State of Vermont

Distracted Driving Observation Results

2021 FINAL REPORT

3/10/2022

Prepared for:

State of Vermont Agency of Transportation
Attn: Susan McAvoy, Program Coordinator
State Highway Safety Office
Dill Building, Unit A
2178 Airport Road
Barre, VT 05641

Prepared by:

Preusser Research Group, Inc.
115 Technology Drive, Unit B-307
Trumbull, CT 06611

Report Authors:

Julie Tison, Ph.D.
Katie Raboin, Senior Research Associate
Andrew Chile, Research Assitant

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I. INTRODUCTION

According to National Highway Traffic Safety Administration (NHTSA) estimates, distracted driving caused an estimated 3,142 deaths in 2019 (accounting for 8.7% of all motor vehicle crash deaths that year). The number of "distracted affected" deaths were up 9.9 percent from the 2,858 deaths in 2018 (NCSA, 2020). In 2015 there were an estimated 391,000 injuries caused by distracted driving (NCSA, 2017).

Enforcement strategies have been effective at reducing incidences of distracted driving. A 2010 enforcement project in CT and NY aimed at enforcing a new handheld cell phone use law (and "texting" when observed) resulted in declines in observed handheld use and phone manipulation (Chaudhary et al., 2014). A similar project in larger locations in CA and DE also resulted in decreases in observed distracted driving in both locations (Chaudhary et al., 2015). Retting et al., (2017) report that enforcing "texting" bans alone was more difficult, albeit possible, with strong enough laws. Following enforcement efforts aimed at texting behaviors in CT and MA, observations failed to show a change in the rates of drivers manipulating their phones from baseline to post-enforcement.

Enforcement efforts require laws to be in place banning the behavior. As of March 2022, there are 25 States along with the District of Columbia, Puerto Rico, Guam, and the U.S. Virgin Islands that prohibit drivers of all ages from using handheld cell phones while driving. All these laws allow for primary enforcement, which grants law enforcement the ability to stop motorists solely for cell phone use while driving. All states except Montana and Missouri ban text messaging for drivers of all ages. Missouri bans texting for drivers under 21 and Montana has no ban at all. Earlier research showed that handheld bans reduced instances of drivers' use of a handheld phone, but those earlier law changes occurred when cell phone use was not as ubiquitous as it is now (McCartt et al., 2014). The impact of texting bans has little evidence to show effectiveness at reducing texting behavior (McCartt et al., 2014).

Vermont's texting and driving law went into effect in 2010, while a hand-held ban was added in 2014. Preusser Research Group, Inc. conducted Vermont's inaugural round of distracted driving observations during select dates in October 2021.

II. ROADSIDE OBSERVATIONS

A. Site Selection Methodology

PRG used many of the site selection elements of Vermont's annual seat belt survey when selecting road segments for the distracted driving survey. PRG started with the sites already included in the statewide survey and further refined selection specifically for the needs of the distracted driving survey. We observed distracted driving at 56 of the statewide seatbelt sites. Our experience suggests that some sites have fewer cars (and thus low observation numbers) and given the relative rarity of distracted driving behavior compared to unbelted behavior, these low observation sites fail to add any statistical value to the survey. Sites known to have low numbers observation numbers, such as local roadway sites (accounting for 12 of the 89 sites in the seat belt survey) and others, were thus excluded from the distracted driving survey. These sites were removed in a manner that maintains the integrity of the survey in terms of its statewide representation. That is, the survey still covers all county-groups and functional class strata (except for local roadways) within those groups. Removal of these seat belt sites freed up room in the schedule allowing us to add new distracted driving sites in both school and construction zones. The school zone sites will be repeated for future surveys. The work zone sites will be reselected each year with the help of AOT. Work zones that are still active for subsequent surveys will be maintained to allow for better comparison.

PRG selected and mapped 85 sites into functional clusters suitable for roadside observational schedules. Fifty-six (56) were from the statewide survey that will be consistent from year to year and used (perhaps with the school-zone sites) to produce the statewide estimate. Another 12 sites are from school zones. School zone sites are distributed as well as possible across different school types (high school, middle school, elementary school) throughout the state. The final 12 sites are work zones. We tried to distribute the work zones across the state but were only able to choose from work zones published on Vermont's VTrans website.[1] As stated earlier, work zone sites selected for the 2021 survey will be observed in subsequent surveys if still active, but if a zone is closed, we will select a new site.

B. Observation Protocol Methodology

Appendix A shows detailed observer instructions (all observers participated in both in-depth classroom training and roadside field training). Driver use of handheld cell phones while driving was observed for 60 minutes at each of the 85 sites. All data were recorded on paper data collection forms (see **Appendix B**). Three types of cell phone use behaviors were recorded: handheld, hands-free, or manipulation. ***Handheld*** was selected when a cell phone was observed being held in the driver's hand while he/she was talking (either held up to ear or using speaker phone). ***Hands free*** was coded when a driver was observed alone in a vehicle but appeared to be talking to themselves (in-vehicle technology or Bluetooth device use is assumed in this scenario). ***Manipulation*** was coded when a driver was observed texting, typing, or otherwise manipulating the keyboard or screen of a cell phone. Manipulation could include texting, dialing, checking e-

[1] https://vtrans.vermont.gov/on-the-road

mail, using a mobile GPS application or other activities. No attempt was made to distinguish between these activities. A ***"probable"*** interpretation was added to the Manipulation coding.

Please note, the three main use categories mentioned above are *not* mutually exclusive. For example, drivers could be observed manipulating while also talking. Observers also coded type of vehicle (car, pickup truck, sport utility, van), driver's sex and estimated age category (<25, 25-59, >59).

