North Dakota Statewide Traffic Safety Survey, 2022

Traffic Safety Performance Measures for State and Federal Agencies

Prepared for

North Dakota Department of Transportation Safety Division

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Disclaimer

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ABSTRACT

The statewide driver traffic safety survey provides baseline metrics for the Safety Division and others to use in understanding perceptions and self-reported behaviors related to focus issues. A core set of questions addresses nationally agreed upon priorities, including seat belts, impaired driving, and speeding. In addition to the core issues, questions were included to better understand views on specific programs and attitudes pertinent to North Dakota drivers. Results show that more North Dakota drivers have adopted safe driving practices, but additional efforts are needed to improve safety on the state's roads.

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1. INTRODUCTION

The United States lags behind other developed countries in several transportation safety metrics. One metric, road traffic death rate, is higher than in other developed countries (World Health Organization 2021) (Figure 1.1). Progress has been made to reduce the number of traffic-related fatalities, but crashes resulting in death, injury, and property damage continue to occur due to preventable factors. These factors include driving under the influence of drugs or alcohol, distracted driving, speeding, and operating a vehicle without a seat belt, among others. The metric highlighted in Figure 1.1, which presents the most recently available data from the World Health Organization, suggests that more work is needed to improve driver behavior and overall safety on roadways in the United States. One critical asset in monitoring and communicating traffic safety priorities is a reliable and comprehensive means to set and measure goals (Government Accounting Office 2010). In a nationwide effort to improve transparency and quantify metrics for behavior-based investments designed to reduce motor vehicle crashes, the Governor's Highway Safety Association (GHSA) and the National Highway Traffic Safety Administration (NHTSA) established a set of performance measures to support traffic safety priorities and demonstrate progress related to behavioral safety plans and programs (Hedlund 2008).

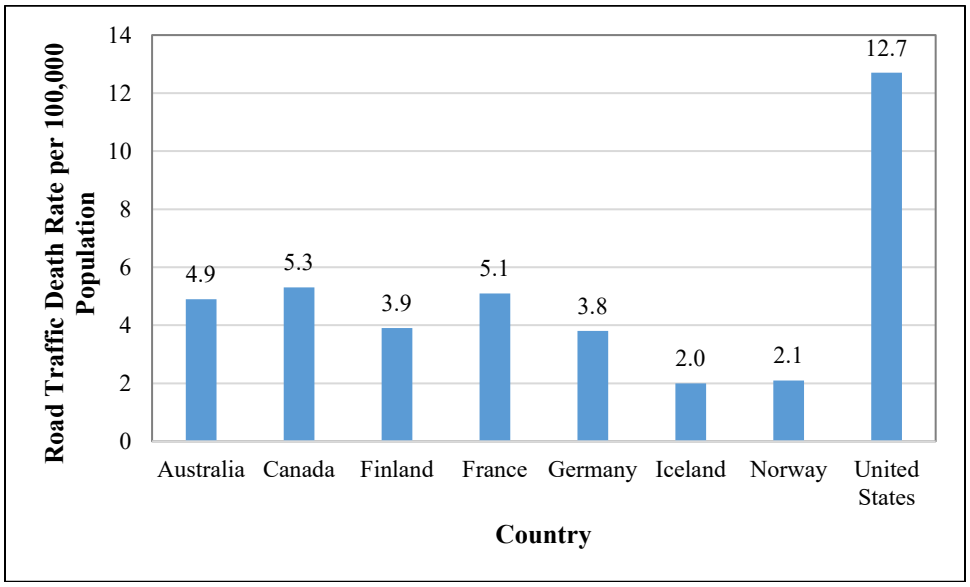


Figure 1.1 Road Traffic Death Rate of Selected Countries, 2019

Within the GHSA-NHTSA safety effort, 14 measures were agreed upon as minimum performance measures. These include 10 outcome measure-types, one behavior measure-type, and three activity measure-types. The minimum performance measures are designed to create a quantitative core for the development and implementation of highway safety plans and programs. Several uses include goal setting, goal-action linkages, resource allocation, program evaluation, and communication. Other benefits stem from improvements to organizational focus, feedback processes, and accountability (Herbel et al. 2009). The measures were defined to monitor overall traffic safety performance and progress related to the prioritized behavioral issues. These issues include occupant protection, alcohol use, and speeding. Additionally, the measures target high-risk population groups. The 10 outcome measures focus on the following:

- Overall traffic safety performance
- Seat belt use
- Child occupants
- Alcohol-impaired driving

- Speeding and aggressive driving
- Motorcyclists
- Young drivers
- Older drivers
- Pedestrians
- Bicyclists

These 10 core outcome measures combine current exposure data, such as population and vehicle miles traveled (VMT), with existing national Fatality Analysis Reporting System (FARS) data to generate performance measures in areas common to state safety strategies and data systems. Activity measures emphasize actions such as citations or arrests under grant-funded enforcement initiatives. Seat belt observation was chosen as the single initial core behavior measure (Hedlund 2008). The measures utilized in the outcome highlights are typically calculated as follows:

- Core outcome measures
    - C-1) Number of traffic fatalities (FARS). States are encouraged to report three-year or five-year moving averages when appropriate. (One example is when annual counts are small enough that random fluctuations may inaccurately reflect true trends. This applies to all fatality measures.)
    - C-2) Number of serious injuries in traffic crashes (state crash data files).
    - C-3) Fatalities per VMT (FARS, FHWA). States should set a goal for total fatalities per VMT. States should report both urban and rural fatalities per VMT in addition to total fatalities per VMT.
    - C-4) Number of unrestrained passenger vehicle occupant fatalities, all seat positions (FARS).
    - C-5) Number of fatalities in crashes involving a driver or motorcycle operator with a blood alcohol content (BAC) of at least 0.08 grams/deciliter (FARS).
    - C-6) Number of speeding-related fatalities (FARS).
    - C-7) Number of motorcyclist fatalities (FARS).
    - C-8) Number of motorcyclist fatalities not wearing a helmet (FARS).
    - C-9) Number of drivers aged 20 or younger involved in fatal crashes (FARS).
    - C-10) Number of pedestrian fatalities (FARS).
- Core behavior measure
    - B-1) Observed seat belt use for passenger vehicles, front seat outboard occupants (observational survey).
- Activity measures
    - A-1) Number of seat belt citations issued during grant-funded enforcement activities (grant activity reporting).
    - A-2) Number of impaired driving arrests made during grant-funded enforcement activities (grant activity reporting).
    - A-3) Number of speeding citations issued during grant-funded enforcement activities (grant activity reporting).

The Minimum Performance Measures publication also referenced four additional areas for measuring improvement and implementation: traffic injury outcome; driver attitudes, awareness, and behavior; traffic speed; and law enforcement activity. The following report fulfills the need for improved measurement of driver knowledge, attitudes, behaviors, and beliefs. A core question set was developed by a GHSA-NHTSA working group and presented to state departments of transportation following the preliminary recommendations in the Minimum Performance Measures (Hedlund, Casanova, and Chaudhary 2009).

A set of 10 core questions was created to quantify attitudes, awareness, and self-reported behavioral patterns through periodic statewide traffic safety surveys/questionnaires. This recommended list of core questions was intended to provide a standard for states to track performance as they pursue program goals and objectives to reduce crashes, injuries, and fatalities related to high-risk driver behaviors. Core questions remain consistent across all entities. Beyond the core questions, an option to supplement the survey with other additional questions provides latitude to address local interests and to obtain other useful information related to topics such as demographics and driving activity.

Commonly, federal initiatives relating to driving behavior focus on impaired driving, seat belt use, and speeding. Thus, the core questions emphasize these issues (Hedlund, Casanova, and Chaudhary 2009). The core questions of the focus areas are as follows:

- Impaired driving
    - ID-1: In the past 60 days, how many times have you driven a motor vehicle within two hours after drinking alcoholic beverages?
    - ID-2: In the past 30 days, have you read, seen, or heard anything about alcohol impaired driving (or drunk driving) enforcement by police?
    - ID-3: What do you think the chances are of someone getting arrested if they drive after drinking?
- Seat belts
    - SB-1: How often do you use seat belts when you drive or ride in a car, van, sport utility vehicle, or pickup?
    - SB-2: In the past 60 days, have you read, seen, or heard anything about seat belt law enforcement by police?
    - SB-3: What do you think the chances are of getting a ticket if you don't wear your seat belt?
- Speeding
    - SP-1a: On a local road with a speed limit of 30 miles per hour, how often do you drive faster than 35 miles per hour?
    - SP-1b: On a road with a speed limit of 65 miles per hour, how often do you drive faster than 70 miles per hour?
    - SP-2: In the past 30 days, have you read, seen, or heard anything about speed enforcement by police?
    - SP-3: What do you think the chances are of getting a ticket if you drive over the speed limit?

Seven variations of these questions have been incorporated into the 2022 North Dakota Driver Survey developed in conjunction with the North Dakota Department of Transportation's Safety Division (see Appendix A for the complete survey). The Safety Division expanded the survey to gain additional information relevant to its goals and responsibilities. Ultimately, the core questions were slightly modified to better fit driving conditions in North Dakota, and some core questions from prior iterations of the survey were excluded on account of changing driving patterns during the COVID-19 global pandemic. The core questions, which were included, read as follows:

- Impaired driving
    - ID-1a) In the past 60 days, how many times have you driven a motor vehicle within two hours after drinking 1-2 alcoholic drinks?
    - ID-1b) In the past 60 days, how many times have you driven a motor vehicle within two hours after drinking 3 or more alcoholic drinks?
    - ID-2) What do you think the chances are for someone's arrest if they drive while under the influence of alcohol or drugs?

- Seat belts
    - SB-1) How often do you use a seat belt when you drive or ride in a motor vehicle?
    - SB-2) What do you think the chance is of getting a ticket if you do not wear your seat belt?
- Speeding
    - SP-1) On a road with a speed limit of 75 mph, how often do you driver faster than 80 mph?
    - SP-2) What do you think the chance is of getting a ticket if you drive over the speed limit?

The 2018 North Dakota *Vision Zero Plan* provides insight for current priorities and activities (NDDOT 2018). The current Strategic Highway Safety Plan outlines goals related to NDDOT's overall traffic safety mission, in addition to specific issues to address in the next five years. The following traffic safety issues are prioritized as emphasis areas:

- Lane departure
- Intersections
- Impaired driving
- Unbelted vehicle occupants
- Speeding/aggressive drivers
- Young drivers
- Heavy vehicles
- Older drivers
- Pedestrians/bicyclists
- Local system roadways
- Oil impact counties

Metrics are included to indicate progress of the overall safety mission in light of traffic fatalities and serious injuries. The single core behavior measure shows 2021 observed seat belt use at 81.9% (Vachal and Andersen 2021). Results presented here will enhance the understanding of behavior by providing additional coverage, expanded insights into issues, and an increased number of measures.

2. METHOD

A mail survey was selected as the method for the driver traffic safety survey. A questionnaire was created by blending the core questions with other NDDOT-designated questions pertaining to education, policy, and enforcement. The questions were developed based on a literature review – which included previous surveys of this type – and guidance offered by the GHSA-NHTSA working group. The mailings to drivers included a Safety Division cover letter, which invited participation and explained the purpose of the survey. The questionnaire was mailed to North Dakota drivers on March 1, 2022, with responses to be returned by April 1, 2022.

NDDOT adult driver records formed the population used for sampling. The original NDDOT mail list consisted of 11,520 addresses. Of these, 199 drivers lived outside of North Dakota and were removed. Therefore, a total of 11,321 surveys were mailed to valid addresses. Unlike other iterations of this survey, none of the preliminary list of North Dakota addresses were deemed invalid prior to mailing. One participant returned the survey to the research team and requested not to participate. Zero surveys were returned to NDDOT as undeliverable. This low number is likely due to the decision to use "or current resident" on each address label. The sample had regional, geographic, age, and gender distributions that were a reasonable representation of the general North Dakota driver population. Ultimately, 1,627 surveys were completed and returned to the research team. However, not all of the surveys were from self-reported North Dakota counties. A total of 32 respondents did not provide an answer to the "In which North Dakota county do you live?" question and were removed from the sample. None of the other responses were from individuals living in counties outside of North Dakota. Thus, of the usable survey responses provided, 1,595 were confirmed as valid and formed the driver response sample used in the analysis.

The sample size was based on a 95% confidence interval with a 5% confidence level. Although mail survey response is usually low, with 10% typical, a slightly better response rate was expected due to the parameters used in the survey design and administration. These parameters included keeping the survey to a single page, including the state agency cover letter and mail envelopes, and providing postage-paid return envelopes.

A disproportionate stratified random sample was used to select drivers. North Dakota drivers were stratified by region (east/west) and geography (urban/rural). County jurisdictional boundaries were used to define both region and geography (Figure 2.1). Additionally, oversampling was necessary for two target driver groups: 18-to-34-year-old male and female drivers. The disproportionate stratified sampling structure was used to elicit sufficient driver participation to allow robust analysis of responses by region, geography, and the target driver groups. However, using these simple average responses would provide skewed results in representing the statewide driver population. For example, drivers aged 35 to 44 were 8.0% of the survey sample and account for 7.0% of the survey responses. However, this age cohort actually accounts for 17.0% of the licensed driver population in the state (FHWA 2022). Therefore, a post-stratification weighting process is used to give an appropriate weight to responses for statewide estimates. Results from post-stratification consider the age, gender, and location of North Dakota registered drivers when weighting to reflect the knowledge, attitudes, behaviors, and beliefs of the statewide driving population. Note that answers with fewer than 30 responses are not considered large enough to extrapolate to fit the entire North Dakota driver population. These instances are indicated with asterisks throughout the analysis.

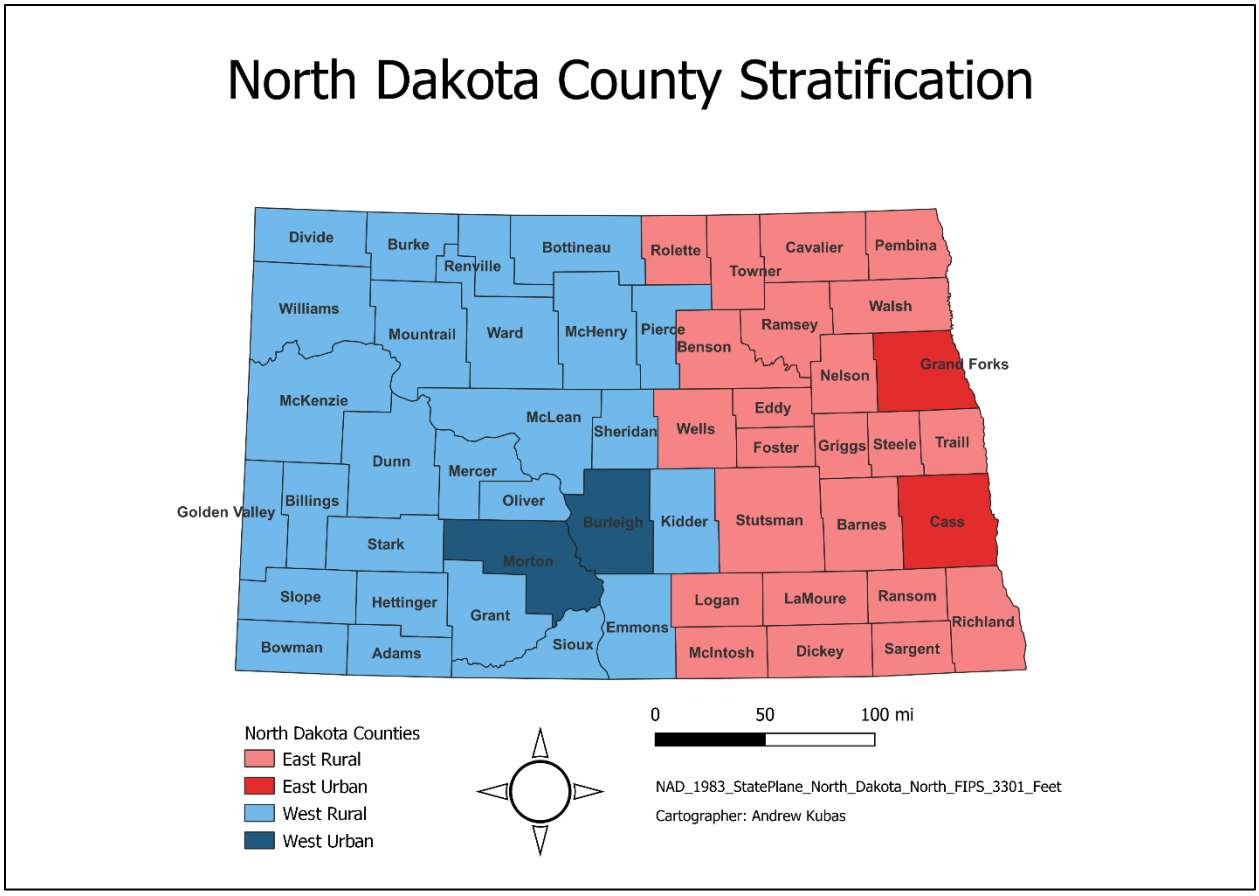


Figure 2.1 County Stratification

The regional definition was created by aggregating North Dakota health regions into two areas closely representing an east/west division of the state. The geography definition includes an urban/rural dichotomy. Urban drivers are those from counties with the largest urban population according to the most recently published data estimates from the U.S. Census Bureau. Two urban counties are located in the east and another two are located in the west based on the population density geographic definitions used in the study (U.S. Census Bureau). These counties represent the clear majority of the urban population in the state. The sampling probabilities for the survey are displayed in Table 2.1.

