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Canadian Council of Motor Transport Administrators
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Use of Electronic Communication Devices by Canadian Drivers: Combined Urban/Rural Sites (2016-2017)

SUMMARY REPORT

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1.0 Executive Summary

The use of electronic communication devices (ECDs) such as cell phones, smart phones, and tablets by drivers has been found to increase the likelihood of motor vehicle crashes in a number of epidemiological studies. The use of ECDs by drivers has been measured periodically in observational surveys since 2006-2007. In the most recent 2012-2013 urban and rural surveys, 4.4% of drivers were observed talking or typing/texting on these hand-held devices. The use of ECDs by drivers was observed more often at urban sites (4.6%) than at rural sites (3.5%). Given that most Canadian jurisdictions have increased fines and demerit points and some have introduced new penalties for using hand-held ECDs, the Canadian Council of Motor Transport Administrators (CCMTA) was interested in whether there has been a change in the use of these devices by drivers since the last survey. An observational survey was conducted at 294 urban sites during the Fall 2016 and at 250 rural sites during the Fall 2017. A total of 124,667 drivers were observed while stopped at a red light or stop sign. Whether they were using a hand-held ECD was recorded by observers as well as the type of usage (i.e., talking, typing/texting, both talking and typing/texting, or holding the device), driver's age and sex, number of passengers in the vehicle, and type of vehicle. For the first time since a 2009-2010 survey, the use of seat belts by front seat occupants was also observed. The results are presented nationally, by jurisdiction, and by various subgroups (i.e., age, sex, type of vehicle, number of passengers). Nationally, an estimated 7.2% of the drivers used an ECD in some manner, varying by jurisdiction from 2.5% to 11.2%. ECD usage was higher in urban areas (7.9%) compared to rural areas (3%), among young drivers (<25 years of age), female drivers, drivers of passenger cars and light trucks, drivers without passengers, and unbelted drivers. ECDs were used for talking by 2.9% of drivers, typing/texting by 2.2%, talking and typing/texting by 0.4%, and holding the device by 0.9%. Nationally, the use of hand-held ECDs for talking increased significantly from 2.3% in the 2012-2013 surveys to 2.9% in the 2016-2017 surveys, a relative increase of 26%. Typing/texting on the ECD also increased significantly from 1.6% during the 2012-2013 surveys to 2.2% during the current surveys, an increase of 38%. Seat belt use was found to have increased significantly from 92.7% in 2006-2007 to 97.2% in 2016-2017, an increase of 4.9%.

2.0 Background

According to the Canadian Wireless Telecommunication Association, there were 31,210,628 wireless subscribers in 2017, an increase of 13% since 2013 [1]. These subscribers were using a variety of electronic communications devices (ECDs) such as cell phones, smart phones, and tablets. Many of these ECDs are being used by drivers while they are operating their vehicles and research has indicated that the use of ECDs while driving increases the risk of collisions [2, 3, 4]. While some drivers are moving to the use of hands-free ECDs in the belief that they are safer, there is a growing body of evidence that these ECDs are distracting as well given that the cognitive engagement in the driving task is just as important, if not more important, than the physical manipulation of the ECD [5]. Clearly, the use of ECDs by drivers is a road safety risk which should be monitored.

The last time electronic communication device (ECD) use by Canadian drivers was observed was in 2012-2013. An estimated 4.4% of drivers were talking or typing/texting using hand-held devices, 4.6% of them in urban areas and 3.5% in rural areas [6].

Most Canadian jurisdictions have passed laws between 2003 and 2012 prohibiting the use of hand-held ECDs by drivers. Since the 2012-2013 ECD use surveys, many jurisdictions have increased fines and introduced or increased demerit points for those drivers convicted of violating these laws and some have introduced new measures. In addition, the police have conducted programs to enforce these laws and governments and non-governmental organizations have carried out public awareness campaigns to raise awareness about the risk of driving while distracted by ECDs.

In order to determine whether driver use of hand-held ECDs has changed since the introduction of these measures, observational surveys were conducted at urban sites in the Fall of 2016 and in rural areas in the Fall of 2017. As in previous surveys, the current surveys do not address the use of hands-free ECDs by drivers. The 2016 urban and 2017 rural surveys expanded the type of ECD use to include talking and typing/texting at the same time and holding the ECD given some jurisdictions prohibit holding the device (e.g., Ontario). In addition, the current surveys included the observation of front seat occupants' use of seat belts to assess whether belt usage has changed since the last national surveys of seat belt use were conducted in 2009 and 2010 when usage was observed to be 96%. Separate reports have been prepared on the results of the 2016 urban survey [7] which also included the results of several pilot studies and the 2017 rural survey [8]. The current report includes the combined results of the urban and rural surveys.

3.0 Method

The methodology used in the 2016-2017 urban and rural surveys was very comparable to that used in the earlier surveys carried out in 2012-2013 except that the 2016-2017 surveys added the use of cell phones for both talking and typing/texting at the same time or holding the ECD. In the 2009 and 2010 surveys, only talking on ECDs was observed.

3.1 Sampling

Drivers of non-commercial light duty vehicles (i.e., passenger cars, minivans/sport utility vehicles (SUV), light trucks) were observed while the vehicles were stopped at intersections controlled by a traffic light or stop sign to determine their use of hand-held ECDs. A total of 294 primary sites in urban areas (i.e., community population over 10,000) and 250 sites in rural areas (i.e., community population from 1,000-10,000) were sampled using a multi-stage sampling design which included three stratification levels (i.e., jurisdiction, economic region and community population size) and two stages of sampling (i.e., selection of the intersections and selection of the periods of observations). Each of these sites had a replacement site in the same area in case the primary sample could not be used (e.g., construction or collision at the intersection). Further information about the survey sampling can be found in [9].

The urban survey was conducted primarily during the weeks of September 19-October 2, 2016. There were 103 (35%) sites where drivers were observed during the following several weeks. Observations were conducted on all days of the week between 07:30 and 18:30 at each site for two hours. A total of 82,281 drivers were observed. The rural survey was conducted primarily during the weeks of September 5 and October 5, 2017, although there were 35 sites (14%) which were observed during the following several weeks. Observations were conducted on

all days of the week between 07:30 and 18:30 at each site for two hours. A total of 42,376 drivers were observed. There was a total of 124,667 observations for the combined urban/rural surveys.

3.2 Survey Procedure

The variables observed were the following: driver use of ECD (Yes, No), type of ECD use (Talking, Typing/Texting, Both Talking and Typing/Texting, Holding Device), vehicle type (Passenger car, Minivan/SUV, Light truck), driver sex (Male, Female), estimated driver age (<25, 25-49, 50+), and number of passengers (None, One, Two or more). One observer counted the number of vehicles passing through the intersection that were going in the same direction as the vehicles being observed. These traffic counts were used to weight the data so that sites with more traffic had more impact on the ECD usage estimate. A second person observed the drivers of the stopped vehicles and the front seat occupant. If the site was particularly busy, a third observer was assigned to the site. This third person either observed drivers in vehicles in a different lane or observed drivers in alternating vehicles in the same lane (i.e., one person observed the first, third, fifth vehicles and the second person observed the second, fourth, sixth vehicles, etc.). The observers were positioned at the intersections such that they could look into the vehicle to determine if the drivers were using ECDs. However, in some cases, it may have been difficult to determine if the driver was holding the ECD in their lap (i.e. sometimes known as “crotching”).