Vehicles were randomly selected using a reference point. A stationary point is chosen by the observer far enough down the road where the vehicle, but not the driver's behavior, can be seen traveling toward the site location. As the selected vehicle approaches, the observer looks into the vehicle and begins to record data. Once all data for a vehicle is recorded, the observer looks back up to the predetermined reference point to select the next vehicle to be observed. This method ensures that the next vehicle to be observed is randomly selected from the traffic stream without any predetermined knowledge of driver cell phone use. Only passenger vehicles were observed (excluding police, fire, and ambulance). Only vehicles traveling in the nearest lane were coded as device use that is below the steering wheel cannot be seen as vehicles get further away from the observer due to the change in visual angle. Only one vehicle is observed/recorded at a time.

III. RESULTS

Four experienced observers collected distracted driving data on more than 11,000 vehicles (N=11,089) across 85 sites throughout the State of Vermont. Data were collected in 12 of Vermont's 14 counties as well as Work Zone and School Zone sites.

Data were collected during the month of October 2021. For each vehicle selected, the observers noted Vehicle Type (car, pick up, SUV, or Van), Driver Age (<25, 25-59, 60+, or unsure), Driver Sex (male, female, unsure), and whether the driver was engaged in a distracted driving behavior.

Three types of distracted driving behaviors related to cell phone use were coded: Talking on a Handheld cell phone (HH), talking using a Hands-free device (HF), and Manipulation. One unique feature of these observations was the inclusion of "probable" manipulation as a coded behavior. Probable manipulation was coded when the phone itself could not be seen but the driver's behavior indicated that texting was taking place (e.g., repeated, quick, furtive glances to one's lap). For the purpose of data analysis, Manipulation is represented in two separate categories: Manipulation Observed (MO) where the phone in hand was clearly observed, and Manipulation including Probable (MiP) which combines the observed and probable manipulations.

A general distracted variable was also created - "Any Observed" distraction (AO) which was coded when a driver was either talking on a handheld cell phone (HHU), talking using a handsfree device (HFU), or observed manipulating a phone (MO). Lastly, the most inclusive variable "Any including Probable" (AiP) was coded when a driver was observed talking on a handheld cell phone (HHU), or handsfree device (HFU), or observed manipulating a phone or *probably* manipulating a phone (MiP).

The graphs and tables below will present three categories of behavior: 1) Talking on a cell phone while driving (HHU, HFU), 2) Manipulating a cell phone (MO, MiP), and 3) Any distraction (AO, AiP). Overall rates of distracted behaviors are presented in Table 1. The distracted behaviors will be compared across site type, county, driver sex, driver age, vehicle type, and time of day.

Table 1. Overall Rates of Observed Distracted Behaviors

Behavior	Frequency* (N observed)	Percent of Drivers
Handheld Use	169	1.5%
Handsfree Use	154	1.4%
Manipulation Observed	502	4.5%
Manipulation including Probable	853	7.7%
Any Observed Distraction	773	7.2%
Any Distraction including Probable	1,119	10.1%

*Note that an individual driver can be coded as performing more than one distracted behavior.

A. Distracted Driving Rates by Site Types: Work Zone, School Zone, Other

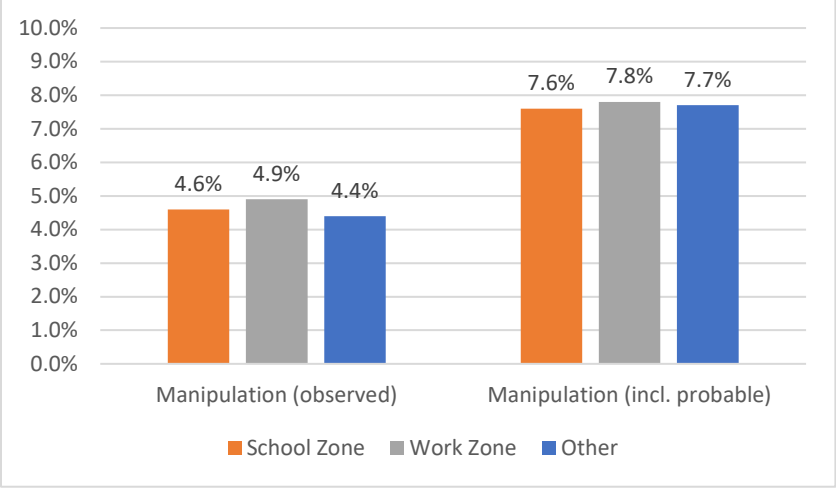
Distracted driving rates were compared across School Zone sites, Work Zone sites, and Other sites (i.e., all other county sites combined). The rates of *talking on a cell phone* while driving were very low, observed in less than 2 percent of drivers (see Table 2). A binary logistic regression showed that there was no significant difference in use across Site Types (HH, χ^2 (2) = 3.62, p>.05; HF, χ^2 (2) = 0.53, p>.05).

Table 2. Talking on a Cell Phone While Driving, by Site Type (% Yes)

	School Zone	Work Zone	Other
Handheld Use	1.7%	1.1%	1.6%
Hands-Free Use	1.2%	1.4%	1.4%
(Total N)	*(N=1,441)*	*(N=2,138)*	*(N=7,510)*

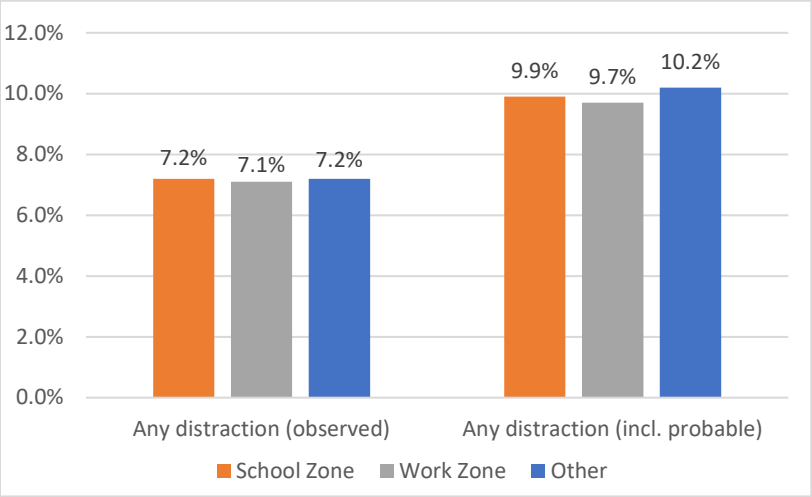
The rates for *manipulating a cell phone while driving* were higher than those for *talking on a cell phone while driving*, but still relatively low and observed in less than 5 percent of drivers. Rates of observed manipulation did not differ across site types (MO, χ^2 (2) = 1.00, p>.05). When *probable* manipulation was added to the *observed* manipulation, rates increased to close to 8 percent of drivers. Thus, including *probable* manipulation increase usage rate by approximately 3 percentage points. Rates of manipulation including probable did not differ across site types (MiP, χ^2 (2) = 0.77, p>.05). Figure 1 shows the usage rates for *manipulation* across site types.