Table 2.1 Sampling Probabilities

Region	Geography	Driver Age	Sampling Probability
East	Urban	18-34	0.023
East	Urban	35+	0.009
East	Rural	18-34	0.062
East	Rural	35+	0.011
West	Urban	18-34	0.062
West	Urban	35+	0.014
West	Rural	18-34	0.032
West	Rural	35+	0.008

3. RESPONSE

The survey response rate was 14.1% with 1,595 valid responses obtained from a mailing to 11,321 drivers. The response rate was comparable to prior surveys (Vachal, Benson, and Kubas 2010-2020) and was the same rate as the 2021 mailing (Vachal and Kubas 2021). As expected, oversampling of the 18-to-34-year-old male and female driver target groups was needed to achieve a sample sufficient for statistical analysis. The target group response rate was 6.5% compared with 28.6% for other drivers. Sampling to elicit response by region and geography was successful (Table 3.1). Responses include an acceptable level of participation with comparable response rates from east, west, urban, and rural demographics.

Table 3.1 Survey Response by Region and Geography

		GEOGRAPHY		
		Urban	Rural	**Total**
REGION	East	423 (26.5%)	414 (26.0%)	**837 (52.5%)**
	West	408 (25.6%)	350 (21.9%)	**758 (47.5%)**
	Total	**831 (52.1%)**	**764 (47.9%)**	**1,595**

The sample design did not account for age or gender beyond the target male and female groups. Responses have an acceptable distribution among age cohorts, though the 35-to-44-year-old and 45-to-54-year-old age groups are under-represented, and the 65-to-74-year-old age group is over-represented compared with the actual proportion of the driver population in the state (Table 3.2). The highest share of responses is among drivers aged 25 to 34. This age cohort makes up 24.0% of the survey responses and continues the trend from prior iterations of this survey in which this group has the largest share of responses. The 18-to-24-year-old age cohort makes up the lowest proportion of survey responses. Nonetheless, there were well over 30 responses from each age group, making statistical extrapolation possible and allowing for inferences to be drawn with regard to the entire North Dakota driver population.

Response rates were slightly skewed by gender: 56.6% of the sample identified as female. This deviates from the North Dakota driver population in which there is an approximately equal distribution of males and females. The number of respondents identifying as male or female provides sufficient data to expand the responses to represent the entire statewide driver population for these two groups. However, the four respondents identifying as non-binary (0.3%) cannot be extrapolated to fit the entire population of non-binary North Dakota drivers. These respondents will be excluded from analyses that examine trends by gender. The comparison to the state population supports the post-weighting for improved driver population representation with the sample.

Table 3.2 Response by Age Group

	Survey		Driver Population	
Age Group[1]	Responses	Share	Drivers	Share[2]
18-24	102	6.4%	56,921	10.8%
25-34	383	24.0%	104,273	19.9%
35-44	111	7.0%	91,375	17.4%
45-54	121	7.6%	74,890	14.3%
55-64	315	19.8%	89,314	17.0%
65-74	356	22.3%	66,733	12.7%
75 and Older	205	12.9%	41,154	7.8%

[1]Frequency missing: 2
[2]Represents share of drivers above age 18; percentages do not account for novice (under 18) drivers
Source: FHWA 2022

4. RESULTS

Responses to the survey questions provide valuable insight into driver perceptions, attitudes, and behaviors regarding traffic safety. Simple frequency analysis of ordinal and dichotomous survey responses provides a general characterization of driver views and behaviors. The strong response rate resulted in increased confidence. The 95% confidence interval is coupled with smaller margins of error at +/-1% when discussing statewide results, and a +/-2% error margin when addressing the population in regional, geographic, or target driver strata.

4.1 All Drivers

The core questions emphasize three specific issues: impaired driving, seat belt use, and speeding. Response frequencies for these questions are included in Table 4.1. The table includes 2010-2022 responses to establish metrics that may be used to identify driving trends in North Dakota. In addition, five-year averages shed further light into patterns during this time frame. Responses show drivers believe law enforcement is more likely to ticket for impaired driving violations than for speeding or seat belt violations. Frequencies indicate that 64.6% of drivers think the chances are higher than average that impaired drivers will be arrested (Figure 4.1). This is higher than the 51.8% and 32.0% of respondents who believe there is a greater-than-average likelihood that drivers will be ticketed either for speeding or seat belt violations, respectively.

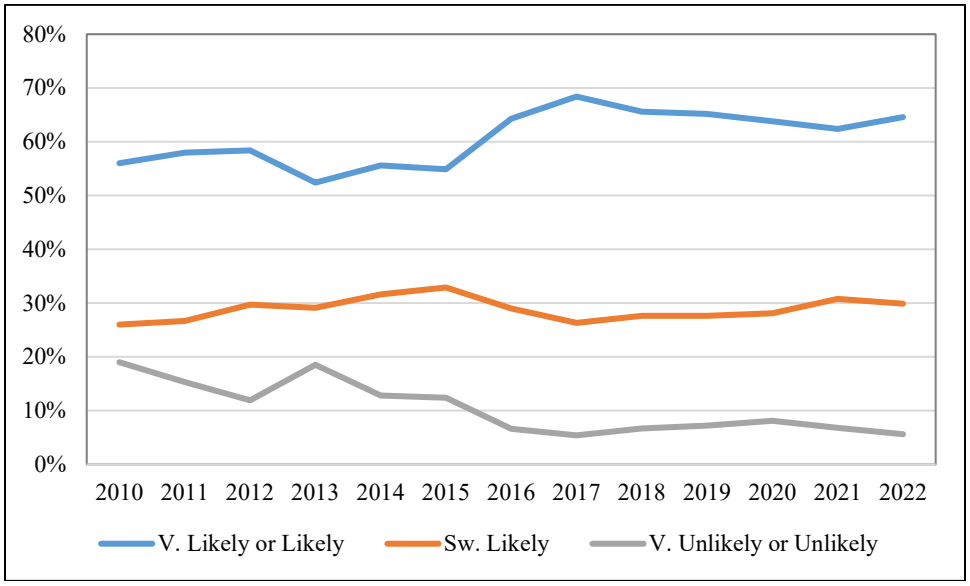


Figure 4.1 Perceived DUI Arrest Likelihood

Responses reveal that perceptions of getting a ticket for illegal driving behavior is related to whether one has driven within two hours of consuming alcohol in the last 60 days. For example, compared with drivers who never drove within two hours of consuming alcohol, those operating a vehicle at least once within two hours of consuming one or two alcoholic beverages were less likely to think that they would be ticketed for not wearing a seat belt ($F=14.964$, $df=1$, $p<0.001$) and were also less likely to believe that they would be ticketed for speeding ($F=7.307$, $df=1$, $p=0.007$). A similar pattern occurred among those who operated a vehicle within two hours of consuming three or more alcoholic drinks. In this survey, operating a vehicle after consuming three or more alcoholic beverages is associated with a lower perceived chance of getting a ticket for not wearing a seat belt ($F=6.411$, $df=1$, $p=0.011$) and for speeding ($F=10.544$, $df=1$, $p=0.001$). This suggests that a driver engaging in one dangerous activity (driving after

consuming alcohol) may also take part in another (driving unbelted, speeding) and therefore may exponentially increase danger on the roadway.

Responses from this questionnaire show 30.5% of respondents reported that they had driven a vehicle within two hours of drinking one or two drinks at least once during the past two months (Figure 4.2). This is a worsening trend compared with the 2021 iteration of the survey in which 28.6% of respondents reported this behavior. Only 4.9% of respondents noted that they had operated a vehicle within two hours of drinking three or more drinks at least once during the past two months. This once again represented worsening behavior compared with 2021; last year, 4.4% admitted to driving after consuming this many alcoholic beverages and was, at the time, the lowest percentage in the history of this annual survey. In general, compared with the 2013 baseline year, North Dakotans are self-reporting lower rates of driving after drinking three or more alcoholic beverages (see ID-1b in Table 4.1). It is possible that successful impaired driving messaging campaigns have affected this behavior. Since 2010, the percentage of North Dakota drivers who think the chances of getting arrested for impaired driving are unlikely or very unlikely have declined from 15.5% to just 6.9% as of the 2022 iteration of this survey.

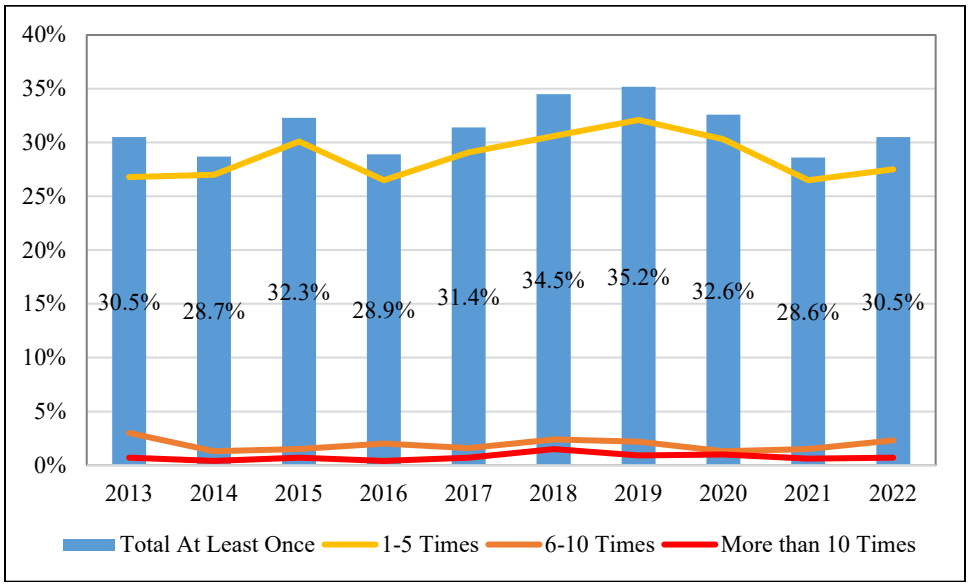


Figure 4.2 Self-Reported Driving-After-Drinking Activity within Two Hours of Consuming 1-2 Drinks

Table 4.1 Core Question Responses

Core	Survey Question	Responses			
ID-1a	In the past 60 days, how many times have you driven a vehicle within two hours after drinking 1-2 drinks?				
		None	1-5 Times	6-10 Times	More than 10 Times
	2022#	69.5%	27.5%	2.3%	0.7%*
	2021#	71.3%	26.5%	1.5%*	0.6%*
	2020#	67.4%	30.3%	1.3%	1.0%*
	2019#	64.8%	32.1%	2.2%	0.9%
	2018#	65.5%	30.6%	2.4%	1.6%
	2017#	68.5%	29.1%	1.6%	0.7%*
	2016#	71.0%	26.5%	2.0%	0.4%*
	2015#	66.7%	30.1%	1.5%	0.7%*
	2014#	71.3%	27.0%	1.3%	0.4%*
	2013#	69.5%	26.8%	3.0%	0.7%*
2018-2022 Five-Year Avg.		**67.7%**	**29.4%**	**1.9%**	**1.0%**
2017-2021 Five-Year Avg.		**67.5%**	**29.7%**	**1.8%**	**1.0%**
2016-2020 Five-Year Avg.		**67.4%**	**29.7%**	**1.9%**	**0.9%**
2015-2019 Five-Year Avg.		**67.3%**	**29.7%**	**1.9%**	**0.9%**
2014-2018 Five-Year Avg.		**68.6%**	**28.7%**	**1.8%**	**0.8%**
2013-2017 Five-Year Avg.		**69.4%**	**27.9%**	**1.9%**	**0.6%**
ID-1b	In the past 60 days, how many times have you driven a vehicle within two hours after drinking 3+ drinks?				
		None	1-5 Times	6-10 Times	More than 10 Times
	2022#	95.1%	4.1%	0.7%*	0.1%*
	2021#	95.5%	4.1%	0.2%*	0.1%*
	2020#	93.5%	6.1%	0.3%*	0.1%*
	2019#	93.0%	6.4%	0.4%*	0.1%*
	2018#	92.6%	6.5%	0.7%*	0.2%*
	2017#	93.0%	6.7%	0.3%*	0.1%*
	2016#	95.3%	4.4%	0.1%*	0.2%*
	2015#	93.4%	6.1%	0.5%*	0.1%*
	2014#	94.5%	5.1%	0.2%*	0.2%*
	2013#	92.4%	6.6%	0.8%*	0.2%*
2018-2022 Five-Year Avg.		**93.9%**	**5.4%**	**0.5%**	**0.1%**
2017-2021 Five-Year Avg.		**93.5%**	**6.0%**	**0.4%**	**0.1%**
2016-2020 Five-Year Avg.		**93.5%**	**6.0%**	**0.4%**	**0.1%**
2015-2019 Five-Year Avg.		**93.5%**	**6.0%**	**0.4%**	**0.1%**
2014-2018 Five-Year Avg.		**93.8%**	**5.8%**	**0.4%**	**0.2%**
2013-2017 Five-Year Avg		**93.7%**	**5.8%**	**0.4%**	**0.2%**

Table 4.1 Core Question Responses (Continued)

Core	Survey Question	Responses				
ID-2	What are the chances of someone getting arrested if they drive under the influence of alcohol or drugs?					
		Very Likely	Likely	Sw. Likely	Unlikely	V. Unlikely
	2022	34.8%	29.8%	29.9%	4.8%	0.8%*
	2021	27.3%	35.1%	30.8%	6.0%	0.8%*
	2020	32.6%	31.2%	28.1%	6.7%	1.4%
	2019	32.0%	33.2%	27.6%	5.6%	1.6%
	2018	31.9%	33.7%	27.6%	5.2%	1.5%*
	2017	32.5%	35.9%	26.3%	4.4%	1.0%
	2016	32.9%	31.4%	29.0%	5.4%	1.2%
	2015	33.6%	21.3%	32.9%	10.3%	2.1%
	2014	29.7%	25.9%	31.6%	11.1%	1.7%
	2013	25.9%	26.5%	29.1%	16.7%	1.8%
	2012	32.5%	25.9%	29.7%	10.3%	1.6%
	2011	31.3%	26.7%	26.7%	12.6%	2.7%
	2010	25.0%	31.0%	26.0%	15.0%	4.0%
2018-2022 Five-Year Avg.		**31.7%**	**32.6%**	**28.8%**	**5.7%**	**1.2%**
2017-2021 Five-Year Avg.		**31.3%**	**33.8%**	**28.1%**	**5.6%**	**1.3%**
2016-2020 Five-Year Avg.		**32.4%**	**33.1%**	**27.7%**	**5.5%**	**1.3%**
2015-2019 Five-Year Avg.		**32.6%**	**31.1%**	**28.7%**	**6.2%**	**1.5%**
2014-2018 Five-Year Avg.		**32.1%**	**29.6%**	**29.5%**	**7.3%**	**1.5%**
2013-2017 Five-Year Avg.		**30.9%**	**26.3%**	**31.7%**	**9.6%**	**1.6%**
2012-2016 Five-Year Avg.		**30.9%**	**26.2%**	**30.5%**	**10.8%**	**1.7%**
2011-2015 Five-Year Avg.		**30.6%**	**25.3%**	**30.0%**	**12.2%**	**2.0%**
2010-2014 Five-Year Avg.		**28.9%**	**27.2%**	**22.7%**	**13.1%**	**2.4%**
SB-1	How often do you use seat belts when you drive or ride in a vehicle?					
		Always	N. Always	Sometimes	Rarely	Never
	2022	81.8%	13.1%	3.5%	1.1%*	0.5%*
	2021	77.9%	16.1%	4.1%	1.5%*	0.4%*
	2020	77.1%	17.1%	4.1%	1.4%	0.3%*
	2019	76.6%	17.4%	4.5%	0.8%*	0.6%*
	2018	77.8%	17.3%	3.9%	0.5%*	0.4%*
	2017	74.4%	19.5%	4.6%	1.2%*	0.3%*
	2016	74.2%	19.7%	4.1%	1.6%	0.4%*
	2015	71.9%	20.4%	5.6%	1.6%	0.6%*
	2014	72.2%	19.7%	5.6%	2.1%	0.5%*
	2013	70.5%	21.3%	6.0%	1.8%	0.4%*
	2012	62.8%	26.9%	6.5%	2.9%	0.9%
	2011	67.9%	23.5%	5.3%	2.7%	0.6%*
	2010	58.0%	27.0%	10.0%	3.0%	1.0%
2018-2022 Five-Year Avg.		**78.2%**	**16.2%**	**4.0%**	**1.1%**	**0.4%**
2017-2021 Five-Year Avg.		**76.8%**	**17.5%**	**4.2%**	**1.1%**	**0.4%**
2016-2020 Five-Year Avg.		**76.0%**	**18.2%**	**4.2%**	**1.1%**	**0.4%**
2015-2019 Five-Year Avg.		**75.0%**	**18.9%**	**4.5%**	**1.1%**	**0.5%**
2014-2018 Five-Year Avg.		**74.1%**	**19.3%**	**4.8%**	**1.4%**	**0.4%**
2013-2017 Five-Year Avg.		**72.6%**	**20.1%**	**5.2%**	**1.7%**	**0.4%**
2012-2016 Five-Year Avg.		**70.3%**	**21.6%**	**5.6%**	**2.0%**	**0.6%**
2011-2015 Five-Year Avg.		**69.1%**	**22.4%**	**5.8%**	**2.2%**	**0.6%**
2010-2014 Five-Year Avg.		**66.3%**	**23.7%**	**6.7%**	**2.5%**	**0.7%**

