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# **DISTRACTED DRIVING IN INDIA**

## **A STUDY ON MOBILE PHONE USAGE, PATTERN & BEHAVIOUR**

BASED ON A NATIONAL SURVEY CONDUCTED BY  
TNS INDIA PVT. LIMITED (KANTAR PUBLIC INDIA)  
FOR Savelife FOUNDATION



**SaveLIFE Foundation**  
**Supports the UN Decade of Action**  
**for Road Safety 2011-2020**

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*Distracted Driving in India: A Study on Mobile Phone Usage, Pattern and Behaviour*

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# EXECUTIVE SUMMARY

Emerging as one of the top causes of death among the most productive age groups, road crashes have developed into a major public health crisis across the world. According to the World Health Organization (WHO), road crashes kill 1.2 million people and permanently disable another 50 million every year. Over the last decade, road crash has become the tenth leading cause of death in the world, and is predicted to rise to the fifth position by 2030. India is the number one contributor to global road crash mortality and morbidity figures. Every hour, 16 lives are lost to road crashes in India. In the last decade alone, India lost 1.3 million people to road crashes and another 5.3 million were disabled for life.

The WHO categorizes driver distraction as an important risk factor for road crash injuries. The United States Department of Transportation terms distracted driving as one of the most dangerous driver behaviours and an epidemic which has increased with the proliferation of mobile phones. Distracted driving is defined as any activity that diverts a person's attention from their primary task of driving. These types of activities include the usage of a mobile phone, eating and

drinking, conversation with co-passengers, self-grooming, reading or watching videos, adjusting the radio or music player and even using a GPS system for navigating locations. Amongst these, mobile phone usage is said to be the most distracting factor.

With an aim to find the scope and depth of the issue of distracted driving in India, SaveLIFE Foundation (SLF), an independent, non-governmental organization committed to improving road safety and emergency medical care across India and Vodafone India Limited, one of India's largest telecom company entered into a partnership. Through a multi-city nationwide survey, an attempt was made to understand the usage patterns, effect of use and perception of mobile phone usage of road users across India. TNS India Private Limited (Kantar Public India) was engaged to conduct a detailed multi-city survey in order to understand the patterns behind mobile phone usage while driving, and the drivers' perception of how dangerous such behaviour is in various situations.

The study covered various categories of vehicle drivers across 8 cities of India.

- The survey was carried out among 1749 drivers across Delhi, Chennai, Jaipur, Bengaluru, Mangaluru, Kanpur, Mumbai and Kolkata.
- Within each city, four categories of drivers were surveyed, viz. two-wheeler drivers, four-wheeler drivers, truck/bus drivers and auto-rickshaw drivers.
- The survey had four broad sections: demography, extent of mobile phone use, effect of mobile phone use on road user behaviour and perception of mobile phone use by road users.



**47%**

PEOPLE RECEIVE CALLS  
ON THEIR MOBILE  
PHONE WHILE DRIVING

**94%**

PEOPLE BELIEVE THAT USE  
OF MOBILE PHONES WHILE  
DRIVING IS DANGEROUS

**96%**

PEOPLE FEEL UNSAFE AS  
PASSENGERS IF THE DRIVER  
WAS USING A MOBILE PHONE  
WHILE DRIVING

**41%**

PEOPLE USE PHONES FOR  
WORK-RELATED PURPOSES  
WHILE DRIVING

**BROAD  
FINDINGS**







**60%**

PEOPLE DO NOT STOP AT A  
SAFE LOCATION BEFORE  
ANSWERING CALLS

**68%**

PEOPLE SUPPORT THE USE OF  
ENFORCEMENT CAMERAS TO  
APPREHEND DRIVERS USING  
MOBILE PHONES WHILE  
DRIVING

**20%**

PEOPLE HAVE HAD A  
NEAR-MISS OR A CRASH  
DUE TO USE OF MOBILE  
PHONE WHILE DRIVING

**34%**

PEOPLE TEND TO  
APPLY SUDDEN BRAKES  
WHEN TALKING ON THE  
PHONE WHILE DRIVING

# INTRODUCTION

## 1.1 Background

In the last decade alone, India lost 1.3 million people to road crashes and another 5.3 million have been seriously injured. India has the highest number of road crash fatalities, with a crash occurring every minute and one death every four minutes. While it has just 1% of the world's vehicles, India accounts for over 10% of global road crash fatalities. According to the 'Road Accidents in India', 2015 report of Ministry of Road Transport and Highways (MoRTH), 146,133 people were killed in road crashes in 2015 alone including 12,589 children. This number is not only the highest that India has ever recorded in history, but it represents a 53.9% increase over the last decade, and nearly a ten-fold increase since 1970.

Not only does the loss or impairment of a breadwinner of a family in a road crash inflict emotional trauma on lakhs of families, it imposes a severe financial burden by pushing entire households into poverty. In a 2014 report, the erstwhile Planning Commission of India had estimated that the annual cost of road crashes in India is 3% of its GDP. With India's GDP in 2015-16 being INR 136 lakh crore, these figures translate into an annual monetary loss of INR 4.07 lakh crore. Ironically, it is over five times the budget of the Ministry of Road Transport and Highways, the nodal agency for ensuring road safety in India.

## 1.2 Defining Distracted Driving

Distracted driving has been identified as an important risk factor in road traffic injuries.<sup>1</sup> Mobile phone usage has developed into a primary source of driver distraction as it can induce drivers to take their attention off the road, thus making vehicle occupants more vulnerable to road crashes.

The use of mobile phones while driving causes four types of mutually non-exclusive distractions; visual, auditory, cognitive and manual/physical. While visual distractions cause drivers to look away from the roadway, manual distractions require the driver to take their hands off the steering wheel, auditory distractions mask those sounds that are crucial for the driver to hear while driving and cognitive ones induce the driver to think about something other than driving.<sup>2</sup> It has been established that distraction caused by mobile phone usage while driving, can deprecate driving performance, for instance increasing reaction time and increasing frequency of lane change. Distractions while driving have now joined alcohol and speeding as leading factors in fatal and serious injury crashes.<sup>3</sup> Distracted drivers are about four times as likely to be involved in crashes as those who are focused on driving.<sup>4</sup>

1 World Health Organization, 'Mobile Phone Use: A Growing Problem of Driver Distraction', 2011, p. 7.

2 United States Department of Transportation, National Highway Traffic Safety Administration, 'Distraction by Cell phones and Texting', November 2014, p.2.