Figure 1. Phone Manipulation by Site Type (% Yes)



Overall, approximately 7 percent of drivers were observed using their cell phone (talking or manipulating) while driving (i.e., *any* distraction). Rates of any observed distraction did not differ across site types (AO, χ^2 (2) = 0.97, p>.05). Rates of *any including probable* distraction were around 10 percent, with no difference in rates across school zones, work zones, or other site types (AiP, χ^2 (2) = 0.62, p>.05). Figure 2 shows the usage rates for *any distraction* across site types.

Figure 2. Any Distraction by Site Type



B. Distracted Driving Rates by County

Distracted driving rates were compared between Counties (excluding work and school zone sites). Handheld rates ranged from 0 percent in Lamoille County to 4.0 percent in Orange County. Handsfree use rates ranged from 0.5 percent in Orleans County to 2.3 percent in Orange County. Table 3 shows the HH and HF use rates for the surveyed counties. Given the small number of positive observations in some counties, statistical analyses were not conducted for county-based phone use rates.

Table 3. Talking on a Cell Phone While Driving, by County (% Yes)

County	Handheld	Hands-Free	(Total N)
Addison	1.7%	1.0%	(N=302)
Bennington	1.2%	2.0%	(N=406)
Caledonia	2.8%	1.8%	(N=388)
Chittenden	0.8%	2.2%	(N=1,652)
Franklin	1.7%	0.7%	(N=1,226)
Lamoille	0.0%	1.1%	(N=94)
Orange	4.0%	2.3%	(N=175)
Orleans	2.1%	0.5%	(N=195)
Rutland	2.1%	1.2%	(N=982)
Washington	1.5%	1.7%	(N=1,009)
Windham	2.6%	0.9%	(N=428)
Windsor	1.1%	0.8%	(N=653)

The usage rates for *phone manipulation (observed)* ranged from 0.5 percent in Orleans County to 6.9 percent in Orange County. When *probable phone manipulation* was included, rates ranged from 3.1 percent in Orleans to 12.4 percent in Caledonia County. Table 4 shows the MO and MiP use rates for the surveyed counties.

Table 4. Cell Phone Manipulation While Driving, by County (% Yes)

County	Manipulation *(observed)*	Manipulation *(including probable)*	(Total N)
Addison	5.6%	8.9%	(N=302)
Bennington	5.4%	8.9%	(N=406)
Caledonia	5.7%	12.4%	(N=388)
Chittenden	4.0%	7.6%	(N=1,652)
Franklin	3.8%	6.1%	(N=1,226)
Lamoille	3.2%	5.3%	(N=94)
Orange	6.9%	11.4%	(N=175)
Orleans	0.5%	3.1%	(N=195)
Rutland	6.1%	7.8%	(N=982)
Washington	2.8%	7.2%	(N=1,009)
Windham	4.9%	8.6%	(N=428)
Windsor	4.9%	7.2%	(N=653)

The overall *observed* distraction rates (i.e., AO) ranged from 3.2 percent in Orleans County to 13.2 percent in Orange County. The overall rates of *any including probable* distraction (AiP) ranged from 5.6 percent in Orleans County to 17.1 percent in Orange County. Table 5 shows the AO and AiP rates for each surveyed county.

Table 5. Any Distraction While Driving, by County (% Yes)

County	Any Distraction (*observed*)	Any Distraction *(including probable)*	(Total N)
Addison	8.6%	11.6%	(N=302)
Bennington	7.6%	10.6%	(N=406)
Caledonia	10.8%	16.8%	(N=388)
Chittenden	6.9%	10.3%	(N=1,652)
Franklin	6.0%	8.2%	(N=1,226)
Lamoille	4.3%	6.4%	(N=94)
Orange	13.2%	17.1%	(N=175)
Orleans	3.2%	5.6%	(N=195)
Rutland	8.9%	10.4%	(N=982)
Washington	6.0%	10.2%	(N=1,009)
Windham	7.7%	11.0%	(N=428)
Windsor	6.4%	6.4%	(N=653)

C. Distracted Driving Rates by Sex of Driver

A little more than half (57.7%) of the drivers observed were male, 42.2 percent were female, and sex could not be determined in less than 1 percent (0.1%) of drivers (N=13). Chi-square analyses were conducted to compare distracted driving rates compared between male and female drivers (drivers of unknown sex were excluded from these analyses).

