North Dakota Statewide Traffic Safety Survey, 2012

Traffic Safety Performance Measures for State and Federal Agencies

Prepared for

Traffic Safety Office, Safety Division, North Dakota Department of Transportation

Prepared by

Kimberly Vachal, PhD
Laurel Benson, Research Project Specialist
Andrew Kubas, M.S.

Upper Great Plains Transportation Institute
North Dakota State University, Fargo

September 2012

Disclaimer

This research was supported by the North Dakota Department of Transportation. The contents presented in this report are the sole responsibility of the Upper Great Plains Transportation Institute and the authors.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1. INTRODUCTION

The United States trails other industrialized nations in several safety categories on public roadways. Traffic fatality risk, for example, is substantially higher than in other countries as found in Figure 1.1 (World Health Organization, 2009). Although progress has been made in reducing the number of traffic deaths, crashes that result in fatalities, injuries, and property damage continue to occur as a result of preventable factors such as impaired driving and low rates of seat belt use. These results indicate that more work is needed to improve driver behavior and overall safety on public roads. A critical asset in monitoring and communicating traffic safety priorities is a reliable and comprehensive means to set and measure goals in this effort (Government Accounting Office, 2010). In a national initiative to improve transparency and quantify metrics for behavior-based investments designed to reduce motor vehicle crashes, the Governor's Highway Safety Association (GHSA) and National Highway Traffic Safety Administration (NHTSA) devised a set of performance measures aimed at revealing traffic safety priorities and progress related to behavioral safety plans and programs (NHTSA, 2008).

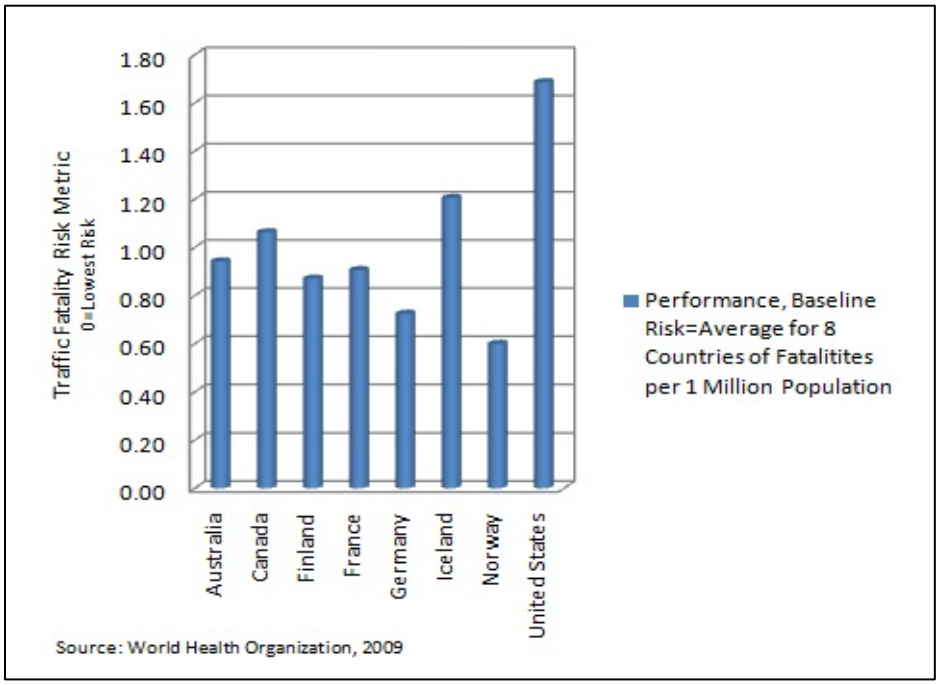

Figure 1.1 International Traffic Fatality Risk for Selected Countries

Within this GHSA-NHTSA effort, 14 measures were agreed upon as *Minimum Performance Measures (MPM)*. These included one behavior, three activity, and ten outcome measure-types. The *Minimum Performance Measures* are designed to create a quantitative core for developing and implementing highway safety plans and programs. Several uses offered for the *MPM* include: goal setting, goal-action linkages, resource allocation, program evaluation, and communication. Other benefits may be found in improvements to organizational focus, feedback processes, and accountability (FHWA, 2009). The measures were defined to monitor overall traffic safety performance as well as progress related to prioritized behavioral issues such as occupant protection, alcohol

use, and speeding. The measures also target high-risk population groups. The 10 outcome measures highlight 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 the existing national Fatality Analysis Reporting System (FARS) to create performance measures in areas common to state safety strategies and data systems. Activity measures focus on actions such as citations or arrests under grant-funded enforcement initiatives. Seat belt observation was selected as the single initial core behavior measure (NHTSA, 2008). The measures used in the outcome highlights are generally calculated as follows:

- Core outcome measures
    - C-1) Number of traffic fatalities (FARS). States are encouraged to report 3-year or 5-year moving averages as appropriate (when annual counts are small enough that random fluctuations may inaccurately reflect true trends). This comment applies to all fatality measures.
    - C-2) Number of serious injuries in traffic crashes (state crash data files).
    - C-3) Fatalities/VMT (FARS, FHWA). States should set a goal for total fatalities/VMT; states should report both rural and urban fatalities/VMT in addition to total fatalities/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 at least a blood alcohol content (BAC) of .08 (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 age 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 (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 *MPM* publication also included four other areas for measuring improvement and implementation. These areas focused on traffic injury outcome; driver attitudes, awareness, and behavior; traffic speed; and law enforcement activity. The survey conducted here fulfills the need for improved measurement of driver attitudes, awareness, and behavior. A core question set was developed by a GHSA-NHTSA working group and presented to state DOTs following the initial *MPM* recommendations (Hedlund et al, 2009).

A set of 10 core questions was designed to quantify attitudes, awareness, and self-reported behavior trends through periodic statewide traffic safety surveys/questionnaires. It was intended that this recommended list of core questions provide a standard for states to track performance as they pursue program goals to reduce crashes, injuries, and fatalities related to high-risk driver behaviors. The core questions will remain consistent among 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.

Currently, federal initiatives relating to driver behavior focus heavily on impaired driving, seat belt use, and speeding. Thus, the core questions focus on these issues (Hedlund et al, 2009). The core questions within the respective focus areas are:

- Impaired Driving
  - ID-1: In the past 60 days, how many times have you driven a motor vehicle within 2 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?
- Safety Belts
  - SB-1: How often do you use safety belts when you drive or ride in a car, van, sport utility vehicle or pick up?
  - 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 safety belt?
- Speeding
  - SP-1a: On a local road with a speed limit of 30 mph, how often do you drive faster than 35 mph?
  - SP-1b: On a road with a speed limit of 65 mph, how often do you drive faster than 70 mph?
  - 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?

These questions have been integrated into the "North Dakota Driver Survey" that was developed in conjunction with the North Dakota Department of Transportation Traffic Safety Office (TSO) (Appendix A). The TSO expanded the survey to gather additional information pertinent to its goals and responsibilities.

The annual Highway Safety Plan (HSP) offers insight for current priorities and activities (NDDOT, 2011). The most recent HSP offers goals related to the overall traffic safety mission, along with specific issues including police training, emergency medical services, traffic records, occupant protection, motorcycle safety, speed management, seat belt use, alcohol-impairment, high-risk drivers, community traffic safety projects, and distracted driving. Metrics are included to indicate progress on the overall safety mission—in light of traffic fatalities and serious injuries. The single core behavior measure shows observed seat belt use at 74.8%. Results here will enhance understanding of behavior by providing more robust coverage, expanded issues, and an increased number of measures.

2. METHOD

A mail survey was selected as the method for the driver traffic safety survey. A draft survey was designed by blending the 10 core questions with additional NDDOT-designated questions related to education, policy, and enforcement. The questions were developed based on a review of literature, including previous surveys of this type, and guidelines offered by the GHSA-NHTSA working group. The mailing to drivers included a TSO cover letter which invited driver participation and explained the survey goals. The survey was mailed to drivers on March 15, 2012, and was open to response until April 15, 2012.

State DOT driver records provided the population for the sampling. Initially, the North Dakota Department of Transportation mail list consisted of 8,000 driver addresses. Prior to mailing, five addresses from this list were identified as duplicates. Of the 7,995 addresses, 448 were flagged as "problem addresses" and were not included in the mailing. From the remaining 7,547 addresses, it was noticed that some regional, geographic, age, and gender demographics were underrepresented in the sample. Thus, 660 addresses were updated from the original list and included in the mailing to ensure that this underrepresentation was mitigated. Of the useable survey responses received, 1,725 were verified as valid responses and form the driver response sample in the analysis.

The sample size was based on a 95% confidence interval, with a 5% confidence level. The expected response was estimated at 20%. Although mail survey response is typically low, with 10% not uncommon, a slightly better response rate was expected because of 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, using state agency mail envelopes, and offering "Do Not Know" options in the survey responses.

A disproportionate stratified random survey sample was used to select drivers. The North Dakota driver region was stratified by region (east/west) and geography (urban/rural). County jurisdictional boundaries were used to define both region and geography (Figure 2.1). In addition, oversampling was conducted for a target driver group of 18-to-34 year-old male drivers.

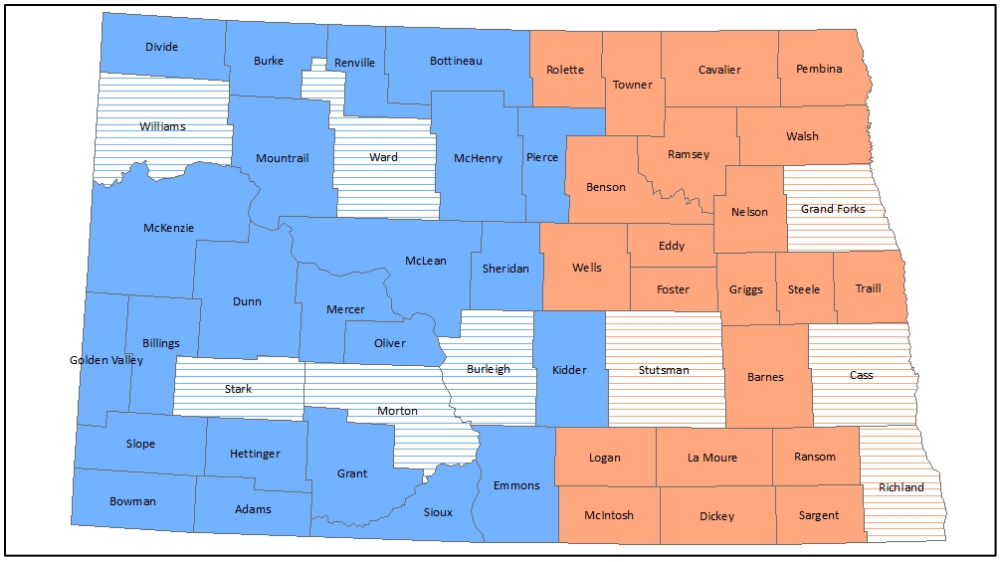

Figure 2.1 County Stratification

The regional geography was defined by aggregating North Dakota health regions into two regions that most closely represented an east/west division of the state. The urban geography includes the largest urban population counties according to the rural and urban population figures in the most recently published US Census data. Four urban counties are located in the east and five in the west, as indicated by the population density geography definitions used in the study. The nine counties represent nearly 95% of the urban population in the state. The sampling probabilities for the survey are shown in Table 2.1.

Table 2.1 Sampling Probabilities

REGION	GEOGRAPHY	DRIVER AGE/SEX	SAMPLING PROBABILITY
East	Urban	18-34M	0.034
East	Urban	Other	0.006
East	Rural	18-34M	0.072
East	Rural	Other	0.012
West	Urban	18-34M	0.039
West	Urban	Other	0.007
West	Rural	18-34M	0.104
West	Rural	Other	0.018

A disproportionate stratified sampling structure was used to elicit sufficient driver participation to allow robust analysis of responses by region, geography, and a target driver group. Using these simple average responses, however, would provide skewed results in representing the statewide driver population. For example, drivers age 25 to 34 were 42% of the survey sample and account for 31% of the survey responses. However, this age cohort accounts for only 18% of the driver population in the state. Therefore, the post-stratification weighting process is used to give an appropriate weight to responses for statewide estimates. Results from post-stratification consider North Dakota registered driver age, gender, and location in weighting to reflect the views, perceptions, and behaviors of the statewide driving population. Note that questions with 30 or fewer 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.