3 National Safety Council, USA 'Understanding the Distracted Brain: Why driving while using hands-free cell phones is risky

behaviour', April 2012, p. 3

4 Klauer, S.G., Dingus, T.A., Neale, V.L., Sudweeks, J.D. and Ramsey, D.J., 'The Impact of Driver Inattention on Near Crash/ Crash Risk: An Analysis Using the 100-Car Study Data', Washington, DC: National Highway Traffic Safety Administration, April, 2006.

### 1.3 Mobile phone usage and Distracted Driving in India

According to the Telecom Regulatory Authority of India (TRAI), India currently has 1 billion mobile phone subscribers.<sup>5</sup> Due to the high penetration of mobile phones, their use on the road has also increased as proven by this study with 1 out of 2 respondents of this survey having used a phone while driving. Unfortunately, in India, there is no data that is being currently captured at the crash site by authorities to record the connection between mobile phone usage and crashes. The Government of India in a 2015 report revealed that “2,270” people were killed in “8,359” crashes due to ‘driver’s inattentiveness’.<sup>6</sup> But, there is no sub-set of this data that points out as to the exact number out of these 8,359 crashes which were caused as a result of mobile phone usage. On the other hand, understanding the growing threat that mobile phone usage during driving possesses, countries like USA have been capturing data at the crash site. For example, in 2014, there were 2,955 fatal crashes that occurred on U.S. roadways that involved distraction (10% of all fatal crashes), out of which there were 385 fatal crashes reported to have involved the use of cell phones as distractions (13% of all fatal distraction-affected crashes).<sup>7</sup>

### 1.4 Objectives of the Distracted Driving Survey

Despite the high risks associated with distracted driving, there is little knowledge about its extent and nature in India. In this regard, SaveLIFE Foundation with the support of Vodafone India Limited sought to explore the current scenario of distracted driving due to mobile phone usage in eight major Indian cities. This study will be imperative to bridge the gap in research around this globally identified risk factor, and will also be helpful in providing suggestions to policymakers for improving the on-ground situation with requisite interventions. Specific objectives of this study are outlined below:



- To determine the extent of use of mobile phones by people while on the road
- To understand the impact of use of mobile phones on driving performance
- To understand the perception of road users on use of mobile phones and its perils
- To determine if respondents have been involved in accidents caused by use of mobile phones while on the road

<sup>5</sup> Telecom Regulatory Authority of India, 'Highlights of Telecom Subscription Data', 31-05-2016.

<sup>6</sup> Transport Research Wing, Ministry of Road Transport and Highways, 'Road Accidents in India', 2015.

<sup>7</sup> United States Department of Transportation, National Highway Traffic Safety Administration (NHTSA), 'Traffic Safety Facts, Distracted Driving 2014', April 2016, p.1.

### 1.5 Major incidents of road crashes caused by mobile phone usage

- On September 9th, 2016, a bus driver was over-speeding and talking on his mobile phone, when the bus carrying nineteen passengers toppled off a bridge in Angul, Orissa. All passengers were killed in the crash.

*Source: Times of India*

- On October 20th, 2015, fourteen people were killed and seventeen others were injured after a mini-passenger bus skidded off the road and fell into gorge at Ramnagar area of Udhampur district of Jammu & Kashmir. The crash took place when the driver of the vehicle was on his cell phone and lost control over the vehicle.

*Source: India Today*

- On September 21st, 2013, nine persons were killed and twenty two others sustained injuries, 10 of them critically, when an overloaded mini-bus plunged into around 300 feet deep gorge at Pasana near Arnas in Reasi district of Jammu & Kashmir. The accident reportedly occurred due to the negligence of the driver, who was talking on his mobile phone.

*Source: Daily Excelsior*

- On July 24th, 2014, twenty children and the driver were killed when their school bus was rammed by a passenger train at an unmanned level crossing in Medak district of Andhra Pradesh. The driver of the school bus was speaking on his mobile phone while the vehicle was crossing the unmanned level crossing near Masaipet.

*Source: Deccan Chronicle*



# SURVEY DESIGN AND RESEARCH METHODOLOGY

## 2.1 Scope of work

The clear objective of this survey was to seek answers to the following areas of inquiry:

- To assess the extent of use of mobile phones while driving
- To identify the purpose of use of mobile phones while driving
- To identify the impact on driving performance caused by mobile phone usage while driving
- To determine if respondents have witnessed or been involved in a crash caused by distracted road user behaviour due to use of mobile phones while on the road
- To gauge the perception of passengers when a driver uses a mobile phone while driving
- To understand the perception of the people about the risk involved in using mobile phones by pedestrians while walking on the road



## 2.2 Coverage


The survey was conducted in 8 cities across India. The selection of cities for the survey has been done on the following parameters:

- Number of road crash fatalities
- Diversity in city infrastructure and socio-economic parameters. Based on these parameters, it was decided that Bengaluru, Chennai, Delhi, Jaipur, Kolkata, Kanpur, Mangaluru and Mumbai be selected for the purpose of this study.

## 2.3 Respondent stratification

This study aims to assess the extent of use of mobile phones while driving. As per the objectives of this study, it is assumed that the use of mobile phone while driving may vary between different types of drivers. The typologies are broadly categorized into 4 types –

- Two-wheeler drivers: Motorcycle & scooter with or without gear
- Three-wheeler drivers: Auto Rickshaw (shared or private) drivers



**TABLE 1: ROAD CRASH DEATHS BY CITIES\***

CITY	TOTAL NO. OF ROAD CRASHES	POPULATION	ROAD CRASHES/10,000 PEOPLE	TOTAL NO. OF ROAD CRASH DEATHS
Bengaluru	5,001	8,520,435	5.86	890
Chennai	7,328	8,653,521	8.47	886
Delhi	7,148	16,349,831	4.37	1,316
Jaipur	3,151	3,046,163	10.36	939
Kanpur	1,051	2,765,348	3.80	889
Kolkata	4,981	14,112,536	3.53	421
Mangaluru**	-	619,664	-	-
Mumbai	2,551	18,414,288	1.38	611

\* Source: 'Accidental Deaths & Suicides in India' 2015, National Crime Records Bureau

\*\* It was decided to take Mangaluru as a sample city as a public awareness campaign targeting distracted driving is to be undertaken in the state of Karnataka and a baseline data was required. No accident data for the city of Mangaluru was available with National Crime Records Bureau.