Table 4.1 Core Question Responses (Continued)

Core	Survey Question	Responses				
SB-2	What do you think the chance is of getting a ticket if you do not wear your seat belt?					
		Very Likely	Likely	Sw. Likely	Unlikely	V. Unlikely
	2022	10.3%	21.7%	36.5%	23.8%	7.6%
	2021	9.7%	19.4%	39.3%	25.4%	6.2%
	2020	10.2%	23.0%	39.0%	21.0%	6.7%
	2019	11.9%	22.7%	38.0%	23.0%	4.5%
	2018	13.9%	22.0%	36.7%	22.4%	5.1%
	2017	11.4%	23.6%	39.5%	19.2%	6.3%
	2016	15.1%	24.5%	39.2%	16.7%	4.5%
	2015	16.9%	21.6%	30.6%	26.5%	4.4%
	2014	16.5%	26.8%	24.9%	26.3%	5.6%
	2013	15.5%	21.8%	28.8%	31.3%	2.7%
	2012	17.1%	26.6%	28.1%	23.7%	4.5%
	2011	16.0%	25.3%	22.6%	25.0%	11.2%
	2010	14.0%	23.0%	26.0%	26.0%	10.0%
2018-2022 Five-Year Avg.		**11.2%**	**21.8%**	**37.9%**	**23.1%**	**6.0%**
2017-2021 Five-Year Avg.		**11.4%**	**22.1%**	**38.5%**	**22.2%**	**5.8%**
2016-2020 Five-Year Avg.		**12.5%**	**23.2%**	**38.5%**	**20.5%**	**5.4%**
2015-2019 Five-Year Avg.		**13.8%**	**22.9%**	**36.8%**	**21.6%**	**5.0%**
2014-2018 Five-Year Avg.		**14.8%**	**34.2%**	**23.7%**	**22.2%**	**5.2%**
2013-2017 Five-Year Avg.		**15.1%**	**29.4%**	**26.8%**	**24.0%**	**4.7%**
2012-2016 Five-Year Avg.		**16.2%**	**30.3%**	**24.3%**	**24.9%**	**4.3%**
2011-2015 Five-Year Avg.		**16.4%**	**27.0%**	**24.4%**	**26.6%**	**5.7%**
2010-2014 Five-Year Avg.		**15.8%**	**26.1%**	**24.7%**	**26.5%**	**6.8%**
SP-2	What do you think the chance is of getting a ticket if you drive over the speed limit?					
		Very Likely	Likely	Sw. Likely	Unlikely	V. Unlikely
	2022	14.3%	37.5%	39.3%	7.4%	1.5%
	2021	14.7%	45.6%	33.9%	4.1%	1.7%*
	2020	14.0%	39.9%	40.1%	4.7%	1.2%*
	2019	19.1%	42.8%	32.6%	4.7%	0.8%*
	2018	17.8%	40.7%	35.8%	4.5%	1.2%*
	2017	15.4%	45.3%	33.5%	4.4%	1.3%
	2016	20.5%	42.4%	32.8%	3.8%	0.5%*
	2015	24.0%	25.7%	43.3%	6.5%	0.5%*
	2014	23.9%	32.7%	34.3%	8.1%	1.0%*
	2013	24.0%	29.3%	37.5%	8.4%	0.9%*
	2012	28.7%	28.8%	33.6%	7.4%	1.5%*
	2011	28.0%	29.1%	31.3%	9.5%	2.1%
	2010	26.0%	28.0%	30.0%	12.0%	4.0%
2018-2022 Five-Year Avg.		**16.0%**	**41.3%**	**36.3%**	**5.1%**	**1.3%**
2017-2021 Five-Year Avg.		**16.2%**	**42.9%**	**35.2%**	**4.5%**	**1.2%**
2016-2020 Five-Year Avg.		**17.4%**	**42.2%**	**35.0%**	**4.4%**	**1.0%**
2015-2019 Five-Year Avg.		**19.3%**	**39.4%**	**35.6%**	**4.8%**	**0.9%**
2014-2018 Five-Year Avg.		**20.3%**	**35.9%**	**37.4%**	**5.5%**	**0.9%**
2013-2017 Five-Year Avg.		**21.6%**	**38.6%**	**32.7%**	**6.2%**	**0.8%**
2012-2016 Five-Year Avg.		**24.2%**	**36.3%**	**31.8%**	**6.8%**	**0.9%**
2011-2015 Five-Year Avg.		**25.7%**	**36.0%**	**29.1%**	**8.0%**	**1.2%**
2010-2014 Five-Year Avg.		**26.1%**	**33.3%**	**29.6%**	**9.1%**	**1.9%**

Note: Please see Appendix A for exact question and response wording
*Estimate uncertain due to limited sample size
#Due to wording changes in ID-1a and ID-1b, trends from 2010-2012 could not be studied

The share of drivers reporting that they always use their seat belts when driving or riding in a vehicle is nearly identical to the information presented by the core behavior metric of 81.9%. Driver self-reported use collected here shows 81.8% always wear a seat belt, with another 13.1% reporting usage as nearly always (Figure 4.3). The 81.8% of drivers always wearing a seat belt represents an increase from 77.9% in 2021 and is the highest usage rate ever reported in the 13-year history of this survey. Only 1.6% of drivers report that they rarely or never use a seat belt, which is a slight decrease from the 1.9% who reported such use last year. Overall, these metrics indicate that drivers in North Dakota are generally safe with regard to seat belt use.

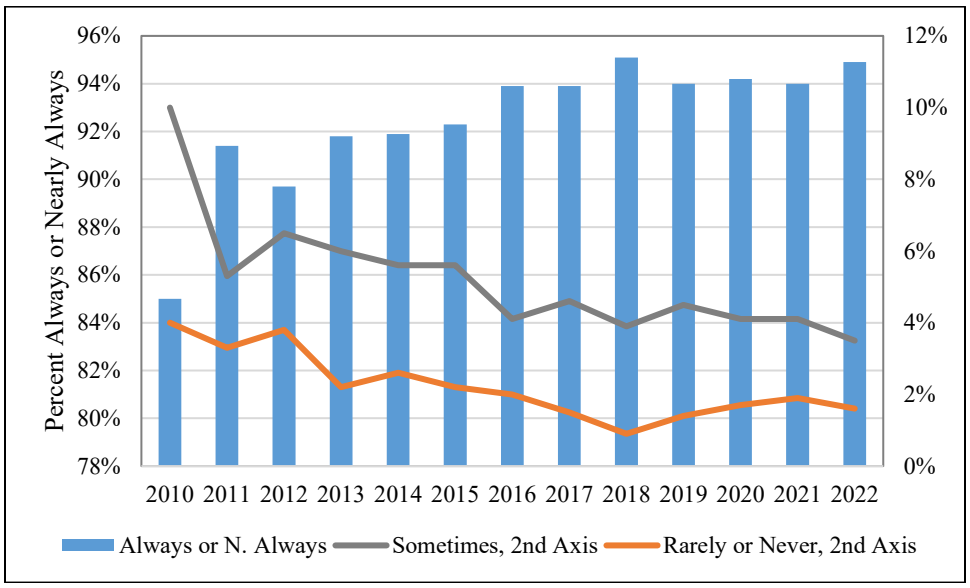


Figure 4.3 Self-Reported Seat Belt Use

To further examine relationships among the core questions and issues that may be related, measures of association are calculated for responses. The Pearson coefficient measures the strength of association between two variables – in this case driver responses. Correlation coefficients range from -1 to +1, and values closer to these extremes are considered stronger relationships. Relationships between -0.5 and +0.5 are generally considered weak and inconsequential. For example, the "arrest for impaired driving" and "ticket for speeding" variables do have an expected positive relationship at Pearson Corr.=0.409, but the correlation measure shows that less than 17% of their variability is shared. The Pearson correlation values suggest there is only one strong relationship between survey items (Table 4.2).

This substantive relationship occurred for the questions concerning driving after having one or two alcoholic beverages and driving within two hours of consuming three or more alcoholic drinks (Pearson Corr.=0.559, $p<0.001$, n=1,370). These two variables share roughly 31% of their variability. This relationship demonstrates that as one chooses to drive after consuming one or two alcoholic beverages, one is more likely to also drive after drinking three or more alcoholic drinks. Although several other relationships between variables are found to be statistically significant at the 1% and 5% levels, the relationship measures are between the -0.5 and +0.5 thresholds and are not considered substantive.

Table 4.2 Correlations in Core Question Responses

	ID1a	ID1b	ID2	SB1	SB1a	SB2	SP1	SP1a	SP2
1D1a: Drive After Drinking 1-2 Drinks	1	**.559****	-.038	-.096**	-.107**	-.103**	.278**	-.130**	-.067**
		.000	.142	.000	.000	.000	.000	.000	.009
ID1b: Drive After Drinking 3+ Drinks		1	-.063*	-.135**	-.083**	-.056*	.203**	-.084**	-.063*
			.109	.000	.002	.038	.000	.002	.019
ID2: Arrest for Drunk Driving			1	-.013	.013	.405**	.095**	-.100**	.409**
				.612	.602	.000	.000	.000	.000
SB1: How Often Use Seat Belts				1	.175**	.087**	-.034	.162**	.027
					.000	.001	.181	.000	.287
SB1a: Seat Belt Use, Others					1	.093**	-.128**	.067**	.044
						.000	.000	.008	.083
SB2: Ticket for No Seat Belt						1	-.059*	-.018	.439**
							.018	.473	.000
SP1: Speed in 75 MPH Zone							1	-.247**	-.068**
								.000	.007
SP1a: Favor/Oppose Speed Fines								1	-.032
									.206
SP2: Ticket for Speeding									1

**Correlation is significant at the 1% level
*Correlation is significant at the 5% level
Bold: Correlation and p-value indicate a substantive relationship
Note: Correlations between -0.5 and +0.5 indicate a weak relationship and are not addressed in this study

Driver responses to other questions are presented in Table 4.3. These responses offer additional insight for practitioners and policymakers with queries related to traffic safety enforcement and education programs, policies, and investments. One aspect of traffic safety is deterrence through enforcement. The enforcement aspect combines patrol efforts and penalties to discourage drivers from taking part in dangerous or risky behaviors. The critical driver risk behaviors here are driver preferences, distracted driving, driver beliefs, and sober/designated drivers.

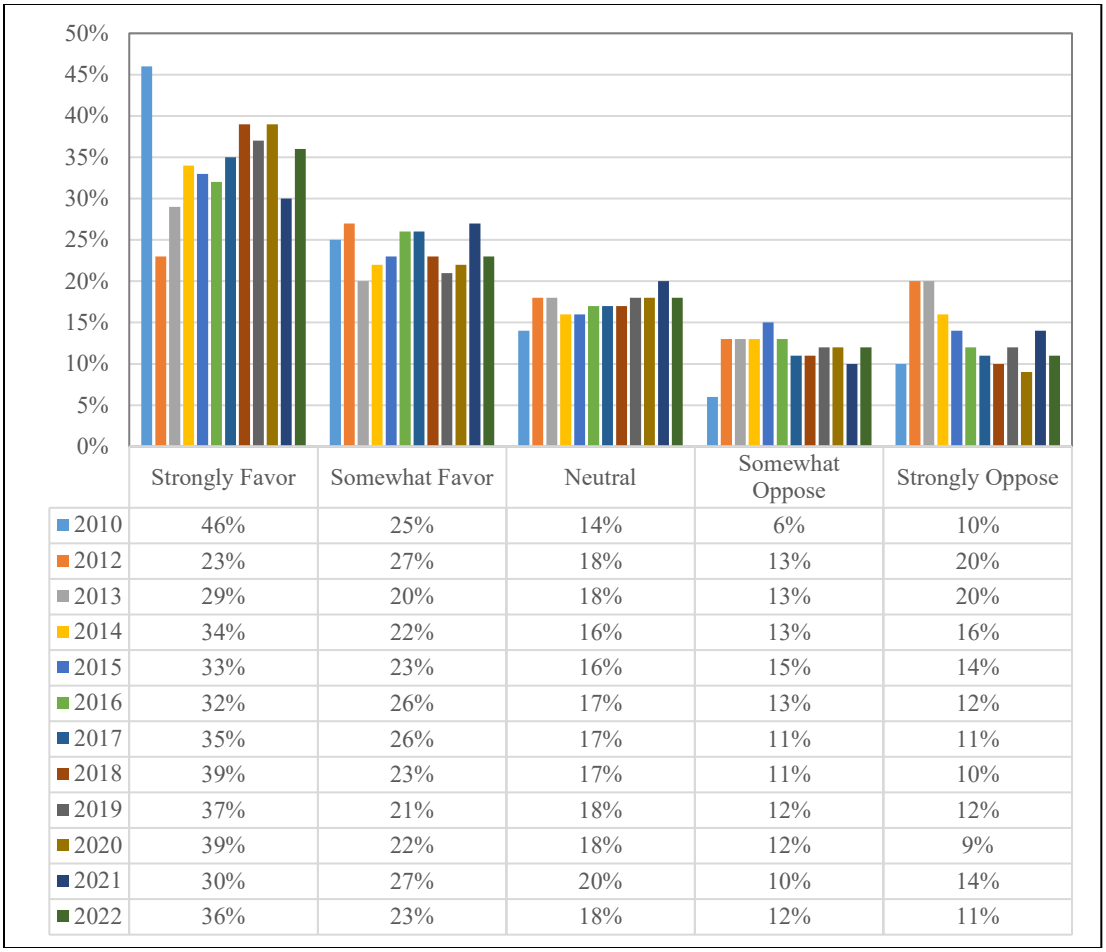
Table 4.3 Other Question Responses

Survey Question	Responses				
Driver Preferences					
Do you favor or oppose…	St. Favor	Sw. Favor	Neutral	Sw. Oppose	St. Oppose
A primary seat belt law?	35.8%	23.1%	17.8%	12.2%	11.2%
Higher fines for speeding?	18.3%	21.7%	29.5%	15.9%	14.7%
Banning handheld phone use while driving?	28.0%	23.8%	17.2%	18.4%	12.6%
Driver Distraction					
	V. Likely	Likely	Sw. Likely	Unlikely	V. Unlikely
Make/answer phone call while driving	26.6%	29.9%	20.1%	10.7%	12.8%
				Yes	No
My use is Bluetooth/hands-free				70.7%	29.3%
	Daily	Few/Week	Few/Month	<1/Month	Never
Others talk on phone while driving[1]	79.0%	17.4%	2.6%	0.9%	0.1%
Driver Beliefs					
Chances of distracted driving ticket	V. Likely	Likely	Sw. Likely	Unlikely	V. Unlikely
	9.5%	20.0%	37.5%	26.8%	6.2%
Do highway safety corridors positively change your driving or driver behavior?[1]				Yes	No
				75.3%	24.7%
Designated Driver					
	V. Likely	Likely	Sw. Likely	Unlikely	V. Unlikely
Likelihood designating alternate driver[2]	65.4%	22.9%	7.4%	2.8%	1.5%
				Sober Driver	Ride Share
Alternate service used[2]				73.9%	26.1%

[1]Frequency does not include those who answered "Do Not Know"
[2]Frequency calculated based on those who do drink alcohol

4.1.1 Driver Preferences

The question concerning driver preferences toward having a primary seat belt law has had more variability in the dispersion of responses between 2010 and 2022 (Figure 4.4). In 2010, nearly half (46%) of the North Dakota driver population strongly favored a primary seat belt law, but only about one-third (36%) hold the same viewpoint in 2022. This does, however, represent an improvement from the 2021 iteration of the survey in which 30% of respondents strongly favored such legislation. Similarly, the 11% of respondents who reported strongly opposing such legislation was a three-percentage-point decline from the 14% who held this viewpoint last year.



	Strongly Favor	Somewhat Favor	Neutral	Somewhat Oppose	Strongly Oppose
2010	46%	25%	14%	6%	10%
2012	23%	27%	18%	13%	20%
2013	29%	20%	18%	13%	20%
2014	34%	22%	16%	13%	16%
2015	33%	23%	16%	15%	14%
2016	32%	26%	17%	13%	12%
2017	35%	26%	17%	11%	11%
2018	39%	23%	17%	11%	10%
2019	37%	21%	18%	12%	12%
2020	39%	22%	18%	12%	9%
2021	30%	27%	20%	10%	14%
2022	36%	23%	18%	12%	11%

Figure 4.4 Driver Preferences for a Primary Seat Belt Law

For the fourth consecutive year, North Dakota drivers were asked to rate their support for banning hand-held cell phone use while driving. The majority (51.8%) indicated that they favored such a ban based on those who chose the "strongly favor" or "somewhat favor" options. This level of support represents a 0.3-percentage-point decline from the 2021 iteration of the survey (Figure 4.5). It should be noted that the percentage of respondents who answered "strongly oppose" to this question has consistently grown from 8.9% in 2019 to 12.6% as of the 2022 administration of the survey.