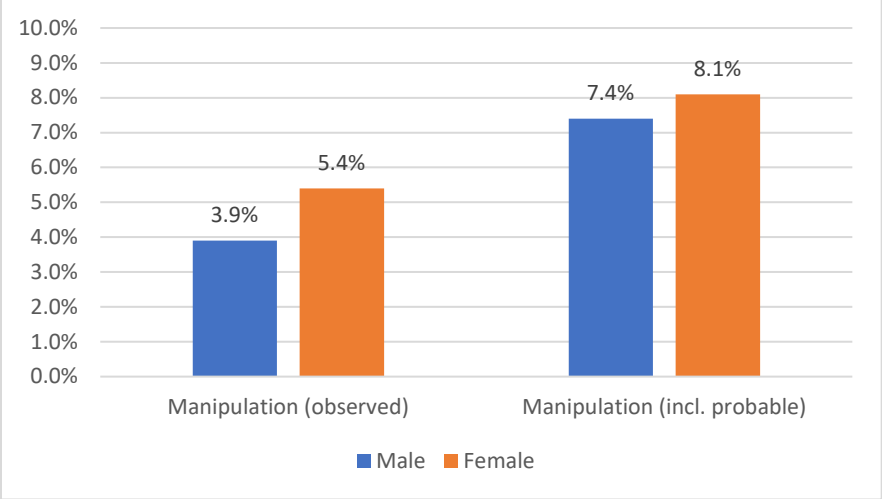
The rates of *talking on a handheld cell phone* while driving were very low (1.5% for male, 1.6% for female drivers) and showed no significant difference between sexes (HH, χ^2 (1) = 0.66, p> .05). Rates of hands-free use were significantly higher in female drivers (1.8%) than in male drivers (1.0%), χ^2 (1) = 12.33, p< .0001. See Table 6 for details.

Table 6. Talking on a Cell Phone While Driving, by Driver Sex (% Yes)

	Male	Female
Handheld Use	1.5%	1.6%
Hands-Free Use	1.0%	1.8%
(Total N)	*(N=6,393)*	*(N=4,283)*

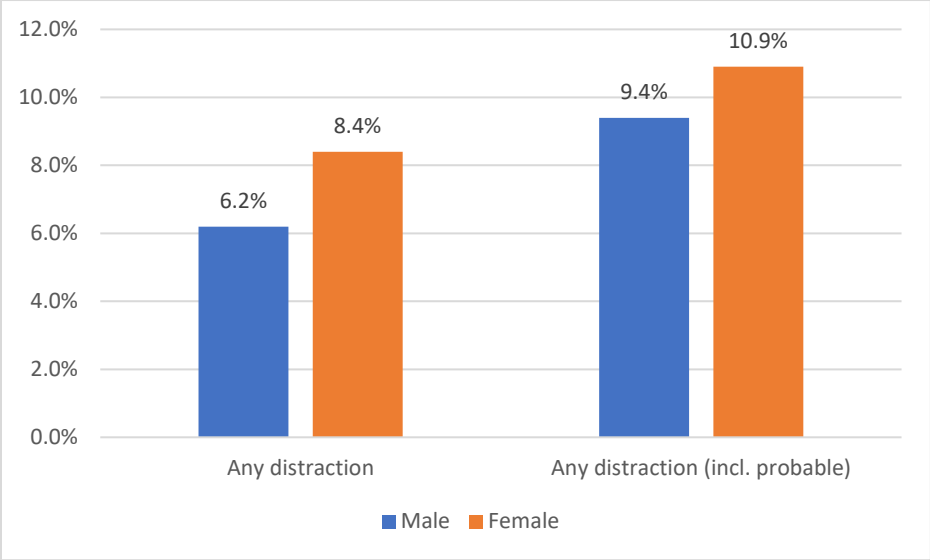
The usage rates for *manipulating a cell phone while driving* were higher than those for talking on a phone while driving. Rates of *observed* manipulation were significantly higher in female than in male drivers (5.4% vs 3.9%, respectively, MO, χ^2 (1) = 16.93, p> .0001). When *probable* manipulation was added to the *observed* manipulation, rates increased to 7.4 percent for male and 8.1 percent for female drivers. The difference between the sexes was not significant (MiP, χ^2 (1) = 2.13, p> .05). Figure 3 shows the usage rates for *manipulation* across driver sex.

Figure 3. Phone Manipulation by Sex of Driver (% Yes)



Overall, approximately 7 percent of drivers were observed using their cell phone (talking or manipulating) while driving (i.e., *any* distraction). Rates of any observed distraction were significantly higher among female than male drivers (8.4% vs 6.2%, respectively), χ^2 (1) = 18.61, p< .0001). Rates of *any including probable* distraction were significantly higher among female drivers than male drivers (10.9% vs 9.4%, respectively), χ^2 (1) = 6.36, p< .05). Figure 4 shows the usage rates for *any distraction* by sex of driver.

Figure 4. Any Distraction by Sex of Driver (% Yes)



D. Distracted Driving Rates by Driver Age

More than half (61.2%) of the drivers observed were estimated to be between the ages of 25 and 59, 24.3 percent were estimated to be 60 and over, and 14.6 percent were estimated to be under the age of 25. Age could not be determined in less than 1 percent (0.1%) of drivers (N=12). Binary logistic regression analyses were conducted comparing distracted driving rates between age groups (drivers of unknown age were excluded from these analyses and the 60+ age group was used as a base for the pairwise comparisons).

The rates of *talking on a handheld cell phone* were highest among the youngest drivers (2.3%) and lowest among the oldest group of drivers (0.7%). The difference between age groups was significant (HH, χ^2 (2) = 18.03, p< .0001). The 60 and over age group had significantly lower rates of HH usage than the 25-59 age group (HH, χ^2 (1) = 12.15, p< .0001, 95% CI [0.25, 0.68]) and the under 25 age group (HH, χ^2 (1) = 17.7, p< .0001, 95% CI [0.17, 0.52]).

Rates of *hands-free* use were highest in the 25-59 age group (1.7%), and lowest in the 60+ age group (0.4%). The difference between age groups was significant (HF, χ^2 (2) = 22.51, p< .0001). The 60 and over age group had significantly lower rates of HF usage than the 25-59 age group (HH, χ^2 (1) = 22.5, p< .0001, 95% CI [0.11, 0.40]) and the under 25 age group (HH, χ^2 (1) = 15.11, p< .0001, 95% CI [0.11, 0.48]). See Table 7 for details.