- Four-wheeler drivers: Light motor vehicle drivers exclusive of Taxi
- Truck/bus drivers: Truck drivers and State Roadways bus drivers

Since the study was among the drivers, the criteria for selecting the respondents are as follows:





**Inclusion Criteria:** People aged 18 years and above who are having any kind of mobile and drive two or four-wheeler regularly.

**Exclusion Criteria:** People aged 18 years and above and not using any kind of mobile.

## 2.4 Sample size estimation

The Unit of Analysis is typology therefore, the sample size was calculated according to each typology & the same was equally distributed among all the 8 cities. Typology wise sample size calculation has been mentioned in the Annexure.

**TABLE 2: SAMPLE DISTRIBUTION IN SELECTED CITIES**

CENTRE	LANGUAGE					TOTAL SAMPLE CITY-WISE
Delhi NCR (Gurgaon, Faridabad, Ghaziabad & Noida)	Hindi	50	50	50	50	200
Chennai	Tamil	50	50	50	50	200
Jaipur	Hindi	50	50	50	50	200
Bengaluru	Kannada	50	50	50	50	200
Mangaluru	Kannada	50	50	50	50	200
Kanpur	Hindi	50	50	50	50	200
Mumbai	Hindi	50	50	50	50	200
Kolkata	Bengali	50	50	50	50	200
Total Sample Typology-wise		400	400	400	400	1600






## 2.5 Sample coverage

As there was no frame that existed to find the eligible respondents under different typologies mentioned above, so a sampling frame was prepared to demarcate the universe of the target population of the study. Two sampling frames were created; one for Truckers/Bus drivers & one for the

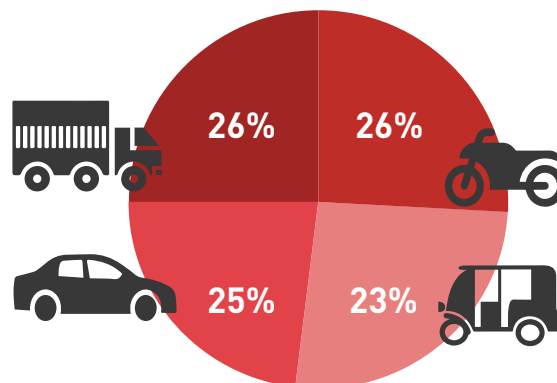
other three typologies (two-wheeler drivers, three-wheeler drivers and four-wheeler drivers).

Although the target was to collect a total of around 1600 samples across 8 cities, a total of 1749 samples were surveyed eventually to comprehensively cover all the desired demographics. The details have been presented below:

**TABLE 3: SAMPLE COVERED UNDER SURVEY BY CLUSTERS AND TYPOLOGY**

City	Sampling frame 1			Total samples in frame 1	Sampling frame 2		Total samples in frame 2	Total sample collected
								
Delhi	61	61	50	172	26	22	48	220
Chennai	56	55	50	161	26	35	61	222
Jaipur	51	57	50	158	25	25	50	208
Bengaluru	64	53	52	169	24	40	64	233
Mangaluru	64	54	50	168	30	34	64	232
Kanpur	55	51	54	160	25	25	50	210
Mumbai	51	55	53	159	27	34	61	220
Kolkata	54	48	50	152	25	27	52	204
<b>Total</b>	<b>456</b>	<b>434</b>	<b>409</b>	<b>1299</b>	<b>208</b>	<b>242</b>	<b>450</b>	<b>1749</b>

**Figure 1:**  
Distribution of sample according to respondent typology





## 2.6 Survey instrument

The survey instrument used for this study was a questionnaire. The questionnaire included open and close ended questions as well as multiple response segments. The open ended segment sought to elicit the road user's views on the impact of mobile phones on road safety. The multiple response segments were designed to elicit how

the survey participants were likely to personally respond in situations where they have to use the phone while driving and to measure the relative strength of the determinants that govern their use of the phone.