3. RESPONSE

Survey response rate was 21.0% with 1,725 valid responses received from the sample mailing to 8,207 drivers. As expected, oversampling of the 18-34 year-old male driver target group was needed to achieve a sample sufficient for statistical analysis. The target group response rate was 11.2% compared to 31.4% for other drivers. Sampling to elicit response by region and geography was successful as shown in Table 3.1. The 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 Number of Responses (Percentage)		
		Urban	Rural	**Total**
R	East	436	481	917
E		(26.4%)	(29.1%)	(55.5%)
G	West	354	381	735
I		(21.4%)	(23.1%)	(44.5%)
O	**Total**	790	862	1652
N		(47.8%)	(52.2%)	
Frequency Missing: 73				

The sample design did not account for age or gender beyond the target male group. Responses have an acceptable distribution among age cohorts (Table 3.2) and an acceptable distribution among gender. The highest share of responses is among drivers age 25-34; this age cohort makes up 31.4% of the survey responses. The 18-24 and 75+ age cohorts make up the lowest proportion of the survey responses with only 5.5% and 3.8% of the total valid responses coming from these two groups, respectively. Nonetheless, there are well over 30 responses from each age cohort, making statistical extrapolation possible and allowing for inferences to be made via generalizations of the entire North Dakota driver population. Response rates varied by gender. Although the North Dakota driver population roughly divided equally between male and female, survey responses were 39.4% female and 60.6% male. Although the response rates do not reflect the true proportions of male and female drivers in North Dakota, the number of responses based on gender provides sufficient data to expand these responses to represent the North Dakota driver population.

Table 3.2 Response by Age Group

	Survey		Population	
Age Group	Responses	Share	Drivers	Share
18-24	94	5.5%	61,899	12.7%
25-34	536	31.4%	87,561	18.0%
35-44	244	14.3%	70,424	14.4%
45-54	241	14.1%	89,356	18.3%
55-64	343	20.1%	79,762	16.4%
65-74	184	10.8%	44,310	9.1%
75 and Older	64	3.8%	38,505	7.9%
Frequency Missing: 19				

Information regarding drivers' annual travel provides background for understanding statewide driving activity. The expected trend in driving activity is that as drivers age, the number of annual miles traveled decreases. This expected trend is evident in the average annual miles traveled summarized in Figure 3.1. A majority of drivers in the 25-34, 35-44, 45-54, and 55-64 age cohorts report driving more than 10,000 miles per year. Responses show 54.0% of 18-24 year-olds, 64.8% of 65-74 year-olds, and 91.2% of those over the age of 75 drive less than 10,000 miles annually. Roughly 37% of 45-54 year-olds reported driving more than 15,000 miles yearly. This was the largest proportion among the individuals driving more than 15,000 miles per year. In a stark contrast, only 1.9% of those over the age of 75 reported driving more than 15,000 miles annually. Approximately one-third of 65-74 year-old reported traveling less than 5,000 miles in a year. Among North Dakota drivers over the age of 75, 62.2% stated that they drive less than 5,000 miles per year. With the exception of drivers over the age of 75, all age cohorts responded that a majority of their traveling is greater than 5,000 but less than 15,000 miles per year.

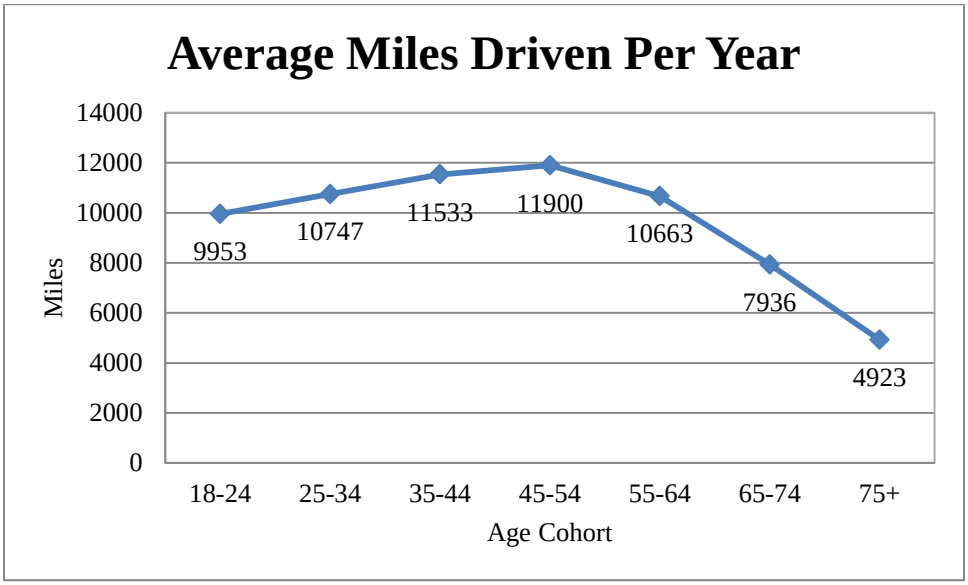

Figure 3.1 Average Miles Driven per Year, by Age

In North Dakota, the western portion of the state is generally associated with more miles driven annually. Similarly, it is assumed that rural residents travel more frequently than urban residents. Thus, one would expect residents from the western region of the state and residents from rural backgrounds to travel further on average than their eastern and urban counterparts. When age is broken down by both region and geography, it becomes apparent that drivers from the western part of the state and drivers from rural areas do drive more, on average, than other drivers (Table 3.3). As a whole, drivers from the western half of the state travel farther annually than drivers from the eastern part of the state in every age cohort with the exception of 25-34 and 35-44 year-olds. Responses indicate that rural residents, on average, drive farther than urban residents in every single age cohort. The annual travel is important in understanding travel patterns and exposure for traffic safety assessments.

Table 3.3 Annual Miles Driven by Age, Factoring for Region and Geography

Age	East	West	Urban	Rural
18-24	9,238	10,457	9,718	10,677
25-34	11,345	10,194	10,509	11,188
35-44	**12,177**	11,293	**11,385**	11,990
45-54	11,714	**12,577**	10,738	**13,222**
55-64	10,278	11,533	9,846	12,284
65-74	7,735	9,951	7,444	10,611
75 and older	4,833	11,352	4,834	8,529

Bold: Highest in region or geography

Among drivers from the eastern half of the state, 35-44 year-olds drive the most at an average of 12,177 miles annually. For drivers from the western part of the state, 45-54 year-olds travel the most per year. In the nine urban counties 35-44 year-olds have the highest rate of annual travel. In rural North Dakota, 45-54 year-olds drive the most at 13,222 miles annually. The largest discrepancy in annual travel is between eastern and western drivers over the age of 75. Eastern drivers older than 75 only travel 4,833 miles annually while those drivers over the age of 75 from the western half of the state drive an average of 11,352 miles per year, a difference of over 6,500 miles. Differences in levels of driving activity may influence views and perceptions of traffic safety. This information is also valuable in understanding and interpreting information regarding crashes, injuries, fatalities, and assessing driver risk. Specific information regarding driver responses is provided in Table 3.4.

Table 3.4 Annual Driving Activity by Age Group

Driver Age	Less than 5,000	5,000 to 10,000	10,000 to 15,000	More than 15,000
18-24	10.3%	43.7%	32.7%	13.3%
25-34	7.4%	39.8%	33.3%	19.5%
35-44	9.7%	30.9%	28.3%	31.1%
45-54	10.1%	28.4%	24.7%	36.7%
55-64	14.8%	33.2%	25.4%	26.7%
65-74	34.6%	30.2%	27.0%	8.2%
75+	62.2%	28.9%	6.9%	1.9%

Frequency Missing: 23

Table 3.5 and Table 3.6 reveal that driving activity varies by region and geography. Regional summaries show a majority of drivers in the east (56.2%) drive less than 10,000 miles annually and a majority of drivers in the west (51.9%) drive more than 10,000 miles annually. Drivers from the western part of the state have a higher percentage of those who drive between 5,000 and 10,000, 10,000 and 15,000, and more than 15,000 miles annually. A greater percentage of drivers from the eastern half of the state drive less than 5,000 miles per year.

Table 3.5 Annual Driving Activity by Region

Region	Less than 5,000	5,000 to 10,000	10,000 to 15,000	More than 15,000
East	23.3%	32.9%	26.3%	17.5%
West	10.2%	37.9%	29.2%	22.7%

Frequency Missing: 77

In the rural areas of the state, a majority of drivers travel more than 10,000 miles per year. About a 19% larger share of the population in rural areas report traveling more than 10,000 miles per year at 60.5% compared to 41.8% for their urban counterparts. The regional and geographic summaries of travel activity show that the western region of the state and the rural portion of the state have the highest share of residents traveling more than 15,000 miles per year. Regional differences in annual driving activity were not statistically significant (F=1.480, p=0.218). Geographic differences in yearly travel, however, were statistically significant at the 1% level (F=4.987, p=0.002).

Table 3.6 Annual Driving Activity by Geography

Geography	Less than 5,000	5,000 to 10,000	10,000 to 15,000	More than 15,000
Urban	22.1%	36.1%	26.2%	15.6%
Rural	7.8%	31.7%	30.7%	29.8%

Frequency Missing: 77

4. RESULTS

Responses to survey questions provide valuable insight into driver perceptions, attitudes, and behaviors concerning traffic safety. Simple frequency analysis of ordinal and dichotomous survey responses provides a general characterization of driver views and behaviors. Additionally, the scale responses can be transformed into ordinal values to help quantify responses between scale extremes to allow for some statistical testing of relationships and means. The higher-than-expected 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 are aimed at three specific issues: impaired driving, seat belt use, and speeding. Response frequencies for the 10 core questions are included in Table 4.1. The table includes 2010 and 2011 responses to establish metrics that may be used to identify North Dakota driving trends. Responses show drivers believe law enforcement is more likely to ticket for speeding violations than for drunk driving or seat belt violations. Frequencies show that 62.3% of drivers believe chances are higher than average that drivers who speed will be ticketed, compared to 62.2% and 45.2% who believe there is a greater-than-average likelihood that drivers will be ticketed for drinking or seat belt violations, respectively. Differences between perceptions of getting a ticket for speeding and driving after drinking are not statistically significant (Chi-Sq.=12.548, df=16, p=0.705 for 1-2 drinks; Chi-Sq.=16.051, df=16, p=0.449 for 3+ drinks).

Among respondents who do drink alcohol, 73.1% report that they have driven a vehicle within two hours of drinking one or two drinks at least once during the past two months. Of those who drink, 15.1% reported driving a vehicle at least four times in the last two months within two hours of consuming one or two alcoholic beverages. Among those respondents who do drink alcohol, a smaller proportion, 29.4%, indicated that they had operated a vehicle within two hours of having three or more drinks at least once.

With regard to speeding, 7.0% and 7.4% of drivers report high levels of speeding activity—considering those who answered “always” or “nearly always” to the questions on 30 mile per hour and 65 mile per hour speed zones, respectively. Drivers are more likely to speed on the 30 mile per hour road, with only 15.2% of the drivers reporting that they “never” speed on these roads compared to 23.5% of drivers who “never” speed on the 65 mile per hour roads.

The share of drivers reporting that they always use their seat belt when driving or riding in a vehicle is substantially lower than the information presented by the core behavior metric of 74.8%. Driver self-reported use collected here shows that only 62.8% “always” wear a seat belt with another 26.9% indicating usage as “nearly always.” The 62.8% of drivers who “always” wear a seat belt represents a decrease of just over five percentage points compared to 2011. Only 3.8% of drivers report “rarely” or “never” using their seat belts, an increase of ½ of a percentage point compared to last year.

Responses to awareness of public media or other education messages about traffic safety related to drinking, speeding, and seat belt issues shows speed enforcement is least often read, seen, or heard as a traffic safety topic. In fact, overall exposure rates to messages about speed enforcement declined from 2010 to 2011 and then again from 2011 to 2012. This is a stark contrast to messages about drunk driving and seat belt enforcement: exposure rates to these two safety topics increased both from 2010 to 2011 and from 2011 to 2012. Considering these trends and driver's perceptions that there is a relatively high risk for ticketing, it seems as though enforcement determines driving attitudes and actions more so than education. Drivers are most likely to have been exposed to enforcement messages associated with drunk driving, with 89.5% of drivers answering positively.