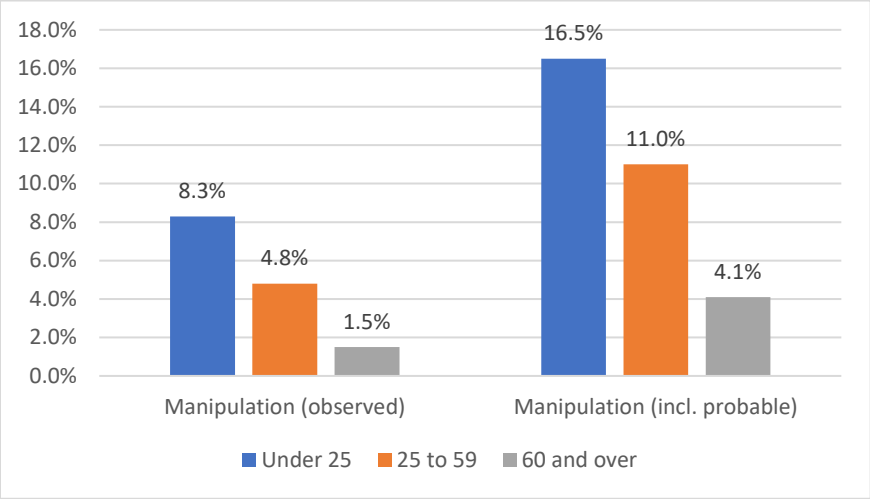
Table 7. Talking on a Cell Phone While Driving, by Driver Age (% Yes)

	Under 25	**25-59**	**60 and up**
Handheld Use	2.3%	1.7%	0.7%
Hands-Free Use	1.6%	1.7%	0.4%
(Total N)	*(N=1,510)*	*(N=6,868)*	*(N=2,699)*

Rates of *observed* manipulation were highest in the youngest group (8.3%) and lowest in the oldest group (1.5%). The difference between age groups was significant (MO, χ^2 (2) = 100.81, p< .0001). The 60 and over age group had significantly lower rates of MO than the 25-59 age group (MO, χ^2 (1) = 53.3, p< .0001, 95% CI [0.21, 0.41]) and the under 25 age group (HH, χ^2 (1) = 98.94, p< .0001, 95% CI [0.11, 0.23]).

When *probable* manipulation was added to the *observed* manipulation, rates ranged from 4.1 percent in the oldest group to 16.5 percent in the youngest group. The difference between age groups was significant (MiP, χ^2 (2) = 125.59, p< .0001).The 60 and over age group had significantly lower rates of MiP than the 25-59 age group (MiP, χ^2 (1) = 66.2, p< .0001, 95% CI [0.31, 0.49]) and the under 25 age group (MiP, χ^2 (1) = 128.2, p< .0001, 95% CI [0.18, 0.29]). Figure 5 shows the usage rates for *manipulation* across driver age.

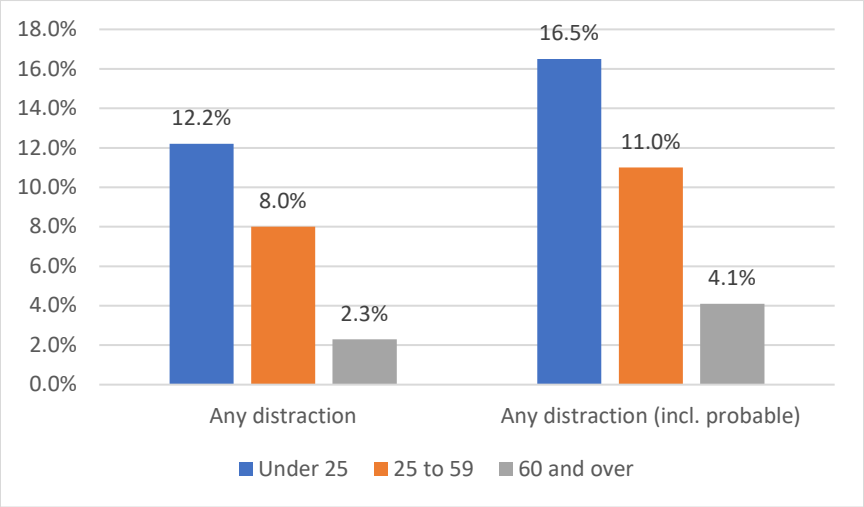
Figure 5. Phone Manipulation by Age of Driver (% Yes)



Rates of any *observed* distraction ranged from 2.3 percent in the 60+ group to 12.2 percent in the under 25 group. The difference between age groups was significant (AO, χ^2 (2) = 136.1, p< .0001).The 60 and over age group had significantly lower rates of AO than the 25-59 age group (AO, χ^2 (1) = 91.96, p< .0001, 95% CI [0.20, 0.35]) and the under 25 age group (AO, χ^2 (1) = 136.0, p< .0001, 95% CI [0.12, 0.23]).

Rates of any distraction *including probable* were highest in the youngest drivers (16.5%) and lowest in the oldest drivers (4.1%). The difference between age groups was significant (AiP, χ^2 (2) = 165.7, p< .0001).The 60 and over age group had significantly lower rates of AiP than the 25-59 age group (AiP, χ^2 (1) = 103.85, p< .0001, 95% CI [0.28, 0.42]) and the under 25 age group (AiP, χ^2 (1) = 165.2, p< .0001, 95% CI [0.17, 0.27]). Figure 6 shows the usage rates for *any distraction* across driver age.

Figure 6. Any Distraction by Age of Driver (% Yes)



E. Distracted Driving Rates by Vehicle Type

Close to half (45.5%) of vehicle observers were passenger cars, 29.0 percent were SUVs, 20.5 percent were pick-up trucks, and 5.1 percent were vans. Vehicle type was unknown for less than 1 percent (0.1%) of drivers (N=3). Binary logistic regression analyses were conducted comparing distracted driving rates between vehicle types (unknown vehicles were excluded from these analyses and passenger cars was used as a base for the pairwise comparisons).

