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# Driver Knowledge of School Bus Passing Laws: A National Survey

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#### 16. Abstract

To date very little research has focused on determining why drivers illegally pass stopped school buses when the consequences of striking a child can be severe. This study surveys a representative sample of drivers in households (excluding drivers under 18 and people not associated with a household/address) to assess their knowledge of school bus passing laws to determine knowledge gaps to better inform NHTSA's countermeasure development efforts. The study questionnaire covers topics on driving behaviors, experience with school buses, knowledge of school bus passing laws, awareness of media campaigns, and opinions on school-bus-related issues such as ticketing registered vehicle owners. Results suggest the majority of drivers know the requirements of the law when approaching and overtaking school buses with their stop-arm deployed and red lights flashing on two-lane undivided roads, and when overtaking a school bus on a four-lane undivided road. The frequency and pattern of incorrect responses observed in this national survey suggests that there is a lack of knowledge in drivers who continue to pass stopped school buses with such frequency. This study discusses countermeasure development efforts to address the knowledge gaps.

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## Background

One issue the National Highway Traffic Safety Administration has been closely following involves vehicles illegally passing stopped school buses when children are going to or from the bus. One publication estimated 43.5 million illegal passes during the 2022 to 2023 school year (National Association of State Directors of Pupil Transportation Services, 2023). The Kansas State Department of Education (2023) has tracked school bus loading and unloading fatalities for 53 years through its annual National School Bus Loading and Unloading Survey. The latest report is a 53-year summary that showed 1,267 fatalities over time with 73 percent of the victims being 9 or younger. NHTSA's National Center for Statistics and Analysis (2023) reported that during the 10-year period from 2012 to 2021, there were 78 children 18 or younger killed as pedestrians going to or from school buses.

Despite the persistence of this safety problem across decades, to date very little research has focused on determining why drivers illegally pass stopped school buses when the consequences of striking a child can be so severe. One potential explanation is that drivers simply do not understand when they are required to stop based on the traffic laws of the jurisdictions in which they are driving. One survey conducted 26 years ago explored driver knowledge of passing laws (Baltes, 1998) and found that even in the most common roadway condition where a driver will encounter a stopped school bus (a two-lane undivided roadway), 14 percent of drivers were still unaware they needed to stop when the school bus displayed red lights and extended its stop-arm. More information is needed to better understand to what extent a lack of knowledge regarding when a driver must stop could be playing a role in why drivers continue to pass stopped school buses with such great frequency.

## Objective

The objective of this study was to survey a nationally representative sample of drivers to assess their knowledge related to school bus passing laws to determine where any gaps might exist to better inform NHTSA's countermeasure development efforts.

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## Method

# University of Chicago Institutional Review Board and Office of Management and Budget Approval

The study was approved by the National Opinion Research Center (NORC) at the University of Chicago Institutional Review Board and the Office of Management and Budget (OMB Control Number 2127-0755).

#### **Participants**

Survey participants were recruited from NORC's AmeriSpeak panel, which was developed using a rigorous stratified random sampling approach to create a nationally representative pool of potential participants. From this pool the study team randomly sampled drivers 18 or older and who spoke English. Table 1 is an overview of the panelists down to the number of drivers who completed the survey. The final sample included 3,557 drivers that provides a margin of error of  $\pm 2.3$  percent at a 95 percent confidence level for a survey of this type. For this survey, a driver was defined as anyone who reported driving one or more days during the last year regardless of whether they had driver licenses.

Panelists Invited n	Panelists Who Completed Screening Item n	Panelists Determined Eligible n	Eligible Panelist Completes n
4,703	3,796	3,620	3,557

Table 1. AmeriSpeak panel and national survey responses and completions

#### Materials

#### Informed Consent

The informed consent process detailed all study activities, any risks or benefits to the participants, incentives provided, and showed that the participant could skip items or stop the study at any time. A copy of the informed consent language is in Appendix A.

#### Questionnaire

The 27-item survey (see Appendix B) was hosted online on the Voxco platform. This platform included navigation from page to page and the capability for respondents to they could stop and resume the survey at will without losing prior answers). The first item screened participants for eligibility and asked whether they currently drive. If they answered "no" to this item, the survey ended. The remaining items covered topics on driving behaviors, experience with school buses, knowledge of school bus passing laws, awareness of media campaigns, and opinions on school-bus-related issues such as ticketing drivers. Of primary interest were seven items of driver knowledge of laws related to the passing of stopped school buses. To assess this knowledge, the seven scenarios described below were presented using 3-D animations. Each presentation began with an overhead view of the scenario and a description of the direction of travel the participant was "driving." The scenario then transitioned to a first-person view that was animated to appear as though the driver was approaching (from the front) or overtaking (from the rear) a school bus.

Some participants completed the scenarios in order from 1 to 7 while others completed them in the reverse order (from 7 to 1). The order of scenarios was randomly assigned to participants.

After the animated presentation was complete, each driver was asked the same question following all seven scenarios.

- What does the law say a driver must do in this situation?
  - Nothing special
  - Proceed with caution
  - o Slow down
  - Yield to children
  - Stop, look, and go
  - Stop and stay stopped

Some participants saw the response options as shown above ("Nothing special" to "Stop and stay stopped") whereas others were presented with these options in the reverse order ("Stop and stay stopped" to "Nothing special"). Again, the response option order was randomly assigned to participants. A correct answer for each scenario was determined by what the law in each participant's State of residence required.

Scenario 1 -Vehicle overtaking a school bus stopped on a <u>two-lane undivided</u> roadway as its red lights and stop-arm deploy (Figure 1). The correct answer to this item in all States was to "stop and stay stopped."



Figure 1. Scenario 1

Scenario 2 – Vehicle approaching a school bus stopped on a <u>two-lane undivided</u> roadway as its red lights and stop-arm deploy (Figure 2). The correct answer to this item in all States was to "stop and stay stopped."