Table 4.1 Core Question Responses

Core	Survey Question	Responses					
ID-1	In the past 60 days, times driving a vehicle within 2 hours after drinking 1-2 drinks?						
		Do Not Drink	Do Drink, by Times Driving (=40.6% of Respondents)				
			0[#]	1[#]	2 to 3[#]	4 to 6[#]	7 or more[#]
	2012	59.4%	26.9%	28.5%	29.5%	10.3%	4.8%*
	In the past 60 days, times driving a vehicle within 2 hours after drinking 3 or more drinks?						
		Do Not Drink	Do Drink, by Times Driving (=24.5% of Respondents)				
			0[#]	1[#]	2 to 3[#]	4 to 6[#]	7 or more[#]
	2012	75.5%	70.6%	11.5%	13.2%	3.5%*	1.2%*
ID-2	Have you recently read, seen, or heard anything about drunk driving enforcement?						
		Yes	No				
	2012	89.5%	10.5%				
	2011	87.0%	13.0%				
	2010	85.0%	15.0%				
ID-3	Chance of someone getting arrested if they drive after drinking alcohol?						
		Very Likely	Sw. Likely	Likely	Unlikely	V. Unlikely	
	2012	32.5%	29.7%	25.9%	10.3%	1.6%	
	2011	31.3%	26.7%	26.7%	12.6%	2.7%	
	2010	25.0%	26.0%	31.0%	15.0%	4.0%	
SB-1	How often do you use seat belts when you drive or ride in a vehicle?						
		Always	N. Always	Sometimes	Rarely	Never	
	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%	
SB-2	Have you recently read, seen, or heard anything about seat belt law enforcement?						
		Yes	No				
	2012	84.7%	15.3%				
	2011	82.8%	17.2%				
	2010	77.0%	23.0%				
SB-3	What do you think the chance is of getting a ticket if you don't wear your seat belt?						
		Very Likely	Sw. Likely	Likely	Unlikely	V. Unlikely	
	2012	17.1%	28.1%	26.6%	23.7%	4.5%	
	2011	16.0%	22.6%	25.3%	25.0%	11.2%	
	2010	14.0%	26.0%	23.0%	26.0%	10.0%	
SP-1a	On a road with 30 mph speed limit, how often do you drive faster than 35 mph?						
		Always	N. Always	Sometimes	Rarely	Never	
	2012	0.6%*	6.4%	31.6%	46.3%	15.2%	
	2011	1.1%*	3.5%	32.9%	47.3%	15.2%	
	2010	1.0%	4.0%	31.0%	47.0%	17.0%	
SP-1b	On a road with 65 mph speed limit, how often do you drive faster than 70 mph?						
		Always	N. Always	Sometimes	Rarely	Never	
	2012	1.1%*	6.3%	23.5%	45.6%	23.5%	
	2011	1.2%*	6.2%	27.3%	44.9%	20.5%	
	2010	1.0%	5.0%	22.0%	45.0%	28.0%	
SP-2	What do you think the chance is of getting a ticket if you drive over the speed limit?						
		Very Likely	Sw. Likely	Likely	Unlikely	V. Unlikely	
	2012	28.7%	33.6%	28.8%	7.4%	1.5%*	
	2011	28.0%	31.3%	29.1%	9.5%	2.1%	
	2010	26.0%	30.0%	28.0%	12.0%	4.0%	
SP-3	Have you recently read, seen, or heard anything about speed enforcement?						
		Yes	No				
	2012	34.2%	65.8%				
	2011	35.8%	64.2%				
	2010	57.0%	43.0%				

Note: Please see Appendix A for exact question and response wording.
*Estimate uncertain due to limited sample size
[#]Due to wording changes in ID-1, some respondents provided check marks rather than numerical data. Percentages for "Do Not Drink" and "Do Drink" were calculated by including check mark and numerical data. Percentages for "Do Drink, by Times Driving" were calculated by only using responses with numerical data.

The relationship between behavior and the enforcement expectations and education awareness has an unexpected result. One would presume an inverse relationship between a negative behavior—such as speeding—and a related education or enforcement influence, as measured by read, seen, or heard exposure levels and perceived likelihood for ticketing, respectively. As illustrated in Figure 4.1, driver responses are not consistent with this expectation as the lowest expectation for a ticket is associated with the lowest reported levels of negative behavior in the seat belt issue. With seat belts, 45.2% of drivers have more than an average expectation of receiving a ticket for not wearing a seat belt, but only 3.8% report perceiving a greater-than-average chance of receiving a ticket. With drinking, 62.2% see a greater-than-average chance for a ticket. A larger share, 7.2%, report a more-than-average likelihood that they will drive after drinking. Almost identically, 62.3% of drivers think there is a greater than average chance for a ticket while speeding and 7.2% of drivers report that they have a higher-than-average likelihood of speeding while driving. The education influence is mixed, considering responses to the read, seen, or heard questions. The highest levels of reported exposure and negative behavior are reported for driving after drinking. One exception is for seat belt education. Results indicate that driver seat belt use is positively associated with higher levels of seat belt education.

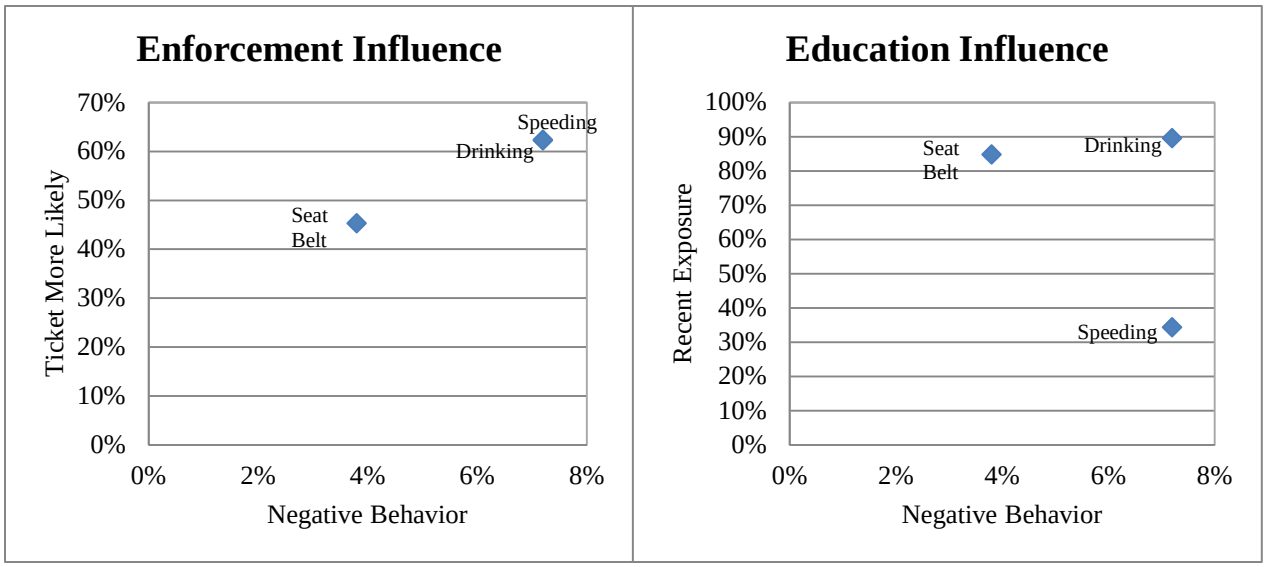

Figure 4.1 Driver Action Related to Enforcement and Education, Core Questions

To further investigate relationships among the core questions and issues that may be related, measures of association are calculated for driver responses. The Pearson coefficient measures the strength of association between two variables; in this case the driver responses. Correlation coefficients range from -1 to +1, with values closer to these extremes considered strong relationships. Relationships between -0.5 and +0.5 are generally considered weak and inconsequential. For example, although the "seat belt use" and "ticket for not wearing a seat belt" variables do have the expected positive relationship at Pearson Corr.=0.123, the correlation measure shows that less than 2% of their variability is shared. Although statistically significant relationships are found among many responses, the Pearson correlation calculations suggest that there are no strong relationships among all of the questions or within issues (Table 4.2).

Two values indicating a substantive relationship, albeit a weak one, are for speeding on a 30 mile per hour road and speeding on a 65 mile per hour road (Pearson Corr.=0.528, p<0.001, n=1,714). These two variables share roughly 28% of their variability. Questions regarding propensity for speeding on local roads are related for the 30 and 65 mile per hour roads, but the relationship is weak, indicating that the questions address different perceptions of driving behaviors. 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 levels and thus are not considered substantive.

Table 4.2 Correlations in Core Question Responses

	ID1b	ID2	ID3	SB1	SB2	SB3	SP1a	SP1b	SP2	SP3: Ticket for Speed
ID1a: Drive After Drinking 1-2 Drinks	.484** .000	.097* .011	.100** .008	.069 .067	.123** .001	.105** ..006	-.023 .540	-.066 .083	.142** .000	.068 .073
ID1b: Drive After Drinking 3+ Drinks		-.018 .739	-.053 .326	-.091 .089	-.004 .938	-.082 .130	.108* .045	.155** .004	.073 .180	-.077 .151
ID2: Read, Seen, or Heard Impaired Driving			.080** .001	.015 .540	.498** .000	.051 .035	.011 .651	.016 .520	.211** .000	.050* .040
ID3: Arrest for Drinking				.074** .002	.100** .000	.394** .000	-.036 .141	-.021 .383	.101** .000	.418** .000
SB1: Seat Belt Use					-.043 .077	.123** .000	-.089** .000	-.150** .000	.031 .205	.082** .001
SB2: Read, Seen, or Heard Seat Belt						.097** .000	-.028 .258	-.025 .305	.260** .000	.059* .015
SB3: Ticket for Seat Belt							-.076** .002	-.125** .000	.143** .000	.489** .000
SP1a: Speed on 30 MPH								**.528** .000**	-.046 .062	-.124** .000
SP1b: Speed on 65 MPH									-.054* .028	-.121** .000
SP2: Read, Seen, or Heard Speed										.078** .002

**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 decision and policymakers with queries related to traffic safety enforcement and education programs, policy, 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 traffic safety knowledge, driver preferences, driver behavior, distracted driving, and motorcycle travel.

In terms of traffic safety knowledge, roughly three in four (76.8%) respondents believe that education and enforcement programs in North Dakota have encouraged drivers to make safer driving decisions compared to last year. About 7 in 10 (70.7%) drivers believe that greater police

presence increases the use of safety belts while driving. A total of 64.3% of respondents indicated that they had recently read, seen, or heard information about sobriety checkpoints.

Table 4.3 Other Question Responses

Survey Question	**Responses**				
Traffic Safety Knowledge/Tools					
			YES	NO	DNK
Are education and enforcement programs encouraging ND driers to make safer driving decisions compared to last year?			76.8%[#]	23.2%[#]	62.1%
Greater police presence increases seat belt use.			70.7%[#]	29.3%[#]	18.5%
Have you recently read, seen, or heard traffic safety ads relating to sobriety checkpoints?			64.3%	35.7%	
Driver Preferences					
	St. Favor	Sw. Favor	Neutral	Sw. Oppose	St. Oppose
Do you favor or oppose…					
Higher fines for speeding?	16.1%	24.2%	33.4%	15.9%	10.5%
Harsher DUI penalties?	47.3%	22.4%	21.1%	5.6%	3.6%
Primary seat belt law?	22.7%	26.9%	17.8%	12.6%	20.0%
Driver Behavior					
		YES	NO	DID NOT SEE AD	
In the past year, did you get a speeding ticket?		6.6%	93.4%	n/a	
Did you increase seat belt use after seeing the NDDOT television ad, "Wear It For Them?"		27.2%[#]	72.8%[#]	46.2%	
Driver Distraction					
	Daily	Few/Week	Few/Month	<1/Month	Never
Cell Phone Text	3.1%	7.2%	12.5%	16.6%	60.7%
Cell Phone Talk	18.5%	23.4%	24.1%	15.6%	18.5%
In the past year, have you had to brake suddenly or steer to avoid a collision because you were driving drowsy?			YES 6.2%	NO 93.8%	
In the past year, have you had to brake suddenly or steer to avoid a collision because you were distracted?			YES – INSIDE 4.4%	YES – OUTSIDE 14.4%	NO 81.2%
Motorcycle Information					
		YES	NO		
Do you ride a motorcycle?		11.1%	88.9%		
If yes…					
What protective gear do you wear?	Full Protective Gear		Helmet	Leathers	None
	35.4%*		26.8%*	16.1%*	21.6%*

[#]Percentages calculated based on those who answered "Yes" or "No"
*Percentages calculated based on those who do drive a motorcycle

In regard to driver preferences, opinions were mixed regarding what issues were favored and opposed (Figure 4.2). A substantially higher number of respondents (47.3%) strongly favored harsher penalties for those who receive a DUI compared to those who strongly favor higher fines for speeding (16.1%) and those who strongly favor having a primary seat belt law in North Dakota (22.7%). The proportion of individuals strongly opposing the primary seat belt law (20.0%) was considerably higher than the proportion of drivers strongly opposing higher fines for

speeding (10.5%) and harsher DUI penalties (3.6%). Responses to two issues—having harsher DUI penalties and creating a primary seat belt law in North Dakota—appear to be concentrated at the extremes of either favoring or opposing the issues. In contrast, approximately one-third of respondents considered themselves neutral on the issue of having higher fines for speeding. Responses to the question about having higher fines for speeding appear to follow somewhat of a bell curve, peaking at those who feel neutral towards the issue.