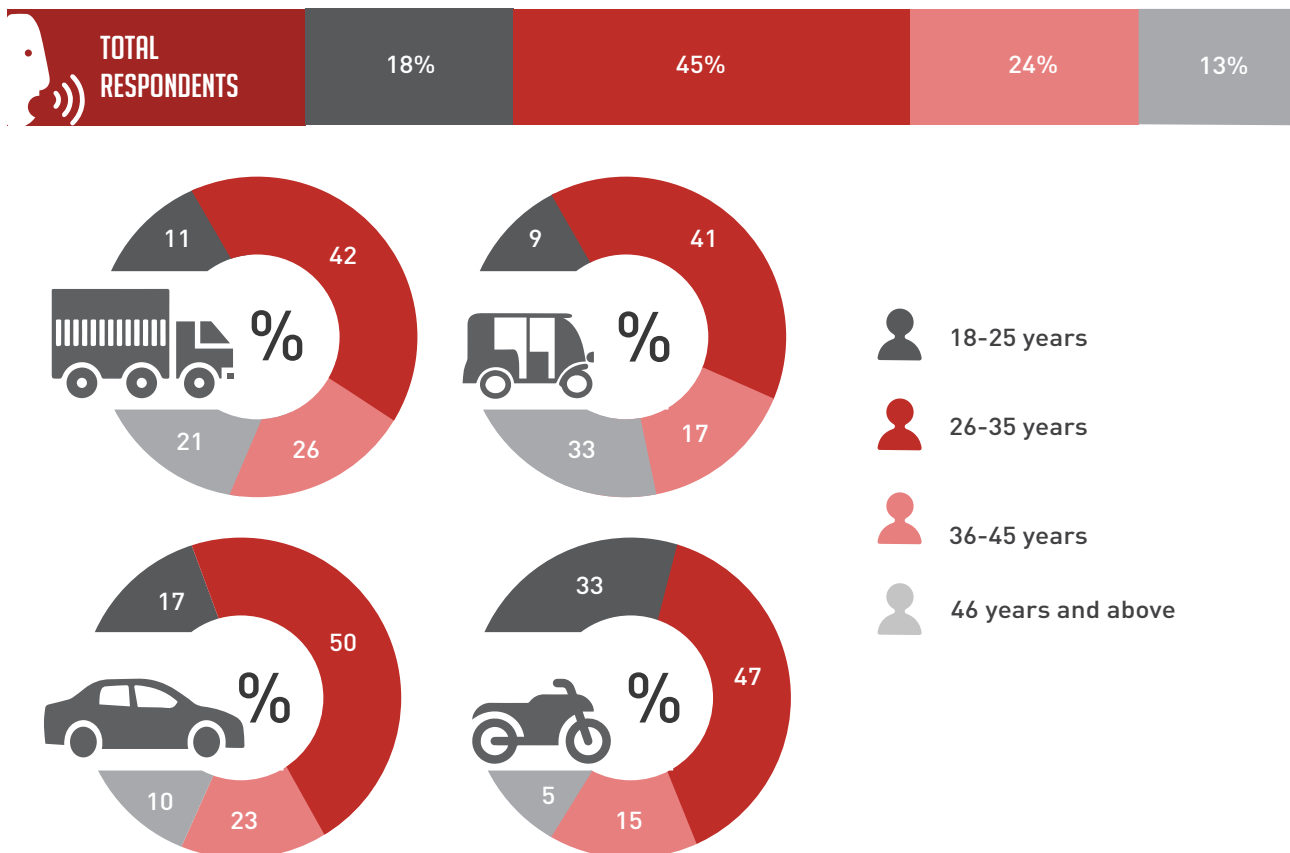
# BACKGROUND CHARACTERISTICS OF RESPONDENTS

The awareness, risk perception, and behaviour of a respondent is dependent on, and is influenced by his/her background characteristics such as age, gender, educational qualification and typology. This chapter presents the profile of the respondents by their background characteristics, mobile phone usage pattern and driving pattern which are the main eligibility criteria for this study.

## 3.1 Socio-demographic characteristics

A majority of the respondents who participated in the survey belonged to the category of young adult group with 63% (6 out of 10) belonging to the age-group of 18-35 years. Among the respondents between age group of 18-35 years, 8 out of 10 respondents drive a two-wheeler— largest among the typology.

Figure 2: Age-wise distribution of the respondents by typology



### 3.2 Use of mobile phones

In order to know the extent of mobile usage while driving by the respondents, it was essential to know the type of mobile phones that the respondents use. This also determined the use of mobile internet for social network sites, emails or WhatsApp messaging. Out of 1749 respondents, 45% are using feature phones, 10% are using smart phones without any mobile internet connection and remaining 45% are using smart phones with internet.





		Feature phone	Smart phone without internet	Smart phone with internet	
TABLE 4: TYPE OF MOBILE PHONE USED BY TYPOLOGY		23% 19%	10% 8%	67% 73%	male female
		29% 11%	12% 11%	59% 78%	male female
		63% 0%	11% 0%	26% 0%	male female
		76% 0%	8% 0%	16% 0%	male female
	Total	53% 15%	10% 10%	37% 75%	male female

Figure 3: Mobile-phone use by respondent typology

Use of feature phones is high among transport drivers and auto rickshaw drivers with 8 out of 10 bus/truck drivers and 6 out of 10 auto rickshaw drivers using feature phones. On the other hand, 7 out of 10 four-wheeler drivers and 8 out of 10 two-wheeler drivers use smart phones.

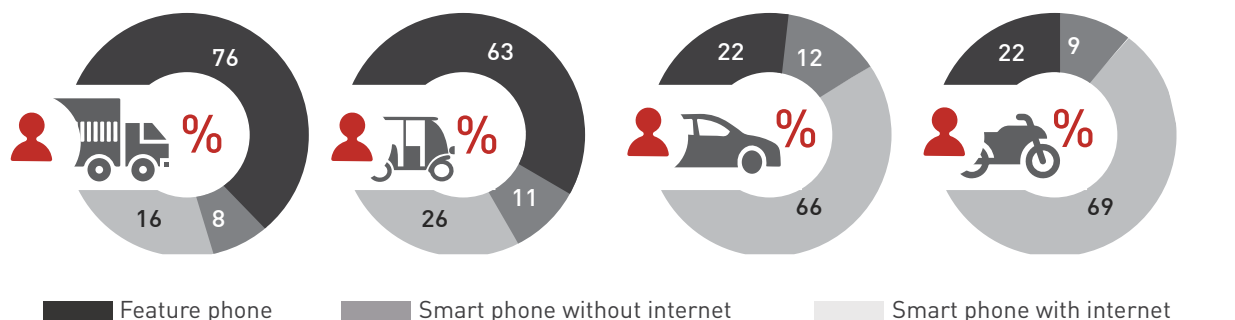
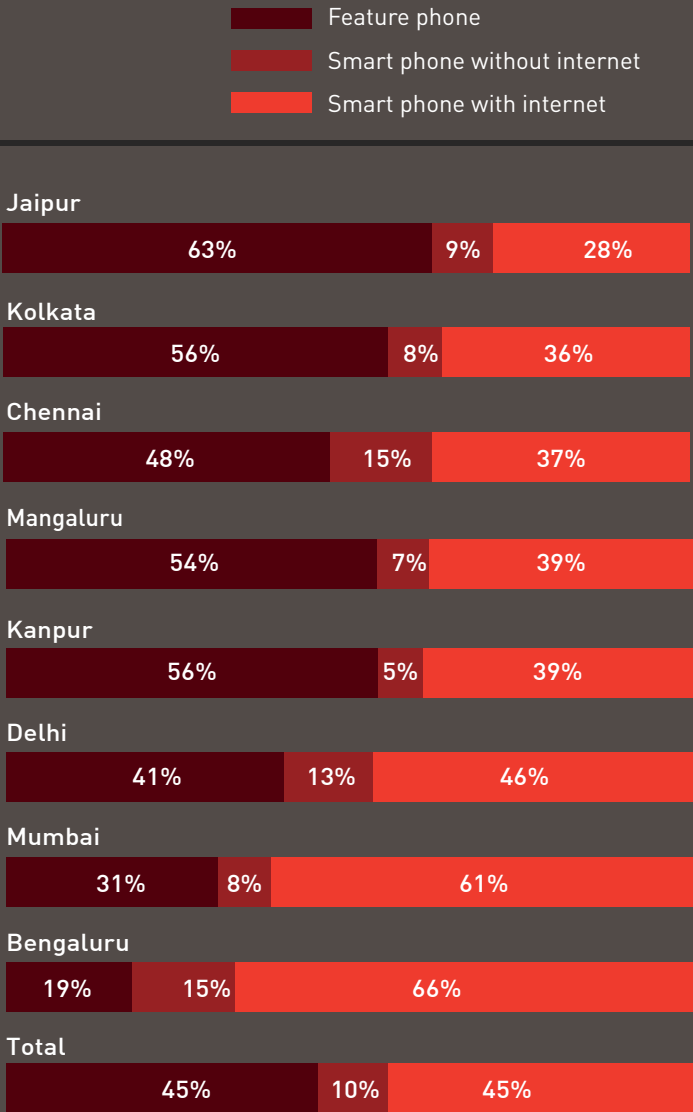