Figure 2. Scenario 2

Scenario 3 – Vehicle overtaking a school bus stopped on a <u>four-lane undivided</u> roadway as its red lights and stop-arm deploy (Figure 3). The correct answer to this item in all States was to "stop and stay stopped."



Figure 3. Scenario 3

Scenario 4 – Vehicle approaching a school bus stopped on a <u>four-lane undivided</u> roadway as its red lights and stop-arm deploy (Figure 4). The correct answer to this item was either to "stop and stay stopped" or "nothing special" depending on the State.



Figure 4. Scenario 4

Scenario 5 – Vehicle approaching a school bus stopped on a <u>four-lane divided</u> (by a clearly visible physical median) roadway as its red lights and stop-arm deploy (Figure 5). The correct answer to this item was either "nothing special," "proceed with caution," "slow down," or "stop and stay stopped" depending on the State.



Figure 5. Scenario 5

Scenario 6 -Vehicle overtaking a school bus stopped as the last bus in a line of buses in a school driveway with its red lights flashing and stop-arm extended (Figure 6). The correct answer to this item was either "nothing special" or "stop and stay stopped" depending on the State.



Figure 6. Scenario 6

Scenario 7 – Vehicle following a school bus on a four-lane undivided roadway as its <u>yellow</u> lights start to flash (Figure 7). In many States, determining what the correct answer was for Scenario 7 was not possible because it was either vaguely addressed or not addressed at all in State laws.



Figure 7. Scenario 7

## Procedure

AmeriSpeak contacted the selected panelists via email or text message with an invitation to participate in the survey. Panel members could also view the invitation in the online member portal or on the AmeriSpeak mobile app. Participants could complete the survey through the mobile app or using an internet browser. The survey was open from April 4, 2021, to April 25, 2021.

Once on the survey website, the participant read the consent language and had to agree to participate to continue the survey. Each respondent then had to pass the screening item by showing they currently drive. Participants then continued through all the survey items with the scenarios completed in the randomly assigned order of presentation. After completion they each received the equivalent of \$7.50 in credits on the AmeriSpeak platform that could be used for gift card purchases.

### Analysis

#### Data Processing and Data Quality Review

De-identified survey data were exported to the analysis database, and the research team applied cleaning rules to look for:

- Speeders Those who completed the survey in less than one-third the median duration;
- High refusal rates Those who skipped or refused more than 50 percent of the eligible questions; and
- Straight-liners Those who answered all eligible grid item questions with the same response.

No cases were flagged based on these cleaning rules in this quality control check, so all completed cases were retained in the final dataset.

### Weighting Procedures

Data was weighted to the population of the United States. The weights were based on the known information for the entire AmeriSpeak panel and the combined probabilities that a panel member would be selected for the panel, would be selected for the survey, and actually responded. Appendix C presents the detailed weighting procedures for this study.

## **Results**

#### **Sample Description**

#### **Key Demographics**

Table 2 shows the weighted and unweighted estimates for key demographics from the survey sample and compares them to population benchmarks. As the table shows, the survey sample was a reasonable approximation of the U.S. population with key demographics from the sample largely aligning with benchmarks from the population. These are discussed further in Appendix C.

Key Demographics	Unweighted	Weighted %	95% CI* %	Benchmark %
Age Group				
18-34	34.3	28.5	[26.5, 30.6]	29.2
35-49	25.1	24.5	[22.6, 26.5]	24.2
50-64	23.2	25.0	[23.1, 27.0]	24.5
65+	17.4	22.0	[20.2, 23.9]	22.0
Race/Ethnicity				
Non-Hispanic white	52.7	63.4	[61.2, 65.6]	62.5
Non-Hispanic black	17.5	11.9	[10.5, 13.4]	12.0
Hispanic	23.7	16.5	[14.8, 18.2]	16.9
Non-Hispanic Asian/Pacific Islander	2.0	4.7	[3.8, 5.7]	6.4
Non-Hispanic others	4.1	3.5	[2.8, 4.4]	2.2
Education Status				
Less than high school	5.6	9.4	[8.1, 10.7]	9.6
High school or equivalent	18.7	28.0	[26.0, 30.1]	28.3
Vocational/some college/associate degree	49.6	26.9	[24.9, 28.9]	27.1
Bachelor's degree	15.1	20.2	[18.4, 22.1]	22.2
Graduate degree	11.0	15.5	[14.0, 17.2]	12.8
Sex				
Male	53.4	49.0	[46.8, 51.3]	48.5
Female	46.6	51.0	[48.7, 53.2]	51.5

*Table 2. Sample description: Key demographics (*N = 3,557*)* 

\*95% Confidence interval based on weighted %.

#### **Driver Characteristics**

Participants were asked to report information regarding whether they had a current (i.e., not expired) driver's license, their most frequently driven vehicle type, driving frequency, and confidence in their knowledge of the vehicle and traffic law. Table 3 shows the weighted and unweighted estimates for these driver characteristics. Most participants (96%) had current driver licenses. Over half (55.6%) most frequently drove passenger cars. The majority (93.3%) drove at least a few days per week. Most participants (76.9%) reported being very confident or extremely confident in their knowledge of the vehicles and traffic laws.