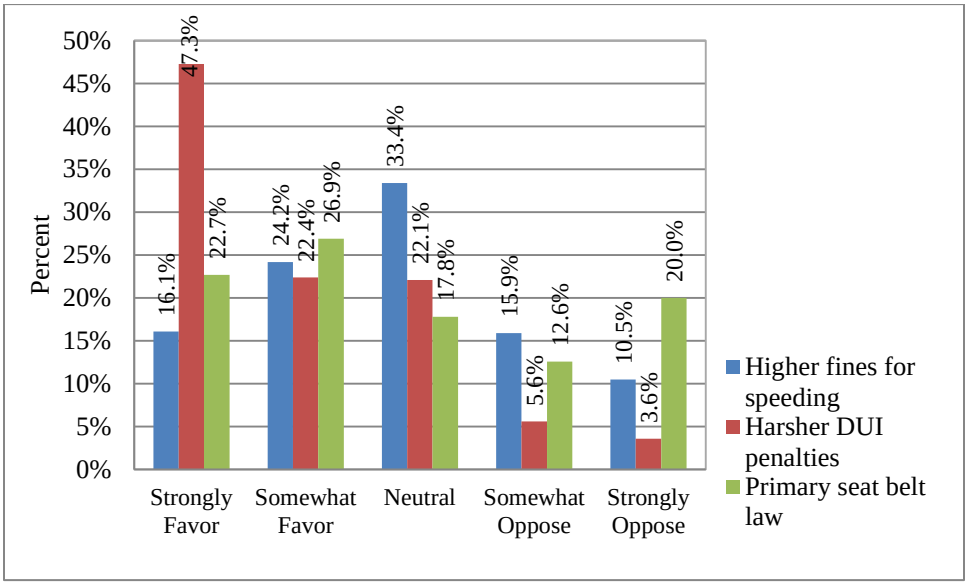

Figure 4.2 Driver Preferences

Some initial trends can be observed in driver preferences between 2010 and 2012. Note that the three questions highlighted in Figure 4.2 were not addressed in the 2011 survey. In terms of those drivers who prefer having higher fines for speeding offenders, results were relatively equal between the 2010 and 2012 surveys (Figure 4.3). There was a modest increase among drivers who indicated that they either "somewhat favor" higher speeding fines or feel "neutral" on the subject. There was a decrease of 5% among respondents who revealed that they "strongly oppose" having higher fines for speeding infractions.

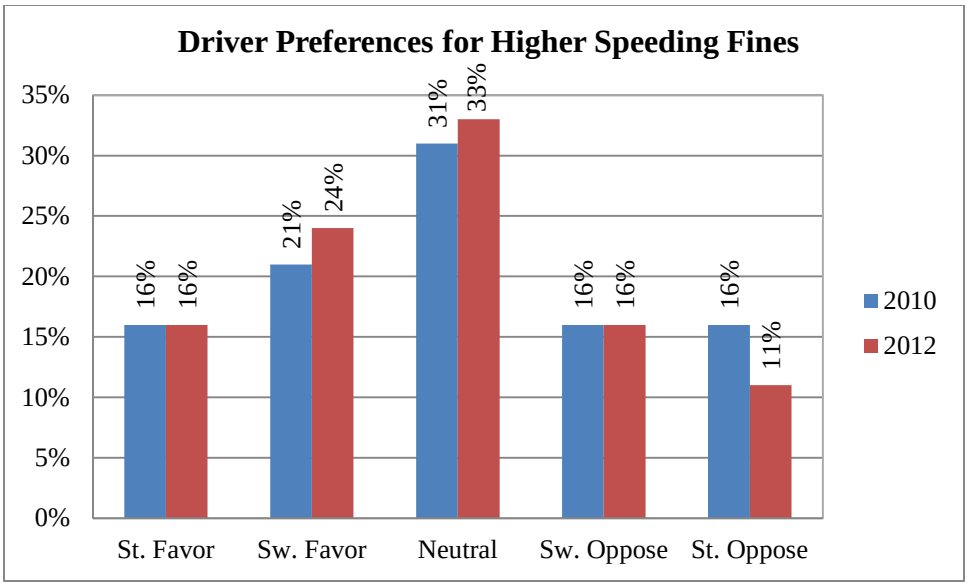

Figure 4.3 Driver Preferences for Higher Speeding Fines

There were minimal changes from 2010 to 2012 in terms drivers' preferences for having harsher penalties for those who choose to drive while impaired (Figure 4.4). There were slight decreases in all four categories measuring one's likelihood to favor or oppose harsher DUI penalties. The only response category that had an increase between 2010 and 2012 was for those responding that they are neutral on the issue.

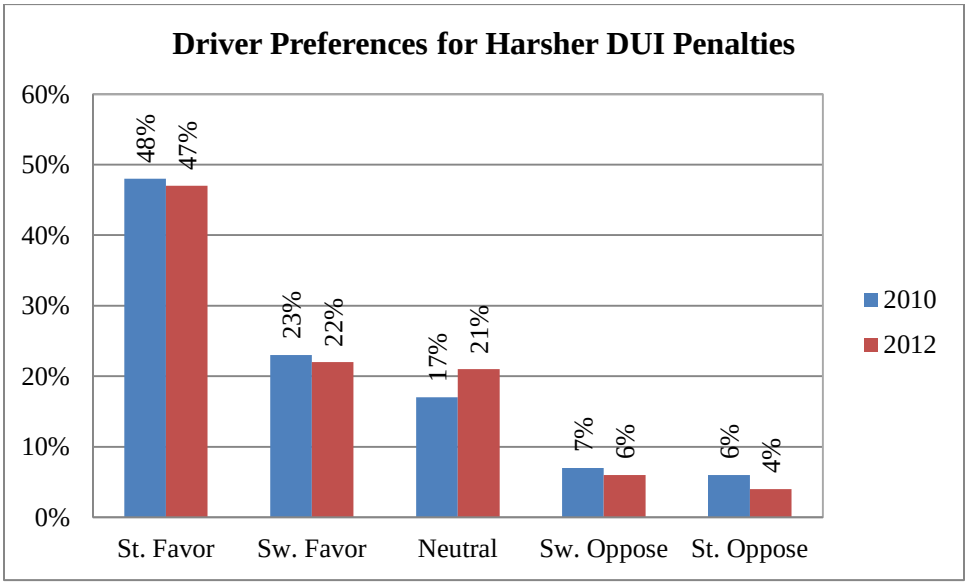

Figure 4.4 Driver Preferences for Harsher DUI Penalties

The area with the most noticeable change is driver preferences towards having a primary seat belt law in North Dakota (Figure 4.5). Compared to 2010, only half as many 2012 respondents reported that they "strongly favor" a primary seat belt law. Whereas individuals who "somewhat favor" a primary seat belt law rose by 2% during the period studied, those who indicated that they either "somewhat oppose" or "strongly oppose" a primary seat belt law more than doubled from 2010 to 2012. It is unknown why such a dramatic shift occurred between the two years studied. Identical parameters were used in the survey design and administration during the previous three studies. Moreover, the same weighting procedures were applied to the samples. It is unknown if external factors have influenced attitudes towards having a primary seat belt law in the state.

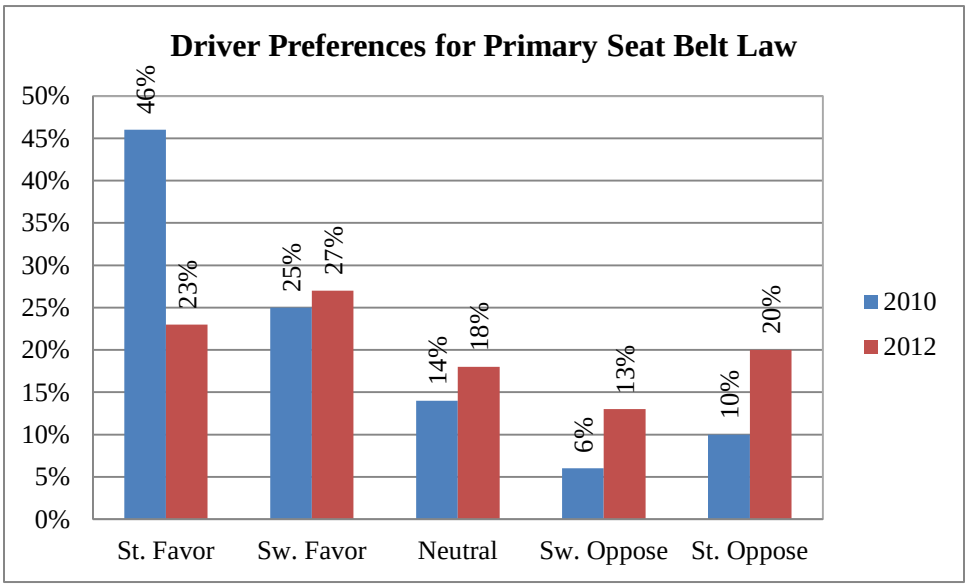

Figure 4.5 Driver Preferences for Primary Seat Belt Law

Driver behavior varies significantly by demographic. Two behavior variables were addressed in this survey: one dealt with whether or not the respondent received a speeding ticket within the last year, the other highlighted exposure to the "Wear It For Them" ad created by the North Dakota Department of Transportation. High-risk young males (HRM) are an 18-34 year-old targeted demographic known for engaging in particularly dangerous driving behaviors. It is not surprising that this particular group had the highest rates of those who had received a speeding ticket within the last year (Figure 4.6). Of all high-risk young males surveyed in this study, 14.1% had received a speeding ticket in the last 12 months. Roughly one in ten (10.0%) rural respondents revealed that they had received a speeding ticket within the last year. Similarly, 7.9% of drivers from the western half of the state indicated that they received a ticket for speeding within the last year. This likely goes hand-in-hand with the fact that western and rural residents drive more frequently and thus have a higher opportunity of getting a ticket. Males were more likely to receive a speeding ticket than their female counterparts, although their overall number may have been inflated by the high-risk young male demographic. Rates of receiving a speeding ticket for females, non-high-risk young males, eastern residents, and urban residents are relatively comparable: all of these four demographics had between a 5.3% and 5.8% rate of getting a speeding ticket within the last year.

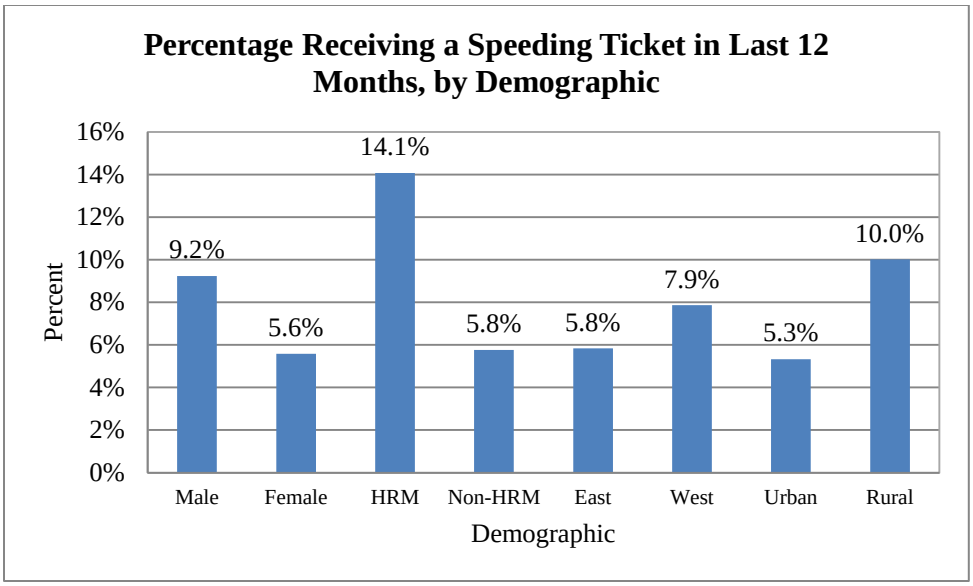

Figure 4.6 Driver Behavior, by Speeding Ticket in the Last Year

In terms of driver behavior regarding seat belt safety, television and radio ad campaigns are a common way to promote messages of driver safety. The North Dakota Department of Transportation continued using the "Wear It For Them" ad initially created in 2011. The ad depicts a crash in which an unbelted teen driver strikes and kills his belted sister during the force of impact from a collision (the video can be viewed at http://www.youtube.com/watch?v=JAYSt5Ra8rA). According to the driver survey, of those who saw the commercial, 27.2% increased seat belt usage after viewing that public safety ad. This is a slight decline from the 30.4% that increased seat belt usage after seeing the ad in 2011. There is a clear trend between 2011 and 2012: the percentage of respondents who increased their seat belt use after viewing the "Wear It For Them" advertisement decreased among every response group except high-risk young males (Figure 4.7). The largest decrease was among rural residents. Whereas 40.8% of rural residents increased seat belt use after seeing the ad in 2011, only 29.3% increased seat belt use in 2012. This may be in part because of those who already responded in 2011 with increased seat belt use. Unlike every other response group, high-risk young males actually increased their seat belt use more often after viewing the ad than they did in 2011. Whereas the ad influenced 21.3% of high-risk young males to wear seat belts more often in 2011, it directly influenced 23.7% of high-risk young males in 2012. This is important to note as this is a key target group that has new entrants each year.

