dennis, Nada Ganesh. The paper is available at amerispeak.norc.org on the "research" page.

phone only or cell-phone mostly; 18% are African-American and 24% Hispanic; and 36% have household income below \$30,000 (compared to CPS benchmark of 26%).

#### **Mixed-Mode Data Collection**

Panelists may participate in two to three AmeriSpeak Panel studies per month via online (computer, tablet, or smartphones) or by CATI phone. CATI phone mode respondents represent a population currently under-represented in web panels that exclude non-internet households or "net averse" persons. NORC's telephone interviewers administer the phone mode of survey questionnaires using a data collection system supporting both the phone and web modes of data collection, providing an integrated sample management and data collection platform. For panelists using smartphones for web-mode AmeriSpeak surveys, the NORC survey system renders an optimized presentation of the survey questions for these mobile users. For general population client studies, approximately 20% of the completed interviews are completed by the telephone mode.

#### **Panel Management Policies**

NORC maintains strict rules to limit respondent burden and reduce the risk of panel fatigue. On average, AmeriSpeak panel members typically participate in AmeriSpeak web-based or phone-based studies two to three times a month.

Because the risk of panel attrition increases with the fielding of poorly constructed survey questionnaires, the AmeriSpeak team works with NORC clients to create surveys that provide an appropriate user experience for AmeriSpeak panelists. AmeriSpeak will not field surveys that in our professional opinion will result in a poor user experience for our panelists and in panel attrition.

## ABOUT NORC AT THE UNIVERSITY OF CHICAGO

As one of the world's foremost independent research institutions, NORC at the University of Chicago delivers objective data and meaningful analysis to help decision-makers and leading organizations make informed choices and identify new opportunities. Since 1941, NORC has applied sophisticated methods and tools, innovative and cost-effective solutions, and the highest standards of scientific integrity and quality to conduct and advance research on critical issues. Today, NORC expands on this tradition by partnering with government, business, and nonprofit clients to create deep insight across a broad range of topics and to disseminate useful knowledge throughout society.

Headquartered in downtown Chicago, NORC works in over 40 countries around the world, with additional offices on the University of Chicago campus, the DC metro area, Atlanta, Boston, and San Francisco.

#### **ADDITIONAL RESOURCES**

To learn more about AmeriSpeak or to share an RFP, please contact AmeriSpeak at <u>AmeriSpeak-BD@norc.org</u>. Information about AmeriSpeak capabilities and research papers are available online at <u>AmeriSpeak.NORC.org</u>.

# **APPENDIX C**

# UNDERUTILIZED STRATEGIES QUESTIONAIRE



Client Project Name Project Number Survey length (median) Population Pretest Main MODE Language Incentive Survey description Eligibility Rate Jim Fell, NORC – Economics, Justice & Society NSC Traffic Safety Strategies G097 10 minute survey Gen Pop 18+ N=25 N=2000 Phone and Web English 3,000 AmeriPoints Driver safety survey 90%

Var Name	Var Type	Var length	Variable Label
S_AGE	Numeric	5	Age
S_GENDER	String	8	Gender
S_RACETH	Numeric	8	Race/ethnicity
S_EDUC	Numeric	6	Education
S_MARITAL	Numeric	9	Marital Status
S_EMPLOY	Numeric	8	Current employment status
S_INCOME	Numeric	8	Household income
S_STATE	String	7	State
S_METRO	Numeric	7	Metropolitan area flag
S_INTERNET	Numeric	10	Household internet access
S_HOUSING	Numeric	9	Home ownership
S_HOME_TYPE	Numeric	11	Building type of panelist's residence
S_PHONESERVC	Numeric	11	Telephone service for the household
S_HHSIZE	Numeric	8	Household size (including children)
S_HH01	Numeric	6	Number of HH members age 0-1
S_HH25	Numeric	6	Number of HH members age 2-5
S_HH612	Numeric	7	Number of HH members age 6-12
S_HH1317	Numeric	8	Number of HH members age 13-17
S_HH18OV	Numeric	8	Number of HH members age 18+
S_file_date	Date	11	
S_GENFRACE	Numeric	8	GenF custom race