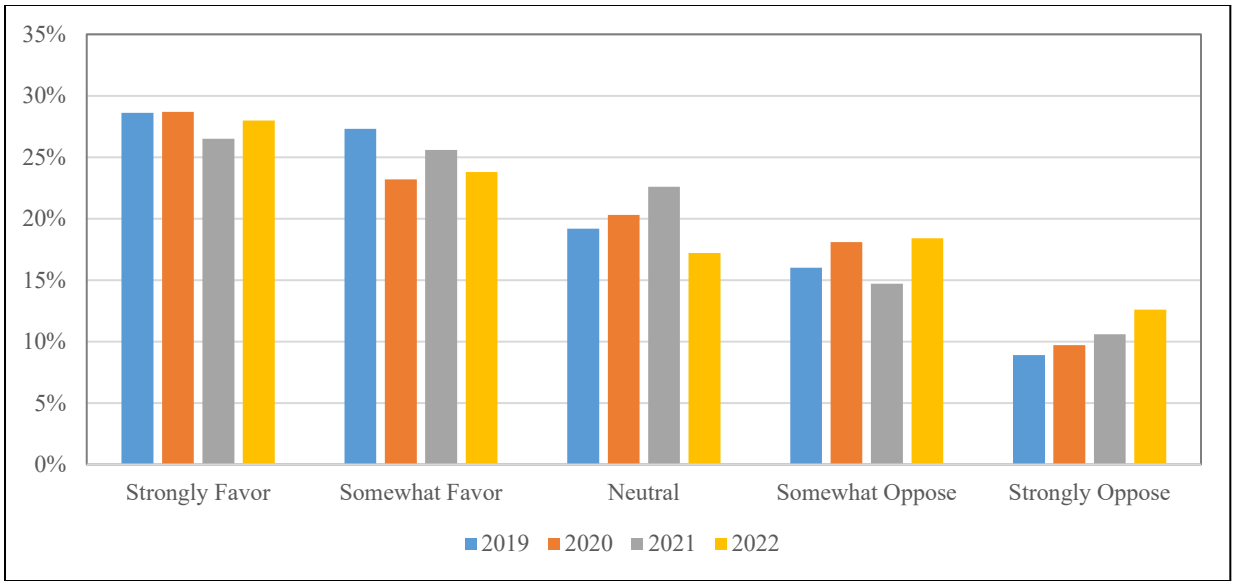


Figure 4.5 Driver Preferences for Banning Hand-Held Cell Phone Use while Driving

4.1.2 Driver Distraction

For the second year, two questions specific to distracted driving were included in the survey. Although the term distracted driving can refer to a broad range of issues, the focus here is on cell phone use while driving. The majority of North Dakotans (56.5%) self-reported that they would make or answer a phone call while driving based on those who answered "likely" or "very likely" to the prompt. This was a five-percentage-point increase from the 51.5% of drivers who reported they would do so in 2021. About one-quarter (23.5%) answered that the chances were "very unlikely" or "unlikely" that they would engage in this dangerous behavior, a decrease of 2.9% from the 2021 survey. When asked specifically for which purposes the respondents use cell phones while driving, several uses were reported (Figure 4.6). Most commonly, North Dakota drivers use cell phones for talking while driving as 28.4% reported this behavior, a slight increase from the 28.2% who reported such activity last year. Just 18.4% of respondents indicated that they do not use cell phones while driving whatsoever, a 2.1-percentage-point decrease from last year.

One new question pertaining to distracted driving was introduced in the 2022 survey. Drivers were asked – if they were to answer a phone call while driving – whether the call was taken via hands-free/Bluetooth technology. Of those taking phone calls while driving, about seven in 10 (70.7%) do so by leveraging hands-free technology.

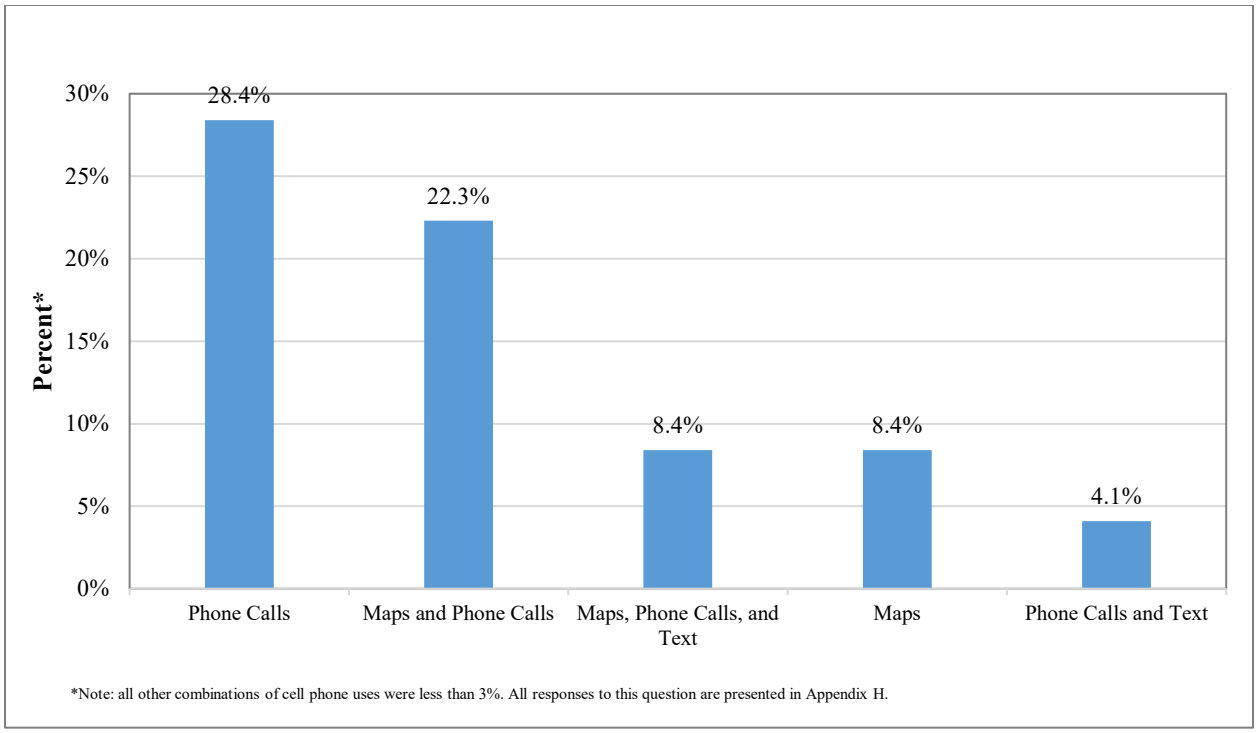


Figure 4.6 Driver Cell Phone Use while Driving

4.1.3 Driver Beliefs

Two questions pertaining to driver beliefs were asked a second time in the 2022 driver survey. These relate to ticket likelihood for distracted driving and self-reported beliefs about highway corridors changing driver behaviors. The expectations North Dakota drivers have for receiving a ticket for distracted driving closely resemble a bell curve (Figure 4.7). Drivers tend to believe that a ticket for this dangerous behavior is just as unlikely as it is likely. None of the responses in 2022 differed by more than three percentage points from the 2021 iteration of this survey.

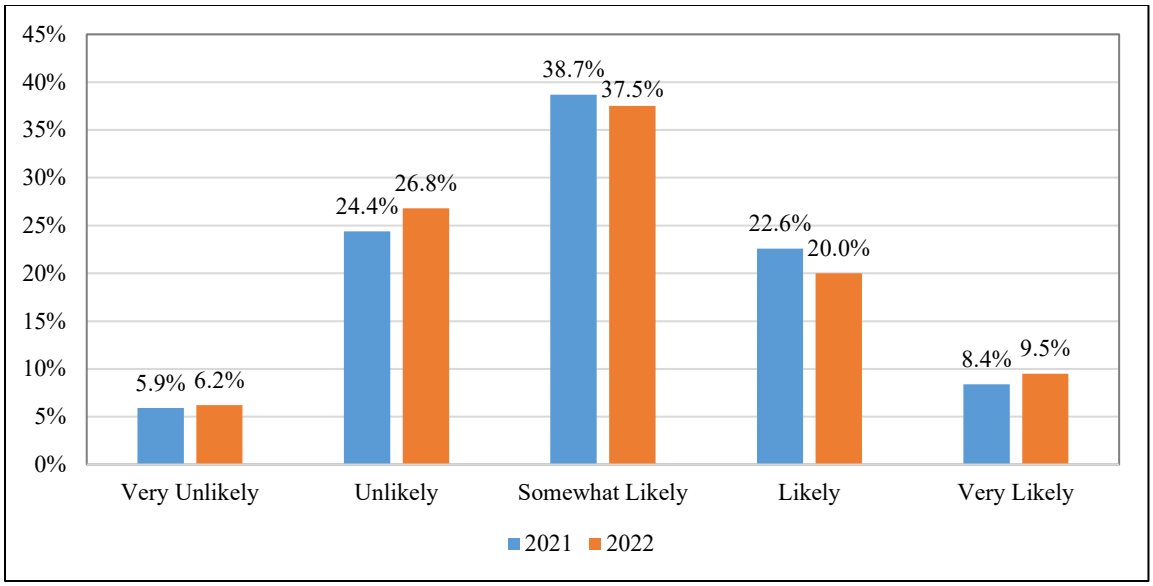


Figure 4.7 Perceived Likelihood of Receiving a Ticket for Distracted Driving

Of those respondents who traveled on a highway safety corridor, 75.3% believed that it did positively change their attention to driving and one's driving behavior. This was a 3.9-percentage-point improvement from last year. However, over half (54.8%) indicated that highway safety corridors were not applicable to their regular driving.

4.1.4 Sober/Designated Drivers

Among those respondents who do drink alcohol, nearly two-thirds (65.4%) reported that they are very likely to designate an alternate driver when drinking or planning to drink. This was a 3.8-percentage-point gain from the 61.6% who reported this last year. Only 1.5% of respondents reported being very unlikely to do so, a gain of 0.5 percentage points compared with the 2.0% who responded this way in 2021. A new question in 2022 sought to understand which type of alternate driver is used by those who do not drive when drinking alcohol. Among this sample of North Dakota drivers, about three-quarters (73.9%) designate a sober driver and the remainder use ride share services or taxis.

4.2 Driver Group Evaluations

It is reasonable to assume that driver perceptions and behaviors are influenced by local norms and the driving environment. Therefore, it is prudent to investigate differences within the driver population to determine if perceptions can be substantiated. This information may be valuable in more effectively allocating traffic safety resources, conducting program assessments, and focusing programs and strategies beyond typical statewide treatment. To quantify and manage the discussion of driver responses in the strata more easily, numeric values are assigned to the descriptive answers to create ordinal scales. These transformations also allow for expanded statistical analysis of responses. The quantitative scale definitions are provided in Table 4.4.

Table 4.4 Quantitative Scale Definitions for Responses

Q#	Question	Scale	Conversion Values
1	Seat Belt Use	1-5	1=Never to 5=Always
2	Seat Belt Use, Others	1-5	1=Never to 5=Always
3	Ticket Likely Seat Belt	1-5	1=Very Unlikely to 5=Very Likely
4	Primary Seat Belt Law	1-5	1=Strongly Oppose to 5=Strongly Favor
5	Speed on 75 MPH Zone	1-5	1=Never to 5=Always
6	Chance of Speeding Ticket	1-5	1=Very Unlikely to 5=Very Likely
7	Higher Fines for Speeding	1-5	1=Strongly Oppose to 5=Strongly Favor
8	Chance Arrest Drunk Driving	1-5	1=Very Unlikely to 5=Very Likely
9	Alternate Sober Driver	1-5	1=Very Unlikely to 5=Very Likely
10a	Drive After Drinking 1-2 Drinks	0-1	0=None, 1=At Least Once
10b	Drive After Drinking 3+ Drinks	0-1	0=None, 1=At Least Once
11	Answer Phone While Driving	1-5	1=Very Unlikely to 5=Very Likely
13	Talk While Driving, Others	1-5	1=Never to 5=Daily
14	Hand-Held Cell Phone Ban	1-5	1=Strongly Oppose to 5=Strongly Favor
15	Distracted Driving Ticket	1-5	1=Very Unlikely to 5=Very Likely
16	Highway Safety Corridor	0-1	0=No, 1=Yes

Stratification in sampling the driver population provides an opportunity to look at the drivers based on region and geography as defined in the methods section. In addition, the young male and female driver groups can be distinguished as high-risk populations. Insights regarding impaired driving, seat belts, and speed across these strata may benefit traffic safety advocates by enhancing their ability to focus efforts.

The information may also be useful in assessing the value of including these types of stratification in future surveys.

4.2.1 Regional and Geographic Observations

Table 4.5 shows the mean values for drivers surveyed statewide, along with regional and geographic comparisons. Statewide survey averages indicate that drivers' views and behaviors associated with traffic safety goals have potential for improvement as discussed in the descriptive statistics. For example, seat belt use is at a mean of 4.75. This number is below the goal of 5.00, which is equivalent to always in the driver survey response. Table 4.6 shows the change in mean values from 2010 to 2022. The primary reason to include the values here is to establish a statewide baseline for the discussion of respondent groups. The figures may also be useful measures in monitoring statewide progress over time. The regional and geographic strata were tested for significant differences. In all, six issues were statistically significant by region and six issues were statistically significant by geographic comparisons.

With regard to regional designations, there were three statistically significant differences related to support for traffic safety initiatives. Residents from the western half of the state were less likely to support a primary seat belt law ($F=9.610$, $df=1$, $p=0.002$), higher fines for speeding violations ($F=6.185$, $df=1$, $p=0.013$) and a ban on hand-held cell phone use while driving ($F=7.638$, $df=1$, $p=0.006$).

Western residents self-reported more dangerous driving activity in terms of impaired driving. Drivers from the western half of the state were more likely to have operated a vehicle within two hours of consuming one or two alcoholic beverages (Chi-Sq.=9.644, $df=1$, $p=0.002$); further, they were more likely to have operated a vehicle within two hours of consuming three or more alcoholic beverages (Chi-Sq.=3.976, $df=1$, $p=0.046$).

Eastern residents perceived one initiative more positively than western drivers. Those living in the eastern half of the state were more likely to positively change driving and behavior in a highway safety corridor (Chi-Sq.=15.363, $df=1$, $p<0.001$).

One ongoing trend is the substantial discrepancy in seat belt use between urban and rural drivers. North Dakota drivers living in the four urban counties are more likely to use a seat belt ($F=74.351$, $df=1$, $p<0.001$). Compared with rural drivers, the higher seat belt use among urban residents continues a trend that has been in place each year since 2010. Although both subcategories are under the goal of a mean value of 5.00, rural residents are farther away from this target number.

Rural drivers were less likely to support initiatives such as a primary seat belt law ($F=12.336$, $df=1$, $p<0.001$) and a ban on using hand-held cellular devices while driving ($F=6.963$, $df=1$, $p=0.008$). Results for behind-the-wheel behaviors were mixed. Rural drivers were more likely to speed in a 75-mile-per-hour zone ($F=19.953$, $df=1$, $p<0.001$), yet were less likely to drive after consuming one or two alcoholic beverages ($F=17.700$, $df=1$, $p<0.001$). With regard to perceptions, there was one difference between these driver groups: urban residents believed other drivers used seat belts at higher rates than did rural residents ($F=15.259$, $df=1$, $p<0.001$). Perhaps this is a result of rural drivers' lower propensity to use seat belts, and the two driver groups were accurately rating the different norms in their respective geographies.

Table 4.5 Differences in Mean Driver Views and Behaviors, by Region and Geography

		Statewide	Region			Geography		
Question	Scale[1]	All	East	West	Sig.	Urban	Rural	Sig.
Seat Belt Use	1-5	4.75	4.74	4.76		4.82	4.51	##
Seat Belt Use, Others	1-5	3.81	3.82	3.79		3.85	3.66	##
Ticket Likely Seat Belt	1-5	3.03	3.04	3.02		3.04	3.02	
Primary Seat Belt Law	1-5	3.60	3.69	3.47	##	3.71	3.22	##
Speed on 75 MPH Zone	1-5	2.28	2.19	2.41		2.27	2.31	##
Chance of Speeding Ticket	1-5	3.56	3.56	3.56		3.54	3.61	
Higher Fines for Speeding	1-5	3.13	3.29	2.90	#	3.21	2.87	
Chance Arrest Drunk Driving	1-5	3.93	3.89	3.98		3.90	4.03	
Alternate Sober Driver	1-5	4.48	4.47	4.49		4.50	4.40	
Drive After Drinking 1-2 Drinks	0-1	0.30	0.29	0.32	**	0.31	0.28	**
Drive After Drinking 3+ Drinks	0-1	0.49	0.047	0.052	*	0.05	0.06	
Answer Phone While Driving	1-5	3.47	3.28	3.73		3.39	3.74	
Talk While Driving, Others	1-5	4.74	4.73	4.76		4.75	4.73	
Hand-Held Cell Phone Ban	1-5	3.36	3.55	3.10	##	3.44	3.11	##
Distracted Driving Ticket	1-5	3.00	3.03	2.95		2.98	3.07	
Highway Safety Corridor	0-1	0.75	0.81	0.68	**	0.76	0.72	

[1]Note: Nominal/Ordinal scales require different tests of significance
*Significant difference at the 5% level for Pearson Chi-Square test
**Significant difference at the 1% level for Pearson Chi-Square test
#Significant difference at 5% level for 1-way ANOVA
##Significant difference at 1% level for 1-way ANOVA

The five-year trends presented in Table 4.6 provide insight about patterns emerging from North Dakota drivers. With 13 years of data available, some conclusions can be made. For instance, the five-year average of seat belt use (4.71) is at an all-time high. Conversely, a negative trend becomes apparent when analyzing results from the previous 13 years. The five-year average measuring the perceived likelihood of receiving a ticket for not wearing seat belts is at an all-time low for drivers from both the eastern and western regions of the state, as well as those from rural North Dakota counties.

