



# NJ 2020 SHSP

## Driver Behavior Emphasis Area

Completed Priority Action 1.C.1.d

**Memorandum discussing teen seatbelt usage trends.**



September 28, 2023





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**NJ 2020 SHSP**

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**1.C.1.d**

# New Jersey Teen Driver Study

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# NEW JERSEY TEEN DRIVER SEATBELT SURVEY

## INTRODUCTION

Motor vehicle crashes are the leading cause of death and acquired disability among U.S. adolescents. New Jersey has the highest minimum age of licensure requirement and one of the lowest fatality rates among teen drivers and peer passengers (Curry et al, 2012). While the Graduated Driver License (GDL) provisions have been effective in reducing fatal teen driver crashes, it is still important to improve the teen driver safety through further reduction of these crashes.

A five-year analysis, from 2013 through 2017, was conducted for the New Jersey Division of Highway Traffic Safety, by the Children’s Hospital of Philadelphia. Crash data was obtained from the NJ Motor Vehicle Commission’s Licensing Database and the NJ Department of Transportation Crash Record Database on teen drivers, between 16 and 20 years old at the time of their crash. During this period, 216,935 teen drivers, or 43,387 per year on average were involved in crashes. This total represents an eight percent decrease from the previous five-year period. The New Jersey study on teen drivers had found that more male drivers (53%) and one percent of 16-year-old drivers (383) were involved in crashes for the cohort of 35,640 teen drivers.

The findings confirmed that a greater number of crashes involved multiple vehicles (87%) and most occurred in May, August, October, and December (monthly averages = 3,608). It was found that Friday (17%) was when most teen driver crashes occurred in the afternoon (29%). Additionally, careless driving was the most common citation issued (48%) in 2017 (**Table 1**).

**Table 1. Type of Citations Issued to Teen Drivers Involved in Crashes (41, 816), 2017**

	<b>Issued Citation</b>	<b>Total*</b>
1.	Alcohol Use	330
2.	Careless Driving	7,120
3.	Other Non-Moving Violations	1,657
4.	Driving With a Suspended License	307
5.	Drug Use	68
6.	Failure to Stop/Yield	1,254
7.	Following Too Closely	162
8.	GDL Violation	398
9.	Leaving the Scene of an Accident	1,081
10.	Other Moving Violations	1,196
11.	Reckless Driving	343
12.	Unlicensed Driving	550
13.	Use of Electronic Equipment (Non-GDL)	131
14.	Seatbelt Non-use (Non-GDL)	95
15.	Speeding	34
16.	None: Citation Was Not Issued	33,759

*\*Note: Multiple Violations Per Citation*

Over 80% of teen drivers were not issued citations and over one percent of teen drivers were cited for Seatbelt Non-use (.22%), combined with GDL Non-compliance (.99%) during this period. However, seatbelt compliance is a critical action that teens can control through compliance as drivers and monitoring of passenger actions. Furthermore, seatbelt compliance has been identified by NHTSA (2009) as reducing serious injuries and fatalities by fifty percent, so it is important for states to identify a baseline analysis of seatbelt usage among teen driver and their passengers, in order to establish effective countermeasures.

## BACKGROUND

### National Compliance Trends

In the past, seatbelt usage is limited to crash reports or direct-observation studies. Such studies preclude a comparison to the general population due to small sample sizes or crashes not being representative of the general motorist population (Briggs et al, 2008). Therefore, a national study was conducted to identify both driver and passenger seatbelt usage for the same individual. A self-administered survey was administered to high school students in grades 9-12 throughout the country to nationally representative samples of students, including additional strategies for race and ethnicity (Briggs et al, 2006). This study confirmed that 59% of students wore their seatbelts while driving and only 42% buckled up as passengers. Across the demographic strata of age, gender, race/ethnicity, grades, drinking and driving; seatbelt use ranges between 10.5 and 21 percent of the cohort. A total of 15% more females wore seatbelts than males, while 13% fewer Black drivers wore seatbelts than White student drivers. Analysis showed a modest variation in the percentage of students who buckled up while driving but not always wearing seatbelts has passengers that ranged between 15% and 24%; while considerable variations was evident for students who did not buckle up (27% and 61%). This group was more likely to report inconsistent seatbelt use, rode with drinking drivers, received mostly “C” grades or lower, as compared to the general population.