Driver Characteristics	Unweighted %	Weighted %	95% CI* %
Current (Not Expired) Driver's License			
Yes	95.8	96.0	[95.0, 96.8]
No, but I used to	2.2	2.1	[1.5, 2.8]
No, I never have	1.9	2.0	[1.4, 2.7]
Vehicle Type Driven Most Often			
Car	56.2	55.6	[53.3, 57.8]
Van or minivan	5.0	5.3	[4.3, 6.4]
Motorcycle	0.3	0.2	[0.0, 0.4]
Pickup truck	11.3	10.3	[9.0, 11.8]
SUV	25.7	27.2	[25.3, 29.3]
Other truck	0.8	0.7	[0.4, 1.2]
Other	0.7	0.6	[0.3, 1.1]
Driving Frequency			
Every day	37.2	35.8	[33.7, 38.0]
Almost every day	37.8	37.2	[35.1, 39.4]
A few days a week	18.6	20.3	[18.6, 22.2]
A few days a month	4.4	4.6	[3.7, 5.6]
A few days a year	2.0	2.0	[1.5, 2.7]
Never	0.0	0.0	[0.0, 0.0]
Vehicle and Traffic Law Confidence			
Extremely confident	27.7	25.3	[23.3, 27.3]
Very confident	50.3	51.6	[49.3, 53.8]
Moderately confident	20.6	21.4	[19.5, 23.3]
Slightly confident	1.2	1.4	[0.9, 2.0]
Not at all confident	0.2	0.4	[0.2, 0.8]
Skipped item	0.1	0.0	[0.0, 0.2]

*Table 3. Sample description: Driver characteristics (*N = 3,557*)* 

\*95% Confidence interval based on weighted %.

### **Experience Riding School Buses**

Participants were asked to report whether their children currently ride a school bus (for those participants who reported having at least one child between 4 to 18 years of age) and if they had any personal experience riding a school bus themselves in the past. Table 4 shows the weighted and unweighted estimates for these school bus riding experience items. Overall, 13.0 percent of the respondents had children 4 to 18 years of age who currently ride a school bus, and 16.1 percent said they had children in this age group who did not ride a bus. Most (70.9%) of the participants did not currently have children between 4 to 18 years of age. Nearly three-quarters (72.8%) of participants reported previous experience riding a school bus themselves.

Exposure to School Buses	Unweighted %	Weighted %	95% CI* %)
Children School Bus Use			
Yes	13.2	13.0	[11.5, 14.5]
No	18.4	16.1	[14.5, 17.8]
No children 4 to 18 years old	68.5	70.9	[68.8, 72.9]
Personal School Bus Experience			
Yes	71.1	72.8	[70.8, 74.8]
No	28.8	27.1	[25.1, 29.1]
Skipped item	0.1	0.1	[0.0, 0.3]

*Table 4. Sample description: School bus exposure* (N = 3,557)

\*95% Confidence interval based on weighted %.

#### Knowledge of School Bus Passing Laws

#### Scenarios 1-6: Stop-Arm Deployed and Red Lights Flashing

Participants were asked what the law required a driver to do in each of the seven scenarios involving a driver encountering a school bus. Six involved the driver encountering a stopped school bus with its stop-arm deployed and red lights flashing. The unweighted and weighted percentages of participants who answered each of these six scenarios correctly are shown in Table 5. Appendix D has a full breakdown of participant responses for these scenarios. Note that the correct answer varied by State for Scenarios 4 to 6. Knowledge rates were high (over 90% correct responses) for scenarios that involved the driver approaching and overtaking a bus with its red lights flashing and stop-arm deployed on two-lane undivided roads (Scenarios 1 and 2), and when overtaking a school bus with these signals on a four-lane undivided road (Scenario 3). Knowledge rates were much lower (55.5% correct responses or lower) when a driver was approaching a stopped school bus from the front on a four-lane road with (Scenario 5) and without (Scenario 4) a median or when overtaking a bus in line at school (Scenario 6).

Scenario	Unweighted %	Weighted %	Weighted 95% CI %
1	92.3	93.0	[91.7, 94.1]
2	90.3	91.0	[89.6, 92.2]
3	91.4	91.8	[90.5, 93.0]
4	52.9	55.5	[53.2, 57.7]
5	17.5	17.8	[16.1, 19.5]
6	26.7	27.2	[25.2, 29.2]

*Table 5. Scenarios 1-6 percentage correct (*N = 3,557)

\* See Appendix D for the breakdown of participant responses.

#### Scenario 7: Yellow Lights Flashing

Because determining the correct answer for Scenario 7 was not possible, Table 6 reflects the percentages of each response chosen. The responses were primarily split between "proceed with caution," "slow down," and "stop and stay stopped."

Response	Unweighted %	Weighted %	95% CI* %
Nothing special	2.3	1.6	[1.1, 2.3]
Proceed with caution	28.5	29.2	[27.2, 31.3]
Slow down	24.1	23.8	[21.9, 25.8]
Yield to children	5.5	4.6	[3.7, 5.6]
Stop, look, and go	2.2	2.1	[1.5, 2.9]
Stop and stay stopped	37.4	38.7	[36.5, 40.9]

*Table 6. Scenario 7 responses (*N = 3,557*)* 

\*95% Confidence interval based on weighted %.

#### Illegal Passing Enforcement Awareness

Participants were asked if school bus enforcement cameras were permitted where they live. Table 7 shows the weighted and unweighted estimates for permissibility of school bus enforcement cameras. Over half (58.2%) of participants said they were not sure if school bus enforcement cameras were permissible where they live.

Table 7. Permissibility of school bus enforcement cameras (N = 3,557)

Permissibility of School Bus Enforcement Cameras	Unweighted %	Weighted %	95% CI* %
Yes	36.6	35.3	[33.1, 37.5]
No	6.3	6.5	[5.5, 7.7]
Not sure	57.1	58.2	[56.0, 60.4]

\*95% Confidence interval based on weighted %.

Participants were asked to provide the penalty for first-time offenders who illegally pass a stopped school bus. Table 8 shows the weighted and unweighted estimates for penalties for illegal passing. Nearly three-quarters (74.1%) of participants reported they were unsure of the penalty for first-time offenders.