The observers were trained initially in a classroom setting regarding the purpose of the survey, the information to be collected, and how to carry out the observations. Prior to conducting the survey, observers performed a number of practice observations on site while being supervised by the survey team leader.

4.0 Survey Results

The survey data were weighted by the population in the rural and urban strata and by the number of vehicles passing through the various sites. The data were analyzed to determine the use of ECDs and the type of ECD use (i.e., talking, typing/texting, both talking and typing/texting, holding ECD) nationally and for each jurisdiction. The ECD use data were also analyzed by type of vehicle, driver age and sex, and the presence of passengers. It should be noted that the percentages presented by these subgroups do not necessarily add up to the national ECD usage because of missing data for age, sex, etc. The results of the 2016-2017 surveys were also compared to those from the 2006/2007, 2009/2010, and 2012-2013 rural and urban surveys to determine if drivers’ hand-held ECD use has changed in terms of talking or typing/texting.

The CCMTA would like to thank Jean-Francois Lécuyer of the Motor Vehicle Safety Directorate, Transport Canada for conducting the site sampling and the data analyses for this project.

4.1 ECD Usage by Drivers

The combined urban/rural driver ECD usage is presented in Table 1 nationally and by jurisdiction. The ECD usage at urban and rural sites is also shown. Nationally, the use of ECDs by drivers was estimated to be 7.2 % with a measurement error of ± 0.5%. Usage ranged from a high of 11.2 % in Ontario to a low of 2.5% in Prince Edward

Island. Nationally, ECD use was higher at urban sites (7.9 %) than at rural sites (3.0%). This was the case in all jurisdictions except Saskatchewan and the Northwest Territories.

4.1.1 ECD Usage by Light-Duty Vehicle Type

In the surveys, 55.2% of the vehicles were passenger cars, 23.2% were minivans and SUVs and 21.6% were light trucks. Table 2 shows drivers' ECD usage by vehicle type for each jurisdiction and nationally. ECD usage was lower for drivers of minivans and SUVs (6.0%) than drivers of passenger cars (6.8%) or light trucks (6.8%). This vehicle type difference was found for Quebec, Prince Edward Island, Ontario, Alberta, British Columbia, and Northwest Territories.

Table 1 – Drivers' ECD Usage (Combined Urban/Rural) by Jurisdiction

Jurisdiction	Combined ECD Usage	Error	Number of Drivers Observed	Urban ECD Usage	Rural ECD Usage
Newfoundland & Labrador	5.4%	0.7%	4,416	7.7%	1.7%
Prince Edward Island	2.5%	0.9%	1,568	3.1%	0.4%
Nova Scotia	4.4%	0.4%	4,689	5.8%	1.4%
New Brunswick	3.3%	0.7%	6,820	3.9%	2.2%
Quebec	4.7%	0.6%	31,014	5.1%	2.8%
Ontario	11.2%	1.1%	32,011	12.1%	3.3%
Manitoba	6.0%	2.0%	6,551	7.2%	1.7%
Saskatchewan	5.5%	0.6%	7,353	5.1%	7.7%
Alberta	5.3%	0.8%	14,551	5.4%	4.6%
British Columbia	3.3%	0.8%	13,505	3.5%	1.6%
Yukon	3.4%	0.2%	1,170	3.5%	3.0%
Northwest Territories	10.4%	3.7%	1,019	8.0%	14.0%
Canada	**7.2%**	**0.5%**	**124,667**	**7.9%**	**3.0%**

Table 2 – Drivers' ECD Usage by Jurisdiction and Light-Duty Vehicle Type

Jurisdiction	Passenger cars	Minivans & SUVs	Light Trucks
Newfoundland & Labrador	5.0%	6.0%	6.8%
Prince Edward Island	3.6%	1.0%	2.4%
Nova Scotia	4.6%	5.5%	5.6%
New Brunswick	2.9%	3.3%	2.5%
Quebec	4.9%	4.8%	6.2%
Ontario	9.8%	8.4%	9.0%
Manitoba	6.5%	5.0%	4.0%
Saskatchewan	6.6%	4.9%	3.6%
Alberta	5.3%	4.7%	5.7%
British Columbia	3.3%	3.2%	4.3%
Yukon	4.6%	3.0%	1.9%
Northwest Territories	16.2%	5.4%	11.8%
Canada	**6.8%**	**6.0%**	**6.8%**

4.1.2 ECD Usage by Driver Sex

In the combined survey, 62.1% of the drivers were males and 37.9% were females. As shown in Table 3, female drivers were somewhat more likely to be using an ECD (7.0%) than male drivers (6.3%). Female drivers' ECD usage was at least 0.5% or higher than male usage in six jurisdictions, particularly in Ontario.

Table 3 – Drivers' ECD Usage by Jurisdiction and Sex

Jurisdiction	Male	Female
Newfoundland & Labrador	5.0%	5.9%
Prince Edward Island	2.3%	2.7%
Nova Scotia	4.9%	4.4%
New Brunswick	2.7%	2.7%
Quebec	4.9%	4.8%
Ontario	8.9%	10.5%
Manitoba	5.2%	6.7%
Saskatchewan	5.0%	5.9%
Alberta	5.0%	5.4%
British Columbia	3.2%	3.7%
Yukon	2.4%	4.0%
Northwest Territories	10.2%	9.7%
Canada	**6.3%**	**7.0%**

4.1.3 ECD Usage by Driver Age

In the combined survey, 11.1% of the drivers were under 25 years of age, 61.7% were between 25 and 49 years old and 27.2% were 50 years and older. ECD usage by drivers is presented by age in Table 4.

Table 4 – Drivers' ECD Usage by Jurisdiction and Age

Jurisdiction	Under 25	25 to 49	50 and over
Newfoundland & Labrador	10.2%	5.2%	1.8%
Prince Edward Island	13.6%	2.1%	0.9%
Nova Scotia	5.6%	5.6%	2.9%
New Brunswick	8.1%	2.9%	1.1%
Quebec	10.3%	5.1%	2.1%
Ontario	15.2%	9.9%	5.5%
Manitoba	13.8%	5.0%	0.4%
Saskatchewan	8.9%	5.1%	3.9%
Alberta	12.3%	5.1%	1.6%
British Columbia	4.4%	3.9%	1.9%
Yukon	3.7%	4.3%	2.0%
Northwest Territories	15.4%	10.0%	8.7%
Canada	**11.6%**	**6.8%**	**3.4%**

ECD usage was considerably higher (11.6%) among young drivers (<25 years of age) than it was for those drivers 25-49 (6.8%) or those 50+ (3.4%). Greater ECD use by drivers under 25 was observed in ten jurisdictions.