Table 4.6 Differences in Driver Views and Behaviors from 2010-2020, by Region and Geography

			Statewide	Region			Geography			Core
Question	Year	Scale	All	East	West	Sig.	Urban	Rural	Sig.	Y/N
Seat Belt Use	2022	1-5	4.75	4.74	4.76		4.82	4.51	**	Y
1=Never to 5=Always	2021		4.69	4.73	4.64		4.75	4.50	**	Y
	2020		4.69	4.74	4.62		4.77	4.48	**	Y
	2019		4.69	4.69	4.68		4.77	4.43	**	Y
	2018		4.72	4.72	4.71		4.78	4.52	**	Y
	2017		4.66	4.69	4.63		4.73	4.46	**	Y
	2016		4.66	4.70	4.61		4.73	4.44	**	Y
	2015		4.61	4.64	4.59		4.68	4.44	**	Y
	2014		4.61	4.63	4.58		4.67	4.40	**	Y
	2013		4.47	4.44	4.50	*	4.54	4.36	**	Y
	2012		4.31	4.37	4.24	*	4.40	4.23	**	Y
	2011		4.42	4.44	4.36	**	4.52	4.21	**	Y
	2010		4.36	4.38	4.36		4.49	4.08	**	Y
2018-2022 Five-Year Average			**4.71**	**4.72**	**4.68**		**4.78**	**4.49**		
2017-2021 Five-Year Average			**4.69**	**4.71**	**4.66**		**4.76**	**4.48**		
2016-2020 Five-Year Average			**4.68**	**4.71**	**4.65**		**4.76**	**4.47**		
2015-2019 Five-Year Average			**4.67**	**4.69**	**4.64**		**4.74**	**4.46**		
2014-2018 Five-Year Average			**4.65**	**4.68**	**4.62**		**4.72**	**4.45**		
2013-2017 Five-Year Average			**4.60**	**4.62**	**4.58**		**4.67**	**4.42**		
2012-2016 Five-Year Average			**4.53**	**4.56**	**4.50**		**4.60**	**4.37**		
2011-2015 Five-Year Average			**4.48**	**4.50**	**4.45**		**4.56**	**4.33**		
2010-2014 Five-Year Average			**4.43**	**4.45**	**4.41**		**4.52**	**4.26**		
Ticket Likely Seat Belt	2022	1-5	3.03	3.04	3.02		3.04	3.02		Y
1=Very Unlikely to 5=Very Likely	2021		3.01	3.10	2.88	*	3.00	3.04		Y
	2020		3.09	3.12	3.04		3.09	3.08	**	Y
	2019		3.15	3.18	3.09	*	3.13	3.19		Y
	2018		3.17	3.14	3.21		3.16	3.21	*	Y
	2017		3.15	3.17	3.12		3.14	3.15	*	Y
	2016		3.29	3.27	3.31		3.26	3.37	**	Y
	2015		3.29	3.38	3.19		3.27	3.35	**	Y
	2014		3.20	3.26	3.14		3.19	3.25	*	Y
	2013		3.17	3.18	3.15		3.10	3.17	**	Y
	2012		3.16	3.24	3.06	*	3.10	3.22		Y
	2011		2.98	2.93	3.10		2.94	3.06		Y
	2010		3.06	3.07	3.04		3.03	3.13		Y
2018-2022 Five-Year Average			**3.09**	**3.12**	**3.05**		**3.08**	**3.11**		
2017-2021 Five-Year Average			**3.11**	**3.14**	**3.07**		**3.10**	**3.13**		
2016-2020 Five-Year Average			**3.17**	**3.18**	**3.15**		**3.16**	**3.20**		
2015-2019 Five-Year Average			**3.21**	**3.23**	**3.18**		**3.19**	**3.25**		
2014-2018 Five-Year Average			**3.22**	**3.24**	**3.19**		**3.20**	**3.27**		
2013-2017 Five-Year Average			**3.22**	**3.25**	**3.18**		**3.19**	**3.26**		
2012-2016 Five-Year Average			**3.22**	**3.27**	**3.17**		**3.18**	**3.27**		
2011-2015 Five-Year Average			**3.16**	**3.20**	**3.13**		**3.12**	**3.21**		
2010-2014 Five-Year Average			**3.11**	**3.14**	**3.10**		**3.07**	**3.17**		
Speed 75 MPH Zone	2022	1-5	2.28	2.19	2.41		2.27	2.31	**	Y
1=Never to 5=Always	2020		2.19	2.13	2.27		2.20	2.16	**	Y
	2019		2.11	2.05	2.19		2.12	2.07	**	Y
	2018		2.14	2.04	2.26		2.15	2.09	**	Y
	2017		2.17	2.08	2.28		2.22	2.02	**	Y
2017-2022 Five-Year Average			2.18	2.10	2.28		2.19	2.13		

Question	Year	Scale	Statewide	Region		Sig.	Geography		Sig.	Core
			All	East	West		Urban	Rural		Y/N
Ticket Likely Speed	2022	1-5	3.56	3.56	3.56		3.54	3.61		Y
1=Very Unlikely to 5=Very Likely	2021		3.67	3.65	3.71		3.64	3.79	*	Y
	2020		3.61	3.56	3.68	**	3.59	3.65	**	Y
	2019		3.75	3.75	3.74		3.72	3.83	**	Y
	2018		3.69	3.64	3.76		3.76	3.67	**	Y
	2017		3.69	3.67	3.72	*	3.67	3.75	**	Y
	2016		3.79	3.76	3.81		3.76	3.87	**	Y
	2015		3.84	3.82	3.87	*	3.84	3.84		Y
	2014		3.72	3.71	3.73		3.71	3.77	**	Y
	2013		3.67	3.66	3.68	*	3.63	3.67		Y
	2012		3.69	3.71	3.66		3.62	3.76	*	Y
	2011		3.62	3.61	3.66		3.76	3.62	*	Y
	2010		3.59	3.61	3.58		3.60	3.58		Y
2018-2022 Five-Year Average			**3.66**	**3.63**	**3.69**		**3.65**	**3.71**		
2017-2021 Five-Year Average			**3.68**	**3.65**	**3.72**		**3.68**	**3.74**		
2016-2020 Five-Year Average			**3.71**	**3.68**	**3.74**		**3.70**	**3.75**		
2015-2019 Five-Year Average			**3.75**	**3.73**	**3.78**		**3.75**	**3.79**		
2014-2018 Five-Year Average			**3.75**	**3.72**	**3.78**		**3.75**	**3.78**		
2013-2017 Five-Year Average			**3.74**	**3.72**	**3.76**		**3.72**	**3.78**		
2012-2016 Five-Year Average			**3.74**	**3.73**	**3.75**		**3.71**	**3.78**		
2011-2015 Five-Year Average			**3.71**	**3.70**	**3.72**		**3.71**	**3.73**		
2010-2014 Five-Year Average			**3.66**	**3.66**	**3.66**		**3.66**	**3.68**		
Arrest for DUI	2022	1-5	3.93	3.89	3.98		3.90	4.03		Y
1=Very Unlikely to 5=Very Likely	2021		3.82	3.85	3.77		3.81	3.86		Y
	2020		3.87	3.84	3.91		3.87	3.87		Y
	2019		3.88	3.90	3.86		3.90	3.85		Y
	2018		3.89	3.83	3.97		3.90	3.87		Y
	2017		3.94	3.90	4.00		3.92	4.02		Y
	2016		3.89	3.86	3.93		3.89	3.90		Y
	2015		3.86	3.90	3.80		3.84	3.89		Y
	2014		3.76	3.71	3.83		3.79	3.69		Y
	2013		3.53	3.54	3.52		3.51	3.53		Y
	2012		3.64	3.67	3.60		3.68	3.61		Y
	2011		3.62	3.61	3.69		3.63	3.65		Y
	2010		3.53	3.59	3.47		3.55	3.49		Y
2018-2022 Five-Year Average			**3.88**	**3.86**	**3.90**		**3.88**	**3.90**		
2017-2021 Five-Year Average			**3.88**	**3.86**	**3.90**		**3.88**	**3.89**		
2016-2020 Five-Year Average			**3.89**	**3.87**	**3.93**		**3.90**	**3.90**		
2015-2019 Five-Year Average			**3.89**	**3.88**	**3.91**		**3.89**	**3.91**		
2014-2018 Five-Year Average			**3.87**	**3.84**	**3.91**		**3.87**	**3.87**		
2013-2017 Five-Year Average			**3.80**	**3.78**	**3.82**		**3.79**	**3.81**		
2012-2016 Five-Year Average			**3.74**	**3.74**	**3.74**		**3.74**	**3.72**		
2011-2015 Five-Year Average			**3.68**	**3.69**	**3.69**		**3.69**	**3.67**		
2010-2014 Five-Year Average			**3.62**	**3.62**	**3.62**		**3.63**	**3.59**		

*Statistically significant difference at the 5% level
**Statistically significant difference at the 1% level

4.2.2 Young Male Driver Group

As with the previous surveys, the selected target group of 18-to-34-year-old high-risk males (HRM) shows significantly different behaviors, exposure levels, and views when compared with other drivers (Table 4.7). (Note that high-risk females were not included in the "other" group. See Section 4.2.3 for results for high-risk females.) In terms of behavior, HRM drivers in this survey are more likely to exhibit behaviors at odds with traffic safety goals, such as driving within two hours of consuming one or two alcoholic beverages (Chi-Sq.=41.820, df=1, $p<0.001$), driving within two hours of consuming three or more alcoholic beverages (Chi-Sq.=39.521, df=1, $p<0.001$), and answering a phone call when driving (F=90.206, df=1, $p<0.001$).

In addition to having higher levels of risky behavior compared with the rest of the North Dakota driver population, young males are also less likely to engage in safe driving behaviors. The high-risk young male drivers surveyed are less likely to wear seat belts than other drivers (F=11.579, df=1, p=0.001). Only 66.5% of young male drivers always wear a seat belt while driving or riding in a vehicle, a number much smaller than the 85.3% of other drivers who always do so. Lower levels of seat belt use likely go hand-in-hand with young male drivers having a lower expectancy for law enforcement to ticket drivers for seat belt violations when compared with the balance of the population (F=5.864, df=1, p=0.016).

Table 4.7 Differences in Driver Views and Behaviors, Young Male Target Group

Question	HRM (n=196)	Other Drivers (n=1,088)	Sig.[1]
Seat Belt Use	4.56	4.79	##
Seat Belt Use, Others	3.79	3.87	
Ticket Seat Belt	2.88	3.05	#
Primary Seat Belt Law	2.83	3.59	##
Speed in 75 MPH Zone	2.65	1.91	##
Ticket Likely Speeding	3.43	3.50	
Higher Speeding Fines	2.47	3.48	##
Safety Corridor	0.44	0.78	**
Chance Arrest for DUI	3.90	3.74	#
Drive After 1-2 Drinks	0.50	0.24	**
Drive After 3+ Drinks	0.15	0.03	**
Use Alternate Sober Driver	4.41	4.40	
Answer Phone While Driving	3.94	2.83	##
Talk While Driving, Others	4.67	4.80	#
Ban Hand-Held Cell Use	2.78	3.74	##
Ticket Distracted Driving	2.74	2.88	

[1]Note: Nominal/Ordinal scales require different tests of significance
**Significant difference at the 1% level for Pearson Chi-Square test
##Significant difference at the 1% level for 1-way ANOVA
#Significant difference at the 5% level for 1-way ANOVA

With regard to safe driving initiatives, the target group of drivers indicated that they have lower support for a primary seat belt law (F=18.793, df=1, p<0.001), lower support for higher speeding fines (F=67.939, df=1, p<0.001), lower support for banning handheld cell phone use while driving (F=45.562, df=1, p<0.001), and are less likely to change driving behavior for the better in a highway safety corridor (Chi-Sq.=17.520, df=1, p<0.001).

Table 4.8 compares the responses of high-risk young males with all other driver groups. It is clear that there are differences in views, behaviors, and attitudes toward various transportation safety topics. The complete list of survey questions is provided in Appendix A.

Table 4.8 Responses for High-Risk Male Drivers

Question		Responses, by Driver Group				
Seat Belt Use	n=1,278	Always	N. Always	Sometimes	Rarely	Never
	Other	85.3%	10.7%	2.6%	0.6%**	0.9%**
	HRM	66.5%	25.2%	6.3%**	1.7%**	0.3%**
Seat Belt Use, Others[1]	n=1,034	Always	N. Always	Sometimes	Rarely	Never
	Other	8.8%	70.1%	20.5%	0.5%**	0.0%**
	HRM	7.7%**	66.3%	23.5%	2.5%**	0.0%**
Ticket Seat Belt Use	n=1,276	V. Likely	Likely	Sw. Likely	Unlikely	V. Unlikely
	Other	10.8%	21.3%	37.3%	23.4%	7.2%
	HRM	10.2%**	18.0%	30.4%	32.2%	9.3%**
Primary Seat Belt Law	n=1,280	St. Favor	Sw. Favor	Neutral	Sw. Oppose	St. Oppose
	Other	36.6%	21.5%	17.8%	12.0%	12.1%
	HRM	20.2%	14.8%**	18.6%	21.1%	25.3%
Speed in 75 MPH Zone	n=1,273	Always	N. Always	Sometimes	Rarely	Never
	Other	1.2%**	5.0%	16.8%	37.1%	39.8%
	HRM	8.7%**	10.8%**	27.6%	42.4%	10.5%**
Ticket Speeding	n=1,281	V. Likely	Likely	Sw. Likely	Unlikely	V. Unlikely
	Other	13.0%	37.3%	38.7%	8.3%	2.6%
	HRM	11.3%**	35.6%	38.3%	14.0%**	0.8%**
Higher Speeding Fines	n=1,280	St. Favor	Sw. Favor	Neutral	Sw. Oppose	St. Oppose
	Other	25.5%	27.1%	26.8%	11.5%	9.0%
	HRM	8.2%**	12.8%**	28.1%	19.9%	31.1%
Safety Corridor[1]	n=645	Yes	No			
	Other	77.7%	22.3%			
	HRM	44.4%	55.6%			
Chance Arrest DUI	n=1,274	V. Likely	Likely	Sw. Likely	Unlikely	V. Unlikely
	Other	26.3%	29.3%	37.0%	6.5%	0.9%**
	HRM	34.1%	30.4%	28.0%	6.6%**	0.9%**
Use Alternate Driver[2]	n=869	V. Likely	Likely	Sw. Likely	Unlikely	V. Unlikely
	Other	64.5%	19.3%	9.9%	3.8%	2.5%**
	HRM	58.8%	26.7%	11.7%**	2.5%**	0.3%**
Drive After 1-2 Drinks	n=1,234	None	1-5 Times	6-10 Times	10+ Times	
	Other	76.1%	22.0%	1.7%**	0.2%**	
	HRM	49.8%	39.1%	4.7%**	6.4%**	
Drive After 3+ Drinks	n=1,089	None	1-5 Times	6-10 Times	10+ Times	
	Other	97.0%	2.8%	0.1%**	0.0%**	
	HRM	85.1%	12.1%**	2.4%**	0.4%**	
Use Phone While Driving	n=1,255	V. Likely	Likely	Sw. Likely	Unlikely	V. Unlikely
	Other	11.6%	23.0%	24.8%	17.6%	23.0%
	HRM	36.7%	38.0%	13.0%**	7.2%**	5.2%**
Talk While Driving, Others	n=1072	Daily	Few/Week	Few/Month	<1/Month	Never
	Other	83.8%	13.5%	1.6%**	0.9%**	0.2%**
	HRM	73.9%	20.8%	4.6%**	0.0%**	0.7%**
Ban Cell While Driving	n=1,276	St. Favor	Sw. Favor	Neutral	Sw. Oppose	St. Oppose
	Other	39.2%	24.2%	15.8%	13.0%	7.9%
	HRM	17.3%	15.8%	19.7%	22.3%	25.0%
Ticket Distracted Driving	n=1,282	V. Likely	Likely	Sw. Likely	Unlikely	V. Unlikely
	Other	7.7%	19.6%	34.9%	28.7%	9.0%
	HRM	4.3%**	19.9%	31.7%	34.0%	10.2%**

Note: Please see Appendix A for exact question and response wording
[1]Note: Percentages do not include those who responded "Do Not Know"
[2]Note: Percentages based only on those North Dakota drivers who report that they consume alcohol
**Estimate uncertain due to limited sample size

4.2.3 Young Female Driver Group

Another driver group with noticeable differences in behaviors and attitudes is that of 18-to-34-year-old high-risk female (HRF) drivers. Like their HRM counterparts, young female drivers tend to exhibit behaviors that are more dangerous than all other drivers. Similarly, their attitudes toward safe driving habits lag behind the balance of the driver population (Table 4.9). When this female driver group was compared with all other drivers, there were statistically significant differences for the majority of variables studied in this report.