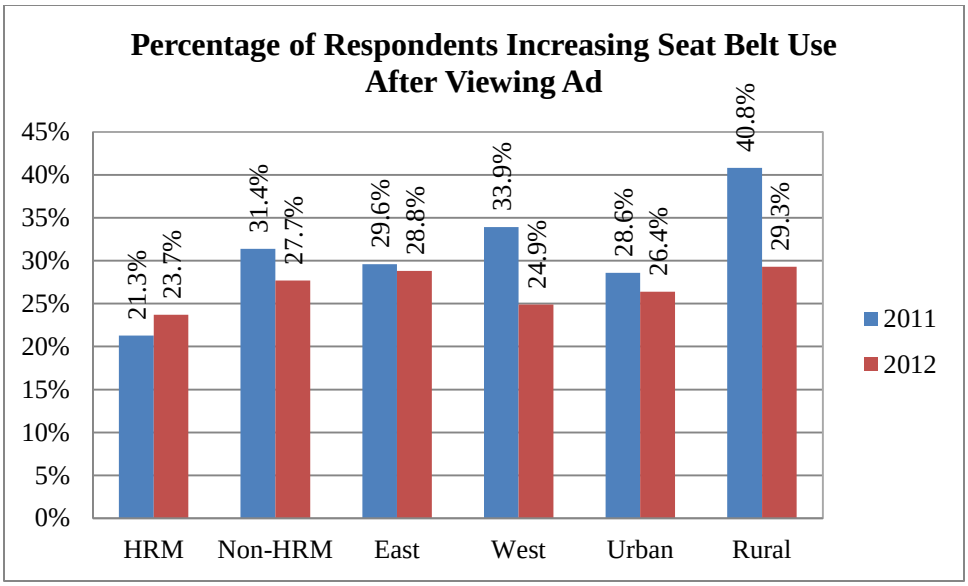

Figure 4.7 "Wear It" Ad Increased Seat Belt Use, by Response Group

Four 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 and sudden braking and swerving due to distractions or drowsy driving. In terms of cell phone distractions, results in 2012 were comparable to 2011 (Figure 4.8). Questions on cell phone use for texting and talking indicate that about 1 in 10 drivers engage in cell phone communication to multitask while driving daily. The share of drivers who admitted to texting daily while driving is 3.1%. Drivers are more likely to use their cell phone for talking while driving with 18.5% of drivers confirming that they do this daily. The relative impact of limiting these activities varies substantially as 60.7% say that they currently "never" text while driving compared to only 18.5% who "never" talk on the cell phone while driving.

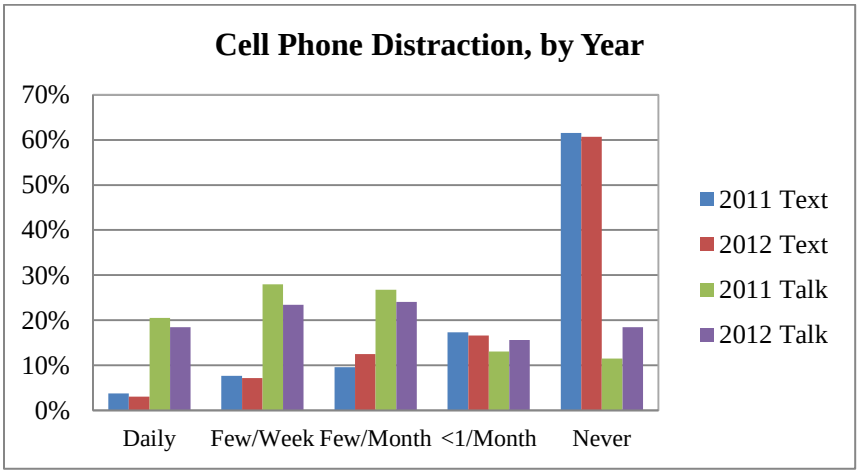

Figure 4.8 Cell Phone Distraction While Driving, by Year

Two new questions in the 2012 North Dakota statewide driver survey dealt with having to suddenly brake or swerve in order to avoid an accident. The questions asked if drivers had to suddenly brake or swerve because of inside or outside distractions or if drivers had to suddenly brake or swerve to avoid an accident because they were driving while drowsy. Of the drivers

responding, 18.8% said they had to suddenly brake or swerve because of an inside or outside distraction. With regard to these distractions, 4.4% of drivers indicated that the distraction occurred inside of the vehicle, with 14.4% indicating that an outside distraction caused them to either brake or swerve suddenly. Only 6.2% of drivers said that they had to brake or swerve to avoid an accident because they were driving drowsy. Nonetheless, the results from the 2012 survey will provide a baseline for metrics that can be improved upon in upcoming years.

Motorcyclists are often identified as a driver group that is at a relatively high risk for crash injury or fatality. Figure 4.9 highlights recent trends in motorcyclist behavior in North Dakota. Motorcycle safety precautions are considerably different than for their automobile counterparts. Approximately 11.1% of the driving population operates a motorcycle. Of these individuals, only 26.8% said they wear a helmet while driving. This is a considerable decrease from the 41.3% who reported that they wore a helmet while operating motorcycle in 2011. Among respondents, 35.4% of motorcyclists reported that they wear full protective gear while driving. This is a slight increase from the self-reported 33.1% of motorcyclists wearing full protective gear last year. Whereas in 2011 about one in nine motorcyclists wore leathers, in 2012 roughly one in six chose to do so. In 2011, 13.9% of motorcyclists reported wearing no protective gear whatsoever. This number increased to 21.6% in 2012. Clearly, in North Dakota there is room for improvement with regard to motorcycle safety in the future.

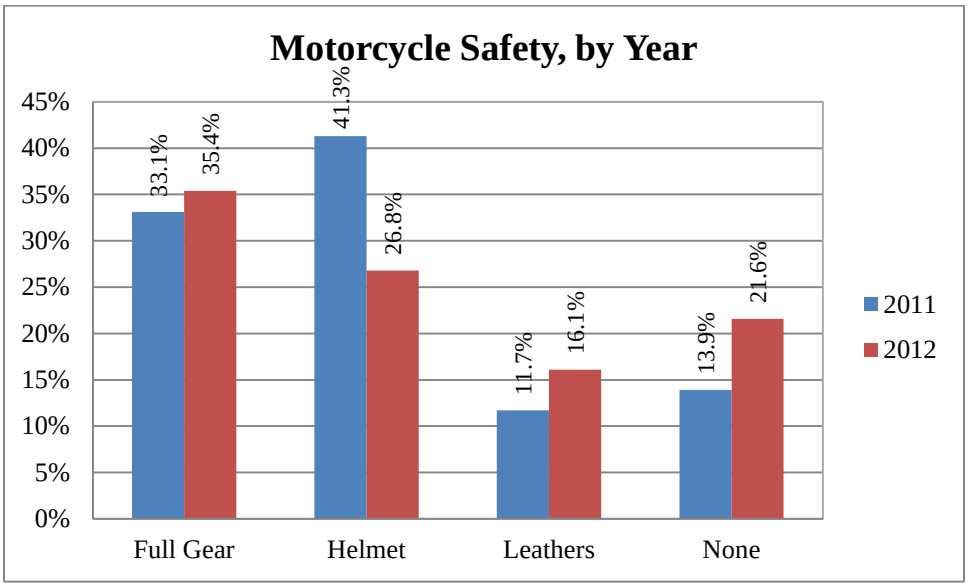

Figure 4.9 Motorcycle Safety, by Year

Note that there is a distinct relationship between seat belt use and the amount of protective gear worn by motorcyclists (Figure 4.10). Those who “always” or “nearly always” wear a seat belt are much more likely to wear full protective gear or a helmet while operating a motorcycle. Similarly, those who “rarely” or “never” wear a seat belt while operating an automobile are more likely to wear no protective gear whatsoever or only wear leathers while driving a motorcycle. This is an expected relationship and explains that safety precautions may not be linked to the type of vehicle being operated but, rather, are linked to the individual operating the vehicle. Behaviors and attitudes towards safety do not appear to be contingent upon the type of vehicle being driven but instead appear to stem from the operator’s opinions on safety.

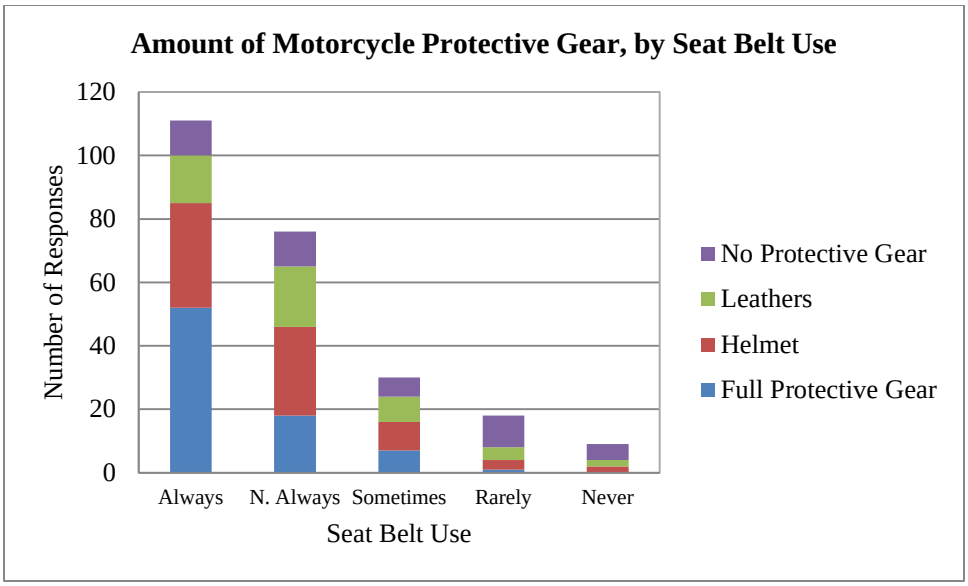

Figure 4.10 Motorcycle Protective Gear, by Seat Belt Use 2012

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 may be beneficial to investigate differences within the driver population to determine if they perceived or substantiated. This information may be valuable in more effectively allocating traffic safety resources and conducting program assessments, and focusing programs and strategies beyond traditional typical statewide treatment. To more easily quantify and manage the discussion of driver responses in the strata, numeric values are assigned to the descriptive answers to create ordinal scales. These transformations also allow for expanded statistical analysis of responses. The scale definitions are provided in Table 4.4.

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 driver group can be distinguished as a high-risk driver population. 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 value for drivers surveyed statewide, along with regional and rural/urban comparisons. Statewide survey averages show 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 4.3. This number is below the goal of 5.0—which is equivalent to "always" in the driver survey response. Table 4.6 shows changes in mean values from 2010 to 2012. The principle 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.

Table 4.4 Quantitative Scale Definitions for Responses

Q#	Question	Scale	Conversion Values
1	Education Programs	0-1	0=No, 1=Yes
2	Seat Belt Use	1-5	1=Never to 5=Always
3	Police Presence SB	0-1	0=No, 1=Yes
4	Ticket Likely Seat Belt	1-5	1=Very Unlikely to 5=Very Likely
5	Ticket Likely Speeding	1-5	1=Very Unlikely to 5=Very Likely
6	30 MPH Zone	1-5	1=Never to 5=Always
7	65 MPH Zone	1-5	1=Never to 5=Always
8	Higher Fines for Speeding	1-5	1=Strongly Oppose to 5=Strongly Favor
9	Drinking Arrest	1-5	1=Very Unlikely to 5=Very Likely
10a	Drive After Drinking 1-2	0-7	0=0; 1=1; 2 or 3=2.5; 4 to 6=5; 7 or more=7
10b	Drive After Drinking 3+	0-7	0=0; 1=1; 2 or 3=2.5; 4 to 6=5; 7 or more=7
11	DUI Penalties	1-5	1=Strongly Oppose to 5=Strongly Favor
12a	RSH Seat Belt	0-1	0=No, 1=Yes
12b	RSH Speeding	0-1	0=No, 1=Yes
12c	RSH Drunk Driving	0-1	0=No, 1=Yes
12d	RSH Sobriety Checkpoint	0-1	0=No, 1=Yes
13	Speeding Ticket	0-1	0=No, 1=Yes
14	“Wear It For Them” Ad	0-1	0=No, 1=Yes
15	Primary Seat Belt Law	1-5	1=Strongly Oppose to 5=Strongly Favor
16	Cell Phone Text	1-5	1=Never to 5=Daily
17	Cell Phone Talk	1-5	1=Never to 5=Daily
18	Inside/Outside Distraction	0-1	0=No, 1=Yes
19	Driving Drowsy	0-1	0=No, 1=Yes
20	Motorcycle	0-1	0=No, 1=Yes

The regional and geographic strata were tested for significant differences. Driver views and self-reported behaviors showed some regional variation in comparing drivers from the east and west. Similar responses for exposure to policy opinions were found when comparing drivers from opposite sides of the state. In all, there were 10 issues that were statistically significant by region and 11 issues that were statistically significant in rural/urban comparisons.

There were significant regional differences in driving behaviors and attitudes. In terms of issues with seat belts, drivers in the east were more likely to wear a seat belt and more often thought that a ticket was likely for not wearing a seat belt than their western counterparts (Chi-Sq.=10.386, df=4, p=0.034; Chi-Sq.=13.268, df=4, p=0.010). Drivers in the east were more likely to think that education and enforcement programs encourage drivers to make safer driving decisions (Chi-Sq.=10.693, df=1, p=0.001). Attitudes about whether or not police presence increases seat belt use were statistically significant at the 1% level with eastern residents agreeing with this statement more often than western North Dakotans. Drivers from the western half of the state were more likely to speed in a 65 mile per hour zone, were less likely to have had exposure to traffic safety ads regarding sobriety checkpoints, and were less likely to support a primary seat belt law. Respondents from western North Dakota were also statistically more likely to use their cell phone while driving—both for texting and talking (Figure 4.11).