4.1.4 ECD Usage by Driver Sex and Age

In the survey, 6.0% of the drivers were males under 25 years old, 5.1% were females under 25 years old, 37.3% were males between 25 and 49 years old, 24.4% were females between 25 and 49 years old, 18.8% were males 50 years and older and 8.4% were females 50 years and older. Table 5 displays ECD usage by sex and age groups. ECD usage was slightly higher among young female drivers (11.3%) than young male drivers (11.1%) but both these groups were much more likely than the other sex/age groups to be using an ECD.

4.1.5 ECD Usage by Vehicle Type, and Driver Sex and Age

Since the type of vehicle driven is often influenced by age and sex, the data on ECD usage by type of vehicle was analyzed separately for males and females and by age groups. ECD usage is shown by vehicle type and sex in Table 6. For males, ECD use was more frequent among drivers of passenger cars (6.5%) but for females, it was higher for those driving light trucks (10.0%).

Table 5 – Drivers' ECD Usage by Jurisdiction and Age/Sex Groups

Jurisdiction	Males Under 25	Females Under 25	Males 25 to 49	Females 25 to 49	Males 50 and over	Females 50 and over
Newfoundland & Labrador	8.3%	11.5%	5.3%	5.1%	1.4%	2.4%
Prince Edward Island	16.2%	10.7%	1.6%	2.7%	1.2%	0.5%
Nova Scotia	7.2%	3.7%	6.2%	4.9%	2.6%	3.4%
New Brunswick	7.6%	4.6%	2.9%	2.9%	1.4%	0.7%
Quebec	10.3%	9.8%	5.2%	4.7%	2.2%	1.6%
Ontario	14.2%	15.0%	9.7%	10.1%	4.8%	7.0%
Manitoba	13.8%	13.8%	3.9%	6.3%	0.5%	0.4%
Saskatchewan	8.8%	7.7%	4.9%	5.4%	3.0%	5.7%
Alberta	11.9%	12.2%	5.1%	5.0%	1.8%	1.2%
British Columbia	3.9%	4.8%	3.8%	3.9%	1.7%	2.0%
Yukon	2.3%	5.4%	4.3%	3.8%	0.1%	3.8%
Northwest Territories	17.2%	12.7%	8.5%	12.1%	10.8%	4.1%
Canada	**11.1%**	**11.3%**	**6.7%**	**6.8%**	**3.1%**	**3.9%**

Table 6 – Drivers' ECD Usage by Light-Duty Vehicle Type and Sex

Sex	Passenger cars	Minivans & SUVs	Light Trucks
Male	6.5%	5.5%	6.1%
Female	7.0%	6.3%	10.0%
Total	**6.7%**	**5.9%**	**6.7%**

ECD use by age group and vehicle type appears in Table 7. Among drivers under 25, ECD use was higher among drivers of minivans and SUVs (14.5%) while for those 25-49, it was higher among drivers of light trucks (7.2%). For those 50 and over, drivers of passenger cars were slightly more likely to use ECDs (3.6%).

Table 7 - Drivers' ECD Usage by Light-Duty Vehicle Type and Age

Age	Passenger cars	Minivans & SUVs	Light Trucks
Under 25	11.0%	14.5%	12.8%
25 to 49	6.8%	6.4%	7.2%
50 and over	3.6%	2.4%	3.3%
Total	**6.7%**	**5.9%**	**6.7%**

4.1.6 ECD Usage by Presence of Passengers

In the survey, 66.0% of the drivers had no passengers, 28.3% had one passenger and 5.7% had two or more passengers. Table 8 exhibits ECD use by the number of passengers present in the vehicle. ECD usage was slightly higher when there were no passengers present (6.6%). This was observed in five jurisdictions.

4.1.7 Drivers' ECD Usage by Drivers' Seat Belt Use

In the survey, 97.7% of the drivers were belted and 2.3% of the drivers were unbelted. Table 9 shows drivers' ECD usage by belt use. ECD usage was considerably higher among drivers who were unbelted (9.6%). Such a difference of 0.5% or more was observed in eight jurisdictions.

Table 8 – Drivers' ECD Usage by Jurisdiction and Number of Passengers

Jurisdiction	No passenger	One passenger	Two or more passengers
Newfoundland & Labrador	8.4%	2.4%	1.4%
Prince Edward Island	2.6%	1.6%	3.9%
Nova Scotia	5.0%	4.1%	5.6%
New Brunswick	3.0%	2.9%	3.7%
Quebec	5.8%	2.6%	3.4%
Ontario	8.4%	11.4%	10.9%
Manitoba	4.1%	7.8%	3.7%
Saskatchewan	5.3%	7.5%	3.5%
Alberta	6.2%	2.2%	2.5%
British Columbia	4.2%	1.9%	1.7%
Yukon	4.6%	1.7%	3.9%
Northwest Territories	10.3%	10.4%	8.6%
Canada	**6.6%**	**6.3%**	**6.2%**

Table 9- Drivers' ECD Usage by Drivers' Seat Belt Use

Jurisdiction	Belted	Unbelted
Newfoundland & Labrador	5.2%	8.7%
Prince Edward Island	2.4%	0.0%
Nova Scotia	4.7%	2.9%
New Brunswick	2.7%	20.5%
Quebec	4.8%	8.6%
Ontario	9.5%	11.5%
Manitoba	5.2%	30.0%
Saskatchewan	5.0%	5.4%
Alberta	4.8%	6.4%
British Columbia	3.3%	3.8%
Yukon	3.3%	0.2%
Northwest Territories	8.8%	14.5%
Canada	**6.5%**	**9.6%**

4.2 Type of Drivers' ECD Usage

Observers indicated whether the driver was talking on the ECD, typing/texting, both talking and typing/texting, or holding the device. The type of usage is shown in Table 10.

Table 10 - Type of ECD Usage by Jurisdiction

Jurisdiction	Talking	Error	Typing/ Texting	Error	Talking/Typing/ Texting	Error	Holding ECD	Error
Newfoundland & Labrador	1.7%	0.2%	2.1%	0.3%	0.9%	0.1%	0.2%	0.0%
Prince Edward Island	1.0%	0.0%	1.1%	0.8%	0.1%	0.1%	0.1%	0.1%
Nova Scotia	2.1%	0.3%	1.1%	0.2%	0.3%	0.1%	0.3%	0.0%
New Brunswick	1.1%	0.2%	1.0%	0.3%	0.0%	0.0%	0.5%	0.2%
Quebec	1.7%	0.3%	2.0%	0.3%	0.2%	0.0%	0.4%	0.1%
Ontario	4.7%	0.2%	3.2%	0.3%	0.7%	0.3%	1.4%	0.2%
Manitoba	2.1%	0.4%	2.1%	1.4%	1.0%	0.2%	0.5%	0.2%
Saskatchewan	2.6%	0.4%	1.8%	0.2%	0.1%	0.0%	0.5%	0.1%
Alberta	1.2%	0.1%	1.8%	0.5%	0.4%	0.3%	0.8%	0.1%
British Columbia	1.6%	0.4%	0.8%	0.2%	0.1%	0.0%	0.5%	0.2%
Yukon	1.4%	0.2%	1.3%	0.1%	0.0%	0.1%	0.2%	0.1%
Northwest Territories	5.6%	1.9%	3.3%	1.5%	0.2%	0.0%	0.3%	0.2%
Canada	**2.9%**	**0.1%**	**2.2%**	**0.2%**	**0.4%**	**0.1%**	**0.9%**	**0.1%**

Nationally, talking on the ECD was more frequent (2.9%) than typing/texting (2.2%), talking/typing/texting at the same time (0.4%) or holding the ECD (0.9%). This was the case for five jurisdictions.