Figure 4: Mobile phone use by cities

Bengaluru and Mumbai have the highest number of smart phone users with internet connectivity at 66% and 61% respectively. On the contrary, it was found that feature phone use is much higher (almost 63%) in Jaipur compared to other cities. City-wise type of mobile use has been presented in the adjoining figure



**HOW OFTEN  
DO PEOPLE USE  
MOBILE PHONES  
WHILE DRIVING?**



# EXTENT AND PURPOSE OF USE OF MOBILE PHONES WHILE DRIVING

According to the Telecom Regulatory Authority of India (TRAI), India had 1033.20 million mobile subscribers as on May 2016 with a decadal growth rate of 627% between 2006 and May 2016.<sup>8</sup> India has the second largest telecom penetration in the world after China and reached close to 80% of India's population by 2016. During the same period, the total number of registered motor vehicles in India increased by 136% – from 89 million vehicles in 2006 to 210 million vehicles in 2015.<sup>9</sup>

Another report suggests that India has 220 million smart phone users.<sup>10</sup> While it represents just below 30% of all mobile users in India, recently launched government schemes such as Make in India and Digital India are bound to rapidly increase smart phone penetration. This is highly relevant in this context, as a smart phone performs a number of functions other than phone calls and text messages. They allow one to check social media, emails, access other communication platforms such as WhatsApp, perform banking functions, and a host of other features that may cause a driver to be distracted while driving.

With the government pushing digitization through various policies and schemes, India's telecommunication revolution is striking. In this context of growing mobile and vehicle usage in India, it is important to understand the extent and purpose of usage of a mobile phone while driving to identify the challenges and policy reforms required to mitigate the effects of distracted driving.

This section starts by explaining the extent of distraction, which could mean answering calls, making calls or replying and reading messages and even playing games on the phone. Next, the study explains the purpose of such distraction, such as when and in what situation do respondents use mobile phones. The purpose behind the chapter is to understand the situations from a driver's perspective.

## 4.1 Mobile phone use for calling or receiving calls

The Survey reveals that nearly half the respondents, i.e. 47% receive a call while driving. The proportion is less when it comes to making a call, with about 28% making a call while driving. 1 in 2 four wheeler drivers receive a call while driving, highest in the typology, whereas **31% of bus/truck drivers make a call while driving, the highest in the typology.**

# 47%

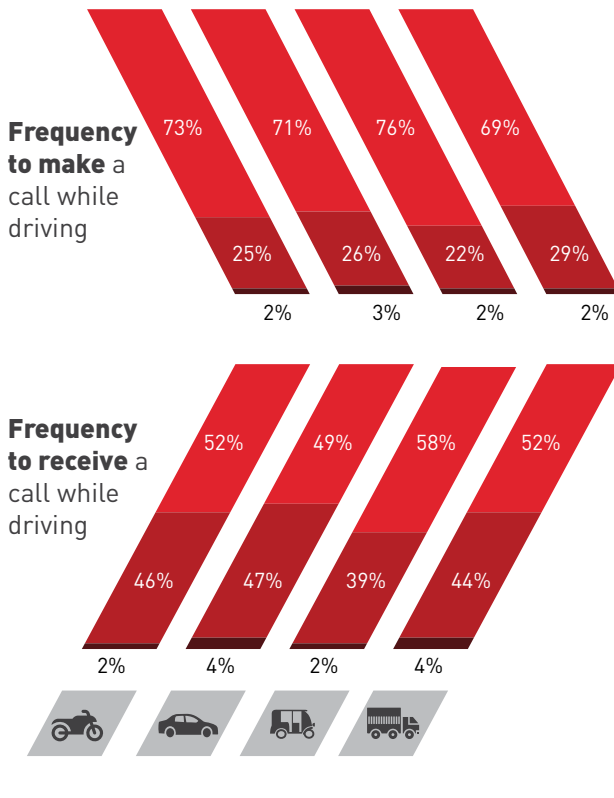
PEOPLE  
RECEIVE CALLS  
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WHILE DRIVING



8 [http://www.trai.gov.in/WriteReadData/WhatsNew/Documents/Press\\_Release\\_34\\_25may\\_2016.pdf](http://www.trai.gov.in/WriteReadData/WhatsNew/Documents/Press_Release_34_25may_2016.pdf) as accessed on 10-12-2016.