### Countermeasures to Support Seatbelt Compliance

Another high school seatbelt observation was conducted by the Highway Safety Division of the Missouri Department of Transportation at 150 high schools (Kim et al., 2009). A series of site summary, driver, and passenger forms were used to collect location data, driver demographics, and passenger information. The purpose of this study was to collect additional information on seatbelt non-compliance factors. This descriptive analysis of seatbelt usage showed that 61% of the teen drivers were belted, compared to the 77% overall state compliance rate for this age group. Teens had a higher rate of seatbelt usage (67%) with adult passengers were in the vehicle. Passenger seatbelt rate increased (84%) when the driver was buckled up. Monday (39%), Tuesday (41%), and Friday (40%) were when the highest percentage of unbelted teen drivers and passengers occurred. Results had confirmed that males (45% v. 33%) and black teen drivers (45% v. 39%) were less likely to wear seatbelts, compared to their counterparts. Additionally, drivers of pick-up trucks (56%) were less likely to be belted than drivers of other vehicles. Further studies were needed to determine seatbelt usage among the teen driver population, especially to identify factors that discouraged seatbelt use among the targeted population.

## Improving Seat Usage Through a Service-Learning Approach

The Center for Disease Control (2012) had also identified that there was a higher rate of noncompliance with seatbelt usage, among the Black population (10%) and Hispanics (9%), compared to the White population (6%). Therefore, targeted interventions were needed to address this deficiency. Seat belts prevent ejection from vehicles, spreads forces of the body over a wider area of the body, allows the body to slow down gradually, and protects the head and spinal cord from serious injury. Service learning is an interactive approach to address student needs and helps promote responsibility of the population in need of seatbelt use. In order to reach the at-risk populations, a peer-to-peer learning approach was implemented in eleven urban high schools in five states. The hypothesis being tested was that peer-to-peer service learning would increase observed seatbelt compliance among teen driver populations.

Students, from states with primary seatbelt laws, participated in the design and implementation of the survey program that involved parking lot observations, related to pre and post program interventions. Lead teachers worked with students on the development of targeted programs to increase seatbelt usage compliance. The Missouri-based Teen Safety Driving Championship Awards was cited as a “best practice for reaching noncompliant teen drivers. The program format to be developed for implementation did include the following criteria: development of slogans and competitions, automobile safety days, research on the importance of seatbelt use, school-wide public service announcements, development of documentary public-service announcements, collection of seatbelt usage for the population, and a community-based advertisement campaign.

Lead teachers of the participating districts were responsible for recruitment of students to design and participate in the programs. The average student participation rate for the program implementation was 20 students that led between 500 and 1,000 student participation per district. Observations took place in school parking lots, and a total of 1,529 participants were observed for the baseline comparison rate and the post-intervention occurred in April/May that netted 1,663 observations. There were 60% White, 27% Black and 13% Hispanic drivers. It was determined that seatbelt use among females was 8% for Females than Male drivers (Female = 76%/Male=64%). The overall seatbelt usage was 71% that increased to 83%, after the intervention. Gender differences had netted an 11% and 14% increase for females and males, respectively. Similarly, seatbelt usage among diverse populations had increased by a 14.8% average for Black and Hispanic and 12% for White teen drivers, after the intervention. Although there was an increase in seatbelt usage among diverse populations, disparities still existed among the minority populations. Results from this study revealed that peer-led interventions had successfully increased seatbelt usage among at-risk populations and that this type of integration needs to be incorporated into each school year, since new student drivers are annually entering the school districts.

## METHODOLOGY

The Brain Injury Alliance of New Jersey (BIANJ) was commissioned to conduct a teen seatbelt study in Spring 2021 to establish a baseline rate for inclusion in the 2020 New Jersey Highway Safety Plan. Teen drivers were contacted through an online outreach campaign, email and mailed statewide distribution to 359 driver education teachers, who were instructed to distribute the survey

to their current driver education students. Limitations of the study involved open-ended questions related to gender that yielded several blank and unusable responses. Driver License Status questions may have confused respondents, due to the lack of description for the “unrestricted” category.