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

		Statewide	Region			Geography		
Question	Scale	All	East	West	Sig.	Urban	Rural	Sig.
Education Programs	0-1	0.77	0.82	0.71	**	0.71	0.83	**
Seat Belt Use	1-5	4.31	4.37	4.24	*	4.40	4.23	**
Police Presence SB	0-1	0.66	0.71	0.61	**	0.64	0.69	*
Ticket Likely Seat Belt	1-5	3.16	3.24	3.06	*	3.10	3.22	
Ticket Likely Speeding	1-5	3.69	3.71	3.66		3.62	3.76	*
30 MPH Zone	1-5	2.33	2.30	2.35		2.34	2.32	
65 MPH Zone	1-5	2.19	2.11	2.29	**	2.23	2.15	*
Higher Fines for Speeding	1-5	3.07	3.10	3.03		3.09	3.06	
Drinking Arrest	1-5	3.64	3.67	3.60		3.68	3.61	
Drive After Drinking 1-2[#]	0-7	2.12	2.26	1.93		2.10	2.14	
Drive After Drinking 3+[#]	0-7	0.69	0.72	0.66		0.61	0.79	
DUI Penalties	1-5	3.80	3.78	3.82		3.84	3.76	
RSH Seat Belt	0-1	0.88	0.89	0.86		0.85	0.90	*
RSH Speeding	0-1	0.38	0.39	0.36		0.36	0.39	
RSH Drunk Driving	0-1	0.90	0.90	0.90		0.90	0.90	
RSH Sobriety Checkpoint	0-1	0.65	0.77	0.51	**	0.65	0.66	
Speeding Ticket	0-1	0.08	0.08	0.08		0.08	0.08	
"Wear It For Them" Ad	0-1	0.26	0.26	0.26		0.23	0.29	*
Primary Seat Belt Law	1-5	2.88	2.98	2.75	*	2.95	2.81	*
Cell Phone Text	1-5	1.71	1.67	1.75	*	1.82	1.60	**
Cell Phone Talk	1-5	3.23	3.15	3.32	*	3.27	3.20	*
Inside/Outside Distraction	0-1	0.19	0.18	0.20		0.23	0.15	**
Driving Drowsy	0-1	0.07	0.05	0.08		0.07	0.06	
Motorcycle	0-1	0.16	0.14	0.19	*	0.17	0.16	

[#]"Drive After Drinking" frequencies are calculated only for drivers who do drink
*Significant difference at the 5% level for Pearson Chi-Square test
**Significant difference at the 1% level for Pearson Chi-Square test

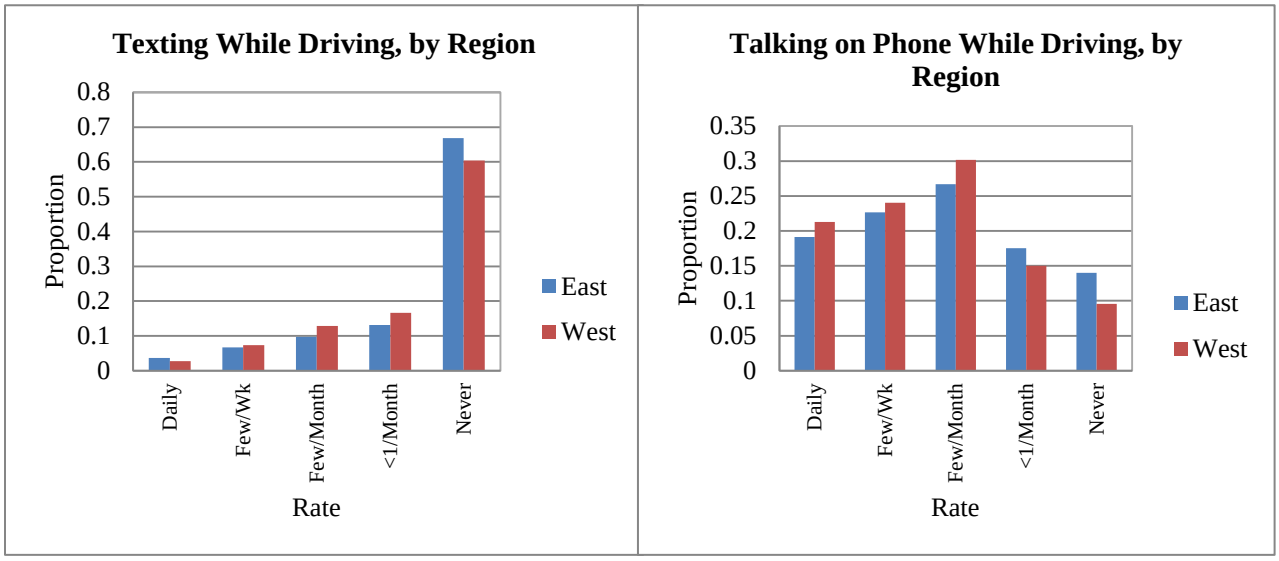

Figure 4.11 Cell Phone Distractions, by Region

Many of the issues that were statistically significant by region were also statistically significant when comparing rural and urban drivers. Rural residents were more likely to believe that education and enforcement programs improve driving decisions (Chi-Sq.=14.342, df=1, $p<0.001$). Rural respondents were also more likely to think that greater police presence increases seat belt use by drivers (Chi-Sq.=4.457, df=1, p=0.035). Rural residents were less likely to speed in a 65 mile per hour zone than their urban counterparts (Chi-Sq.=10.490, df=4, p=0.033). Differences between urban and rural seat belt use was statistically significant at the 1% level with urban residents being more likely to use a safety belt (Chi-Sq.=39.102, df=4, $p<0.001$). Urban residents were less likely to have had exposure to safety ads relating to seat belt use and were also less likely to increase their seat belt use after viewing the "Wear It For Them" advertisement. Urban residents were more likely to favor the primary seat belt law and were significantly more likely to have had a distraction inside or outside of the vehicle forcing the driver to brake or swerve suddenly within the last 12 months. Rural residents were significantly less likely to text or talk on the phone while driving (Figure 4.12).

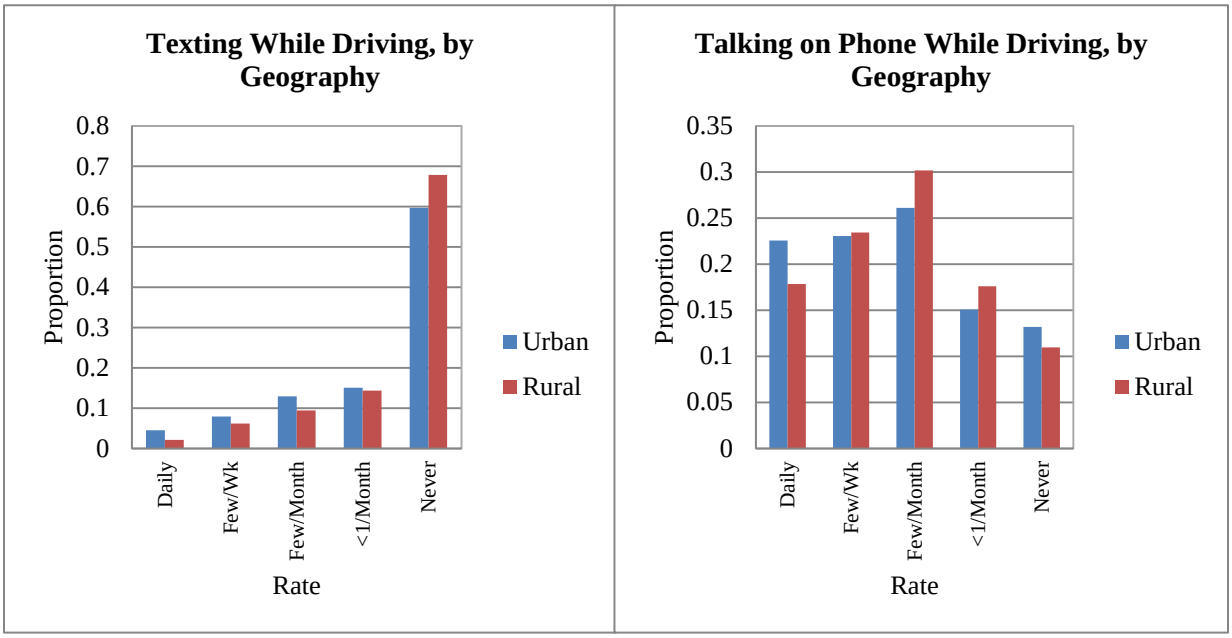

Figure 4.12 Cell Phone Distractions, Comparing Rural and Urban

Table 4.6 Differences in Driver Views and Behaviors from 2010-2012, by Region and Geography

			Statewide	Region			Geography			Core
Question	Year	Scale	All	East	West	Sig.	Urban	Rural	Sig.	Y/N
Seat Belt Use	2012	1-5	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
Ticket Likely SB	2012	1-5	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
Ticked Likely Speed	2012	1-5	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
Speed 30 MPH Zone	2012	1-5	2.33	2.30	2.35		2.34	2.32		Y
	2011		2.31	2.35	2.22	**	2.31	2.31		Y
	2010		2.29	2.25	2.32		2.29	2.27		Y
Speed 65 MPH Zone	2012	1-5	2.19	2.11	2.29	**	2.23	2.15	*	Y
	2011		2.22	2.29	2.04	**	2.16	2.13		Y
	2010		2.19	2.17	2.20		2.20	2.15		Y
Arrest for DUI	2012	1-5	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
RSH Seat Belt	2012	0-1	0.88	0.89	0.86		0.85	0.90	*	Y
	2011		0.84	0.84	0.84		0.83	0.87		Y
	2010		0.77	0.76	0.77		0.75	0.80		Y
RSH Speeding	2012	0-1	0.38	0.39	0.36		0.36	0.39		Y
	2011		0.38	0.39	0.36		0.39	0.36		Y
	2010		0.57	0.57	0.56		0.57	0.56		Y
RSH DUI	2012	0-1	0.90	0.90	0.90		0.90	0.90		Y
	2011		0.88	0.88	0.88		0.87	0.90		Y
	2010		0.85	0.86	0.84		0.86	0.83		Y
RSH S. Checkpoint	2012	0-1	0.65	0.77	0.51	**	0.65	0.66		N
	2011		0.57	0.59	0.53		0.57	0.58		N
	2010		0.68	0.78	0.57	**	0.69	0.64	*	N
Police Presence	2012	0-1	0.66	0.71	0.61	**	0.64	0.69	*	N
	2011		0.66	0.66	0.67		0.65	0.69		N
	2010		0.74	0.74	0.75		0.74	0.74		N

*Significant at the 5% level for Pearson Chi-Square test
**Significant at the 1% level for Pearson Chi-Square test

The three-year trends presented in Table 4.6 provide insight about patterns that may be emerging from North Dakota driver responses. Although only three years of data are provided, some initial conclusions can be made. For example, exposure to some safety messages has increased in each year. The mean value of North Dakota drivers reporting they had recently read, seen, or heard safety messages about seat belt use increased in all three years across all region and rural/urban subcategories. In 2010, mean values of those who read, saw, or heard messages about seat belt use were between 0.75 and 0.80 for all demographics; whereas the current mean values fall between 0.85 and 0.90—a considerable increase for a yes/no scale type of question. Similarly, the mean values of those who had recently read, seen, or heard safety messages relating to drunk driving enforcement increased across all region and rural/urban subcategories between 2010 and 2012. Like those who saw messages about seat belt use, this implies that messages are in fact reaching drivers at higher rates and may be positively changing some driver behaviors.

Two other trends are noticeable over the three-year period being examined. First, there is a consistent disconnect regarding seat belt use between urban and rural drivers. Urban residents are significantly more likely to wear seat belts while driving when compared to their rural counterparts. Although both subcategories are well under the goal of a mean value of 5.0, rural residents are much farther away from this target number. Perhaps more efforts are needed to increase seat belt use among these individuals. Second, sobriety checkpoints are consistently less recognized by residents in the western half of the state than those living in the eastern half. This may be due to the fact that sobriety checkpoints are relatively new in North Dakota and have been predominantly used as a safety strategy by Fargo police. Nonetheless, it is clear that exposure to messages about sobriety checkpoints is much more common in the east than it is in the western half of North Dakota.