Standard demographic preloads:

These populated as a pre-load when the panelists get sampled into the survey

## Standard sample preloads

Variable Name	Variable Type	Variable Label		
Username	Numeric	Analogous to Member_PIN		
P_Batch	Numeric	Batch Number (if only one assignment, then		
		everyone will be 1)		
Dialmode	Numeric	CATI Dialmode (predictive, preview, etc)		
P_LCS	Numeric	Life cycle stage, 0=released but not touched		
Y_FCELLP	String			
Surveylength	Numeric	Estimated length of survey		
SurveyId	Numeric	Survey ID# in A4S		
Incentwcomma	String	Study specific		
P_Hold01	Numeric	Prevents dialing cases without phone numbers		

# Custom survey-specific preloads

Variable Name	Variable Type	Variable Label

#### PHONE SCRIPTS [CATI - OUTBOUND]

INTRO

Hello, my name is \$I. I'm calling from AmeriSpeak by NORC. May I please speak with [FIRSTNAME]?

# [IF RESPONDENT IS AVAILABLE]

Thank you for your continued participation in AmeriSpeak. I am calling to let you know that your next survey is available. The survey takes approximately [SURVEYLENGTH] minutes to complete. If you complete the survey, you will receive [INCENTWCOMMA] AmeriPoints for your time. We will keep all of your answers confidential. Shall we proceed?

Great. As always, for quality assurance purposes, this call may be recorded or monitored.

# [CATI-INBOUND]

INTRO Thank you for calling AmeriSpeak by NORC. My name is \$I. How are you today?

And are you calling to take your next survey?

I just need to confirm that I'm speaking with [FIRSTNAME] [LASTNAME]. Is that you?

Great. This survey takes approximately [SURVEYLENGTH] minutes to complete over the phone and you will earn [INCENTPOINTS] AmeriPoints for your time. We will keep all of your answers confidential.

As always, for quality assurance purposes, this call may be recorded or monitored.

Shall we proceed?

## [CATI-CALLBACK]

CBINTRO Hello, my name is \$I. I'm calling from AmeriSpeak by NORC. We previously spoke with [FIRSTNAME] about completing an AmeriSpeak survey. Is [FIRSTNAME] available?

## [IF RESPONDENT IS AVAILABLE]

Hello, my name is \$I, calling from AmeriSpeak by NORC. We previously spoke with you about completing an AmeriSpeak survey. Are you available now to continue?

As always, for quality assurance purposes, this call may be recorded or monitored.

# [DISPLAY THIS AM LANGUAGE IF SurveyAccessEnd-CALLDATE>1 DAY] [CATI-MISSED OUTBOUND, ANSWERING MACHINE]

AM1

Hello, this message is [FIRSTNAME] [LASTNAME]. I'm calling from AmeriSpeak from NORC to let you know that you have a survey waiting for you. The survey will take approximately [surveylength] minutes

and you will receive [INCENTWCOMMA] AmeriPoints for your time. Call us toll-free at 888-326-9424 and enter your PIN number, [MEMBER\_PIN], to complete your survey and earn rewards. Thank you.

# [DISPLAY THIS AM LANGUAGE IF SurveyAccessEnd-CALLDATE>1 DAY] [CATI-ANSWERING MACHINE MISSED APPOINTMENT CALLBACK]

#### AMHARD

Hello, this message is for [FIRSTNAME] and I'm calling from AmeriSpeak from NORC. When we spoke previously, you requested that we call you back <at this time>. I'm sorry that we've missed you. We'll try to contact you again soon but please feel free to return our call any time at 888-326-9424 and enter your PIN number, [MEMBER\_PIN], to complete your survey and earn rewards. Thank you.