**A total of 3,010 students had voluntarily responded to the survey, 2,449 of which represent the state of New Jersey.** Of the 2,449 students, they were represented the following demographics: 56% Females, 41% Males, <1% identified as Non-binary or Genderfluid, <1% stated they preferred not to answer, and 2% did not answer. Responses were from teen drivers in North and Central Jersey with Essex County submitting 29%, followed by 18% from Monmouth County, 12% from Bergen and Middlesex, and 10% from Union County. The survey requested teen-drivers to respond to questions on their usage of seatbelts, compliance of their passengers before driving, and seatbelt check behavior. Additionally, they were asked about their driving and compliance behaviors when they drove with their parents.

To understand how teen seatbelt usage changes over time, another survey was conducted in 2023. **A total of 1,695 students responded to the survey in 2023, 1,693 of which were from the state of New Jersey.** Of the 1,693, they were represented by the following demographics: 37% Male, 57% Female, <1% identified as Non-Binary or Genderfluid, <1% stated they preferred not to answer, and 5% did not answer. The state was represented by Bergen County submitting 27% of the responses, Atlantic County, Sussex County and Passaic County submitting 15% each, and Monmouth submitting 9% of the responses. The 2023 survey questions were identical to the 2021 survey to allow a direct comparison of the results.

Table 2 summarizes the responses from the baseline results from 2021.

**Table 2. 2021 Teen Driver Seatbelt Usage Survey Responses (n=2,449)**

<b>Categories</b>	<b>Response (%)</b>
<b>Overall Seatbelt Usage</b>	
As Driver	2,379 (97)
As Passenger	2,409 (98)
As Backseat Passenger	2,134 (87)
<b>Driver Behavior</b>	
Require Passengers to Buckle-up Before Driving	1,108 (45)
Remind Others to Buckle-up	226 (9)
Check That Others Wear Seatbelts	888 (36)
Do Not Check	227 (9)
<b>Passenger Behavior</b>	
Required/Reminded Passengers to Buckle-up Before Driving	1,274 (52)
Check That Others Wear Seatbelts	464 (19)
Do Not Check	711 (29)
<b>Driving With Parents &amp; Parent Behavior</b>	
<i><b>Wear Seatbelts When Driving with Parents</b></i>	
Always	2,160 (88)
Sometimes	258 (11)
Never	31 (1)
<i><b>Parents Wear Seatbelts with Teen Driver</b></i>	
Always	2,199 (90)
Sometimes	232 (9)
Never	18 (1)



Table 3 summarizes the responses from the baseline results from 2023.

**Table 3. 2023 Teen Driver Seatbelt Usage Survey Responses (n=1,693)**

<b>Categories</b>	<b>Response (%)</b>
<b>Overall Seatbelt Usage</b>	
As Driver	1,591 (94)
As Passenger	1,641 (97)
As Backseat Passenger	1,386 (82)
<b>Driver Behavior</b>	
Require Passengers to Buckle-up Before Driving	711 (42)
Remind Others to Buckle-up	194 (11)
Check That Others Wear Seatbelts	585 (35)
Do Not Check	203 (12)
<b>Passenger Behavior</b>	
Required/Reminded Passengers to Buckle-up Before Driving	797 (47)
Check That Others Wear Seatbelts	354 (21)
Do Not Check	542 (32)
<b>Driving With Parents &amp; Parent Behavior</b>	
<i><b>Wear Seatbelts When Driving with Parents</b></i>	
Always	1,422 (84)
Sometimes	240 (14)
Never	31 (2)
<i><b>Parents Wear Seatbelts with Teen Driver</b></i>	
Always	1,459 (86)
Sometimes	212 (13)
Never	22 (1)