The rates of *talking on a handheld cell phone* were highest among pick-up truck drivers (2.3%) and lowest among drivers of vans (1.1%). The overall difference between vehicle types was significant (HH, χ^2 (2) = 12.3, $p< .05$), but the pairwise comparisons, using passenger car as a base did not reveal any significant difference.

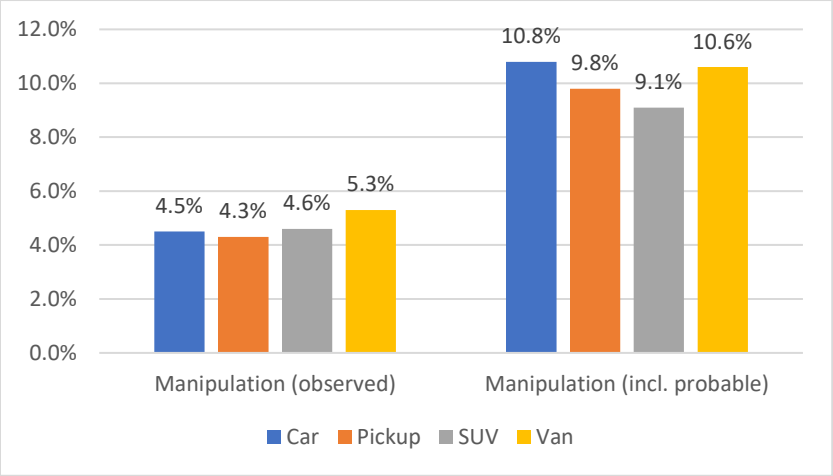
Rates of *hands-free* use were highest in passenger cars and vans (each at 1.6%) and lowest in drivers of pick-up trucks (0.9%). There was no significant difference between vehicle types (HF, χ^2 (2) = 6.34, $p> .05$). See Table 8 for details.

Table 8. Talking on a Cell Phone While Driving, by Vehicle Type (% Yes)

	Car	Pick-up	SUV	Van
Handheld Use	1.2%	2.3%	1.5%	1.1%
Hands-Free Use	1.6%	0.9%	1.3%	1.6%
(Total N)	*(N=5,040)*	*(N=2,269)*	*(N=3,212)*	*(N=565)*

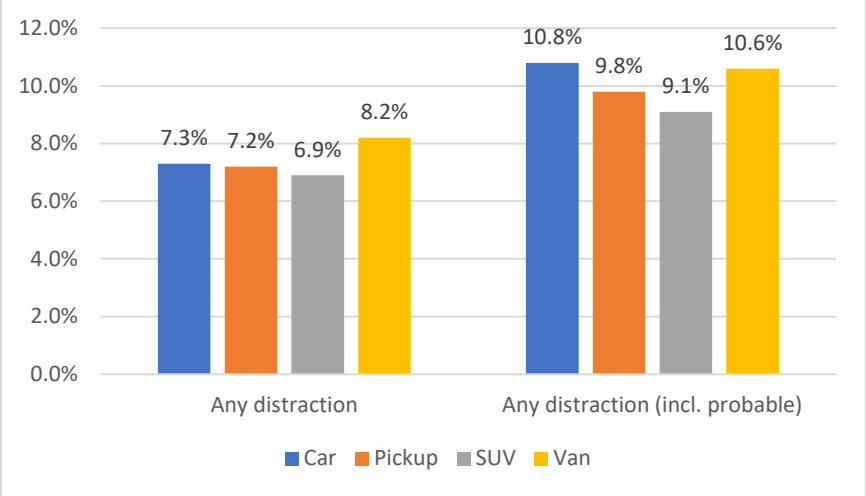
Rates of *observed* manipulation were highest in vans (5.3%) and lowest in pick-up trucks (4.3%). The difference between vehicle types was not significant (MO, χ^2 (2) = 1.16, $p> .05$). When *probable* manipulation was added to the *observed* manipulation, rates ranged from 9.1 percent in drivers of SUVs to 10.8 percent in drivers of cars. The difference between vehicle types did not reach significance (MiP, χ^2 (2) = 6.64, $p> .05$). Figure 7 shows the usage rates for *manipulation* across vehicle type.

Figure 7. Phone Manipulation by Vehicle Type (% Yes)



Rates of any *observed* distraction ranged from 6.9 percent in drivers of SUV to 8.2 percent in drivers of vans. The difference between vehicle types was not significant (AO, χ^2 (2) =1.13, p> .05). Rates of any distraction *including probable* were highest in cars drivers (10.8%) and lowest in SUV drivers (9.1%). The difference between vehicle types was not significant (AiP, χ^2 (2) = 7.0, p> .05). Figure 8 shows the usage rates for *any distraction* across vehicle types.

Figure 8. Any Distraction by Vehicle Type (% Yes)



F. Distracted Driving Rates by Time of Day

Observations took place during daytime hours. Three time periods were defined for the purposes of analyses: morning (7:00am to 10:20am), midday (10:20am to 2:20pm) and late afternoon (2:20pm to 5:25pm). Distribution of observations was evenly divided across time period with approximately one-third of observations occurring in each time category (32.4% in the morning, 35.3% in midday, and 32.3% in late afternoon). Binary logistic regression analyses

were conducted comparing distracted driving rates time periods (late afternoon was use as a base for the pairwise comparisons).