Penalty for Illegal Passing	Unweighted	Weighted	95% CI*
	%	%	%
Nothing	1.3	1.0	[0.6, 1.6]
Less than \$100	3.5	3.2	[2.5, 4.1]
\$100 - \$249	8.3	8.6	[7.4, 9.9]
\$250 - \$459	6.4	6.1	[5.1, 7.2]
\$500 or more	5.7	5.3	[4.3, 6.3]
License suspension	1.4	1.2	[0.8, 1.8]
Lose your license forever	0.2	0.2	[0.1, 0.5]
Jail time	0.3	0.2	[0.1, 0.6]
Unsure	72.7	74.1	[72.0, 76.0]
Skipped item	0.1	0.0	[0.0, 0.2]

*Table 8. Penalty for illegal passing (*N = 3,557*)* 

\*95% Confidence interval based on weighted %.

Participants were asked if drivers can receive points on their license for illegal passing convictions based on where they live. Table 9 shows the weighted and unweighted estimates for permissibility of points on their driver's license. Nearly three-quarters (72.3%) of participants reported they were unsure if drivers could receive points on their license for illegally passing convictions based on where they live.

Permissibility of Points on Driver's License for	Unweighted	Weighted	95% CI*
Conviction	%	%	%
Yes	21.2	22.2	[20.4, 24.1]
No	6.3	5.5	[4.5, 6.6]
Unsure	72.5	72.3	[70.2, 74.3]
Skipped item	0.1	0.0	[0.0, 0.2]

Table 9. Permissibility of points on driver's license for conviction (N = 3,557)

\*95% Confidence interval based on weighted %.

\* Hawaii, Kansas, Louisiana, Minnesota, Missouri, Oregon, Rhode Island, Washington, and Wyoming do not use point systems.

#### **Opinions on the Illegal Passing Problem**

Participants were asked for their opinions on the reason most drivers (i.e., could only pick one response) illegally pass a stopped school bus. Table 10 shows the weighted and unweighted estimates for these opinions. The top four reported reasons for violators:

- 1. Didn't care (30.5%),
- 2. Were in a hurry (25.5%),
- 3. Didn't know the law (24.3%), and
- 4. Were distracted (12.2%).

Opinion on Reason for Most Illegal School Bus Passes	Unweighted %	Weighted %	95% CI*
They didn't know the law	23.1	24.3	[22.4, 26.3]
They thought the law was unnecessary	4.2	3.9	[3.1, 4.9]
They were in a hurry	25.6	25.5	[23.5, 27.5]
They didn't care	31.9	30.5	[28.5, 32.6]
They didn't see the bus	1.5	1.6	[1.1, 2.2]
They were distracted	11.2	12.2	[10.8, 13.7]
They were drowsy or impaired	0.3	0.4	[0.2, 0.8]
The bus driver made a mistake	0.2	0.1	[0.0, 0.4]
Other	1.9	1.5	[1.0, 2.1]

Table 10. Opinion on reason for most illegal school bus passes (N = 3,557)

\*95% Confidence interval based on weighted %.

Participants were asked their opinions on the best way (i.e., could only pick one response) to prevent drivers from illegally passing a stopped school bus. Table 11 shows the weighted and unweighted estimates for their opinions on the best prevention approach. The top four reported approaches were:

- 1. Camera enforcement (24.7%),
- 2. Stricter penalties (21.0%),
- 3. More publicity of the laws (19.5%), and
- 4. Police patrols near the school bus (12.9%).

Table 11. Opinion on best prevention approa	ches for illegal school bus passing ( $N = 3,557$ )
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Opinion on Prevention Approaches for Illegal School Bus Passing	Unweighted %	Weighted %	95% CI* %
Police patrols near the school bus	13.3	12.9	[11.5, 14.5]
Police riding on the school bus	1.5	1.4	[0.9, 2.0]
Camera enforcement	25.5	24.7	[22.8, 26.7]
Stricter penalties	21.5	21.0	[19.2, 22.9]
More publicity of the laws	17.7	19.5	[17.8, 21.4]
Larger stop-arm	5.8	5.9	[4.9, 7.1]
More or brighter lights on school bus	2.0	2.1	[1.6, 2.9]
Better driver education	10.7	10.6	[9.2, 12.0]
Other	1.9	1.7	[1.2, 2.4]

\*95% Confidence interval based on weighted %.

Participants were also asked if they agreed specifically with the approach of the registered owner of a violating vehicle (i.e., not the driver) receiving a ticket based on an illegal passing violation. Table 12 shows the weighted and unweighted estimates for agreement with this approach. Overall, 69.8 percent of participants strongly or somewhat agreed with the approach of ticketing the registered owner. Only 17.2 percent of participants somewhat or strongly disagreed with the registered owner receiving a ticket.

Agreement With Ticket to Registered Owner	Unweighted %	Weighted %	95% CI* %
Strongly agree	42.9	43.5	[41.2, 45.7]
Somewhat agree	25.9	26.3	[24.4, 28.4]
Neither agree nor disagree	13.8	13.0	[11.6, 14.6]
Somewhat disagree	9.6	9.8	[8.5, 11.2]
Strongly disagree	7.8	7.4	[6.3, 8.7]

*Table 12. Agreement with ticket to registered owner* (N = 3,557)

\*95% Confidence interval based on weighted %.

Participants were asked to select what the most appropriate penalty (i.e., could only pick one response) should be for drivers who illegally pass a stopped school bus. Table 13 shows the weighted and unweighted estimates for their opinions on penalties. Over three-quarters of participants thought the penalty should involve a fine with 54.7 percent saying it should involve both a fine and points on the driver's license.

Opinion on Penalty for Illegal School Bus	Unweighted	Weighted	95% CI*
Passing	%	%	%
No penalty	0.2	0.1	[0.0, 0.4]
A warning	7.5	6.9	[5.8, 8.1]
A fine but no points on license	25.2	24.5	[22.6, 26.5]
A fine <i>and</i> points on license	52.9	54.7	[52.5, 57.0]
License suspension	9.2	8.6	[7.3, 9.9]
Lose license forever	0.6	0.5	[0.3, 0.9]
Jail time	1.8	1.5	[1.0, 2.1]
Other	2.5	3.1	[2.4, 4.0]
Skipped item	0.1	0.0	[0.0, 0.2]

Table 13. Opinion on penalty for illegal school bus passing (N = 3,557)

\*95% Confidence interval based on weighted %.