**Table 4** compares the results of the two surveys, show the change to each question.

**Table 4. Comparison of Results**

Categories	2021 (%)	2023 (%)	Percent Change (%)
<b>Overall Seatbelt Usage</b>			
As Driver	97.1	94.0	-3.1
As Passenger	98.4	96.9	-1.5
As Backseat Passenger	87.1	81.9	-5.2
<b>Driver Behavior</b>			
Require Passengers to Buckle Before Driving	45.2	42.0	-3.2
Remind Others to Buckle	9.2	11.5	+2.3
Check That Others Wear Seatbelts	36.3	34.6	-1.7
Do Not Check	9.3	12.0	+2.7
<b>Passenger Behavior</b>			
Required/Reminded Passengers to Buckle Before Driving	52.0	47.1	-4.9
Check That Others Wear Seatbelts	18.9	20.9	+2.0
Do Not Check	29.0	32.0	+3.0
<b>Driving With Parents &amp; Parent Behavior</b>			
<i><b>Wear Seatbelts When Driving with Parents</b></i>			
Always	88.2	84.0	-4.2
Sometimes	10.5	14.2	+3.7
Never	1.3	1.8	+0.5
<i><b>Parents Wear Seatbelts with Teen Driver</b></i>			
Always	89.8	86.2	-3.6
Sometimes	9.5	12.5	+3.0
Never	0.7	1.3	+0.6

## FINDINGS

In 2021, gender categories moved beyond the traditional domain and included teen drivers that identified themselves as non-binary, as well. Respondents were primarily from North and Central regions of the state and did not encompass the Southern, a more rural area with potentially different diversity levels. Additionally, the findings had indicated that a greater number of respondents wore seatbelts as passengers than drivers (98% v. 97%). Fewer males than females (84% v. 87%) wore seatbelts as back seat passengers. Passengers do not check (29%) or remind other passengers (19%) to wear seatbelts. Finally, the number of teen drivers and parents who always wear their seatbelts, was near equivalent at 88% and 89%, respectively.

Unfortunately, many of the results trended in the wrong direction. Between 2021 and 2023, self reported teen seatbelt usage has dropped as drivers (-3.1%), passengers (-1.5%), and as backseat passengers (-5.2%). Results also show that with others in the car there is less initiative to require other people to wear their seatbelts. As drivers, less teens don't require their passengers to buckle up (-3.2%), and less even check to see that others are wearing a seatbelt (-1.7%). Findings indicate that even parents are using seatbelts less often.

All data sets when compared should be analyzed within a margin of error. While the findings from the surveys indicate seatbelt usage is declining, almost every change is around or below 3% which is a standard range above or below for any data set. The three major differences are in teens wearing seatbelts in back seats (-5.2% change), when teens are passengers, they don't remind/require other passengers to wear their seatbelts (-4.9% change), and teens wearing seatbelts when their parents are driving (-4.2% change). These could be from a multitude of reasons. It is important to note that both surveys were conducted after the COVID-19 pandemic. The pandemic had an impact on so much and it should be considered as a factor when analyzing the results. This information is also comparing only two survey results. It is premature to say that teen seatbelt usage is trending downwards without at least a third point of data.

## CONCLUSION AND NEXT STEPS

The Brain Injury Alliance of New Jersey (BIANJ) was assigned to identify a baseline rate of teen driver compliance with seatbelt usage for inclusion in the 2020 New Jersey Highway Safety Plan. Results had confirmed that there was a 97% compliance rate in New Jersey, compared to the 71% compliance rate for the country. This study confirms that more work needs to be done to improve teen driver's oversight on ensuring that their passengers do comply with seatbelt regulations, since only half the respondents were enforcing this action. The results of the 2023 survey have showed that seatbelt usage decreased in teens since the 2021 survey. The workgroup has the following recommendations for the next steps:

1. Conduct a similar survey every few years to identify a trend for the seatbelt usage.
2. Initiate a combined effort between AAA and BIANJ to share the results of survey through News coverage.
3. Improve the education efforts for teens to emphasize the use of seat belt through social media messaging.
4. Utilize this information to further strengthen GDL.
5. Share this report and its findings with NJ 2020 SHSP community partners like DHTS, AAA, Safe Kids, Safe Routes to School, Street Smart, Driver Education teachers, NJ SHAPE, and other Safety Coalition.

Finally, it is concluded that an opportunity exists for a peer-to-peer interactive learning to be adopted, as a countermeasure for increasing seatbelt usage among passengers and save lives on New Jersey roadways.

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