4.2.2 Young Male Driver Target Group

As with the 2010 and 2011 surveys, the selected target group of male drivers between 18 and 34 years of age does show significantly different behaviors, exposure levels, and views when compared to other drivers (Table 4.7). In terms of behavior, high-risk male drivers in this survey are more likely to exhibit behavior at odds with traffic safety goals, such as speeding in a 30 mile per hour zone (Chi-Sq.=31.896, df=4, $p<0.001$), speeding in a 65 mile per hour zone (Chi-Sq.=60.060, df=4, $p<0.001$), texting while driving (Chi-Sq.=255.818, df=4, $p<0.001$), and talking on the phone while driving (Chi-Sq.=167.223, df=4, $p<0.001$).

In addition to exhibiting higher levels of risky behavior than the rest of the driver population, young males are also less likely to engage in safe driving behaviors. The high-risk young male drivers surveyed are substantially less likely to wear seat belts than other drivers (Chi-Sq.=74.573, df=4, $p<0.001$). Only 45.1% of young male drivers “always” wear a seat belt while driving or riding in a vehicle, compared to 64.9% of other drivers. The share of young males who report that they “rarely” or “never” use seat belts (11.0%) is more than three times higher than for other drivers (3.0%). Lower reported levels of seat belt usage likely goes hand-in-hand with the fact that young male drivers have a lower expectancy for law enforcement to ticket drivers for seat belt violations when compared to the balance of the driver population (Chi-Sq.=18.969, df=4, $p=0.001$). This implies that these two behaviors from young males are linked: young male drivers do not use seat belts in part because they perceive there is a low risk of facing consequences from law enforcement for not doing so.

The TSO continues to explore opportunities to increase safe driving behavior overall in this driver group. Young male driver responses to read, seen, or heard education and exposure questions offer some insight. Exposure to traffic safety messages that can be read, seen, or heard vary between the young male drivers and other drivers based on the message at hand. There was no statistically significant difference between messages about using a seat belt and messages regarding drunk driving. Differences between high-risk young male drivers and all other driver groups were statistically significant at the 5% level for exposure to material that can be read, seen, or heard about sobriety checkpoints with the young male driver group having less exposure (Chi-Sq.=6.375, df=1, $p=0.012$). Differences in exposure to materials about speeding were statistically significant at the 1% level (Chi-Sq.=11.231, df=1, $p=0.001$).

It is particularly interesting to note the attitudes of young male drivers towards driving under the influence of alcohol. Differences in opinions about the chances of getting arrested for a DUI are statistically significant at the 1% level with young male drivers thinking there is a greater likelihood of facing arrest (Chi-Sq.=15.838, df=4, $p=0.003$). Similarly, the mean values of exposure to material that can be read, seen, or heard about drunk driving were higher among

young male drivers than all other driver groups, although it was not a statistically significant difference. This suggests that messages regarding driving under the influence of alcohol are successfully reaching this target group and may partially explain why young male drivers believe there is a greater-than-average chance of getting arrested for driving under the influence of alcohol. However, despite the fact that this target group holds these opinions about impaired driving, it is important to understand that—when compared to the rest of the driver population—young male drivers still have a higher propensity to drive within two hours of consuming one or two drinks (Chi-Sq.=12.919, df=4, p=0.012). This implies that the messages which are reaching young male drivers may not be effective. This in part may explain why young male drivers do not favor more stringent DUI penalties nearly as much as all other drivers (Chi-Sq.=33.456, df=4, p<0.001).

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

Question	Target Male Drivers 18-34 Year-olds n=448	Other Drivers n=1264	Sig.
Seat Belt Use	3.98	4.41	**
Ticket Likely Seat Belt	3.06	3.20	**
Police Presence Increases SB Use	0.51	0.72	**
Primary Seat Belt Law	2.53	2.95	**
Ticket Likely Speeding	3.64	3.71	
Speed in 30 MPH Zone	2.43	2.29	**
Speed in 65 MPH Zone	2.46	2.10	**
Higher Fines for Speeding	2.79	3.13	**
Received Speeding Ticket in Last Year	0.14	0.06	**
Drive After Drinking 1-2 Drinks	2.38	1.96	*
Drive After Drinking 3+ Drinks	0.64	0.75	
Chance Arrest for DUI	3.72	3.61	**
Favor/Oppose More DUI Penalties	3.51	3.85	**
RSH Seat Belt	0.87	0.88	
RSH Speeding	0.31	0.40	**
RSH Drunk Driving	0.91	0.89	
RSH Sobriety Checkpoints	0.61	0.67	*
Cell Phone Text	2.45	1.46	**
Cell Phone Talk	3.89	3.00	**
Brake due to Distraction	0.22	0.18	
Brake due to Drowsy	0.10	0.05	**
“Wear It For Them” Ad	0.25	0.26	
Drive Motorcycle	0.21	0.15	**
Education/Enforcement Programs	0.69	0.79	**

*Significant difference at the 5% level for Pearson Chi-Square test
**Significant difference at the 1% level for Pearson Chi-Square test

In general, high-risk young male drivers have more distractions behind the wheel than all other groups. Young male drivers were substantially more likely to use cell phones for texting while driving (Chi-Sq.=255.818, df=4, p<0.001). Similarly, young male drivers use cell phones for talking while driving at rates that are significantly higher than all other driver groups (Chi-Sq.=167.223, df=4, p<0.001). This target group of drivers admitted that they needed to brake or swerve suddenly in order to avoid an accident due to drowsy driving more often than other groups (Chi-Sq.=10.777, df=1, p=0.001). There was no statistically significant difference between groups for braking or swerving suddenly due to inside or outside distractions.

Young male drivers have views about driving that are explicitly different than other drivers (Table 4.9). For example, the target age group indicated that they do not think that greater police presence increases the use of safety belts among drivers as much as the rest of the population does (Chi-Sq.=54.358, df=1, p<0.001; Figure 4.13). Only 49.7% of high-risk young males agreed that a greater police presence on the roadway directly translates to greater compliance via seat belt use. This is a considerably lower percentage than all other driver groups included in this study. Moreover, this target group is less likely to support having a primary seat belt law in North Dakota than other driver groups (Chi-Sq.=54.749, df=4, p<0.001; Figure 4.14). Whereas only 29.1% of high-risk young males support a primary seat belt law in the state based on those who responded they either "somewhat favor" or "strongly favor" such a law, anywhere from 37.2% to 54.4% of all other groups support having such a law in place.

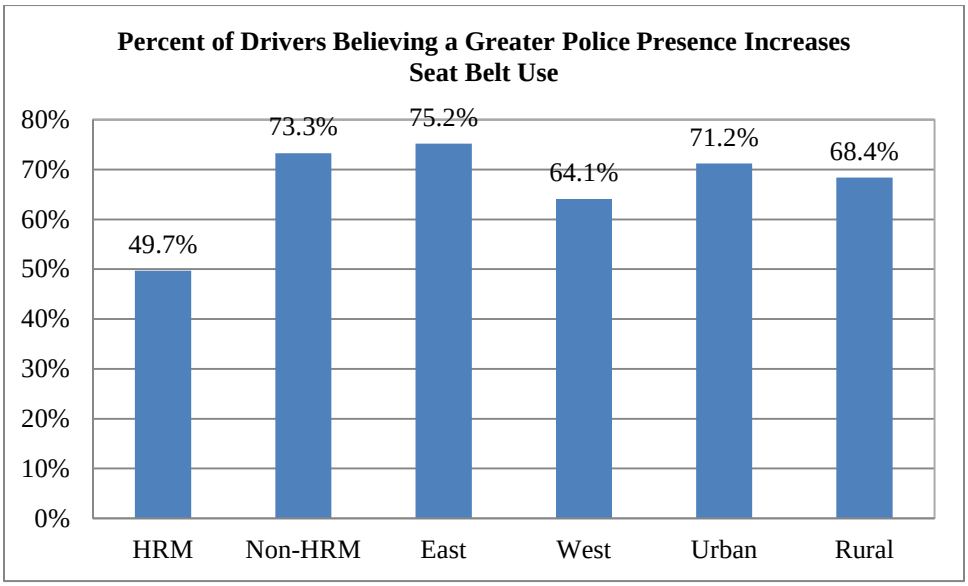

Figure 4.13 Percent of Drivers Indicating that More Police Presence Increases Seat Belt Use, by Group

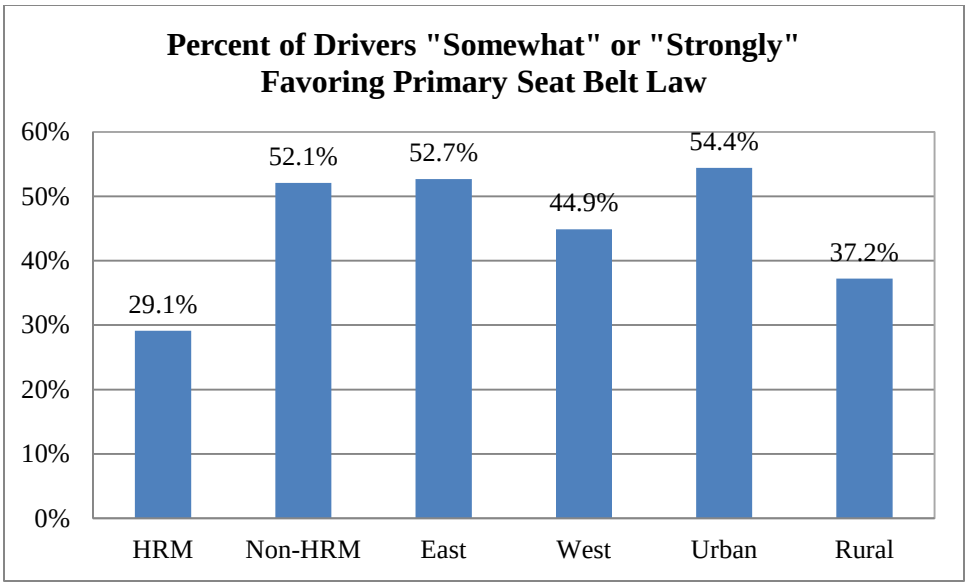

Figure 4.14 Percent of Drivers "Somewhat" or "Strongly" Favoring a Primary Seat Belt Law

One contrast from last year is the impact that the "Wear It For Them" ad campaign has had on various driver groups (Table 4.8). Whereas last year there was a statistically significant difference between high risk males and other driver groups with the ad influencing other driver groups to increase their seat belt use more often than high-risk male drivers, this year there is no statistically significant difference in whether or not the ad increases seat belt use (Chi-Sq.=0.079, df=1, p=0.778). Note that the proportion of high-risk young males who indicated that they did increase their seat belt use after seeing the ad grew to 23.7% of the target group compared to 21.3% a year ago. Unfortunately, all seven of the other driver groups actually had a decrease in the total proportion of drivers who used their seat belts more frequently after viewing the ad.

Table 4.8 Impact of "Wear It For Them" Ad, by Driver Groups

Did you increase seat belt usage after viewing the "Wear It For Them" ad?	YES*		NO*	
	2011	2012	2011	2012
High-Risk Males	21.3%	23.7%	78.7%	76.3%
Other Driver Groups	31.4%	27.7%	68.6%	72.3%
Males	25.4%	24.3%	74.6%	75.5%
Females	32.6%	28.8%	67.4%	71.2%
East	29.6%	28.8%	70.4%	71.2%
West	33.9%	24.9%	66.1%	75.1%
Urban	28.6%	26.4%	71.4%	73.6%
Rural	40.8%	29.3%	59.2%	70.7%