4.2.1 Type of Drivers' ECD Usage by Vehicle Type

The type of ECD use is presented by type of light-duty vehicle for each jurisdiction in Table 11. Regardless of type of vehicle, talking on ECDs was more common than typing/texting or holding the ECD. Talking was more frequent for drivers of light trucks (3.4%) than it was for drivers of passenger cars (2.5%) or minivans/SUVs (2.4%). Typing/texting on an ECD was slightly more frequent among passenger car drivers (2.2%) while holding the device was slightly more common among light truck drivers (1.2%)

Table 11 - Type of ECD Usage by Drivers by Jurisdiction and Light-Duty Vehicle Type

Jurisdiction	Talking			Typing/Texting			Holding ECD		
	Passenger cars	Minivans & SUVs	Light Trucks	Passenger cars	Minivans & SUVs	Light Trucks	Passenger cars	Minivans & SUVs	Light Trucks
Newfoundland & Labrador	1.7%	1.7%	1.8%	1.6%	2.6%	2.9%	0.1%	0.5%	0.2%
Prince Edward Island	1.1%	0.8%	1.0%	1.8%	0.0%	1.4%	0.3%	0.0%	0.0%
Nova Scotia	1.8%	2.1%	3.9%	1.3%	1.1%	1.3%	0.2%	1.1%	0.1%
New Brunswick	1.2%	1.3%	0.8%	0.7%	1.2%	0.8%	0.4%	0.4%	0.4%
Quebec	1.7%	1.1%	3.3%	2.0%	2.6%	1.5%	0.5%	0.3%	0.8%
Ontario	3.9%	3.8%	4.8%	2.9%	2.1%	1.4%	1.5%	1.0%	2.0%
Manitoba	1.9%	2.8%	2.3%	2.4%	2.1%	0.6%	0.5%	0.1%	0.1%
Saskatchewan	3.2%	2.3%	1.5%	2.0%	1.7%	1.1%	0.8%	0.5%	0.6%
Alberta	1.0%	1.1%	1.3%	2.0%	1.6%	1.4%	0.7%	0.6%	1.2%
British Columbia	1.4%	1.8%	2.4%	0.9%	0.8%	0.7%	0.5%	0.3%	0.5%
Yukon	2.3%	1.0%	0.9%	1.5%	2.0%	0.6%	0.3%	0.0%	0.0%
Northwest Territories	8.4%	3.6%	6.0%	5.7%	1.1%	4.4%	0.2%	0.0%	0.4%
Canada	**2.5%**	**2.4%**	**3.4%**	**2.2%**	**1.9%**	**1.3%**	**0.9%**	**0.6%**	**1.2%**

4.2.2 Type of Drives' ECD Usage by Sex

Table 12 displays the type of ECD use by sex for each jurisdiction. Both men and women were more likely to be talking than typing/texting. However, female drivers (2.3%) were slightly more likely to be typing/texting than male drivers (1.9%) but they did not differ on other types of usage.

Table 12 – Type of Drivers' ECD Usage by Sex and Jurisdiction

Jurisdiction	Talking		Typing/Texting		Talking/Typing/Texting		Holding ECD	
	Male	Female	Male	Female	Male	Female	Male	Female
Newfoundland & Labrador	1.5%	1.9%	1.9%	2.2%	0.9%	1.0%	0.1%	0.2%
Prince Edward Island	1.1%	1.0%	1.1%	1.2%	0.1%	0.0%	0.0%	0.4%
Nova Scotia	2.6%	1.4%	1.1%	1.6%	0.4%	0.4%	0.1%	0.6%
New Brunswick	1.1%	1.0%	0.7%	0.7%	0.1%	0.0%	0.3%	0.5%
Quebec	1.8%	1.4%	1.9%	2.3%	0.2%	0.2%	0.4%	0.5%
Ontario	3.9%	4.2%	2.5%	2.9%	0.4%	0.6%	1.2%	1.7%
Manitoba	1.7%	2.7%	1.3%	3.0%	1.4%	0.5%	0.4%	0.4%
Saskatchewan	2.3%	3.0%	1.6%	1.6%	0.1%	0.2%	0.5%	0.8%
Alberta	1.2%	1.0%	1.6%	2.2%	0.2%	0.4%	0.8%	0.7%
British Columbia	1.6%	1.6%	0.8%	1.0%	0.1%	0.1%	0.4%	0.7%
Yukon	1.2%	1.4%	1.0%	1.6%	0.0%	0.0%	0.0%	0.4%
Northwest Territories	6.5%	4.1%	3.0%	4.0%	0.0%	0.3%	0.3%	0.3%
Canada	**2.6%**	**2.6%**	**1.9%**	**2.3%**	**0.3%**	**0.4%**	**0.8%**	**1.0%**

4.2.3 Type of Drivers' ECD Usage by Age

Table 13 exhibits the type of drivers' ECD usage by age nationally and for each jurisdiction. All types of ECD usage declined with age and for all age groups, talking was more frequent than other types of usage. This pattern of usage by age group occurred in most jurisdictions.