Table 4.9 Differences in Driver Views and Behaviors, Young Female Target Group

Question	HRF (n=286)	Other Drivers (n=1,088)	Sig.[1]
Seat Belt Use	4.71	4.79	
Seat Belt Use, Others	3.75	3.87	##
Ticket Seat Belt	3.02	3.05	
Primary Seat Belt Law	3.68	3.59	##
Speed in 75 MPH Zone	2.67	1.91	##
Ticket Likely Speeding	3.63	3.50	##
Higher Speeding Fines	2.78	3.48	##
Safety Corridor	0.75	0.78	
Chance Arrest for DUI	4.15	3.74	##
Drive After 1-2 Drinks	0.36	0.24	*
Drive After 3+ Drinks	0.06	0.03	
Use Alternate Sober Driver	4.55	4.40	##
Answer Phone While Driving	4.14	2.83	##
Talk While Driving, Others	4.70	4.80	
Ban Hand-Held Cell Use	2.98	3.74	##
Ticket Distracted Driving	3.15	2.88	##

[1]Note: Nominal/Ordinal scales require different tests of significance
*Significant difference at the 5% level for Pearson Chi-Square test
##Significant difference at the 1% level for 1-way ANOVA

The 18-to-34-year-old female cohort is more likely to engage in dangerous driving behaviors. This target group has a higher likelihood of driving within two hours of consuming one or two alcoholic beverages (Chi-Sq.=6.425, df=1, p=0.011) and is more likely to answer a phone call when driving (F=181.568, df=1, p<0.001).

With regard to impaired driving, this target group of 18-to-34-year-old females thought that the chance of being arrested for driving under the influence of alcohol was more likely than did other North Dakota drivers (F=43.964, df=1, p<0.001). Perhaps that is why this group was more likely to use an alternate driver than other North Dakotans (F=8.868, df=1, p=0.003).

Like their HRM counterparts, HRFs had lower support for speeding fines (F=35.384, df=1, p<0.001) and lower support for banning handheld cell phone use while driving (F=29.507, df=1, p<0.001). Unlike their counterparts, however, this group of HRF drivers were more likely to support a primary seat belt law (F=10.501, df=1, p=0.001). Table 4.10 provides a complete explanation of how this group compared with the balance of the North Dakota driving population.

Table 4.10 Responses for High-Risk Female Drivers

Question		**Responses, by Driver Group**				
Seat Belt Use	n=1,366	Always	N. Always	Sometimes	Rarely	Never
	Other	85.3%	10.7%	2.6%	0.6%**	0.9%**
	HRF	79.1%	14.9%	4.3%**	1.7%**	0.0%**
Seat Belt Use, Others[1]	n=1,117	Always	N. Always	Sometimes	Rarely	Never
	Other	8.8%	70.1%	20.5%	0.5%**	0.0%**
	HRF	9.1%**	57.5%	32.4%	0.9%**	0.0%**
Ticket Seat Belt Use	n=1,367	V. Likely	Likely	Sw. Likely	Unlikely	V. Unlikely
	Other	10.8%	21.3%	37.3%	23.4%	7.2%
	HRF	9.8%**	22.4%	36.0%	23.7%	8.0%**
Primary Seat Belt Law	n=1,371	St. Favor	Sw. Favor	Neutral	Sw. Oppose	St. Oppose
	Other	36.6%	21.5%	17.8%	12.0%	12.1%
	HRF	36.1%	25.5%	17.7%	11.7%	9.1%**
Speed in 75 MPH Zone	n=1,366	Always	N. Always	Sometimes	Rarely	Never
	Other	1.2%**	5.0%	16.8%	37.1%	39.8%
	HRF	6.7%**	14.4%	30.8%	35.5%	12.7%
Ticket Speeding	n=1,369	V. Likely	Likely	Sw. Likely	Unlikely	V. Unlikely
	Other	13.0%	37.3%	38.7%	8.3%	2.6%
	HRF	16.1%	37.8%	40.0%	5.8%**	0.4%**
Higher Speeding Fines	n=1,370	St. Favor	Sw. Favor	Neutral	Sw. Oppose	St. Oppose
	Other	25.5%	27.1%	26.8%	11.5%	9.0%
	HRF	10.9%	16.2%	32.7%	20.5%	19.7%
Safety Corridor[1]	n=658	Yes	No			
	Other	77.7%	22.3%			
	HRF	74.9%	25.1%**			
Chance Arrest DUI	n=1,365	V. Likely	Likely	Sw. Likely	Unlikely	V. Unlikely
	Other	26.3%	29.3%	37.0%	6.5%	0.9%**
	HRF	44.5%	30.2%	21.9%	2.8%**	0.6%**
Use Alternate Driver[2]	n=945	V. Likely	Likely	Sw. Likely	Unlikely	V. Unlikely
	Other	64.5%	19.3%	9.9%	3.8%	2.5%**
	HRF	66.7%	25.4%	5.2%**	2.0%**	0.8%**
Drive After 1-2 Drinks	n=1,324	None	1-5 Times	6-10 Times	10+ Times	
	Other	76.1%	22.0%	1.7%**	0.2%**	
	HRF	64.0%	32.6%	2.8%**	0.7%**	
Drive After 3+ Drinks	n=1,180	None	1-5 Times	6-10 Times	10+ Times	
	Other	97.0%	2.8%	0.1%**	0.0%**	
	HRF	94.0%	4.7%**	1.1%**	0.2%**	
Use Phone While Driving	n=1,349	V. Likely	Likely	Sw. Likely	Unlikely	V. Unlikely
	Other	11.6%	23.0%	24.8%	17.6%	23.0%
	HRF	42.3%	36.9%	15.4%	3.3%**	2.1%**
Talk While Driving, Others	n=1,160	Daily	Few/Week	Few/Month	<1/Month	Never
	Other	83.8%	13.5%	1.6%**	0.9%**	0.2%**
	HRF	74.7%	20.9%	3.5%**	0.8%**	0.0%**
Ban Cell While Driving	n=1,364	St. Favor	Sw. Favor	Neutral	Sw. Oppose	St. Oppose
	Other	39.2%	24.2%	15.8%	13.0%	7.9%
	HRF	16.2%	24.0%	18.6%	24.2%	16.9%
Ticket Distracted Driving	n=1,371	V. Likely	Likely	Sw. Likely	Unlikely	V. Unlikely
	Other	7.7%	19.6%	34.9%	28.7%	9.0%
	HRF	11.9%	20.5%	40.9%	24.0%	2.7%**

Note: Please see Appendix A for exact question and response wording

[1]Note: Percentages do not include those who responded "Do Not Know"

[2]Note: Percentages based only on those North Dakota drivers who report that they consume alcohol

**Estimate uncertain due to limited sample size

4.2.4 High-Risk Driver Comparisons

The extreme views held by high-risk drivers differ when HRMs are compared directly with HRFs (Table 4.11). These differences are related to perceptions of traffic enforcement and support for safety initiatives.

With regard to perceptions of traffic enforcement, HRFs believe arrests are more likely for impaired driving (F=9.139, df=1, p=0.003). Perhaps this explains why this group is significantly less likely to self-report driving after drinking one or two alcoholic beverages (Chi-Sq.=11.520, df=1, p=0.001) and driving after drinking three or more alcoholic beverages (Chi-Sq.=12.290, df=1, p<0.001). It is clear that the perceived deterrent effect and threat of arrest by HRMs is not as strong as the rest of the driving population. Continued progress must be made to target this group as specifically related to impaired driving behaviors. In addition to impaired driving, females believe tickets are more likely for speeding (F=7.107, df=1, p=0.008) as well as driving while distracted (F=20.532, df=1, p<0.001).

Females had stronger support for safety initiatives compared with their male counterparts. These drivers had the highest level of support for a primary seat belt law (F=39.356, df=1, p<0.001). If state policymakers are to consider another attempt at passing primary seat belt legislation, it would behoove them to target this particular population when encouraging voter turnout. The HRF driver group was also more likely to support higher fines for speed violations (F=6.912, df=1, p=0.009) and were more likely to have positively changed driving behavior in a highway safety corridor (Chi-Sq.=14.795, df=1, p<0.001).

Table 4.11 Differences in Driver Views and Behaviors, High-Risk Drivers

Question	HRM (n=196)	HRF (n=286)	Sig.*1*
Seat Belt Use	4.56	4.71	##
Seat Belt Use, Others	3.79	3.75	
Ticket Seat Belt	2.88	3.02	
Primary Seat Belt Law	2.83	3.68	##
Speed in 75 MPH Zone	2.65	2.67	
Ticket Likely Speeding	3.43	3.63	##
Higher Speeding Fines	2.47	2.78	##
Safety Corridor	0.44	0.75	**
Chance Arrest for DUI	3.90	4.15	##
Drive After 1-2 Drinks	0.50	0.36	**
Drive After 3+ Drinks	0.15	0.06	**
Use Alternate Sober Driver	4.41	4.55	
Answer Phone While Driving	3.94	4.14	
Talk While Driving, Others	4.67	4.70	
Ban Hand-Held Cell Use	2.78	2.98	
Ticket Distracted Driving	2.74	3.15	##

*1*Note: Nominal/Ordinal scales require different tests of significance
**Significant difference at the 1% level for Pearson Chi-Square test
##Significant difference at the 1% level for 1-way ANOVA

On average, HRMs are more dangerous on the roadway than HRFs (Table 4.12). A detailed explanation of how high-risk 18-to-34-year-old drivers compare with all other North Dakota drivers – including longitudinal trends – is presented in Appendix B. In general, high-risk drivers exhibit more dangerous behaviors than do drivers over the age of 35.

Table 4.12 Responses for High-Risk Drivers

Question		**Responses, by Driver Group**				
Seat Belt Use	n=480	Always	N. Always	Sometimes	Rarely	Never
	HRM	66.5%	25.2%	6.3%**	1.7%**	0.3%**
	HRF	79.1%	14.9%	4.3%**	1.7%**	0.0%**
Seat Belt Use, Others[1]	n=453	Always	N. Always	Sometimes	Rarely	Never
	HRM	7.7%**	66.3%	23.5%	2.5%**	0.0%**
	HRF	9.1%**	57.5%	32.4%	0.9%**	0.0%**
Ticket Seat Belt Use	n=475	V. Likely	Likely	Sw. Likely	Unlikely	V. Unlikely
	HRM	10.2%**	18.0%	30.4%	32.2%	9.3%**
	HRF	9.8%**	22.4%	36.0%	23.7%	8.0%**
Primary Seat Belt Law	n=479	St. Favor	Sw. Favor	Neutral	Sw. Oppose	St. Oppose
	HRM	20.2%	14.8%**	18.6%	21.1%	25.3%
	HRF	36.1%	25.5%	17.7%	11.7%	9.1%**
Speed in 75 MPH Zone	n=479	Always	N. Always	Sometimes	Rarely	Never
	HRM	8.7%**	10.8%**	27.6%	42.4%	10.5%**
	HRF	6.7%**	14.4%	30.8%	35.5%	12.7%
Ticket Speeding	n=480	V. Likely	Likely	Sw. Likely	Unlikely	V. Unlikely
	HRM	11.3%**	35.6%	38.3%	14.0%**	0.8%**
	HRF	16.1%	37.8%	40.0%	5.8%**	0.4%**
Higher Speeding Fines	n=482	St. Favor	Sw. Favor	Neutral	Sw. Oppose	St. Oppose
	HRM	8.2%**	12.8%**	28.1%	19.9%	31.1%
	HRF	10.9%	16.2%	32.7%	20.5%	19.7%
Safety Corridor[1]	n=209	Yes	No			
	HRM	44.4%	55.6%			
	HRF	74.9%	25.1%**			
Chance Arrest DUI	n=481	V. Likely	Likely	Sw. Likely	Unlikely	V. Unlikely
	HRM	34.1%	30.4%	28.0%	6.6%**	0.9%**
	HRF	44.5%	30.2%	21.9%	2.8%**	0.6%**
Use Alternate Driver[2]	n=416	V. Likely	Likely	Sw. Likely	Unlikely	V. Unlikely
	HRM	58.8%	26.7%	11.7%**	2.5%**	0.3%**
	HRF	66.7%	25.4%	5.2%**	2.0%**	0.8%**
Drive After 1-2 Drinks	n=476	None	1-5 Times	6-10 Times	10+ Times	
	HRM	49.8%	39.1%	4.7%**	6.4%**	
	HRF	64.0%	32.6%	2.8%**	0.7%**	
Drive After 3+ Drinks	n=459	None	1-5 Times	6-10 Times	10+ Times	
	HRM	85.1%	12.1%**	2.4%**	0.4%**	
	HRF	94.0%	4.7%**	1.1%**	0.2%**	
Use Phone While Driving	n=478	V. Likely	Likely	Sw. Likely	Unlikely	V. Unlikely
	HRM	36.7%	38.0%	13.0%**	7.2%**	5.2%**
	HRF	42.3%	36.9%	15.4%	3.3%**	2.1%**
Talk While Driving, Others	n=466	Daily	Few/Week	Few/Month	<1/Month	Never
	HRM	73.9%	20.8%	4.6%**	0.0%**	0.7%**
	HRF	74.7%	20.9%	3.5%**	0.8%**	0.0%**
Ban Cell While Driving	n=480	St. Favor	Sw. Favor	Neutral	Sw. Oppose	St. Oppose
	HRM	17.3%	15.8%	19.7%	22.3%	25.0%
	HRF	16.2%	24.0%	18.6%	24.2%	16.9%
Ticket Distracted Driving	n=481	V. Likely	Likely	Sw. Likely	Unlikely	V. Unlikely
	HRM	4.3%**	19.9%	31.7%	34.0%	10.2%**
	HRF	11.9%	20.5%	40.9%	24.0%	2.7%**

Note: Please see Appendix A for exact question and response wording

[1]Note: Percentages do not include those who responded "Do Not Know"

[2]Note: Percentages based only on those North Dakota drivers who report that they consume alcohol

**Estimate uncertain due to limited sample size

5. CONCLUSIONS

The annual statewide driver traffic safety survey provides baseline metrics for the Safety Division and others in understanding perceptions and behaviors related to focus issues. A core set of questions was selected to address nationally agreed upon priorities. These include emphases on seat belt use, impaired driving, and speeding. In addition to the core issues, questions were included to better understand views on specific programs and activities. Results show that many North Dakota drivers have adopted safe driving practices, but it is apparent that additional efforts are needed to improve safety on the state's roads.

Two specific recommendations can be made when examining trends that have taken place over the last 13 years of administering this survey. First, there is a continued dichotomy between how urban and rural residents approach the use of a seat belt while operating a vehicle. Results clearly show that rural residents are less likely to use seat belts than their urban counterparts. Improvement in this area must be made to reduce rates of fatalities and serious injuries during crash events by rural North Dakotans. Second, there is a bifurcation in safe driving attitudes, behaviors, and beliefs factoring for whether one is a high-risk 18-to-34-year-old driver. Younger drivers generally engage in dangerous behavior behind the wheel more often and engage in safe practices less often than those over the age of 35.

Further research involving North Dakota driving tendencies can be improved. For instance, future studies involving North Dakota driving habits will be more robust when the response sample more accurately reflects the North Dakota driver population. This particular study would have been improved by having a higher percentage of 35-to-54-year-old drivers included in the response sample. Nonetheless, the response rate for this survey was satisfactory, and most of the desired performance metrics were able to be extrapolated to represent the entire North Dakota driver population.