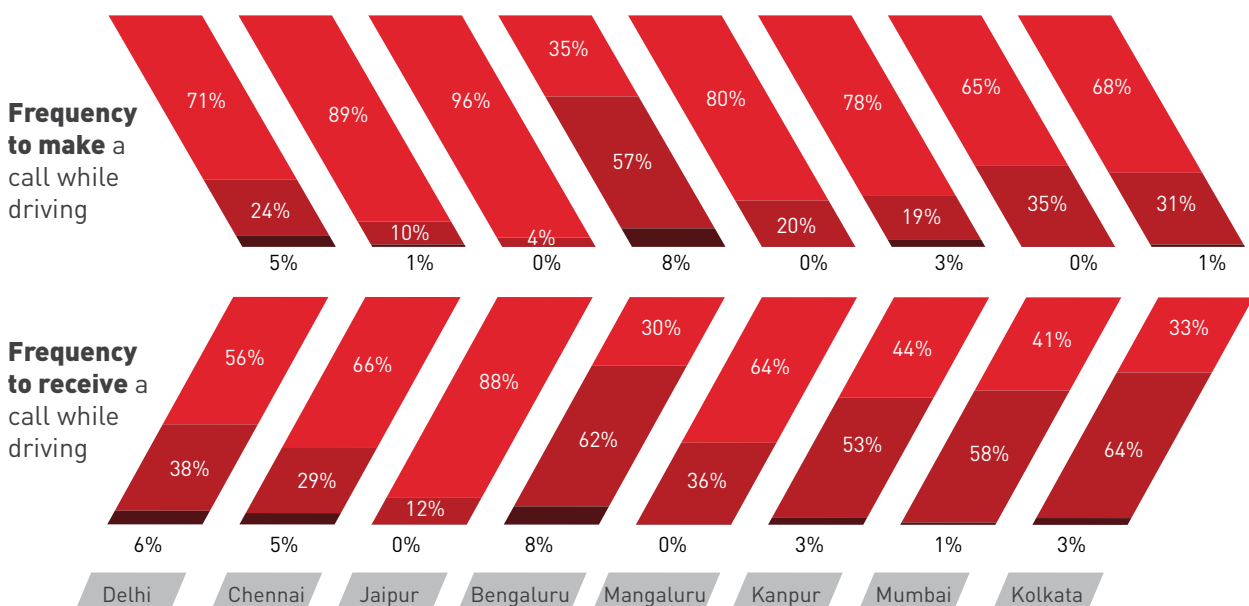
9 Ministry of Road Transport and Highways, 'Road Transport Yearbook 2014-15', (<http://morth.nic.in/showfile.asp?lid=2495> as accessed on 12-12-2016).

10 <http://www.thehindu.com/news/cities/mumbai/business/with-220mn-users-india-is-now-worlds-second-biggest-smartphone-market/article8186543.ece> as accessed on 17-03-2017

**Table 5: Frequency of receiving and making calls by typology**

Among typologies, four-wheeler drivers are most likely to receive a call as 51% of four-wheeler drivers reported to receiving a call while driving, compared to 42% of auto-rickshaw drivers. Fewer respondents reported to making calls while driving, the highest among all typologies being truck/bus drivers, with 31% of them always and sometimes making calls while driving. Even for making calls, auto-rickshaw drivers are the least likely to make calls while driving as 24% of them reported to make calls.

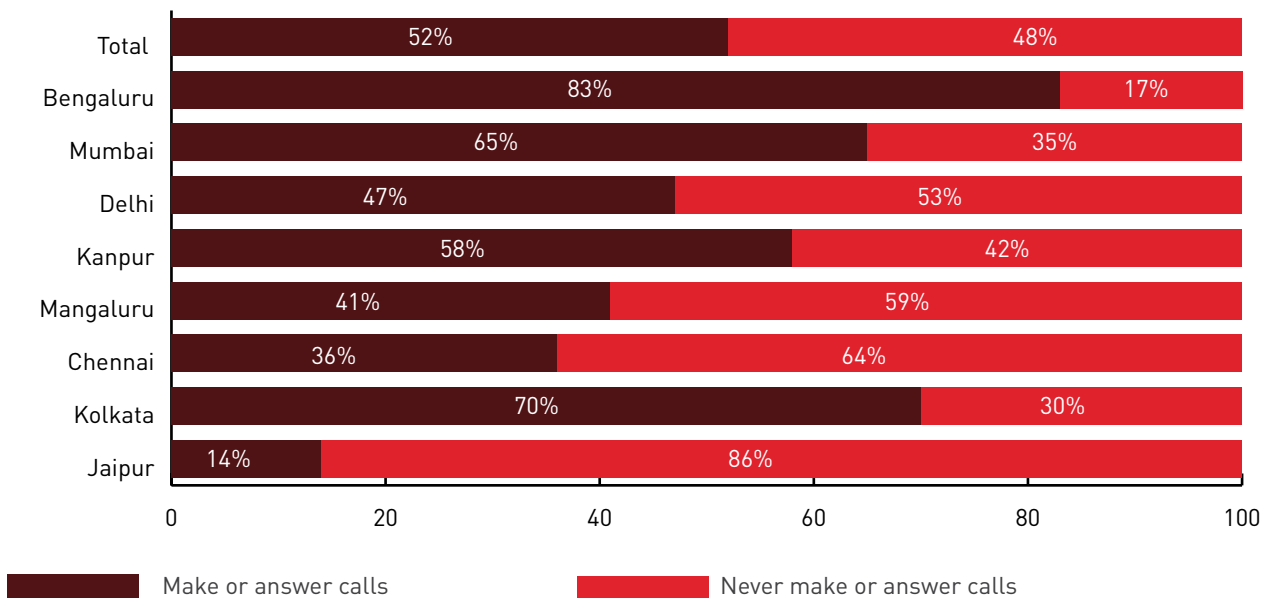
Among cities, 7 out of 10 respondents (70%) in Bengaluru receive a call and more than 6 out of 10 make a call (65%). In comparison, only 12% of respondents in Jaipur receive a call while driving.