## Media Exposure

Participants were asked if they had seen or heard any media in the last 6 months about getting a ticket for illegally passing a stopped school bus. Table 14 shows that 10.4 percent saw or heard something about getting a ticket for passing a stopped school bus in the specified time interval.

School Bus Enforcement Campaign	Unweighted	Weighted	95% CI*
Awareness	%	%	%
Yes	10.8	10.4	[9.0, 11.8]
No	80.3	81.0	[79.2, 82.8]
Unsure	8.8	8.6	[7.4, 9.9]
Skipped item	0.1	0.0	[0.0, 0.2]

Table 14. School bus enforcement campaign awareness (N = 3,557)

\*95% Confidence interval based on weighted %.

Those participants who saw or heard something about a school bus enforcement campaign were asked where they saw or heard this message. Table 15 shows the weighted and unweighted estimates for their awareness of school bus enforcement. Participants could have several media channels, TV (62.9%), social media (35.1%), and radio (18.2%) were the most frequently reported media channels.

Where Did You See or Hear It?	Unweighted	Weighted	95% CI*
	%	%	%
TV	63.4	62.9	[56.2, 69.3]
Radio	17.2	18.2	[13.4, 23.8]
Newspaper	14.1	11.4	[7.6, 16.3]
Signs	7.8	7.5	[4.5, 11.7]
Social media	32.1	35.1	[28.9, 41.8]
Website	10.2	11.0	[7.3, 15.8]
Got a ticket in the mail	2.3	2.4	[0.9, 5.2]
Directly from another person	6.5	6.2	[3.5, 10.1]
Other	2.6	2.2	[0.8, 4.9]
Skipped item	0.3	0.0	[0.0, 1.3]

*Table 15. School bus media campaigns channels* (N = 383)

\*95% Confidence interval based on weighted %.

## Discussion

The current study involved a nationally representative survey of drivers in households (excluding drivers under 18 and people not associated with a household/address) to assess their knowledge related to school bus passing laws. Results of the survey identified a number of knowledge gaps that could inform countermeasure development efforts. Overall, the results suggest the majority of drivers know the requirements of the law when approaching and overtaking school buses with their stop-arm deployed and red lights flashing on two-lane undivided roads, and when overtaking a school bus on four-lane undivided roads. Correct knowledge, however, decreases substantially when approaching a bus from the front on a four-lane road with and without a physical median. Knowledge was also low for what to do when a bus was in line at school. The lower knowledge rates for these scenarios could be from the vague and varying State laws prescribing what actions are, in fact, legally required.

The frequency and pattern of incorrect responses observed in this national survey suggests that a lack of knowledge does appear to be playing a role as drivers continue to pass stopped school buses with such great frequency. This is consistent with drivers' reported opinions of the problem as nearly a quarter of participants believed drivers illegally pass because they did not know the law. Drivers reporting "yield to children" may not understand that children may be hidden by the body of the bus or masked by bright lights from the bus or other vehicles. Only stopping and staying stopped until the stop-arm is retracted and flashing red lights are off will ensure the highest level of safety for pupils going to or from the bus.

Results also suggest that most drivers are unsure how illegal passing of buses can be enforced in their area and the associated penalties with a violation. Over half of participants said they were not sure if school bus enforcement cameras were permissible where they live, and nearly 75 percent were unsure of the penalties for illegal passing. In areas where camera enforcement is allowed, program development efforts could focus on informing drivers they can be caught for a violation even if law enforcement is not present. Additionally, it appears that making drivers aware of the penalties could be useful given how few participants said they knew the level of penalties against violators.

The results of this study suggest that drivers will likely be receptive to camera enforcement and stricter penalties as these were the two most frequently selected approaches for reducing illegal passing. In addition, contrary to the usual assumption, nearly 70 percent of participants agreed with the approach of ticketing the registered owner of a vehicle rather than the driver, which would eliminate the need to figure out who was actually driving the vehicle at the time of an illegal pass.

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Appendix A: Informed Consent

This section presents the informed consent language presented to each prospective participant.

If you proceed with this voluntary survey by selecting CONTINUE below, you are consenting to allow your responses to be included in this traffic safety research effort. You must be 18 years or older to take part in this study. All results of the study will be reported at the group level, and your responses to this survey will not be linked to you in any way.

Under the Paperwork Reduction Act, a federal agency may not conduct or sponsor, and a person is not required to respond to a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control number. The OMB Control Number for this information collection is 2127-0755 (expiration date: 12/31/2024). The average amount of time to complete the survey is 15 minutes.

All responses to this collection of information are voluntary. If you have comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, send them to Information Collection Clearance Officer, National Highway Traffic Safety Administration, 1200 New Jersey Ave, S.E., Washington, DC, 20590.

The survey should take no more than 15 minutes and you will receive AmeriPoints after you finish the survey.

Appendix B: Survey

This section presents each of the 27 items from the survey.

- Did you drive on one or more days during the last 12 months?
   □ Yes
  - $\square$  No
- 2) How often did you drive in the past 12 months?
  - $\Box$  Every day
  - $\Box$  Almost every day
  - $\Box$  A few days a week
  - $\Box$  A few days a month
  - $\Box$  A few days total
- 3) Do you have a current (not expired) driver's license?
  - □ Yes
  - $\Box$  No, but I used to
  - $\Box$  No, I never have
- 4) Where is your current, or most recent, driver's license from?



5) In what State do you drive the most miles?