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APPENDIX A. SURVEY INSTRUMENT

2022 North Dakota Driver Survey

All Responses Are Confidential

1. How often do you use a seat belt when you drive or ride in a motor vehicle?
□ Never □ Rarely □ Sometimes □ Nearly Always □ Always

2. How often do you think others use a seat belt when driving or riding in a motor vehicle?
□ Never □ Rarely □ Sometimes □ Nearly Always □ Always □ Do Not Know

3. What do you think the chance is of getting a ticket if you do not wear your seat belt?
□ Very Unlikely □ Unlikely □ Somewhat Likely □ Likely □ Very Likely

4. Do you favor or oppose a primary seat belt law where law enforcement can stop a vehicle and issue a citation for failure to wear a seat belt?
□ Strongly Oppose □ Somewhat Oppose □ Do Not Favor or Oppose □ Somewhat Favor □ Strongly Favor

5. On a road with a speed limit of 75 mph, how often do you drive faster than 80 mph?
□ Never □ Rarely □ Sometimes □ Nearly Always □ Always

6. What do you think the chance is of getting a ticket if you drive over the speed limit?
□ Very Unlikely □ Unlikely □ Somewhat Likely □ Likely □ Very Likely

7. Do you favor or oppose higher fees/fines for speeding violations?
□ Strongly Oppose □ Somewhat Oppose □ Do Not Favor or Oppose □ Somewhat Favor □ Strongly Favor

8. What do you think the chances for someone's arrest if they drive while under the influence of alcohol or drugs?
□ Very Unlikely □ Unlikely □ Somewhat Likely □ Likely □ Very Likely

9. If drinking or planning to drink alcohol, how likely are you to designate an alternate driver?
□ Do Not Drink □ Very Unlikely □ Unlikely □ Somewhat Likely □ Likely □ Very Likely
→ If you designate an alternative, which do you typically use? □ Designated sober driver □ Ride share (Uber/Lyft) or taxi

10. In the past 60 days, how many times have you driven a motor vehicle within 2 hours after drinking?
1– 2 Alcoholic Drinks? □ none □ 1 – 5 times □ 6 – 10 times □ more than 10 times
3 or More Alcoholic Drinks? □ none □ 1 – 5 times □ 6 – 10 times □ more than 10 times

11. How likely are you to make or answer a phone call while driving?
□ Very Unlikely □ Unlikely □ Somewhat Likely □ Likely □ Very Likely
→ Is it hands-free/ Bluetooth technology? □ Yes □ No

12. For which of the following purposes do you most frequently use your phone while driving?
Select all that apply: □ Phone Calls □ View/Send Text □ Emails □ Social Media □ Maps □ Other Apps □ I do not use

13. How often do you think others talk on their phone while driving?
□ Never □ Less than Once per Month □ Few Times per Month □ Few Times per Week □ Daily □ Do Not Know

14. Do you favor or oppose a ban on hand-held phone use while driving?
□ Strongly Oppose □ Somewhat Oppose □ Do Not Favor or Oppose □ Somewhat Favor □ Strongly Favor

15. What do you think the chance is of getting a ticket for distracted driving?
□ Very Unlikely □ Unlikely □ Somewhat Likely □ Likely □ Very Likely

16. Where have you read, seen, or heard Vision Zero's traffic safety messages within the last 6 months:
□ TV □ Radio □ Online Ad □ Social Media □ Hwy Message Boards □ None

17. When driving in a highway safety corridor, does it positively change your attention to driving or driver behavior?
□ Yes □ No □ Do Not Know

18. Type of Vehicle You Most Often Drive: (select only one)
□ Car □ Pickup □ SUV □ Van □ Motorcycle □ Semi/Large Truck □ Other_____

19. Your age: □ 18 – 24 □ 25 – 34 □ 35 – 44 □ 45 – 54 □ 55 – 64 □ 65 – 74 □ 75 or Older

20. Your gender: □ Male □ Female □ Non-Binary

21. In which North Dakota county do you live? _____

Thank you for your time and participation

APPENDIX B. HIGH-RISK 18-TO-34-YEAR-OLD DRIVER BEHAVIORS/PERCEPTIONS

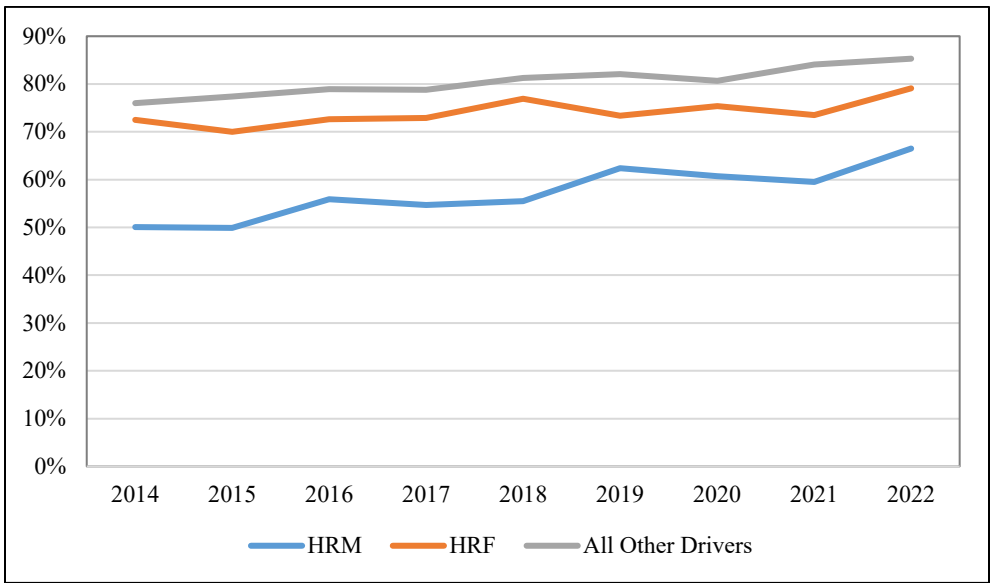

Figure B.1 Drivers Self-Reporting Seat Belt Use as Always

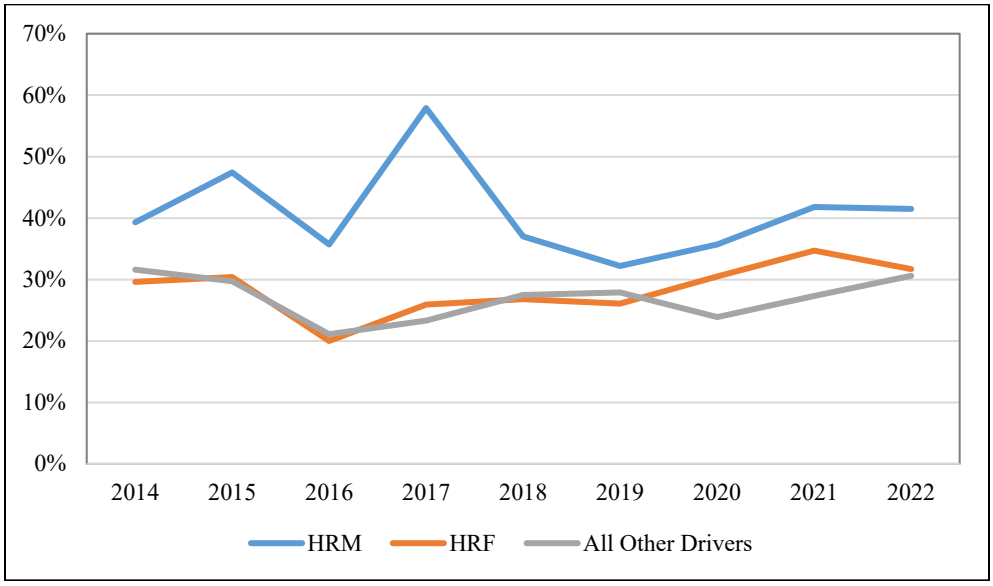

Figure B.2 Drivers Reporting the Perceived Likelihood of Receiving a Ticket for Not Wearing a Seat Belt as Very Unlikely or Unlikely

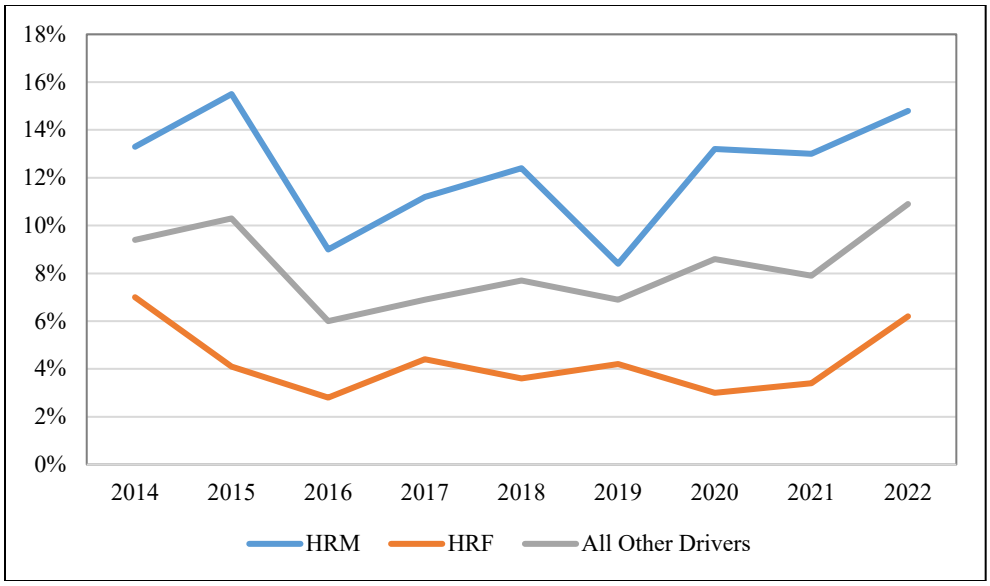

Figure B.3 Drivers Reporting the Perceived Likelihood of Receiving a Ticket for Speeding as Very Unlikely or Unlikely

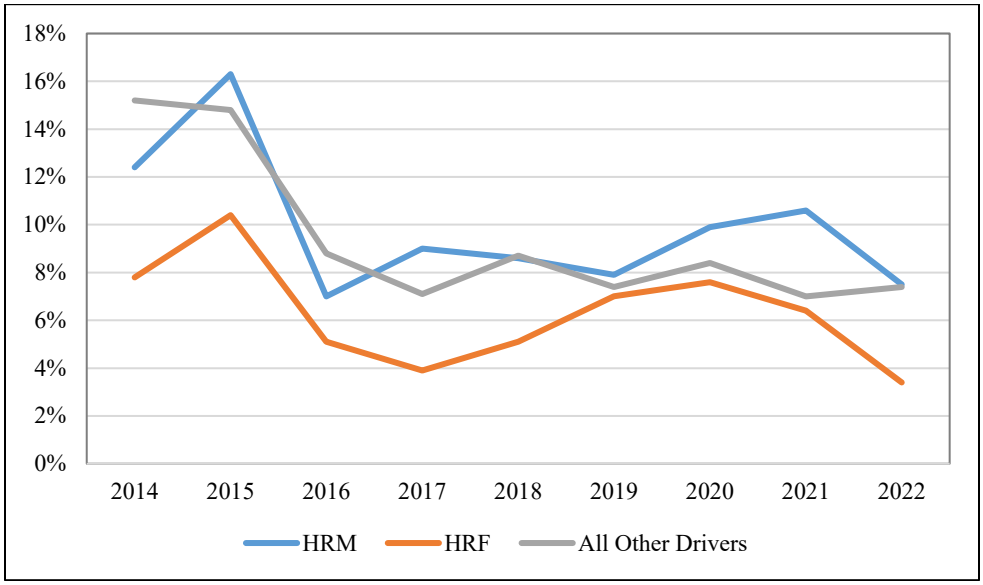

Figure B.4 Drivers Reporting the Perceived Likelihood of Being Arrested for Impaired Driving as Very Unlikely or Unlikely

Table B.1 Longitudinal Response Averages from High-Risk Male Drivers					
Question	Year	Scale	HRM	Other	Sig.
Seat Belt Use	2022	1-5	4.56	4.79	**
1=Never to 5=Always	2021		4.40	4.79	**
	2020		4.41	4.73	**
	2019		4.45	4.75	**
	2018		4.31	4.75	**
	2017		4.36	4.73	**
	2016		4.33	4.71	**
	2015		4.24	4.68	**
	2014		4.26	4.65	**
	2013		4.18	4.52	**
	2012		3.98	4.41	**
	2011		4.18	4.47	**
	2010		4.04	4.43	**
2018-2022 Five-Year Average			**4.43**	**4.76**	
2017-2021 Five-Year Average			**4.39**	**4.75**	
2016-2020 Five-Year Average			**4.37**	**4.73**	
2015-2019 Five-Year Average			**4.34**	**4.72**	
2014-2018 Five-Year Average			**4.30**	**4.70**	
2013-2017 Five-Year Average			**4.27**	**4.66**	
2012-2016 Five-Year Average			**4.20**	**4.59**	
2011-2015 Five-Year Average			**4.17**	**4.55**	
2010-2014 Five-Year Average			**4.13**	**4.50**	
Question	Year	Scale	HRM	Other	Sig.
Ticket Likely Seat Belt	2022	1-5	2.88	3.05	*
1=Very Unlikely to 5=Very Likely	2021		2.78	3.14	*
	2020		2.85	3.18	**
	2019		2.82	3.13	**
	2018		2.94	3.17	**
	2017		2.85	3.19	**
	2016		2.99	3.26	*
	2015		2.83	3.33	**
	2014		2.98	3.23	**
	2013		2.97	3.23	**
	2012		3.06	3.20	**
	2011		2.77	3.03	**
	2010		2.74	3.12	**
2018-2022 Five-Year Average			**2.85**	**3.13**	
2017-2021 Five-Year Average			**2.85**	**3.16**	
2016-2020 Five-Year Average			**2.89**	**3.19**	
2015-2019 Five-Year Average			**2.89**	**3.22**	
2014-2018 Five-Year Average			**2.92**	**3.24**	
2013-2017 Five-Year Average			**2.92**	**3.25**	
2012-2016 Five-Year Average			**2.97**	**3.25**	
2011-2015 Five-Year Average			**2.92**	**3.20**	
2010-2014 Five-Year Average			**2.90**	**3.16**	

Question	Year	Scale	HRM	Other	Sig.
Ticket Likely Speed	2022	1-5	3.43	3.50	
1=Very Unlikely to 5=Very Likely	2021		3.50	3.58	
	2020		3.41	3.58	
	2019		3.57	3.68	
	2018		3.48	3.61	
	2017		3.53	3.66	
	2016		3.59	3.68	
	2015		3.54	3.79	*
	2014		3.47	3.75	**
	2013		3.52	3.71	**
	2012		3.64	3.71	
	2011		3.50	3.65	
	2010		3.47	3.62	**
2018-2022 Five-Year Average			**3.48**	**3.59**	
2017-2021 Five-Year Average			**3.50**	**3.62**	
2016-2020 Five-Year Average			**3.52**	**3.64**	
2015-2019 Five-Year Average			**3.54**	**3.68**	
2014-2018 Five-Year Average			**3.52**	**3.70**	
2013-2017 Five-Year Average			**3.53**	**3.72**	
2012-2016 Five-Year Average			**3.55**	**3.73**	
2011-2015 Five-Year Average			**3.53**	**3.72**	
2010-2014 Five-Year Average			**3.52**	**3.69**	
Question	Year	Scale	HRM	Other	Sig.
Arrest for DUI	2022	1-5	3.90	3.74	*
1=Very Unlikely to 5=Very Likely	2021		3.84	3.80	
	2020		3.80	3.74	*
	2019		3.79	3.76	*
	2018		3.91	3.69	**
	2017		3.89	3.75	**
	2016		3.80	3.66	**
	2015		3.76	3.67	*
	2014		3.89	3.75	**
	2013		3.67	3.49	*
	2012		3.72	3.61	**
	2011		3.65	3.62	
	2010		3.61	3.52	
2018-2022 Five-Year Average			**3.85**	**3.75**	
2017-2021 Five-Year Average			**3.85**	**3.75**	
2016-2020 Five-Year Average			**3.84**	**3.72**	
2015-2019 Five-Year Average			**3.83**	**3.71**	
2014-2018 Five-Year Average			**3.85**	**3.70**	
2013-2017 Five-Year Average			**3.80**	**3.66**	
2012-2016 Five-Year Average			**3.77**	**3.64**	
2011-2015 Five-Year Average			**3.74**	**3.63**	
2010-2014 Five-Year Average			**3.71**	**3.60**	

*Statistically significant difference at the 5% level
**Statistically significant difference at the 1% level

Table B.2 Longitudinal Response Averages from High-Risk Female Drivers

Question	Year	Scale	HRF	Other	Sig.
Seat Belt Use	2022	1-5	4.71	4.79	
1=Never to 5=Always	2021		4.62	4.79	
	2020		4.69	4.73	*
	2019		4.66	4.75	
	2018		4.72	4.75	**
	2017		4.65	4.73	
	2016		4.65	4.71	
	2015		4.60	4.68	
	2014		4.67	4.65	
	2013		4.58	4.51	
2018-2022 Five-Year Average			**4.68**	**4.76**	
2017-2021 Five-Year Average			**4.67**	**4.75**	
2016-2020 Five-Year Average			**4.67**	**4.73**	
2015-2019 Five-Year Average			**4.66**	**4.72**	
2014-2018 Five-Year Average			**4.66**	**4.70**	
2013-2017 Five-Year Average			**4.63**	**4.66**	
Question	Year	Scale	HRF	Other	Sig.
Ticket Likely Seat Belt	2022	1-5	3.02	3.05	
1=Very Unlikely to 5=Very Likely	2021		2.91	3.14	
	2020		3.03	3.18	
	2019		3.18	3.13	*
	2018		3.19	3.17	
	2017		3.14	3.19	
	2016		3.33	3.26	*
	2015		3.30	3.33	
	2014		3.19	3.25	
	2013		3.15	3.25	*
2018-2022 Five-Year Average			**3.07**	**3.13**	
2017-2021 Five-Year Average			**3.09**	**3.16**	
2016-2020 Five-Year Average			**3.17**	**3.19**	
2015-2019 Five-Year Average			**3.23**	**3.22**	
2014-2018 Five-Year Average			**3.23**	**3.24**	
2013-2017 Five-Year Average			**3.22**	**3.26**	