## [DISPLAY THIS AM LANGUAGE IF SurveyAccessEnd-CALLDATE>1 DAY] [CATI-ANSWERING MACHINE MISSED CALLBACK]

#### AMSOFT

Hello, this message is for [FIRSTNAME]. I am calling from AmeriSpeak from NORC. We are calling you back to complete your AmeriSpeak survey. Remember, you will earn rewards for completing this survey. I'm sorry that we've missed you. We'll try to contact you again soon but please feel free to return our call any time at 888-326-9424 and enter your PIN number, [MEMBER\_PIN], to complete this survey. Thank you.

# [DISPLAY THIS AM LANGUAGE IF SurveyAccessEnd-CALLDATE=1 DAY] [CATI-NEARING END OF FIELD, ANSWERING MACHINE]

#### AMEND

Hello, this message is for [FIRSTNAME]. I'm calling from AmeriSpeak from NORC to let you know that a survey will be ending tomorrow. We'd love to hear from you so please call us toll-free at 888-326-9424 and enter your PIN number, [MEMBER\_PIN], to complete your survey and earn rewards. Thank you.

Please include the following options for all questions in CATI: 77 DON'T KNOW 99 REFUSED

Please code refusals in CAWI: 98 IMPLICIT REFUSAL, WEB SKIP Do not code 77 Don't Know/99 Refused options in CAWI unless written in item response options

Text shown in green includes researcher notes and should not be included in the programming.

[START OF SURVEY]

CREATE DATA-ONLY VARIABLE: QUAL 1=Qualified Complete 2=Not Qualified 3=In progress

AT START OF SURVEY COMPUTE QUAL=3 "IN PROGRESS"

CREATE MODE\_START 1=CATI 2=CAWI

NSC Traffic Safety Draft Date: 9/9/2018

#### [DISPLAY – WINTRO\_1]

Thank you for agreeing to participate in our new AmeriSpeak survey! To thank you for sharing your opinions, we will give you a reward of [INCENTWCOMMA] AmeriPoints after completing the survey. As always, your answers are confidential.

*Please use the "Continue" and "Previous" buttons to navigate between the questions within the questionnaire. Do not use your browser buttons.* 

## DRIVING

[SP; PROMPT IF REFUSED] [standard prompt language is We would really like your answer to this question] QS1.

How often do you usually drive a car or other motor vehicles? Would you say that you usually drive...

- 1. Every day
- 2. Several days a week
- 3. Once a week or less
- 4. Only certain times a year
- 5. Never

[IF QS1=5 or REFUSED AFTER PROMPT, TERMINATE]

TERMINATE instruction should be short hand for:
→ SET QUAL=2, CO\_DATE
→ GO TO TERMSORRY
→ No back (disable browser back button)
→ auto redirect to member portal after 10 seconds [NO PIMS TRANSACTION]

#### TERMSORRY.

[CAWI] Thank you for your time today. Unfortunately you are not eligible for this study. We value your opinion and hope that you will participate in future AmeriSpeak surveys.

[CAWI] We will redirect you to the AmeriSpeak Member Portal in [n] seconds.

[CATI] Thank you for your time today. Unfortunately you are not eligible for this study. Thank you so much for your participation. We will be in touch when your next survey is available. Have a great day/evening.

[[CATI], ONLY OFFER THIS IF PROMPTED BY RESPONDENT: I mentioned earlier that we would complete the survey if you were eligible, and it appears that you are not for this particular survey. We appreciate your time and will be in touch with your next survey soon.] [SET QUAL=2 "Not Qualified" and END INTERVIEW, no incentive given] [REMOVE "PREVIOUS" BUTTON FROM PAGE] [CAWI NO BACK – disable web browser back button] CAWI auto-redirect to MEMBER PORTAL in 10 seconds, display remaining number of seconds in [n]

[SP]
Q1.
About what percent of your total driving takes place during the nighttime?