- 6) What do you drive most often?
  - □ Car
  - $\Box$  Van or minivan
  - □ Motorcycle
  - □ Pickup truck
  - □ Sport Utility Vehicle (SUV)
  - □ Other truck
  - $\Box$  Other
- 7) When you drive, how often do you see a school bus on the road?
  - □ Always
  - □ Almost always
  - $\Box$  Sometimes
  - □ Rarely
  - □ Never
- 8) How confident are you in your knowledge of the vehicle and traffic laws in your State?
  □ Extremely confident
  - □ Very confident
  - □ Moderately confident
  - □ Slightly confident
  - □ Not at all confident

For the next 7 questions, you will first be shown a brief video of a driver's view approaching a school bus on various types of roadways. Your video will automatically begin playing shortly after you move to the next screen.

If your video does not automatically begin playing, please click the play icon to start the video.

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Choose the replay icon **to** see the video again or click CONTINUE to answer a question based on the situation shown in the video.

Instructions for watching your video:

- Do not fast forward through the video.
- Do not skip past the video before viewing it once.
- You may re-watch the video multiple times.
- If your video does not automatically begin playing, please click on the play icon to start watching the video.
- The video is best viewed horizontally if watched on a mobile phone.

Situation 1: Video of a car approaching a school bus stopped on a <u>2-lane</u> undivided roadway from the <u>rear</u> as its red lights and stop-arm deploy. The video dissolves before the car reaches the school bus.

- 9) What does the law say a driver must do in this situation?
  - □ Nothing special
  - $\Box$  Proceed with caution
  - $\Box$  Slow down
  - □ Yield to children
  - $\hfill\square$  Stop, look, and go
  - □ Stop and stay stopped

Situation 2: Video of a car approaching a school bus stopped on a <u>2-lane</u> undivided roadway from the <u>front</u> as its red lights and stop-arm deploy. The video dissolves before the car reaches the school bus.

10) What does the law say a driver must do in this situation?

- □ Nothing special
- □ Proceed with caution
- $\Box$  Slow down
- □ Yield to children
- $\Box$  Stop, look, and go
- □ Stop and stay stopped

Situation 3: Video of a car approaching a school bus stopped on a <u>4-lane undivided</u> roadway from the <u>rear</u> as its red lights and stop-arm deploy. The video dissolves before the car reaches the school bus.

- 11) What does the law say a driver must do in this situation?
  - □ Nothing special
  - □ Proceed with caution
  - $\Box$  Slow down
  - $\Box$  Yield to children
  - $\Box$  Stop, look, and go
  - □ Stop and stay stopped

Situation 4: Video of a car approaching a school bus stopped on a <u>4-lane undivided</u> roadway from the <u>front</u> as its red lights and stop-arm deploy. The video dissolves before the car reaches the school bus.

- 12) What does the law say a driver must do in this situation?
  - □ Nothing special
  - $\Box$  Proceed with caution
  - $\Box$  Slow down
  - □ Yield to children
  - $\Box$  Stop, look, and go
  - $\Box$  Stop and stay stopped

Situation 5: Video of a car approaching a school bus stopped on a <u>4-lane divided</u> (by a clearly discernible physical median) roadway from the <u>front</u> as its red lights and stop-arm deploy. The video dissolves before the car reaches the school bus.

13) What does the law say a driver must do in this situation?

- □ Nothing special
- $\Box$  Proceed with caution
- $\Box$  Slow down
- $\Box$  Yield to children
- $\Box$  Stop, look, and go
- $\Box$  Stop and stay stopped

Situation 6: Video of a school bus stopped as the last bus in a line of buses in a <u>school driveway</u> with its red lights flashing and stop-arm extended. In the video, a car approaches the school bus from the <u>rear</u>. The video dissolves before the car reaches the school bus.

14) What does the law say a driver must do in this situation?

- □ Nothing special
- $\Box$  Proceed with caution
- $\Box$  Slow down
- $\Box$  Yield to children
- $\Box$  Stop, look, and go
- $\Box$  Stop and stay stopped

Situation 7: Video of a car following a school bus on a <u>4-lane</u> undivided roadway from the <u>rear</u> as its <u>vellow</u> lights start to flash. The video dissolves before the car reaches the school bus.

- 15) What does the law say a driver must do in this situation?
  - □ Nothing special
  - □ Proceed with caution
  - $\Box$  Slow down
  - □ Yield to children
  - □ Stop, look, and go
  - □ Stop and stay stopped
- 16) Where you live, can cameras on school buses be used to enforce laws against passing a stopped school bus with its red lights flashing and its stop-arm out?
  - □ Yes
  - 🛛 No
  - $\Box$  Not sure
- 17) In some States, when a vehicle illegally passes a school bus, the <u>registered owner</u> of the vehicle can be mailed a ticket regardless of who was operating the vehicle. How much do you agree with this approach?
  - □ Strongly agree
  - □ Somewhat agree
  - □ Neither agree nor disagree
  - □ Somewhat disagree
  - □ Strongly disagree
- 18) What do you think causes most drivers to pass a stopped school bus with its red lights flashing and stop-arm extended?
  - $\Box$  They didn't know the law
  - □ They thought the law was unnecessary
  - $\Box$  They were in a hurry
  - □ They didn't care
  - $\Box$  They didn't see the bus
  - □ They were distracted
  - □ They were drowsy or impaired
  - □ The bus driver made a mistake
  - □ Other, please specify:
- 19) What do you think is the best way to prevent a driver from illegally passing a stopped school bus?
  - □ Police patrols near the school bus
  - □ Police riding on the school bus
  - □ Camera enforcement
  - □ Stricter penalties
  - $\Box$  More publicity of the laws
  - □ Larger stop-arm
  - □ More or brighter lights on school bus
  - □ Better driver education
  - □ Other, please specify: \_\_\_\_\_

- 20) What should the penalty be for a driver who goes past a stopped school bus with its red lights flashing and its stop-arm out?
  - $\square$  No penalty
  - $\Box$  A warning
  - $\Box$  A fine but no points on their license
  - $\Box$  A fine <u>and</u> points on their license
  - □ License suspension
  - $\Box$  Lose their license forever
  - □ Jail time
  - □ Other, please specify: \_\_\_\_\_

21) How many children do you have in each of the following age categories? \_\_\_\_\_Over 18 years of age

\_\_\_\_Between 4 and 18 years of age

Less than 4 years of age

(If at least one child is between "4 and 18 years of age," go to 22. Otherwise, go to 23.)