Question	Year	Scale	HRF	Other	Sig.
Ticket Likely Speed	2022	1-5	3.63	3.50	**
1=Very Unlikely to 5=Very Likely	2021		3.77	3.58	**
	2020		3.65	3.58	*
	2019		3.81	3.68	**
	2018		3.78	3.61	**
	2017		3.73	3.66	*
	2016		3.87	3.68	**
	2015		3.89	3.79	**
	2014		3.82	3.72	
	2013		3.76	3.70	
2018-2022 Five-Year Average			**3.73**	**3.59**	
2017-2021 Five-Year Average			**3.75**	**3.62**	
2016-2020 Five-Year Average			**3.77**	**3.64**	
2015-2019 Five-Year Average			**3.82**	**3.68**	
2014-2018 Five-Year Average			**3.82**	**3.69**	
2013-2017 Five-Year Average			**3.81**	**3.71**	
Question	Year	Scale	HRF	Other	Sig.
Arrest for DUI	2022	1-5	4.15	3.74	**
1=Very Unlikely to 5=Very Likely	2021		3.84	3.80	**
	2020		3.99	3.74	**
	2019		3.99	3.76	**
	2018		4.04	3.69	**
	2017		4.09	3.75	**
	2016		4.06	3.66	**
	2015		3.98	3.67	**
	2014		3.95	3.65	**
	2013		3.67	3.44	*
2018-2022 Five-Year Average			**4.00**	**3.75**	
2017-2021 Five-Year Average			**3.99**	**3.75**	
2016-2020 Five-Year Average			**4.03**	**3.72**	
2015-2019 Five-Year Average			**4.03**	**3.71**	
2014-2018 Five-Year Average			**4.02**	**3.68**	
2013-2017 Five-Year Average			**3.95**	**3.63**	

*Statistically significant difference at the 5% level
**Statistically significant difference at the 1% level

APPENDIX C. MISSING/REFUSE TO ANSWER RESPONSES

Q#	Question	Total Responses	Missing Responses
	Seat Belt		
Q1	Seat Belt Use	1,586	9
Q2	Seat Belt Use, Others	1,589	6
Q3	Chance Ticket Seat Belt	1,583	12
Q4	Primary Seat Belt Law	1,589	6
	Speeding		
Q5	Speed 75 MPH Zone	1,583	12
Q6	Chance Ticket Speeding	1,590	5
Q7	Higher Speeding Fines	1,591	4
	Alcohol/Impairment		
Q8	Chance Arrest Drinking	1,583	12
Q9a	Alternate Driver	1,579	16
Q9b	Alternate Driver Type	743	852
Q10a	Drive 1-2 Drinks	1,541	54
Q10b	Drive 3+ Drinks	1,383	212
	Distracted Driving		
Q11a	Answer Phone	1,564	31
Q11b	Hands Free	1,226	369
Q12	Answer Phone Purpose	1,591	4
Q13	Cell Phone Use, Others	1,588	7
Q14	Cell Phone Ban Support	1,585	10
Q15	Chance Ticket Distracted	1,592	3
	Awareness/Exposure		
Q16	RSH *Vision Zero*	1,571	24
Q17	Highway Safety Corridor	1,575	20
Total n=1,595			

APPENDIX D. DRIVER RESPONSES BY REGION AND GEOGRAPHY

Question	Region or Geography, Response					
What are the chances of getting a ticket if you…	Don't wear your seat belt		Drive over the speed limit		Drive after drinking alcohol	
	EAST	WEST	EAST	WEST	EAST	WEST
V. Likely	10.2%	10.5%	14.2%	14.6%	32.9%	37.6%
Likely	22.8%	20.1%	38.7%	35.6%	29.8%	29.7%
Sw. Likely	34.9%	38.7%	37.2%	42.2%	31.8%	27.1%
Unlikely	25.3%	21.7%	8.3%	6.2%	4.9%	4.6%
V. Unlikely	6.7%	8.9%	1.6%**	1.4%**	0.6%**	1.0%**
What are the chances of getting a ticket if you…	Don't wear your seat belt		Drive over the speed limit		Drive after drinking alcohol	
	URBAN	RURAL	URBAN	RURAL	URBAN	RURAL
V. Likely	10.0%	11.4%	14.4%	14.3%	33.8%	38.4%
Sw. Likely	22.4%	19.3%	36.8%	39.9%	28.7%	33.3%
Likely	36.5%	36.5%	39.3%	39.2%	31.8%	23.1%
Unlikely	23.5%	25.2%	7.8%	6.0%	5.2%	3.3%
V. Unlikely	7.6%	7.7%	1.8%**	0.7%**	0.5%**	1.9%**
Times driving after drinking 1-2 drinks in the past 60 days…			None	1-5 Times	6-10 Times	10+ Times
East			70.8%	27.3%	1.6%**	0.4%**
West			67.8%	27.8%	3.3%**	1.1%**
Urban			68.9%	27.9%	2.7%**	0.5%**
Rural			71.6%	26.2%	1.1%**	1.1%**
Times driving after drinking 3+ drinks in the past 60 days…			None	1-5 Times	6-10 Times	10+ Times
East			95.4%	4.4%	0.2%**	0.0%**
West			94.8%	3.7%**	1.3%**	0.2%**
Urban			95.5%	3.8%	0.7%**	0.0%**
Rural			94.0%	5.1%	0.5%**	0.4%**
Seat Belt Use		Always	N. Always	Sometimes	Rarely	Never
East		81.1%	13.4%	4.1%	0.7%**	0.6%**
West		82.7%	12.7%	2.7%**	1.7%**	0.2%**
Urban		87.0%	9.3%	2.5%**	0.7%**	0.5%**
Rural		63.8%	26.4%	7.1%	2.4%**	0.3%**

**Fewer than 30 responses in this group

APPENDIX E. EXPOSURE TO TRAFFIC SAFETY MESSAGES

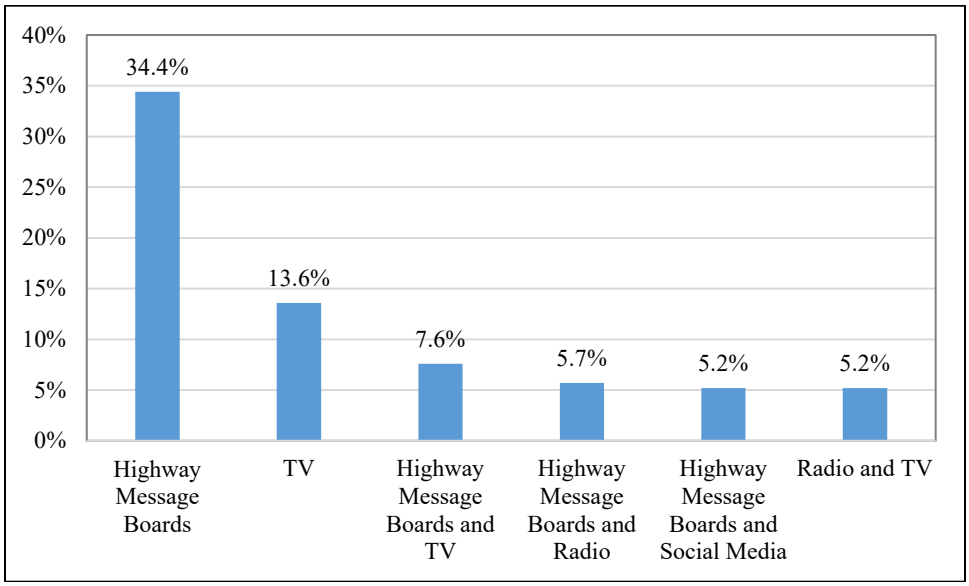

Figure E.1 Exposure to Messages about *Vision Zero*, by Source

APPENDIX F. DRIVER RESPONSES BY VEHICLE TYPE

Table F.1 Seat Belt Use, by Vehicle Type

Vehicle Type	Never or Rarely	Sometimes	Nearly Always or Always
Car	1.2%**	2.3%**	96.5%
Pickup	5.1%**	7.6%	87.2%
SUV	1.1%**	3.6%**	95.3%
Van	0.8%**	0.2%**	98.9%

**Fewer than 30 responses in this group

Table F.2 Times Driving After Consuming 1-to-2 Alcoholic Beverages, by Vehicle Type

Vehicle Type	None	1-5 Times	6-10 Times	10+ Times
Car	76.1%	20.1%	3.4%**	0.4%**
Pickup	65.5%	28.2%	4.6%**	1.6%**
SUV	66.5%	31.4%	1.4%**	0.7%**
Van	75.1%	24.1%**	0.8%**	0.0%**

**Fewer than 30 responses in this group

Table F.3 Times Driving After Consuming 3-Plus Alcoholic Beverages, by Vehicle Type

Vehicle Type	None	1-5 Times	6-10 Times	10+ Times
Car	95.0%	3.9%**	1.1%**	0.0%**
Pickup	89.9%	8.9%	0.3%**	0.9%**
SUV	95.8%	3.6%**	0.5%**	0.0%**
Van	100.0%	0.0%**	0.0%**	0.0%**

**Fewer than 30 responses in this group

APPENDIX G. COUNTY-LEVEL RESPONSES

Table G.1 Seat Belt Use

County*	Never	Rarely	Sometimes	Nearly Always	Always
Barnes	0.0%	1.1%	11.8%	8.7%	78.4%
Burleigh	0.1%	1.4%	1.9%	9.3%	87.3%
Cass	1.0%	0.5%	2.3%	8.0%	88.3%
Grand Forks	0.0%	0.0%	3.6%	12.5%	84.0%
Morton	0.4%	0.4%	4.1%	10.5%	84.5%
Ramsey	0.0%	0.0%	16.6%	11.9%	71.5%
Richland	1.2%	0.0%	1.0%	22.6%	75.2%
Stark	0.0%	0.0%	8.7%	16.6%	74.7%
Stutsman	0.0%	6.4%	8.0%	38.6%	47.1%
Walsh	2.1%	0.0%	41.3%	16.0%	40.6%
Ward	0.0%	3.4%	3.6%	24.9%	68.0%
Williams	1.0%	1.9%	5.4%	25.0%	66.6%

*Only counties with 30 or more responses are included

Table G.2 Chances Ticket No Seat Belt

County*	Very Unlikely	Unlikely	Somewhat Likely	Likely	Very Likely
Barnes	3.0%	28.5%	31.9%	31.8%	4.8%
Burleigh	9.6%	21.8%	38.3%	20.5%	9.7%
Cass	5.2%	27.7%	32.5%	23.2%	11.4%
Grand Forks	9.3%	16.2%	42.0%	26.6%	5.9%
Morton	9.2%	20.3%	39.9%	19.0%	11.6%
Ramsey	0.0%	43.5%	16.8%	24.3%	15.4%
Richland	18.2%	45.2%	15.8%	16.1%	4.7%
Stark	3.0%	30.1%	24.7%	13.9%	28.4%
Stutsman	5.6%	22.9%	55.2%	6.8%	9.5%
Walsh	18.1%	38.7%	25.4%	12.0%	5.8%
Ward	12.1%	20.8%	47.6%	12.8%	6.7%
Williams	1.1%	28.5%	23.8%	25.1%	21.5%

*Only counties with 30 or more responses are included

Table G.3 Support/Opposition for a Primary Seat Belt Law

County*	Strongly Oppose	Somewhat Oppose	Neutral	Somewhat Favor	Strongly Favor
Barnes	9.0%	15.3%	38.3%	24.3%	13.2%
Burleigh	12.8%	12.8%	16.6%	20.6%	37.3%
Cass	7.6%	9.6%	14.3%	23.3%	45.2%
Grand Forks	8.5%	10.5%	21.7%	25.2%	34.1%
Morton	11.7%	14.8%	20.9%	21.7%	30.8%
Ramsey	17.8%	18.0%	14.4%	20.8%	29.0%
Richland	22.5%	3.4%	19.2%	35.9%	18.9%
Stark	16.8%	11.5%	33.7%	16.2%	21.8%
Stutsman	17.6%	21.3%	19.0%	23.4%	18.7%
Walsh	19.7%	13.5%	24.6%	20.5%	21.7%
Ward	14.4%	19.6%	5.8%	32.4%	27.8%
Williams	12.6%	13.4%	20.3%	23.0%	30.7%

*Only counties with 30 or more responses are included

Table G.4 Ticket Likelihood for Speeding

County*	Very Unlikely	Unlikely	Somewhat Likely	Likely	Very Likely
Barnes	0.0%	4.6%	42.7%	30.5%	22.2%
Burleigh	1.7%	7.0%	44.9%	32.7%	13.8%
Cass	2.2%	10.4%	37.2%	36.0%	14.3%
Grand Forks	1.0%	4.0%	34.2%	49.0%	11.8%
Morton	1.1%	4.5%	36.2%	37.0%	21.2%
Ramsey	0.0%	3.0%	31.9%	49.8%	15.4%
Richland	1.3%	6.4%	61.1%	25.5%	5.7%
Stark	1.0%	0.9%	42.7%	37.2%	18.2%
Stutsman	1.8%	8.1%	41.2%	40.1%	8.9%
Walsh	0.0%	16.9%	27.6%	21.2%	34.3%
Ward	0.5%	6.3%	33.7%	47.3%	12.3%
Williams	0.0%	1.9%	41.0%	50.8%	6.4%

*Only counties with 30 or more responses are included

Table G.5 Chances of Arrest for Driving Buzzed/Drunk

County*	Very Unlikely	Unlikely	Somewhat Likely	Likely	Very Likely
Barnes	1.1%	3.8%	14.8%	51.8%	28.5%
Burleigh	0.8%	4.7%	27.8%	30.4%	36.3%
Cass	0.3%	5.7%	36.7%	29.5%	27.9%
Grand Forks	0.5%	5.3%	30.1%	23.9%	40.2%
Morton	0.0%	4.7%	25.7%	26.1%	43.4%
Ramsey	0.0%	0.0%	21.9%	35.8%	42.2%
Richland	1.0%	3.5%	27.3%	47.7%	20.5%
Stark	1.7%	9.0%	22.4%	22.2%	44.7%
Stutsman	0.0%	3.1%	16.3%	52.3%	28.3%
Walsh	0.0%	2.1%	31.0%	9.3%	57.6%
Ward	0.0%	4.4%	27.7%	27.1%	40.8%
Williams	8.5%	0.8%	23.6%	15.6%	51.5%

*Only counties with 30 or more responses are included

Table G.6 Likelihood of Answering Phone While Driving

County*	Very Unlikely	Unlikely	Somewhat Likely	Likely	Very Likely
Barnes	4.9%	7.9%	31.7%	36.1%	19.5%
Burleigh	6.2%	8.7%	18.7%	37.7%	28.7%
Cass	21.8%	14.6%	18.8%	21.7%	23.0%
Grand Forks	14.4%	12.2%	26.0%	30.9%	16.5%
Morton	3.5%	12.5%	21.1%	34.9%	27.9%
Ramsey	5.3%	2.7%	8.6%	33.7%	49.7%
Richland	18.3%	5.5%	5.6%	31.7%	38.9%
Stark	12.9%	0.8%	23.6%	34.2%	28.5%
Stutsman	6.3%	3.6%	14.4%	34.3%	41.5%
Walsh	11.7%	3.6%	20.8%	22.6%	41.3%
Ward	4.8%	6.5%	19.8%	30.6%	38.3%
Williams	4.5%	5.1%	29.0%	42.2%	19.1%

*Only counties with 30 or more responses are included

Table G.7 Likelihood of Getting Ticketed for Distracted Driving

County*	Very Unlikely	Unlikely	Somewhat Likely	Likely	Very Likely
Barnes	1.9%	34.4%	37.7%	3.2%	22.8%
Burleigh	5.1%	29.7%	42.0%	13.8%	9.4%
Cass	6.6%	25.7%	35.6%	22.4%	9.6%
Grand Forks	9.1%	25.8%	32.2%	24.6%	8.3%
Morton	5.1%	29.3%	37.4%	22.0%	6.2%
Ramsey	2.6%	44.3%	19.2%	30.6%	3.3%
Richland	8.3%	24.3%	49.8%	14.8%	2.9%
Stark	4.0%	25.6%	29.8%	16.2%	24.3%
Stutsman	7.7%	28.1%	41.7%	15.7%	6.8%
Walsh	3.1%	19.9%	34.9%	18.4%	23.7%
Ward	8.4%	25.0%	44.8%	17.0%	4.8%
Williams	6.0%	30.8%	36.3%	24.5%	2.4%

*Only counties with 30 or more responses are included

APPENDIX H. CELL PHONE USE WHILE DRIVING

Table H.1 Cell Phone Use Responses

Type of Use	Percent
Phone Calls	28.4%
Maps and Phone Calls	22.3%
Maps, Phone Calls, and Texting	8.4%
Maps	8.4%
Phone Calls and Texting	4.1%
Maps, Other, and Phone Calls	2.4%
Other	0.9%
Maps and Texting	0.9%
Maps and Other	0.9%
Emails, Maps, Other, Phone Calls, Social Media, and Texting	0.6%
Texting	0.5%
Emails, Maps, Phone Calls, and Texting	0.5%
Other and Phone Calls	0.5%
Maps, Phone Calls, Social Media, and Texting	0.4%
Maps, Other, Phone Calls, Social Media, and Texting	0.4%
Maps, Other, Phone Calls, and Texting	0.4%
Social Media and Texting	0.3%
Maps, Other, and Texting	0.3%
Other, Phone Calls, and Texting	0.3%
Phone Calls, Social Media, and Texting	0.2%
Emails, Maps, Other, Phone Calls, and Texting	0.2%
Do Not Use, Maps, Other, and Phone Calls	0.2%
Other, Social Media, and Texting	0.2%
Phone Calls and Social Media	0.1%
Emails, Phone Calls, and Texting	<0.1%
Other and Texting	<0.1%
Emails, Maps, and Social Media	<0.1%
Maps and Social Media	<0.1%
Emails	<0.1%
Do Not Use	18.4%