- 1. 0 20%
- 2. 21 40%
- 3. 41-60%
- 4. 61 80%
- 5. **81 100%**

#### [DISPLAY – ABOUT]

In this survey, we will ask about traffic safety policy proposals and your opinion about them. There will be some questions about your driving practices, please know that the privacy of your responses will be protected. In addition, before asking your opinion on various policies, you will be informed about what the latest research suggests about their effectiveness in traffic safety, if the policy or strategy is implemented. [IF CATI, INSERT: Most of the questions will require a simple yes or no response.]

## SOBRIETY CHECKPOINTS

# [SP]

#### Q2.

Sobriety checkpoints involve police stopping vehicles at random to determine if any drivers are impaired by alcohol. Research shows that when checkpoints are conducted in a community, crashes involving impaired driving go down significantly. In some studies, traffic fatalities were reduced by eight to ten percent when checkpoints were conducted. Checkpoints are also safer for both the drivers and the police than traffic stops.

#### [SPACE]

How often do you think sobriety checkpoints should be conducted in your community?

## **RESPONSE OPTIONS:**

- 1. Every weekend
- 2. Once per month
- 3. About four times each year
- 4. Once a year
- 5. Never

# [SHOW IF Q2 = 1,2,3,4] [SP]

#### Q3.

Some police agencies have passive alcohol sensors built into flashlights that can detect alcohol from drivers at checkpoints from the ambient air around the driver's mouth and without the driver blowing into a tube. These devices increase detection of drivers illegally driving under the influence of alcohol by 50%.

#### [SPACE]

Are you in favor of police in your community using passive alcohol sensors at sobriety checkpoints?

#### **CAWI RESPONSE OPTIONS:**

- 1. Yes, in favor
- 2. No, not in favor

#### CATI RESPONSE OPTIONS:

- 1. YES, IN FAVOR
- 2. NO, NOT IN FAVOR

# SPEED CAMERAS AND RED LIGHT CAMERAS [SP]

#### Q4.

How often would you say you drove 15 to 20 miles per hour over the speed limit in the past twelve months?

- 1. Almost every trip you drove
- 2. Most trips

- 3. About half of the trips
- 4. Less than half the trips
- 5. Very seldom
- 6. Never

# [SP]

Q5.

How often would you say you ran a red light when driving in the past twelve months?

## **RESPONSE OPTIONS:**

- 1. More than three times
- 2. Two or three times
- 3. Once
- 4. Never

# [SP]

#### Q6.

Studies show that speed and red light cameras are highly effective in reducing speeding and red light running. Some studies show that they could reduce traffic fatalities in your community by nineteen percent.

# [SPACE]

Do you favor using speed and red light cameras on streets in your community?

## CAWI RESPONSE OPTIONS:

- 1. Yes, in favor
- 2. No, not in favor

#### CATI RESPONSE OPTIONS:

- 1. YES, IN FAVOR
- 2. NO, NOT IN FAVOR

# LOWERING THE BLOOD ALCOHOL CONCENTRATION (BAC) LIMIT FOR DRIVING [SP]

# Q7.

In the past twelve months have you driven a motor vehicle when you thought you had too much to drink to drive safely?

#### **CAWI RESPONSE OPTIONS:**

- 1. Yes
- 2. No

#### CATI RESPONSE OPTIONS:

- 1. YES
  - 2. NO

## [SP]

Q8.

The amount of alcohol in a person's body can be measured in terms of the "blood alcohol concentration", the legal limit of which for driving is often referred to as blood alcohol level or limit. [SPACE]

Have you ever heard of blood alcohol concentration, or blood alcohol levels, or blood alcohol limits for driving?

**CAWI RESPONSE OPTIONS:** 

- 1. Yes
- 2. No

CATI RESPONSE OPTIONS:

- 1. YES
- 2. NO

[SP]

Q9.