22) Do any of your children ride school buses to or from school?

- □ Yes
- 🛛 No
- 23) When you were going to school yourself, did you ever ride the school bus to or from school?
  - □ Yes
  - □ No
- 24) In the last 6 months, have you seen or heard anything in the regular media (TV, radio, newspapers, etc.) or social media (Facebook, Instagram, Twitter, local web sites, etc.) about getting a ticket for passing a stopped school bus with its red lights on and stop-arm extended?
  - □ Yes
  - □ No
  - □ Unsure

25) Where did you see or hear it? What did it say? (Answer all that apply)

W	here	What
	TV	
	Radio	
	Newspaper	
	Signs	
	Social media (Facebook, etc.)	
	Website	
	Directly from another person	
	Other	

- 26) What is the penalty where you live if you are convicted for the first time for illegally passing a stopped school bus?
  - □ Nothing
  - $\Box$  Less than \$100
  - □ \$100 \$249
  - □ \$250 \$459
  - $\square$  \$500 or more
  - □ License suspension
  - $\hfill\square$  Lose your license forever
  - □ Jail time
  - □ Unsure
- 27) Can drivers where you live get points on their license if convicted of illegally passing a stopped school bus?
  - □ Yes
  - □ No
  - □ Unsure

Appendix C: Weighting Procedures

This section details the weighting procedures for this study.

The final weight variable is calculated as a function of three weights:

- 1. AmeriSpeak Panel Weights Weights developed for all panel members to account for their probability of selection into the sample of panel recruits, panel recruitment nonresponse adjustments, and poststratification adjustments of the recruited panel to match population benchmarks.
- 2. **Study Specific Base Weights** Sampling weights developed for a study sample selected from the panel to account for their selection probabilities under the sample design. The base weights are a product of the AmeriSpeak Panel Weights and the inverse of selection probabilities associated with sample selection from the panel.
- 3. **Study Specific Final Weights** These are raked weights developed for all competed cases of a specific study. The raked weights are adjustments of the base weights to address survey nonresponse through a weighting class method. Raking adjustment are then applied to the non-response adjusted weights to align the survey sample to specific population benchmarks. The raked weights may be trimmed to reduce the influence of extreme weights on survey estimates.

Each of the weights are discussed in more detail in the following sections.

#### AmeriSpeak Panel Weights

Since the sampling frame for this study is the AmeriSpeak Panel, which itself is a sample, the starting point of the weighting process for the study is the AmeriSpeak panel weight. To develop the panel weight, NORC first computed the panel base weight as the inverse of the probability of selection from the NORC National Frame (the sampling frame that is used to sample housing units for AmeriSpeak) or other address-based sample frames (supplemental panel samples were selected from frames developed from the USPS Delivery Sequence Files). The sample design and recruitment protocol for the AmeriSpeak Panel involve unequal sampling rates across the sampling strata and additional subsampling of initial nonresponding housing units for in-person nonresponse follow-up (NRFU). The panel base weights reflect all the variations in panel sample selection probabilities. The panel base weights are then adjusted to account for unknown eligibility and nonresponse among eligible housing units. These adjustments were conducted using weighting classes defined by some household characteristics provided by commercial data vendors, including partisan score, political party identification, the presence of young adult(s), and minority status. To produce the final household panel weights, the household-level nonresponse adjusted weights are post-stratified to match the number of households per census division obtained from the most recent Current Population Survey (CPS). Final household weights are assigned to each eligible adult in the recruited household. These person-level weights are then adjusted to compensate for nonresponding adults within a recruited household. Finally, the nonresponse adjusted person-level panel weights are raked to population totals associated with sociodemographic variables.

The external population totals are obtained from the March 2021 Current Population Survey. The weights adjusted to the external population totals are the final panel weights.

### **Study Specific Base Weights**

These are developed to adjust for unequal selection probabilities from the AmeriSpeak panel, differential nonresponse across subpopulations, and frame coverage limitations. All these weighting adjustments are applied to the final panel weights described above.

The sample for this study is selected from the AmeriSpeak panel using sampling strata (see the description of the sampling strata for this study earlier in this report). Sample selection takes into account the expected differential survey completion rates across these strata based on average completion rates in previous surveys. This sample selection based on expected nonresponse ensures a more representative final sample of completed interviews. However, the net result of the sampling design is an unequal selection probability that varies depending on the strata a respondent represents. Study-specific base weights are computed as the product of the final panel weights and the inverse of the probabilities of selection under the study sample design.

## **Study Specific Final Weights**

These are created by first adjusting the base weights for nonresponse and then raking the nonresponse adjusted base weights to known population benchmarks. This survey includes a screener question to define the targeted study population of general population 18+ current drivers, and no known or reliable benchmarks are available for this targeted population. As a result, raking adjustments for this study involve two steps. The first is a raking adjustment of screener completes to align them with population benchmarks of those invited to answer the screener questions, we use the weighted counts of the survey-eligible respondents to define the aster then raked for survey completes to align them to estimated benchmarks derived from the screener completes. The sociodemographic variables are used in both raking adjustments (the raking to general population benchmarks).

The sociodemographic characteristics are weighted to benchmarks from the March 2021 Current Population Survey for eligible respondents that completed the screener questions.