*"Yes" and "No" percentages calculated based on those who saw ad

Table 4.9 Responses for High-Risk Male Drivers

Question	Responses, by Driver Group						
Enf/Edu Programs	n=736	YES	NO				
	Other	78.5%	21.5%				
	HR Males	65.5%	34.5%				
Seat Belt Use	n=1,712	Always	N. Always	Sometimes	Rarely	Never	
	Other	64.9%	26.5%	5.7%	2.6%	0.4%**	
	HR Males	45.1%	29.9%	14.1%	6.0%**	5.0%**	
Police Presence	n=1,385	YES	NO				
	Other	73.3%	26.7%				
	HR Males	49.7%	50.3%				
Seat Belt Ticket	n=1,695	V. Likely	Sw. Likely	Likely	Unlikely	V. Unlikely	
	Other	17.4%	29.2%	26.9%	22.5%	4.0%	
	HR Males	14.7%	19.2%	24.2%	33.4%	8.5%	
Speed Ticket	n=1,705	V. Likely	Sw. Likely	Likely	Unlikely	V. Unlikely	
	Other	29.4%	34.5%	27.8%	7.1%	1.3%**	
	HR Males	23.1%	26.6%	37.1%	10.2%	3.0%**	
Speed in 30 mph	n=1,702	Always	N. Always	Sometimes	Rarely	Never	
	Other	0.3%**	6.2%	31.8%	46.3%	15.5%	
	HR Males	3.1%**	8.1%	29.9%	46.6%	12.3%	
Speed in 65 mph	n=1,711	Always	N. Always	Sometimes	Rarely	Never	
	Other	0.9%**	6.0%	22.2%	46.4%	24.5%	
	HR Males	2.7%**	8.6%	34.8%	38.8%	15.1%	
Speed Fines	n=1,702	S. Favor	Sw. Favor	Neutral	Sw. Oppose	S. Oppose	
	Other	16.2%	25.2%	33.8%	16.0%	8.8%	
	HR Males	14.8%	15.4%	29.6%	15.2%	25.0%	
DUI Arrest	n=1,703	V. Likely	Sw. Likely	Likely	Unlikely	V. Unlikely	
	Other	32.5%	30.4%	25.6%	10.0%	1.5%**	
	HR Males	32.4%	23.5%	28.5%	13.3%	2.4%**	
Drive 1-2 Drinks	n=517	*DND**	0	1	2-3	4-6	7+
	Other	*55.9%*	28.4%	29.1%	29.5%	8.5%	4.5%**
	HR Males	*34.3%*	19.6%	25.4%	29.8%	19.2%	6.0%**
Drive 3+ Drinks	n=327	*DND**	0	1	2-3	4-6	7+
	Other	*52.3%*	69.3%	12.5%**	13.0%**	4.0%**	1.2%**
	HR Males	*30.1%*	75.6%	7.5%**	14.3%**	1.3%**	1.2%**
DUI Penalties	n=1,690	S. Favor	Sw. Favor	Neutral	Sw. Oppose	S. Oppose	
	Other	48.9%	22.5%	20.7%	5.2%	2.7%	
	HR Males	33.7%	21.6%	24.4%	9.1%	11.2%	
Speeding Ticket	n=1,707	YES	NO				
	Other	5.8%	94.2%				
	HR Males	14.1%	85.9%				
"Wear It" Ad[#]	n=1,003	YES	NO				
	Other	27.7%	72.3%				
	HR Males	23.7%	76.3%				
Primary SB Law	n=1,701	S. Favor	Sw. Favor	Neutral	Sw. Oppose	S. Oppose	
	Other	23.1%	28.9%	17.8%	12.4%	17.7%	
	HR Males	19.1%	10.0%	18.5%	13.7%	38.7%	
Cell Phone Text	n=1,701	Daily	Few/Week	Few/Month	<1/Month	Never	
	Other	2.2%**	6.2%	11.5%	16.3%	63.7%	
	HR Males	10.1%	15.3%	21.2%	18.5%	34.9%	
Cell Phone Talk	n=1,707	Daily	Few/Week	Few/Month	<1/Month	Never	
	Other	16.4%	22.9%	23.6%	16.6%	20.4%	
	HR Males	36.4%	26.9%	27.9%	6.6%**	2.2%**	

Note: Please see Appendix A for exact question and response wording.
[#]"Yes" and "No" percentages based on those who did see ad.
*DND: Share of drivers who "do not drink." "Drive After Drinking" frequencies are calculated for all divers who do drink.
**Estimate uncertain due to limited sample size

5. CONCLUSION

The initial statewide driver traffic safety survey provides baseline metrics for the TSO and others in understanding perceptions and behaviors related to focus issues. A core set of questions addresses nationally agreed upon priorities, including seat belts, drinking and 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 practices, but it is apparent that additional efforts are needed to improve safety on the state's roads. Within the entire driver population, a target driver group of young male drivers engages in relatively high-risk driving practices and has some disregard for reducing potential for crash injury through consistent seat belt use. A few substantial differences in seat belt use, speeding, and distracted driving were found in comparing drivers by region and whether they live in rural or urban areas.

Future 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 driving population. This particular study would have been more robust by having a proportionate number of males as females. Similarly, in terms of age cohorts, there were far less 18-24 year-olds and fewer respondents over the age of 75 than are actually part of the driving population. There were considerably more 25-34 year-olds in the sample than are actually in the North Dakota driver population. Improving these areas would have benefited the validity of this report. 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

2012 ND Driver Survey

All Responses Are Confidential

1. **Are education and enforcement programs encouraging ND drivers to make safer driving decisions compared to last year?**
   □ Yes □ No □ Do Not Know

2. **How often do you use seat belts when you drive or ride in a vehicle?**
   □ Always □ Nearly Always □ Sometimes □ Rarely □ Never

3. **Greater police presence increases seat belt use.** □ Yes □ No □ Do Not Know

4. **What do you think the chance is of getting a ticket if you don't wear your seat belt?**
   □ Very Likely □ Somewhat Likely □ Likely □ Unlikely □ Very Unlikely

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

6. **On a local road with a speed limit of 30 mph, how often do you drive faster than 35 mph?**
   □ Always □ Nearly Always □ Sometimes □ Rarely □ Never

7. **On a road with a speed limit of 65 mph, how often do you drive faster than 70 mph?**
   □ Always □ Nearly Always □ Sometimes □ Rarely □ Never

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

9. **What do you think the chances are of someone getting arrested if they drive after drinking alcohol?**
   □ Very Likely □ Somewhat Likely □ Likely □ Unlikely □ Very Unlikely

10. **In the past 60 days, how many times have you driven a motor vehicle within 2 hours after drinking ....**
    _____1 – 2 Alcoholic Drinks _____3 or More Alcoholic Drinks □ I Do Not Drink □ Do Not Know

11. **Do you favor or oppose more stringent DUI penalties**?
    □ Strongly Favor □ Somewhat Favor □ Do Not Favor or Oppose □ Somewhat Oppose □ Strongly Oppose

12. **Have you recently read, seen, or heard traffic safety ads relating to:**

Seat Belt Law Enforcement	□ Yes	□ No	**If yes, where?**	□ TV	□ Radio	□ Print	□ Other
Speed Enforcement	□ Yes	□ No	**If yes, where?**	□ TV	□ Radio	□ Print	□ Other
Drunk Driving Enforcement	□ Yes	□ No	**If yes, where?**	□ TV	□ Radio	□ Print	□ Other
Sobriety Checkpoints	□ Yes	□ No	**If yes, where?**	□ TV	□ Radio	□ Print	□ Other

13. **In the past 12 months, have you received a speeding ticket?** □ Yes □ No

14. **Did you increase seat belt use after viewing the ND Dept. of Transportation television ad, "Wear It For Them"?**
    □ Yes □ No □ Did not see TV message

15. **The secondary seat belt law in North Dakota requires law enforcement to observe a prior traffic violation before issuing a seat belt citation. Do you favor or oppose a primary seat belt law where law enforcement can stop and cite for failure to wear a seat belt only?**
    □ Strongly Favor □ Somewhat Favor □ Do Not Favor or Oppose □ Somewhat Oppose □ Strongly Oppose

16. **How often do you text message on a cell phone while driving a vehicle?**
    □ Daily □ Few Times per Week □ Few Times per Month □ Less than Once per Month □ Never

17. **How often do you talk on your cell phone while driving a vehicle?**
    □ Daily □ Few Times per Week □ Few Times per Month □ Less than Once per Month □ Never

18. **In the past 12 months, have you had to brake suddenly or steer to avoid a collision because you have been distracted while driving?**
    □ Yes, distraction from **inside** vehicle □ Yes, distraction from **outside** vehicle □ No

19. **In the past 12 months, have you had to brake suddenly or steer to avoid a collision because you have been driving drowsy?**
    □ Yes □ No

20. **Do you ride a motorcycle?** □ Yes □ No
    - **If yes, what protective gear do you wear?** □ Helmet □ Leathers □ Full Protective Gear □ None

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

22. **Type of Vehicle You <u>Most Often</u> Drive: (select one)** □ Car □ Pickup □ SUV □ Van □ Motorcycle

23. **Miles Driven Last Year:** □ Less than 5,000 □ 5,000 to 10,000 □ 10,001 to 15,000 □ More than 15,000

24. **Your Gender:** □ Male □ Female

25. **Your Zip Code:** _____

Thank you for your time and participation.

APPENDIX B. DO NOT KNOW/REFUSE TO ANSWER RESPONSES

Q#	Question	Total Responses	DNK Responses	Missing Responses
	Programs			
Q1	Education/Enforcement	741	957	27
	Seat Belt			
Q2	Seat Belt Use	1,725	0	0
Q3	Police Presence Increases SB	1,396	315	14
Q4	No Seat Belt Ticket Likely	1,708	0	17
Q14	"Wear It For Them" Ad	1,710	0	15
Q15	Primary Seat Belt Law	1,714	0	11
	Speeding			
Q5	Speeding Ticket Likely	1,718	0	7
Q6	Speed, 30 mph Zone	1,715	0	10
Q7	Speed, 65 mph Zone	1,724	0	1
Q8	Higher Speeding Fines	1,715	0	10
Q13	Received Speeding Ticket	1,720	0	5
	Alcohol			
Q9	Arrest for DUI	1,716	0	9
Q10a	Drive After 1-2 Drinks	697	135	802
Q10b	Drive After 3+ Drinks	350	135	802
Q11	More Stringent DUI Penalties	1,703	0	22
	Awareness			
Q12a	RSH Seat Belt	1,704	0	21
Q12b	RSH Speeding	1,641	0	84
Q12c	RSH Drunk Driving	1,698	0	27
Q12d	RSH Sobriety Checkpoints	1,678	0	47
	Distracted Driving			
Q16	Cell Phone Text	1,714	0	11
Q17	Cell Phone Talk	1,720	0	5
Q18	Distracted Outside/Inside	1,691	0	34
Q19	Distracted Drowsy	1,717	0	8
	Motorcycle			
Q20a	Motorcycle	1,719	0	6
Q20b	Protective Gear	244	0	1,481
Total n=1,725				

APPENDIX C. DRIVER RESPONSES BY REGION AND GEOGRAPHY

Question	Region or Geography, Response							
Have you recently read, seen, or heard anything about...	EAST		WEST		URBAN		RURAL	
	YES	NO	YES	NO	YES	NO	YES	NO
Speed Enforcement	37.4%	62.6%	29.5%	70.5%	33.9%	66.1%	34.9%	65.8%
Sobriety Checkpoints	76.8%	23.2%	45.5%	54.5%	63.5%	36.5%	66.3%	33.7%

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	19.2%	13.9%	32.0%	23.8%	33.4%	31.2%
Sw. Likely	29.1%	26.6%	30.9%	37.8%	30.9%	27.8%
Likely	27.9%	24.7%	27.9%	30.2%	25.0%	27.3%
Unlikely	20.6%	28.4%	7.8%	6.9%	9.7%	11.3%
V. Unlikely	3.2%	6.4%	1.5%*	1.4%*	1.0%*	2.4%*

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	17.9%	14.8%	27.8%	31.1%	34.2%	28.1%
Sw. Likely	29.6%	24.3%	34.3%	31.9%	29.7%	29.6%
Likely	25.3%	30.1%	28.5%	29.5%	26.4%	24.6%
Unlikely	22.8%	26.2%	7.8%	6.4%	8.0%	16.3%
V. Unlikely	4.4%	4.6%	1.6%*	1.2%*	1.7%*	1.3%*

Times driving after drinking 1-2 drinks in the past 60 days…	0	1	2-3	4-6	7+
East	26.6%	24.3%	32.6%	11.3%	5.1%*
West	27.2%	33.7%	25.7%	9.1%*	4.3%*
Urban	26.6%	30.7%	26.7%	10.8%	5.1%*
Rural	27.4%	23.5%	35.8%	9.3%	4.0%*

Times driving after drinking 3+ drinks in the past 60 days…	0	1	2-3	4-6	7+
East	71.5%	8.9%*	13.1%*	5.4%*	1.1%*
West	69.8%	13.9%*	13.4%*	1.6%*	1.3%*
Urban	74.4%	9.7%*	12.8%*	2.4%*	0.6%*
Rural	62.9%	15.0%*	14.1%*	5.6%*	2.4%*

Seat Belt Use	Always	N. Always	Sometimes	Rarely	Never
East	66.7%	24.1%	6.0%	2.7%*	0.5%*
West	56.8%	31.0%	7.4%	3.3%	1.5%*
Urban	67.3%	24.3%	5.1%	2.4%*	0.9%*
Rural	51.2%	33.4%	10.3%	4.4%	0.7%*

Text messaging while driving	Daily	Few/Week	Few/Month	<1/Month	Never
East	2.4%	5.8%	9.8%	13.2%	68.7%
West	4.1%*	9.2%	16.5%	21.7%	48.5%
Urban	3.1%	7.0%	12.7%	15.2%	62.1%
Rural	2.9%*	7.8%	12.1%	20.1%	57.1%

Talking on cell phone while driving	Daily	Few/Week	Few/Month	<1/Month	Never
East	14.2%	19.5%	23.0%	16.7%	26.6%
West	25.0%	29.2%	25.6%	13.9%	6.4%
Urban	17.1%	22.2%	22.0%	16.2%	22.5%
Rural	22.2%	26.4%	29.3%	13.8%	8.2%

Did you increase seat belt use after viewing the "Wear It For Them" ad?	YES**	NO**	DID NOT SEE AD
East	28.8%	71.2%	46.4%
West	24.9%	75.1%	45.9%
Urban	26.4%	73.6%	46.7%
Rural	29.3%	70.7%	44.9%

*Estimate uncertain due to limited sample size
**"Yes" and "No" percentages calculated based on those who saw ad