Table 13 – Type of Drivers' ECD Usage by Age and Jurisdiction

Jurisdiction	Talking			Typing/Texting			Holding ECD		
	Under 25	25 to 49	50 and over	Under 25	25 to 49	50 and over	Under 25	25 to 49	50 and over
Newfoundland & Labrador	3.3%	1.5%	0.6%	4.2%	1.9%	0.7%	0.5%	0.2%	0.0%
Prince Edward Island	3.4%	1.0%	0.5%	9.1%	1.0%	0.0%	0.0%	0.2%	0.0%
Nova Scotia	3.2%	2.9%	0.7%	0.8%	1.1%	1.6%	0.0%	0.5%	0.2%
New Brunswick	2.7%	1.2%	0.4%	3.2%	0.8%	0.2%	1.4%	0.5%	0.2%
Quebec	3.6%	1.8%	0.7%	4.9%	2.1%	0.6%	0.9%	0.5%	0.1%
Ontario	6.1%	4.1%	0.6%	4.0%	2.9%	1.2%	2.1%	1.6%	0.7%
Manitoba	3.2%	2.5%	0.2%	5.8%	1.5%	0.2%	0.7%	0.5%	0.0%
Saskatchewan	3.6%	2.6%	2.6%	2.9%	1.7%	0.4%	1.3%	0.5%	0.4%
Alberta	2.5%	1.2%	0.4%	6.0%	1.6%	0.6%	1.5%	0.8%	0.3%
British Columbia	1.9%	1.8%	0.8%	0.9%	1.0%	0.6%	0.9%	0.6%	0.2%
Yukon	1.2%	2.2%	0.8%	2.2%	1.6%	0.4%	0.0%	0.3%	0.0%
Northwest Territories	9.2%	4.7%	5.8%	4.8%	3.8%	2.9%	0.4%	0.2%	0.0%
Canada	**4.2%**	**2.7%**	**1.5%**	**4.0%**	**2.1%**	**0.8%**	**1.4%**	**1.0%**	**0.4%**

4.2.4 Type of Drivers' ECD Usage by Age, Sex and Vehicle Type

As was done for overall ECD use, talking and typing/texting on ECDs was analyzed by driver age and sex for each vehicle type. Table 14 indicates that for males and females, talking was more frequent among drivers of light trucks (3.2% and 3.6%). Typing/texting by males was somewhat higher for drivers of passenger cars (2.1%) but for females typing/texting was more common among drivers of light trucks (3.0%). Table 14a shows that there was not much of a difference in talking and for typing/texting at the same time by sex and type of vehicle but holding the ECD was more common for women driving light trucks (2.5%). Women driving light trucks were somewhat more likely than men to be using ECDs for any type of usage than men. Table 14b shows that was not much difference in talking/typing/texting as a function of sex and type of vehicle but both males and females were slightly more likely to be holding an ECD is they were driving a light truck.

Table 14a – Type of Drivers' ECD Usage by Light-duty Vehicle Type and Sex						
Sex	**Talking**			**Typing/Texting**		
	Passenger Cars	**Minivans & SUVs**	**Light Trucks**	**Passenger Cars**	**Minivans & SUVs**	**Light Trucks**
Male	2.5%	2.3%	3.2%	2.1%	1.6%	1.1%
Female	2.5%	2.5%	3.6%	2.3%	2.2%	3.0%
Total	**2.5%**	**2.4%**	**3.3%**	**2.2%**	**1.9%**	**1.3%**

Table 14b – Type of Drivers' ECD Usage by Light-duty Vehicle Type and Sex						
Sex	**Talking/Typing/Texting**			**Holding ECD**		
	Passenger Cars	**Minivans & SUVs**	**Light Trucks**	**Passenger Cars**	**Minivans & SUVs**	**Light Trucks**
Male	0.3%	0.3%	0.2%	0.7%	0.6%	0.9%
Female	0.4%	0.4%	0.4%	1.1%	0.6%	2.5%
Total	**0.4%**	**0.4%**	**0.2%**	**0.9%**	**0.6%**	**1.2%**

Table 15a shows drivers under 25 were more likely to have been talking if they were driving a light truck (7.1%) as were drivers 25-49 (3.7%). Drivers 50 and over were slightly less likely to have been talking on an ECD if they were driving a passenger car (1.5%). Drivers under 25 in minivans and SUVs were more likely to be typing/texting on an ECD (6.5%) but drivers 25-49 driving a light truck were less likely to have been typing/texting (1.3%). There was not much difference for drivers 50 and over. Table 15b indicates that young drivers of minivans/SUVs were slightly more likely to have been both talking and typing/texting but young drivers of light trucks were more often holding the ECD.

Table 15a – Type of Drivers' ECD Usage (Talking or Typing/Texting) by Vehicle Type and Age						
Age	Talking			Typing/Texting		
	Passenger Cars	Minivans & SUVs	Light Trucks	Passenger Cars	Minivans & SUVs	Light Trucks
Under 25	3.9%	4.2%	7.1%	3.9%	6.5%	2.8%
25 to 49	2.5%	2.6%	3.7%	2.2%	2.0%	1.3%
50 and over	1.5%	1.1%	1.4%	0.9%	0.6%	0.9%
Total	**2.5%**	**2.3%**	**3.4%**	**2.2%**	**1.8%**	**1.3%**

Table 15b – Type of Drivers' ECD Usage (Talking/Typing/Texting) by Vehicle Type and Age						
Age	Talking/Typing/Texting			Holding ECD		
	Passenger Cars	Minivans & SUVs	Light Trucks	Passenger Cars	Minivans & SUVs	Light Trucks
Under 25	1.0%	1.9%	0.7%	1.3%	0.9%	1.8%
25 to 49	0.3%	0.3%	0.1%	1.0%	0.8%	1.4%
50 and over	0.1%	0.2%	0.3%	0.4%	0.3%	0.3%
Total	**0.4%**	**0.4%**	**O.2%**	**0.9%**	**0.7%**	**1.2%**

4.2.5 Type of Drivers' ECD Usage by Number of Passengers

Table 16 shows the type of driver ECD usage by the number of passengers present in the vehicle nationally and for each jurisdiction. Typing/texting was slightly more frequent if there were not any passengers but the number of passengers did not affect other types of usage.

Table 16 – Type of Drivers' ECD Usage by Number of Passengers and Jurisdiction

	Talking			Typing/Texting			Talking/Typing Texting			Holding ECD		
	# Passengers			# Passengers			# Passengers			# Passengers		
Jurisdiction	**0**	**1**	**2+**	**0**	**1**	**2+**	**0**	**1**	**2+**	**0**	**1**	**2+**
Newfoundland & Labrador	3.1%	0.9%	0.2%	2.8%	1.3%	0.0%	1.5%	0.0%	1.0%	0.2%	0.1%	0.0%
Prince Edward Island	1.2%	0.3%	0.8%	1.1%	0.3%	3.1%	0.0%	0.3%	0.0%	0.1%	0.3%	0.0%
Nova Scotia	2.5%	1.2%	0.1%	1.2%	1.2%	3.7%	0.3%	0.4%	1.5%	0.4%	0.0%	0.0%
New Brunswick	1.2%	0.8%	3.5%	0.8%	1.4%	0.0%	0.1%	0.0%	0.0%	0.5%	0.3%	0.0%
Quebec	2.0%	1.0%	1.1%	2.6%	1.0%	1.4%	0.2%	0.2%	1.3%	0.5%	0.1%	0.3%
Ontario	3.5%	4.8%	5.0%	2.5%	3.2%	1.9%	0.3%	0.7%	1.1%	1.3%	1.5%	1.9%
Manitoba	2.7%	2.0%	1.7%	0.6%	3.3%	1.2%	0.0%	1.7%	0.4%	0.1%	0.7%	0.1%
Saskatchewan	2.0%	4.9%	1.8%	1.8%	1.8%	1.1%	0.2%	0.0%	0.0%	0.7%	0.4%	0.0%
Alberta	1.3%	0.6%	0.3%	2.2%	0.5%	1.8%	0.3%	0.2%	0.3%	0.9%	0.3%	0.0%