[CAWI] The blood alcohol limit for driving in your state is  $\langle u \rangle .08 \langle /u \rangle$ . The average 170 lb. male would have to have 5 drinks in two hours on an empty stomach to reach the  $\langle u \rangle .08 \langle /u \rangle$  limit and the average 140 lb. female would have to have almost 4 drinks in two hours on an empty stomach to reach the  $\langle u \rangle .08 \langle /u \rangle$  limit.

#### [SPACE]

[CAWI] Do you feel that most drivers with a <u>.08</u> blood alcohol level concentration or higher are a danger to the safety of other drivers and pedestrians?

[CATI] The blood alcohol limit for driving in your state is point zero eight (.08). The average 170 pound male would have to have 5 drinks in two hours on an empty stomach to reach the point zero eight (.08) limit and the average 140 pound female would have to have almost 4 drinks in two hours on an empty stomach to reach the point zero eight (.08) limit.

### [SPACE]

[CATI] Do you feel that most drivers with a point zero eight (.08) blood alcohol level concentration or higher are a danger to the safety of other drivers and pedestrians?

#### **CAWI RESPONSE OPTIONS:**

- 1. Yes
- 2. No

CATI RESPONSE OPTIONS:

- 1. YES
- 2. NO

#### [SP] O10.

Q10.

[CAWI] Recently, the National Transportation Safety Board in 2013 and the National Academy of Sciences, Engineering and Medicine expert committee in 2018 recommended that states lower the legal blood alcohol limit for driving to <u>.05</u>. The average 170 lb. male would have to have 4 drinks in two hours on an empty stomach to exceed a <u>.05</u> blood alcohol limit. The average 140 lb. female would have to have 3 drinks in two hours on an empty stomach to exceed a <u>.05</u> blood alcohol limit. The average 140 lb. female [SPACE]

[CAWI] Do you think the legal blood alcohol limit should be lowered to  $\langle u \rangle .05 \langle u \rangle$  in your state?

[CATI] Recently, the National Transportation Safety Board in 2013 and the National Academy of Sciences, Engineering and Medicine expert committee in 2018 recommended that states lower the legal

blood alcohol limit for driving to point zero five (.05). The average 170 pound male would have to have 4 drinks in two hours on an empty stomach to exceed a point zero five (.05) blood alcohol limit. The average 140 pound female would have to have 3 drinks in two hours on an empty stomach to exceed the point zero five (.05) limit.

### [SPACE]

[CATI] Do you think the legal blood alcohol limit should be lowered to point zero five (.05) in your state?

#### CAWI RESPONSE OPTIONS:

- 1. Yes
- 2. No

## CATI RESPONSE OPTIONS:

1. YES 2. NO

20180926 – following pretest, client decided to eliminate this skip logic completely.

# [SP]

## Q11.

[CAWI] Should the blood alcohol limit be lowered to .05 in your state if the penalty for a driver with a blood alcohol level of .05 to .07 is strictly an administrative violation (e.g, drivers' license suspension; fine) and not a criminal violation?

[CATI] Should the blood alcohol limit be lowered to point zero five (.05) in your state if the penalty for a driver with a blood alcohol level of point zero five (.05) to point zero seven (.07) is strictly an administrative violation, such as drivers' license suspension; or a fine, and not a criminal violation?

### CAWI RESPONSE OPTIONS:

- 1. Yes
- 2. No

#### CATI RESPONSE OPTIONS:

- 1. YES
- 2. NO

## PRIMARY ENFORCEMENT OF SEAT BELT LAWS

#### [SP]

Q12.

How often in the past twelve months did you wear a seat belt when you were driving?

#### **RESPONSE OPTIONS:**

- 1. Every time
- 2. Most of the time
- 3. About half the time
- 4. Seldom
- 5. Never

# [SP]

Q13.