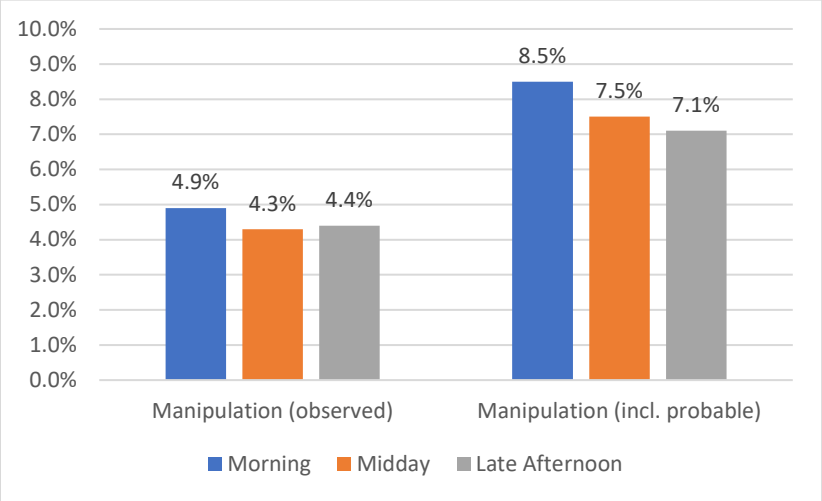
The rates of *talking on a handheld cell phone* ranged from 1.4 percent in midday hours to 1.6 percent in morning and afternoon times. The difference between time periods was not significant (HH, χ^2 (2) = 1.19, p< .05). Rates of *hands-free* use were highest in midday hours (1.7%) and lowest late afternoons (1.0%). There was a significant difference in HF usage across time periods(HF, χ^2 (2) = 6.76, p< .05). The later afternoon period had significantly lower rates of HF usage than the midday period (HF, χ^2 (1) = 6.76, p< .01, 95% CI [0.39, 0.88]). See Table 9 for details.

Table 9. Talking on a Cell Phone While Driving, by Time of Day (% Yes)

	Morning	Midday	Late Afternoon
Handheld Use	1.6%	1.4%	1.6%
Hands-Free Use	1.4%	1.7%	1.0%
(Total N)	*(N=3,594)*	*(N=3,912)*	*(N=3,583)*

Rates of *observed* manipulation were highest in the morning (4.9%) and lowest in midday hours (4.3%). The difference between time periods was not significant (MO, χ^2 (2) = 1.66, p> .05). When *probable* manipulation was added to the *observed* manipulation, rates ranged from 7.1 percent in late afternoon to 8.5 percent in the morning. The difference between time periods did not reach significance (MiP, χ^2 (2) = 5.37, p> .05). Figure 9 shows the usage rates for *manipulation* across time of day.

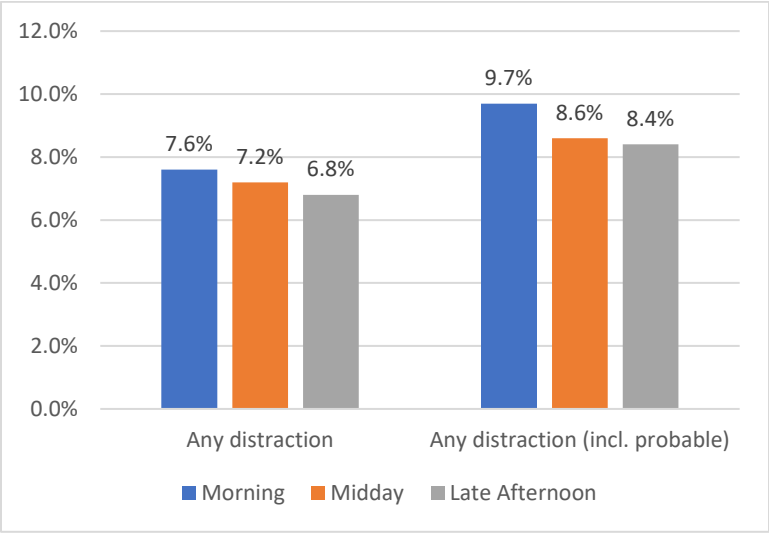
Figure 9. Phone Manipulation by Time of Day (% Yes)



Rates of any *observed* distraction ranged from 6.8 percent in the late afternoon period to 7.6 percent in the morning hours. The difference between time periods was not significant (AO, χ^2 (2) =1.54, p> .05). Rates of any distraction *including probable* were highest in the morning (9.7%) and lowest in late afternoon (8.4%). The difference between vehicle types was not

significant (AiP, χ^2 (2) = 4.08, p> .05). Figure 10 shows the usage rates for *any distraction* across time of day.

Figure 10. Any Distraction by Time of Day (% Yes)



IV. DISCUSSION

Results in this report were derived from roadside data collected during the first ever scientific distracted driving observations in the state. The overall use rate in the State of Vermont was approximately 7 percent of drivers in 2021, across all observed counties and categories for any type of cell phone use (talking or manipulating). Rates of any including probable distraction were around 10 percent. The usage rates for manipulating a cell phone while driving were higher than those for talking on a phone while driving. Distracted driving rates did not differ across site types (i.e., work zones, school zones, other) but fluctuated somewhat between counties. Rates of observed manipulation were significantly higher in female vs. male drivers, but no other behavior showed a significant difference across driver sex. Older drivers consistently had the lowest distracted driving rates. Rates of hands-free use were highest in the 25-59 age group, whereas drivers under the age of 25 showed the highest rates for talking on a handheld cell phone and phone. Thus, there were some difference among demographic variables, but none were drastic differences. PRG will be repeating these observations again in 2022. Specifically, we will be looking at any changes in use after the upcoming April enforcement wave.

APPENDIX A: Observer Instructions/Protocol

VT: DISTRACTED DRIVING/PHONE OBSERVATIONS - PROTOCOL

For each site, choose one direction of traffic to observe and indicate this info on the form (the direction chosen for the Pre will determine which direction will be observed in the future).

Include a quick sketch of where you stood & observed on the back of an observation form for each site. Note any helpful landmarks or parking suggestions for future reference.