**Table 6: Frequency of receiving and making calls by cities**



The city-wise responses are recorded below:

**Figure 5: Proportion of respondents who use mobile phones while driving for either making or answering calls by cities**



## 4.2 Purpose of receiving and making calls

The usage patterns of mobile phones for making/receiving calls and the purpose of making/receiving such calls differs across cities depending on how important the call is. An analysis of the purpose of answering calls while driving shows that about **41% people answer calls if it is work related**, **36% claimed that they did so if they were travelling at low speed** and **31% did the same if the call was of a personal/social nature, for example from family**. Other reasons accounted to answering calls while driving included boredom, not feeling unsafe, exhaustion and asking for directions. Lack of enforcement also encourages people to indulge in distracted driving with 14% receiving a call when there were no police officers in sight.

# 41%





PEOPLE USE  
PHONES WHILE  
DRIVING FOR  
WORK-RELATED  
PURPOSES



All the typologies attributed answering calls mainly when they are work related, with close to 1 out of 2 truck and bus drivers doing so, highest in the typology. Among four wheeler drivers, an equal proportion (4 out of 10) also answer calls when they travel at a low speed. Meanwhile, 19% of auto rickshaw drivers, 17% of four-wheeler drivers and 15% of two-wheeler drivers receive a call when there are no police officers in sight:



**Table 7: Purpose of answering calls while driving by typology**

In what situations do you generally answer a call?	 (n=220)	 (n=223)	 (n=170)	 (n=215)	Average of total
Anytime because I don't feel unsafe to do so	18%	18%	16%	11%	16%
During non-stressful traffic conditions	32%	26%	39%	21%	29%
Travelling at a low speed	34%	40%	32%	39%	36%
Boredom	7%	10%	9%	17%	11%
In need of direction & other information	22%	24%	28%	29%	26%
No police officers in sight	15%	17%	19%	7%	14%
Tired ("Talking keeps me awake")	11%	11%	9%	9%	10%
If it is a work-related call	40%	40%	36%	46%	41%
If it is a personal call	36%	30%	32%	27%	31%
Others	3%	2%	5%	2%	3%

The city-wise breakup of the same reflects that in most cities, the main reason for answering calls is work-related while in the case of Bengaluru and Mangaluru, it is if they are travelling at low speed. In Kolkata, the highest proportion of respondents

(61%) reported that they answer calls if they are personal/social in nature, and similarly in Delhi, nearly 49% answer calls for the same reason. In Chennai, 28% people do so when they see no police officers in sight.





**Table 8: Purpose of answering calls while driving by cities**

In what situations do you generally answer a call?	Delhi	Chennai	Jaipur	Bengaluru	Mangaluru	Kanpur	Mumbai	Kolkata
Anytime because I don't feel unsafe to do so	3%	35%	8%	35%	15%	12%	9%	2%
During non-stressful traffic conditions	40%	27%	12%	32%	34%	49%	20%	1%
Travelling at a low speed	32%	37%	40%	59%	45%	42%	36%	2%
Boredom	11%	9%	0%	32%	5%	3%	7%	1%
In need of direction & other information	29%	29%	4%	53%	18%	27%	19%	2%
No police officers in sight	25%	28%	8%	21%	13%	6%	14%	0%
Tired ("Talking keeps me awake")	16%	35%	0%	18%	5%	1%	5%	0%
If it is a work-related call	45%	43%	52%	23%	42%	56%	40%	42%
If it is a personal call	49%	15%	36%	8%	19%	33%	31%	61%
Others	1%	7%	8%	0%	0%	1%	2%	10%

In case of making a call while driving, the analysis of the purpose was studied and it was found that work-related calls and travelling at low speed (38%) were the two main reasons for making a call. The purpose of making calls based on vehicular typology was also studied. Nearly 49% truck/bus drivers make calls while driving if they are

travelling at low speeds or if it is a work-related call (45%). Among two-wheelers, two major reasons for making a call are work-related and personal/social calls (37%), while four wheeler drivers are likely to make calls when they are travelling at low speed (41%):

**Table 9: Purpose of making calls while driving by typology**

In what situations do you generally make a call?	 (n=122)	 (n=127)	 (n=96)	 (n=140)
Anytime because I don't feel unsafe to do so	16%	24%	26%	18%
During non-stressful traffic conditions	29%	32%	26%	12%
Travelling at a low speed	30%	41%	29%	49%
Boredom	16%	12%	15%	24%
In need of direction & other information	26%	27%	24%	24%
No police officers in sight	21%	17%	21%	12%
Tired ("Talking keeps me awake")	11%	10%	15%	4%
If it is a work-related call	37%	37%	29%	45%
If it is a personal call	37%	28%	35%	18%
Others	2%	0%	3%	0%

Interesting city-wise patterns for the purpose of making calls were found from the survey. Around 54% people in Chennai make calls because they don't feel unsafe to do so. In Bengaluru, 60% do so when they travel at low speeds and 38% in Jaipur do the same when they travel in non-stressful traffic conditions. In Delhi, about 58% people make calls for personal/social reasons. Essentially, in Delhi and Kolkata, the main purpose of making calls is personal/social, while in Chennai, it is because they don't feel unsafe to do so, and therefore make calls anytime. In Bengaluru and Mangaluru, a majority of respondents make calls when they are travelling at a low speed, and in

Kanpur and Mumbai, a majority of respondents talk on the phone for work-related calls. The table below depicts the same:



**Table 10: Purpose of making calls while driving by cities**

In what situations do you generally make a call?	Delhi	Chennai	Jaipur	Bengaluru	Mangaluru	Kanpur	Mumbai	Kolkata
Anytime because I don't feel unsafe to do so	3%	54%	13%	36%	17%	13%	12%	8%
During non-stressful traffic conditions	25%	21%	38%	30%	32%	36%	20%	2%
Travelling at a low speed	17%	29%	63%	60%	40%	55%	34%	0%
Boredom	17%	17%	0%	34%	6%	2%	14%	2%
In need of direction & other information	13%	50%	13%	44%	17%	21%	12%	12%
No police officers in sight	20%	29%	13%	26%	15%	6%	17%	0%
Tired ("Talking keeps me awake")	3%	29%	0%	18%	9%	2%	7%	0%
If it is a work-related call	39%	17%	63%	29%	32%	66%	36%	47%
If it is a personal call	58%	4%	13%	9%	28%	40%	30%	50%
Others	0%	0%	0%	0%	0%	0%	3%	5%

### 4.3 Mobile phone use for messaging/SMS

The extent of use of mobile phone for sending and reading messages through SMS while driving is found to be common for all typologies, irrespective of whether they are using a feature phone or a smart phone with/without internet connectivity. Emails and WhatsApp, quite naturally, are more prevalent among those who have smart phones with internet connectivity.