There are seat belt use laws in every state except New Hampshire. Thirty-four states have a *primary* enforcement law, which allows police to stop a vehicle if a driver is not wearing the seat belt and issue a citation. Sixteen states have a *secondary* law, which allows police to issue a seat belt violation only when

the driver is stopped for another traffic violation. Seat belt usage in *primary* states is 91% compared to 79% in *secondary* states. Research has shown that the use of a seat belt saved 14,000 lives on U.S. roads in 2015. An additional 2,800 lives would have been saved if all occupants in crashes were wearing seat belts.

#### [SPACE]

Do you favor a primary seat belt law for your state?

#### CAWI RESPONSE OPTIONS:

- 1. Yes, in favor
- 2. No, not in favor

#### CATI RESPONSE OPTIONS:

- 1. YES, IN FAVOR
- 2. NO, NOT IN FAVOR

#### [SP]

#### Q14.

Would you be in favor of a law that requires all cars to have seat belt reminders in vehicles that continuously chime until the seat belt is buckled, including rear seat passengers?

#### **CAWI RESPONSE OPTIONS:**

- 1. Yes, in favor
- 2. No, not in favor

#### CATI RESPONSE OPTIONS:

- 3. YES, IN FAVOR
- 4. NO, NOT IN FAVOR

# INCREASING FINES FOR SEAT BELT VIOLATIONS

# [SP]

Q15. While nine-out-of-ten of Americans wear their safety belt when driving, almost half of drivers and passengers killed in crashes are unbelted. Studies show that if states increase the fine for not wearing a seat belt from \$25 to \$100, we could increase safety belt usage by 6% to 7%.

#### [SPACE]

Would you be in favor of raising the fine for not wearing a seat belt in your state to \$100?

#### **CAWI RESPONSE OPTIONS:**

- 1. Yes, in favor
- 2. No, not in favor

#### CATI RESPONSE OPTIONS:

- 1. YES, IN FAVOR
- 2. NO, NOT IN FAVOR

#### **MOTORCYCLE HELMET LAWS**

[SP] Q16. How often have you ridden a motorcycle in the past twelve months?

- 1. Almost every trip you drove
- 2. Most trips
- 3. About half of the trips
- 4. Less than half the trips
- 5. Very seldom
- 6. Never

#### [SHOW IF Q16 =1,2,3,4,5] [SP] Q17.

When riding a motorcycle, how often did you wear a helmet in the past twelve months?

#### CAWI RESPONSE OPTIONS:

- 1. Every trip
- 2. Most trips
- 3. About half of my trips
- 4. Less than half of my trips
- 5. None of my trips

## CATI RESPONSE OPTIONS:

- 1. Every trip
- 2. Most trips
- 3. About half of your trips
- 4. Less than half of your trips
- 5. None of your trips

# [SP]

Q18.

Motorcycle helmet laws saved 1,772 lives in 2015, but only twenty states have such laws. [SPACE]

Do you favor a motorcycle helmet law in your state for all ages of motorcyclists?

#### CAWI RESPONSE OPTIONS:

- 1. Yes, in favor
- 2. No, not in favor

#### CATI RESPONSE OPTIONS:

- 1. YES, IN FAVOR
- 2. NO, NOT IN FAVOR

## ALCOHOL IGNITION INTERLOCKS FOR CONVICTED DWI OFFENDERS

#### [SP] 019.

Alcohol Ignition Interlock Devices (IIDs) prevent a driver from driving with alcohol in their system by requiring them to blow into a breath tester hooked up to the ignition system of their car. The car will not start if alcohol is detected. All states have some sort of Alcohol Ignition Interlock Device Law requiring certain convicted driving-while-intoxicated (DWI) offenders to install them on their vehicles. Studies show that states where the ignition locking device is applicable to all convicted DWI offenders are associated with a 6% reduction in drinking driver fatal crashes.

## [SPACE]

Are you in favor of requiring all convicted DWI offenders to install ignition interlock devices (IIDs) on their vehicles?