DD Observation Instructions

- Each observation period will last for one hour (60 minutes).
- Fill out the top of each observation form completely. Staple multiple pages.
- Observe <u>all</u> vehicles except emergency vehicles (police, fire, ambulance), mid-size, box, or heavy trucks (defined as six or more tires), and/or buses.
- Choose a spot on the designated roadway and observe traffic in the lane <u>*closest to you*</u> (i.e., observe the traffic coming toward you, not cars on the opposite side of the road—ONE LANE ONLY FOR THE FULL 60 MINUTES).
- At designated **work zone** sites, pick an observation spot immediately after the zone (to accurately determine whether distraction was happening within zone). For designated **school zone** sites, pick your spot just prior to the beginning of the zone OR immediately after (for similar reasons). Do not stand only school property or immediately at entrances to avoid parental/staff concerns.
- Vehicles must be moving. Do not observe or record driver cell phone/texting use in stopped vehicles. (or at least do not observe them for longer than you would if they are moving) ---only observe cars selected via RP below.
- Select an RP, "reference point", far enough down the road so you can't see the driver cell phone use. Use the RP to randomly select the vehicles you will observe. Record the first vehicle that crosses the RP. Record one vehicle at a time. Return your eyes to the RP and record the next vehicle that crosses. The goal is not to record every vehicle that passes, but to collect data on a consistently random selection of drivers in that particular area during a specific timeframe.
- Do not observe turn lanes. If your observation area has one, move further down the street to a spot before the turn lane begins.
- <u>For each vehicle selected from the reference point, record the following information</u>: type of vehicle (car, pickup truck, sport utility, van,), driver's age category (<25, 25-59, >60), gender, and type of use, if applicable. **REMEMBER: Record info on all *selected* vehicles, regardless of device presence.**
- Record type of phone use using the appropriate columns below (if no use, only record 1st 3 columns):

  - **Handheld Use** (X in Fourth Column): Handheld phone conversation to ear or near the ear (i.e., not in front of face).
  - **Hands Free Use** (X in Fifth Column): If you see someone alone in the car talking to themselves, mark it "Hands Free", whether or not they have an in-ear device, or the Bluetooth is built into the dashboard, or the phone is mounted in a holder or even loose

on lap or seat. Just the presence of a Bluetooth earpiece does NOT = Use. Driver must be observed talking. NOT SINGING

- **Manipulating** (X – ***or P*** – in Sixth Column): Phone <u>in hand but not near ear</u>, whether actively texting or not. Manipulating will be recorded either as **X** (where certain) or **P** (where "probable"). ***Normally,*** "if we don't see it, it's not happening". However, in this instance, if you "really feel in your gut" that the driver is manipulating his/her phone, but you can't see the physical device to confirm, code as **P**.
- **Handheld + Manipulating**: Talking w/ phone in hand, but not held near ear (aka <u>Speakerphone</u>) should have ***<u>two</u>*** columns marked: Handheld ***and*** Manipulating (both with **X)**.
- **Manipulating *while* Hands Free:** *<u>Rare</u>*: Driver with phone in hand, not held near ear, but like speakerphone or texting use – ***and*** talking with a visible Bluetooth or Wired Earpiece. In this case, both Hands Free and Manipulating columns should be marked with an X.

- Do not wear a Safety Vest while observing for distracted driving. We do not want drivers to quickly change their behavior before we can observe and record them. (Putting on a seatbelt takes more time than taking your hand off your phone.) Please discuss this with us if you are uncomfortable with this.
- Try to observe from a slightly elevated location on the side of the road if possible. Observing through the passenger window will give you a better angle to see "lower" texting/manipulating. Even a curb can help.
- Do not observe in a <u>steady</u> rainfall, snow, sleet, or heavy fog. If it begins to rain (or snow or sleet) steadily during an observation, stop collecting data and wait 15 minutes for the precipitation to subside. If it stops, resume observations and extend the observation period to make up for the missed time. If the bad weather continues, notify Robert that the site will need to be made up and proceed to your next scheduled observation. Do not start your next site earlier than scheduled. If observations are interrupted due to inclement weather, complete the sheet you are using, noting the end time. If you resume observations, begin a new sheet, with a new start time.
- Keep one copy of the Law Enforcement Letter with you while observing. Leave the spare letter in your car. Often police will keep your letter. Have ID on you. Be respectful and move if asked. Check the time before and after police interaction so you can stay the few extra minutes needed to complete a full 60 min of observations. Wait for police vehicles to move away from site before resuming obs.
- Use common sense: Observe from a safe distance. Dress for the weather. Bring a hat and comfortable footwear. Hydrate. Use sunblock & bug repellent if needed.
- If a site is seriously compromised due to construction, a crash, emergency vehicles etc. or is unsafe, <u>call PRG for further instructions</u>. Your site will either be rescheduled, or an alternate site may be selected on the spot.

Call/text Robert Chaffe with any questions/issues (before 9 pm on cell please)

Office: (662) 236-9288 Cell: (662) 801-2433

APPENDIX B: Distracted Driving Observation Form

VT Distracted Driving Observation Data Form

SITE ID NUMBER: _____ **OBSERVER:** _____

CITY: _____ **LOCATION:** _____
(Street) (Cross Street or another landmark)

DATE: _____ - _____ - _____ **DAY OF WEEK:** _____ **DIR** _____

WEATHER CONDITION (Circle):
1 Clear / Sunny **4 Fog**
2 Light Rain **5 Clear but Wet**
3 Cloudy

START TIME: _____ **(Observation period exactly 1hr)**

	Vehicle Type C = Car T= Pick Up S = SUV V = Van	**Age** 1 = < 25 2= 25-59 3= > 60 4= Unsure	**Sex** M=Male F=Female U=Unsure	**Handheld Use**	**Hands Free Use**	**Manipulating (YES=X, PROBABLY=P)**		**Vehicle Type** C = Car T= Pick Up S = SUV V = Van	**Age** 1 = < 25 2= 25-59 3= > 60 4= Unsure	**Sex** M=Male F=Female U=Unsure	**Handheld Use**	**Hands Free Use**	**Manipulating (YES=X, PROBABLY=P)**
1							26						
2							27						
3							28						
4							29						
5							30						
6							31						
7							32						
8							33						
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23							48						
24							49						
25							50						