British Columbia	2.0%	0.7%	0.8%	1.0%	0.6%	0.6%	0.1%	0.1%	0.1%	0.6%	0.4%	0.1%
Yukon	2.4%	0.7%	0.0%	1.5%	0.7%	3.2%	0.0%	0.0%	0.0%	0.3%	0.0%	0.3%
Northwest Territories	6.1%	4.9%	4.8%	2.1%	4.7%	3.0%	0.0%	0.3%	0.0%	0.2%	0.4%	0.0%
Canada	**2.6%**	**2.6%**	**2.6%**	**2.1%**	**1.9%**	**1.6%**	**0.2%**	**0.4%**	**0.6%**	**0.9%**	**0.8%**	**0.8%**

4.3 Trends in ECD Usage by Drivers

In the current surveys, the usage of ECDs by drivers who were either talking, typing/texting, both talking and typing/texting or holding the ECD was observed at urban and rural sites across Canada. Previous Canadian rural surveys conducted in 2009 and 2013 and urban surveys conducted in 2010 and 2012 included observations of talking by drivers on hand-held ECDs [6, 12]. Therefore, talking on ECDs in the current 2016-2017 survey was compared with talking in these previous combined rural and urban surveys nationally and by jurisdiction and the results appear in Table 17. The table shows the change in the percentage of drivers talking on hand-held ECDs for the 2009-2010, 2012-2013, and 2016-2017 combined urban/rural surveys and the confidence intervals around these percentage changes for each jurisdiction. Bolded confidence intervals denotes that the change from one time period to another was statistically significant at least at the .05 level.

Table 17- Electronic Communication Devices Usage for Talking by Drivers by Jurisdiction in 2009-2010, 2012-2013 and 2016-2017

Jurisdiction	ECD Usage for Talking			Difference in ECD Usage for Talking			Confidence Interval for the Difference		
	2009-2010	2012-2013	2016-2017	2009-2010 to 2012-2013	2012-2013 to 2016-2017	2009-2010 to 2016-2017	2009-2010 to 2012-2013	2012-2013 to 2016-2017	2009-2010 to 2016-2017
Newfoundland & Labrador	3.5%	3.3%	1.7%	-0.2%	-1.6%	-1.8%	(-1.8%, 1.4%)	**(-3.2%, -0.1%)**	**(-2.1%, -1.5%)**
Prince Edward Island	3.5%	1.6%	1.0%	-1.9%	-0.6%	-2.5%	**(-2.4%, -1.3%)**	**(-1.0%, -0.3%)**	**(-2.9%, -2.1%)**
Nova Scotia	3.6%	2.2%	2.1%	-1.4%	-0.1%	-1.5%	**(-2.2%, -0.6%)**	(-0.6%, 0.2%)	**(-2.4%, -0.8%)**
New Brunswick	1.8%	1.6%	1.1%	-0.2%	-0.5%	-0.7%	(-0.9%, 0.5%)	(-1.1%, 0.1%)	**(-1.2%, -0.3%)**
Quebec	3.3%	2.7%	1.7%	-0.6%	-1.0%	-1.0%	**(-1.1%, 0.0%)**	**(-1.5%, -0.7%)**	**(-2.3%, -1.0%)**
Ontario	3.3%	2.3%	4.7%	-1.0%	2.4%	1.4%	**(-1.5%, -0.5%)**	**(2.0%, 2.9%)**	**(1.1%, 1.8%)**

Manitoba	1.8%	0.9%	2.1%	-0.9%	1.2%	0.3%	**(-1.2%, -0.6%)**	**(0.9%, 1.7%)**	(-0.2%, 0.8%)
Saskatchewan	1.8%	0.8%	2.6%	-1.0%	1.8%	0.8%	**(-1.3%, -0.7%)**	**(1.3%, 2.3%)**	**(0.3%, 1.3%)**
Alberta	4.9%	1.5%	1.2%	-3.4%	-0.3%	-3.7%	**(-3.8%, -3.1%)**	(-0.5%, 0.0%)	**(-4.0%, -3.5%)**
British Columbia	3.3%	3.0%	1.6%	-0.3%	-1.4%	-1.7%	(-0.8%, 0.2%)	(-2.0%, -0.8%)	**(-2.2%, -1.2%)**
Yukon	2.2%	4.8%	1.4%	2.6%	-3.4%	-0.8%	**(1.2%, 3.9%)**	**(-3.8%, -2.9%)**	(-2.1%, 0.5%)
Northwest Territories	2.1%	1.0%	5.6%	-1.1%	4.6%	3.5%	**(-1.7%, -0.5%)**	**(2.6%, 6.5%)**	**(1.6%, 5.4%)**
Canada	**3.3%**	**2.3%**	**2.9%**	**-1.0%**	**0.6%**	**-0.4%**	**(-1.3%, -0.8%)**	**(0.3%, 0.8%)**	**(-0.7%, -0.3%)**

*The confidence intervals showing significant differences appear in bold.

Nationally, it can be seen that in the 2009-2010 surveys, an estimated 3.3% of drivers were talking on ECDs but in the 2012-2013 surveys, 2.3% of drivers were talking. However, in the 2016-2017 surveys, ECD usage increased significantly to 2.9%, a relative increase of 26%. A statistically significant increase in ECD use from 2012-2013 to 2016-2017 was evident in Ontario, Manitoba, Saskatchewan, and the Northwest Territories. Significant decreases in talking on ECDs occurred in Newfoundland and Labrador, Prince Edward Island, Quebec, and the Yukon.

The 2012-2013 and 2016-2017 surveys included the use of the ECD for typing/texting but the 2009-2010 surveys did not. Table 18 shows this type of usage for these two waves of urban and rural surveys. Nationally, typing/texting increased significantly from 1.6% to 2.2%, an increase of 38 %. Significant increases were observed in all jurisdictions except Prince Edward Island, British Columbia, and the Yukon. There were significant decreases in the latter two jurisdictions.

Combining talking and typing/texting, ECD usage increased from 3.9% in 2012-2013 to 5.1% in 2016-2017, an increase of 31%.