#### **CAWI RESPONSE OPTIONS:**

- 1. Yes, in favor of IID laws
- 2. No, not in favor of IID laws

#### CATI RESPONSE OPTIONS:

- 1. YES, IN FAVOR OF IID LAWS
- 2. NO, NOT IN FAVOR OF IID LAWS

# [SP]

## Q20.

If a convicted DWI driver refuses to install an ignition interlock device on the car, would you be in favor of an alternative sanction such as house arrest or abstinence with an ankle bracelet that will actually monitor alcohol consumption by the offender and report that to authorities?

#### **CAWI RESPONSE OPTIONS:**

- 1. Yes, in favor of those alternatives
- 2. No, not in favor of those alternatives

#### CATI RESPONSE OPTIONS:

- 1. YES, IN FAVOR OF THOSE ALTERNATIVES
- 2. NO, NOT IN FAVOR OF THOSE ALTERNATIVES

# ORAL FLUID SCREENING FOR DRUGGED DRIVING

# [SP]

Q21.

In the past twelve months have you driven a motor vehicle less than two hours after using marijuana?

#### **CAWI RESPONSE OPTIONS:**

- 1. Yes
  - 2. No

#### CATI RESPONSE OPTIONS:

- 1. YES
- 2. NO

## [SP]

Q22.

Roadside surveys on week-end nights indicate that about 16% to 20% of drivers have impairing drugs other than alcohol in their systems, like marijuana and cocaine. Australia uses a saliva drug screening device that can detect drug presence in about three minutes.

#### [SPACE]

Are you in favor of police using these saliva screening devices if they suspect a driver is impaired by drugs other than alcohol?

#### **CAWI RESPONSE OPTIONS:**

- 1. Yes, in favor
- 2. No, not in favor

#### CATI RESPONSE OPTIONS:

- 1. YES, IN FAVOR
- 2. NO, NOT IN FAVOR

# LOWERING SPEED LIMITS IN RESIDENTIAL AREAS [SP]

Q23.

When communities lower speed limits in residential areas, pedestrian and bicyclist fatalities are reduced by as much as 25%.

#### [SPACE]

Are you in favor of lowering speed limits by 5 miles per hour in your community if crash studies justify it?

## CAWI RESPONSE OPTIONS:

- 1. Yes, in favor
- 2. No, not in favor

## CATI RESPONSE OPTIONS:

- 1. YES, IN FAVOR
- 2. NO, NOT IN FAVOR

# ROUNDABOUTS THAT REPLACE INTERSECTIONS

[SP] Q24.

Roundabouts that replace intersections practically eliminate T-bone side collisions which can result in serious and fatal injuries. One study showed that roundabouts reduced crashes of all severities by 38%. [SPACE]

Would you be in favor of roundabouts replacing the most dangerous intersections in your community?

#### **CAWI RESPONSE OPTIONS:**

- 1. Yes, in favor
- 2. No, not in favor

## CATI RESPONSE OPTIONS:

- 1. YES, IN FAVOR
- 2. NO, NOT IN FAVOR

#### **RIDESHARING SERVICES**

[SP]

Q25.

Ridesharing services like Uber and Lyft are available in many States and communities in the U.S. Do you have ridesharing services like Uber and Lyft in your community?

#### **CAWI RESPONSE OPTIONS:**

- 1. Yes
- 2. No
- 77. Don't know

#### CATI RESPONSE OPTIONS:

1. YES

2. NO

# [SP]

Q26.

Have you used ridesharing services like Uber or Lyft in the past twelve months?

#### **CAWI RESPONSE OPTIONS:**

- 1. Yes
- 2. No

CATI RESPONSE OPTIONS:

- 1. YES
- 2. NO

# [SHOW IF Q26=1]

[SP] 027.

How many times in the past twelve months did you use the rideshare service to avoid drinking and driving or impaired driving?