Raking and re-raking are done during the weighting process such that the weighted demographic distribution of the survey completes resemble the demographic distribution in the target population. The assumption is that the key survey items are related to the demographics. Therefore, by aligning the survey respondent demographics with the target population, the key survey items should also be in closer alignment with the target population.

At the final stage of the weighting process, any extreme weights are trimmed based on a criterion of minimizing the mean squared error associated with key survey estimates. Weights after trimming are re-raked to the same population totals to produce the final study weights.

Appendix D: Supplemental Results

This section details additional results from the survey.

#### 2-Lane Undivided Road: Approaching From the Rear

Table D-1 is a full breakdown of participant responses for this scenario. When participants did not report the correct behavior of "stop and stay stopped," they most frequently reported "yield to children" was the required behavior.

Response	Unweighted %	Weighted %	95% CI*
Nathing an acial	0.4	0.6	FO 2 1 11
Nothing special	0.4	0.0	[0.3, 1.1]
Proceed with caution	1.7	1.6	[1.1, 2.2]
Slow down	1.8	1.4	[1.0, 2.1]
Yield to children	2.9	2.5	[1.9, 3.3]
Stop, look, and go	0.9	0.8	[0.5, 1.3]
Stop and stay stopped	92.3	93.0	[91.7, 94.1]

Table D-1. Scenario 1 responses (N = 3,557)

\*95% Confidence Interval based on weighted %.

#### 2-Lane Undivided Road: Approaching From the Front

Table D-2 is a full breakdown of participant responses for this scenario. When participants did not report the correct behavior of "stop and stay stopped," they most frequently reported "yield to children" was the required behavior.

Response	Unweighted %	Weighted %	95% CI* %
Nothing special	0.8	0.6	[0.3, 1.1]
Proceed with caution	2.3	2.3	[1.7, 3.1]
Slow down	1.3	1.4	[0.9, 2.0]
Yield to children	3.1	2.8	[2.1, 3.6]
Stop, look, and go	2.0	1.9	[1.4, 2.6]
Stop and stay stopped	90.3	91.0	[89.6, 92.2]

Table D-2. Scenario 2 responses (N = 3,557)

\*95% Confidence Interval based on weighted %.

#### 4-Lane Undivided Road: Approaching From the Rear

Table D-3 is a full breakdown of participant responses for this scenario. When participants did not report the correct behavior of "stop and stay stopped," they most frequently reported "yield to children" or "proceed with caution" was the required behavior.

Response	Unweighted	Weighted	95% CI*
	%	%	%
Nothing special	0.7	0.6	[0.3, 1.0]
Proceed with caution	1.7	2.2	[1.6, 3.0]
Slow down	1.7	1.6	[1.1, 2.2]
Yield to children	2.4	2.2	[1.6, 2.9]
Stop, look, and go	2.1	1.6	[1.1, 2.3]
Stop and stay stopped	91.4	91.8	[90.5, 93.0]

*Table D-3. Scenario 3 responses (*N = 3,557*)* 

\*95% Confidence Interval based on weighted %.

#### 4-Lane Undivided Road: Approaching From the Front

Table D-4 is a full breakdown of participant responses for this scenario. The correct answer to this item was either to "stop and stay stopped" or "nothing special" depending on the State. As shown in Table 9, 65.0% of participants reported that the law required drivers to "stop and stay stopped." Other responses were primarily split between "proceed with caution" and "yield to children."

Response	Unweighted %	Weighted %	95% CI* %
Nothing special	3.2	3.7	[2.9, 4.6]
Proceed with caution	14.2	14.4	[12.9, 16.1]
Slow down	3.3	3.3	[2.6, 4.2]
Yield to children	10.5	9.4	[8.1, 10.7]
Stop, look, and go	4.2	4.2	[3.4, 5.2]
Stop and stay stopped	64.6	65.0	[62.9, 67.2]

*Table D-4. Scenario 4 responses (N = 3,557)* 

\*95% Confidence Interval based on weighted %.

#### 4-Lane Divided Road: Approaching From the Front

Table D-5 is a full breakdown of participant responses for Scenario 5. The correct answer to this item was either "nothing special," "proceed with caution," "slow down," or "stop and stay stopped" depending on the State. As shown in Table D-5 close to 25% of participants reported that the law required drivers to "stop and stay stopped." Most of the participants (about 40%) reported "proceed with caution."

Response	Unweighted %	Weighted %	95% CI* %
Nothing special	15.9	15.7	[14.1, 17.4]
Proceed with caution	37.7	39.7	[37.5, 41.9]
Slow down	4.9	5.2	[4.2, 6.2]
Yield to children	13.0	12.0	[10.6, 13.5]
Stop, look, and go	4.2	4.2	[3.4, 5.2]
Stop and stay stopped	24.3	23.2	[21.3, 25.1]

*Table D-5. Scenario 5 responses (*N = 3,557)

\*95% Confidence Interval based on weighted %.

#### School Driveway: Approaching From the Rear

Table D-6 is a full breakdown of participant responses for Scenario 6. The correct answer to this item was either "nothing special" or "stop and stay stopped" depending on the State. As shown in Table D-6, close to 50% of participants reported that the law required drivers to "stop and stay stopped." Other responses were primarily split between "yield to children" and "proceed with caution."

Response	Unweighted %	Weighted %	95% CI* %
Nothing special	0.9	0.8	[0.5, 1.3]
Proceed with caution	17.5	18.0	[16.3, 19.8]
Slow down	3.1	2.9	[2.2, 3.8]
Yield to children	20.3	20.1	[18.4, 22.0]
Stop, look, and go	9.3	9.2	[7.9, 10.6]
Stop and stay stopped	48.8	48.9	[46.6, 51.2]

*Table D-6. Scenario 6 responses (N = 3,557)* 

\*95% Confidence Interval based on weighted %.

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