Table 18- Electronic Communication Devices Usage for Typing/Texting by Drivers by Jurisdiction

Jurisdiction	ECD Usage for Texting		Difference in ECD Usage for Texting	Confidence Interval for the Difference
	2012-2013	2016-2017	2012-2013 to 2016-2017	2012-2013 to 2016-2017
Newfoundland & Labrador	0.8%	2.1%	1.3%	**(0.9%, 1.7%)**
Prince Edward Island	1.3%	1.1%	-0.2%	(-1.3%, 0.9%)
Nova Scotia	0.8%	1.1%	0.3%	**(0.0%, 0.6%)**
New Brunswick	0.4%	1.0%	0.6%	**(0.3%, 1.0%)**
Quebec	1.5%	2.0%	0.5%	**(0.0%, 0.9%)**
Ontario	2.3%	3.2%	0.9%	**(0.1%, 1.7%)**
Manitoba	0.4%	2.1%	1.7%	**(0.2%, 3.1%)**
Saskatchewan	0.8%	1.8%	1.0%	**(0.8%, 1.3%)**
Alberta	0.3%	1.8%	1.5%	**(1.0%, 2.0%)**
British Columbia	2.0%	0.8%	-1.2%	**(-1.5%, -0.9%)**
Yukon	3.8%	1.3%	-2.5%	**(-2.9%, -2.0%)**
Northwest Territories	0.0%	3.3%	3.3%	**(1.8%, 4.8%)**
Canada	**1.6%**	**2.2%**	**0.6%**	**(0.3%, 1.0%)**

*The confidence intervals showing significant differences appear in bold.

4.4 Seat Belt Use

Seat belt use by front seat occupants was observed for the first time since the 2009-2010 wave of surveys. Belt use is presented nationally and by jurisdiction in Table 19. Nationally, 97.2% of front seat occupants were observed to be wearing a seat belt. The belt usage varied from a high of 98.7% in Prince Edward Island to a low of 88.6% in Newfoundland and Labrador. Belt use was higher in urban than rural areas (97.5% vs 95.6%).

Table 19- Seat Belt Usage by Front-Seat Occupants by Jurisdiction

Jurisdiction	Combined Seat Belt Usage	Error	Urban Seat Belt Usage	Rural Seat Belt Use	Total Number of Occupants Observed
Newfoundland & Labrador	88.6%	0.8%	90.0%	86.4%	5,619
Prince Edward Island	98.7%	0.4%	99.4%	96.0%	2,103
Nova Scotia	91.8%	1.1%	89.1%	97.4%	6,042
New Brunswick	98.4%	0.4%	98.4%	98.3%	8,525
Quebec	98.6%	0.2%	99.0%	96.6%	38,912
Ontario	96.9%	0.4%	96.8%	97.1%	39,212
Manitoba	98.3%	0.3%	98.4%	98.1%	7,915
Saskatchewan	95.5%	0.3%	96.1%	93.0%	8,846
Alberta	97.4%	0.6%	97.9%	94.1%	17,218
British Columbia	98.2%	0.2%	98.5%	94.8%	16,237
Yukon	92.0%	0.2%	92.7%	89.0%	1,256
Northwest Territories	92.9%	3.6%	98.9%	83.5%	1,442
Canada	**97.2%**	**0.2%**	**97.5%**	**95.6%**	**153,327**

4.4.1 Belt Use by Type of Vehicle

In the survey, 55.2% of the vehicles were passenger cars, 23.2% were minivans and SUVs and 21.5% were light trucks. Belt use is shown by type of vehicle in Table 20. Belt usage was somewhat lower for occupants of light trucks (97%) than that for those of passenger cars (98%) or minivans and SUVs (97.7%). This was the case in most jurisdictions.

4.4.2 Seat Belt Usage by Sex of Driver

In the survey, 62.1% of the drivers were males and 37.9% were females. Note that the sex of front seat passengers was not observed. Table 21 present belt use by sex. Belt use was slightly higher among female drivers (98.5%) than male drivers (97.9%). This was the case in all but two jurisdictions.

Table 20- Seat Belt Usage by Front-Seat Occupants by Jurisdiction and Vehicle Type

Jurisdiction	Passenger cars	Minivans & SUVs	Light Trucks
Newfoundland & Labrador	92.5%	95.2%	90.4%
Prince Edward Island	98.9%	99.3%	96.7%
Nova Scotia	93.5%	93.5%	93.3%
New Brunswick	98.3%	99.2%	98.0%
Quebec	99.3%	99.1%	98.1%
Ontario	97.7%	96.6%	96.5%
Manitoba	98.8%	97.9%	97.9%
Saskatchewan	97.5%	99.0%	95.8%
Alberta	98.2%	99.2%	97.5%
British Columbia	98.7%	98.7%	98.2%
Yukon	94.5%	93.1%	87.8%
Northwest Territories	87.7%	94.0%	93.6%
Canada	**98.0%**	**97.7%**	**97.0%**

Table 21- Seat Belt Usage by Drivers Sex and by Jurisdiction

Jurisdiction	Male	Female
Newfoundland & Labrador	91.0%	94.8%
Prince Edward Island	97.9%	99.1%
Nova Scotia	93.9%	96.4%
New Brunswick	98.6%	98.7%
Quebec	99.0%	99.4%
Ontario	97.8%	98.0%
Manitoba	97.9%	99.2%
Saskatchewan	96.6%	98.7%
Alberta	98.2%	99.0%
British Columbia	98.4%	99.0%
Yukon	91.4%	96.1%
Northwest Territories	94.3%	92.1%
Canada	**97.9%**	**98.5%**

4.4.3 Seat Belt Usage by Age of Driver

In the survey, 11.1% of the drivers were under 25 years old, 61.7% were between 25 and 49 years old and 27.2% were 50 years and older. Belt use is displayed by age groups in Table 22. Belt use was somewhat lower among the under 25 drivers (97.1%) than it was for those aged 25-49 (98.4%) or those aged 50 and over (98.1%). This was the case in most jurisdictions.

Table 22 - Seat Belt Usage by Drivers Age by Jurisdiction

Jurisdiction	Under 25	25 to 49	50 and over
Newfoundland & Labrador	91.8%	93.2%	92.0%
Prince Edward Island	97.9%	98.1%	98.8%
Nova Scotia	94.7%	95.2%	94.4%
New Brunswick	97.3%	98.6%	98.9%
Quebec	98.5%	99.3%	99.2%
Ontario	96.4%	98.4%	97.5%
Manitoba	98.1%	98.7%	98.2%
Saskatchewan	95.6%	97.4%	98.1%
Alberta	97.3%	98.6%	98.7%
British Columbia	98.1%	98.6%	98.8%
Yukon	90.7%	93.5%	94.7%
Northwest Territories	93.9%	92.6%	94.4%
Canada	**97.1%**	**98.4%**	**98.1%**

4.4.4 Front Seat Occupants Belt Use by Number of Passengers

In the survey, 66.0% of the drivers had no passengers, 28.3% had one passenger and 5.7% had two or more passengers. Table 23 indicates that nationally, belt use was slightly higher if there were no passengers present in the vehicle. However, this pattern varied by jurisdiction.