## CAWI RESPONSE OPTIONS:

- 1. About 50 or more times
- 2. About 25 to 49 times
- 3. About 10 to 24 times
- 4. About 5 to 9 times
- 5. About 2 to 4 times
- 6. Just once
- 7. I have never used it to avoid impaired driving

#### CATI RESPONSE OPTIONS:

- 1. About 50 or more times
- 2. About 25 to 49 times
- 3. About 10 to 24 times
- 4. About 5 to 9 times
- 5. About 2 to 4 times
- 6. Just once
- 7. You have never used it to avoid impaired driving

## **RUMBLE STRIPS ON ROADWAYS**

[SP]

Q28.

Rumble strips on the edge and center of many roadways indicate to drivers that they are driving over the center line or driving off the road.

## [SPACE]

Have you ever experienced rumble strips when you went over the center line or off the edge of the roadway?

#### **CAWI RESPONSE OPTIONS:**

- 1. Yes, I have experience rumble strips
- 2. No, I never experienced rumble strips

#### CATI RESPONSE OPTIONS:

- 1. YES, YOU HAVE EXPERIENCE RUMBLE STRIPS
- 2. NO, YOU NEVER EXPERIENCED RUMBLE STRIPS

[SP]

Q29.

Rumble strips have been shown to reduce head-on collisions and run-off-the-road crashes. [SPACE]

Would you be in favor of more rumble strips on certain roads in your community?

#### **CAWI RESPONSE OPTIONS:**

- 1. Yes, in favor
- 2. No, not in favor

#### **CATI RESPONSE OPTIONS:**

- 1. YES, IN FAVOR
- 2. NO, NOT IN FAVOR

#### [LARGE TEXTBOX] Q30\_OPENEND

Thank you for answering our questions. Please [INSERT IF CAWI: use the space below to] tell us if you had difficulty answering any of the questions or if you have suggestions on how we might improve the survey.

#### RE-COMPUTE QUAL=1 "COMPLETE"

SET CO\_DATE, CO\_TIME, CO\_TIMER VALUES HERE

CREATE MODE\_END 1=CATI 2=CAWI

SCRIPTING NOTES: PUT QFINAL1, QFINAL2, QFINAL3 in the same screen. [SINGLE CHOICE] QFINAL1.

Thank you for your time today. To help us improve the experience of AmeriSpeak members like yourself, please give us feedback on this survey.

[RED TEXT – CAWI ONLY] If you do not have any feedback for us today, please click "Continue" through to the end of the survey so we can make sure your opinions are counted and for you to receive your AmeriPoints reward.

Please rate this survey overall from 1 to 7 where 1 is Poor and 7 is Excellent.

Poor						Excellent
1	2	3	4	5	6	7

# [SINGLE CHOICE – CAWI ONLY]

QFINAL2.

Did you experience any technical issues in completing this survey?

- 1. Yes please tell us more in the next question
- 2. No

# [TEXT BOX] [CATI version needs "no" option] QFINAL3.

Do you have any general comments or feedback on this survey you would like to share? If you would like a response from us, please email <a href="mailto:support@AmeriSpeak.org">support@AmeriSpeak.org</a> or call (888) 326-9424.

# [DISPLAY]

END.

## [CATI version]

Those are all the questions we have. You have earned a reward of [INCENTWCOMMA] AmeriPoints for completing the survey. If you have any questions at all for us, you can email us at <u>support@AmeriSpeak.org</u> or call us toll-free at **888-326-9424**. Let me repeat that again: email us at <u>support@AmeriSpeak.org</u> or call us at **888-326-9424**. Thank you for participating in our new AmeriSpeak survey!

## [CAWI version]

Those are all the questions we have. You have earned a reward of [INCENTWCOMMA] AmeriPoints for completing the survey. If you have any questions at all for us, you can email us at <a href="mailto:support@AmeriSpeak.org">support@AmeriSpeak.org</a> or call us toll-free at **888-326-9424**. Thank you for participating in our new AmeriSpeak survey!

You can close your browser window now if you wish or click Continue below to be redirected to the AmeriSpeak member website.