Table 23 - Seat Belt Usage by Front-Seat Occupants and Jurisdiction and Number of Passengers,

Province/Territory	No passenger	One passenger	Two or more passengers
Newfoundland & Labrador	92.2%	93.6%	92.1%
Prince Edward Island	97.6%	99.5%	100.0%
Nova Scotia	94.0%	92.3%	95.5%
New Brunswick	98.5%	98.3%	97.7%
Quebec	99.0%	99.4%	98.6%
Ontario	97.8%	97.1%	97.0%
Manitoba	98.4%	97.7%	99.7%
Saskatchewan	97.4%	97.8%	94.7%
Alberta	98.2%	98.8%	98.2%
British Columbia	98.4%	98.6%	99.5%
Yukon	94.1%	89.5%	96.2%
Northwest Territories	92.8%	92.4%	94.1%
Canada	**98.0%**	**97.8%**	**97.7%**

4.4.5 Trends in Seat Belt Usage

Table 24 shows front seat occupants belt use for the years 2006-2007, 2009-2010, and 2016-2017. Belt use nationally has increased from 92.7% to 97.2% over these three waves of the survey. Most jurisdictions have seen significant increases in belt use over these years.

Table 25 - Belt Usage by Front-Seat Occupants by Jurisdiction in 2006-2007, 2009-2010 and 2016-2017

Jurisdiction	Seat Belt Usage			Difference in Seat Belt Usage			Confidence Interval		
	2006-2007	2009-2010	2016-2017	2006-07 to 2009-10	2009-10 to 2016-17	2006-07 to 2016-17	2006-07 to 2009-10	2009-10 to 2016-177	2006-07 to 2016-17
Newfoundland & Labrador	86.6%	93.0%	88.6%	6.4%	-4.4%	2.0%	**(5.5%, 7.2%)**	**(-5.3%,-3.5%)**	**(0.9%, 3.1%)**
Prince Edward Island	97.8%	90.0%	98.7%	-7.8%	8.7%	0.9%	**(-8.4%, -7.3%)**	**(8.0%, 9.4%)**	**(0.4%, 1.3%)**
Nova Scotia	92.3%	90.3%	91.8%	-2.0%	1.5%	-0.5%	**(-3.4%, -0.5%)**	(-0.1%, 3.0%)	(-2.0%, 1.0%)
New Brunswick	91.6%	95.0%	98.4%	3.4%	3.4%	6.8%	**(2.0%, 4.9%)**	**(2.7%, 4.1%)**	**(5.4%, 8.2%)**
Quebec	93.1%	96.3%	98.6%	3.2%	2.3%	5.5%	**(2.9%, 3.5%)**	**(2.1%, 2.6%)**	**(5.2%, 5.8%)**
Ontario	93.2%	96.1%	96.9%	2.9%	0.8%	3.7%	**(2.6%, 3.3%)**	**(0.4%, 1.1%)**	**(3.3%, 4.2%)**
Manitoba	89.4%	94.2%	98.3%	4.8%	4.1%	8.9%	**(4.3%, 5.3%)**	**(3.8%, 4.5%)**	**(8.4%, 9.4%)**

Saskatchewan	93.6%	97.1%	95.5%	3.5%	-1.6%	1.9%	**(2.6%, 4.3%)**	**(-1.9%, -1.2%)**	**(1.0%, 2.8%)**
Alberta	89.2%	92.2%	97.4%	3.0%	5.2%	8.2%	**(0.6%, 5.4%)**	**(4.5%, 5.8%)**	**(5.8%, 10.7%)**
British Columbia	94.9%	97.3%	98.2%	2.4%	0.9%	3.3%	**(1.7%, 3.0%)**	**(0.4%, 1.4%)**	**(2.8%, 3.8%)**
Yukon	83.4%	77.2%	92.0%	-6.2%	14.8%	6.6%	**(-8.3%, -4.1%)**	**(13.8%, 15.8%)**	**(6.8%, 10.5%)**
Northwest Territories	88.5%	84.9%	92.9%	-3.6%	8.0%	4.4%	**(-5.1%, -2.0%)**	**(4.3%, 11.6%)**	**(0.6%, 8.3%)**
Canada	**92.7%**	**95.5%**	**97.2%**	**2.8%**	**1.7%**	**4.5%**	**(2.5%, 3.1%)**	**(1.5%, 1.9%)**	**(4.2%, 4.8%)**

*The confidence intervals showing significant differences appear in bold.

5.0 Conclusions

The 2016 urban and 2017 rural national surveys of drivers' ECD use were the first time that ECD use by drivers of light duty vehicles has been observed for talking, typing/texting, talking and typing/texting at the same time, or holding the ECD. Furthermore, seat belt use by front seat occupants was observed for the first time since 2009-2010.

Overall, 7.2% of drivers were observed to be using an ECD (i.e., talking, typing/texting, talking and typing/texting, or holding the ECD) while stopped at an intersection with usage being higher in urban (7.9%) than in rural (3%) areas. Total ECD usage in the current survey was more common among drivers under 25 and slightly more frequent among women. Male and female drivers under 25 were more likely to being using an ECD compared to other sex/age groups. Drivers of minivans/SUVs were less likely to be using ECDs than drivers of passenger cars or light trucks. Drivers without passengers and those not wearing seat belts were more likely to be using an ECD.

Talking on an ECD was more frequent by drivers (2.9%) than was typing/texting (2.2%), talking and typing/texting at the same time (0.4%) or holding the ECD (0.9%). Men and women did not differ on talking on the ECD, talking and typing/texting at the same time, or holding an ECD but women were more likely to type/text than men. All types of ECD usage were more common among drivers under 25. Talking on an ECD was observed more often among drivers of light trucks but typing/texting was more frequent among drivers of passenger cars.

A comparison of talking on hand-held ECDs by drivers in surveys conducted in 2009-2010, 2012-2013 and 2016-2017 indicates that such behaviour declined nationally between 2009-2010 and 2012-2013 from 3.3% to 2.3% but then it went up significantly to 2.9% in 2016-2017, a relative increase of 26%. Most jurisdictions experienced declines in talking on an ECD, although Ontario, Manitoba, Saskatchewan, and the Northwest Territories saw significant increases. Typing/texting in the 2012-2013 and 2016-2017 surveys increased from 1.6% to 2.2%, a relative increase of 25%. Eight jurisdictions had significant increases in typing/texting. Overall, talking and typing/texting combined increased from 3.9% in 2012-2013 to 5.1% in 2016-2017, an increase of 31%.

Seat belt use by front seat occupants increased from 92.7% in 2006-2007 to 97.2% in 2016-2017, a relative increase of 4.9%. Most jurisdictions had increases in belt usage. Belt use was lower among males, younger drivers, and drivers of light trucks.

A caveat regarding these survey results is that they reflect drivers' ECD use only on lower speed roads and while drivers are stopped. A pilot study conducted on highways as part of the 2016 urban survey, suggests that the ECDs by drivers on higher speed (i.e., 100+ kph) four lane divided highways and other types of highways is lower than that observed on urban streets. Another pilot study indicated that drivers' ECD usage while stopped at intersections was higher than that among drivers traveling midblock.

It would be useful to repeat these surveys of ECD use in a couple of years to determine if usage has further changed. Also, it would be valuable to develop a methodology for observing the use of hands-free ECDs use given that research indicates that even hands-free use of this technology poses a risk to driving.

6.0 References

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