Nearly 10% respondents read text messages/ Emails and around 7% respondents send messages/Emails while driving. Four-wheeler users (13%) tend to read messages and emails more often than other typologies. Typology wise reading messages are more among two-wheeler and four-wheeler drivers compared to auto, truck/ bus drivers.

There is not much variation across cities, except for Bengaluru, where both, the proportions of



respondents never reading or never sending emails or messages, are very less compared to other cities studied. **The high use of mobile phone while driving and for reading/sending messages (4 out of 10 people) in Bengaluru indicates an exception as compared to other cities. In Delhi, Bengaluru, Kanpur and Mumbai; 2 out of 3 respondents do not feel unsafe when reading text messages while driving, indicating a lack of awareness about the impact of using mobile phones while driving on driving performance.**

If one studies the reasons for sending texts/Whatsapp/messages/Emails while driving, boredom emerged as the most cited reason for respondents to send SMS/WhatsApp/Email messages while driving, with 7 in 10 respondents doing so. This was followed by the reason that respondents do not feel unsafe to send SMS/WhatsApp/Email messages while driving. It is also interesting to note that **nearly 94% truck/bus drivers and 67% of four wheeler drivers send texts/Whatsapp messages if there are no police officers in sight.**

### 4.4 Mobile phone use for social networking/media

The survey data shows that only 7% respondents use social media while driving.

The frequency of using social media while driving is comparatively less among the truck/bus drivers; only 2% of them ever use any social media while driving. Surprisingly, the highest proportion amongst all typologies to use social media while driving, is that of two-wheeler drivers (11%), which is higher than four-wheeler drivers (8%).

Around 44% respondents in Bengaluru use social media while driving, which is higher than other cities under this study.



HOW DOES  
MOBILE PHONE  
USAGE AFFECT  
DRIVER  
BEHAVIOUR?

# BEHAVIOURAL PATTERN WHILE USING MOBILE PHONE DURING DRIVING

Patterns of driving while using a mobile phone reveal interesting insights as to the attention drivers pay towards their primary activity of driving and how their behaviour in driving gets affected while using a phone. Engaging in another activity alongside driving influences the response of the driver and it also indicates the seriousness of the consequences that can follow. According to the '*Mobile Phone Use: A growing problem of driver distraction*' report by the World Health Organization (WHO), distraction caused by mobile phones can impair driving performance in a number of ways, e.g. longer reaction times (notably braking reaction time, but also reaction to traffic signals), shorter following distances, and an overall reduction in awareness of the driving situation. Using a mobile phone for text messaging while driving has a greater impact on behaviour.

This increased risk appears to be similar for both hand-held and hands-free phones, suggesting that it is the cognitive distraction that results from being involved in a conversation on a mobile phone that has the most impact upon driving behaviour, and thus crash risk.<sup>11</sup>

While the body of research looking at the risk associated with using a mobile phone while driving

is growing rapidly, there is much less known about the effectiveness of interventions to address this issue. As research associated with effectiveness of interventions is well known, a number of countries are following approaches that have been known to be successful in addressing other key risk factors for road traffic injuries, such as in increasing seat-belt use, or reducing speed and drink-driving.

This includes:<sup>12</sup>

- Collecting data to assess the magnitude of the problem;
- Adopting and enforcing legislations;
- Supporting this legislation with strong enforcement and public awareness.

In developed countries like United Kingdom, it is illegal to use a mobile phone while driving or riding a two-wheeler. The rules are the same even if one is stopped at the red light or queuing in traffic. This chapter presents a thorough analysis of the survey results which would help in identifying the behavioural patterns while using mobile phones during driving in order to prevent and discourage distracted driving in India.

<sup>11</sup> World Health Organization, '*Mobile Phone Use: A growing problem of driver distraction*', 2015

<sup>12</sup> Ibid.



**60%**

PEOPLE DO NOT STOP AT  
A SAFE LOCATION BEFORE  
ANSWERING CALLS



## 5.1 How do respondents use the mobile phone while driving?

For receiving and making calls, it is safest to first stop at a safe location and then use the phone. Survey data shows that 6 out of 10 (60%) respondents receive calls without parking at a safe location first. The degree of distracted driving behaviour varied with 17% answering the phone to request the caller to call back, 10% answering the phone when they stop at traffic signals, 24% answering the phone and then stopping at a safe location while 13% continue to drive while talking on the phone.

By typology, auto-rickshaw drivers are found to behave more safely when it comes to answering calls as a higher proportion of them (37%) stop at a safe location to answer the call, contrasted to other types of respondents. Answering and continuing to drive while completing the call is found to be more prevalent among two-wheeler and truck/bus drivers than among others as nearly 17% of them do so. When it comes to making a call, 59% respondents make calls without parking

at a safe location first. This included people who stop at a safe location to dial the number and then continue driving (26%), those who make calls when they stop at traffic signals (18%) and those who call and continue to drive while completing the conversation (14%).

# 21%









## TRUCK/BUS DRIVERS CALL AND CONTINUE TO DRIVE WHILE THE CONVERSATION IS ON

About 21% truck/bus drivers call and continue to drive after making a call. 7 out of 10 bus/truck drivers and four-wheeler drivers show greater distracted driving by receiving calls without first parking at a safe location.

For reading messages/Email/WhatsApp, 10% respondents continue to drive while reading messages while 9% continue to drive while sending



**Table 11: Driving patterns on receiving/making a call by typology**

Driving patterns when receiving a call by typology				
Stop at a safe location and then answer the call	31%	27%	37%	24%
Answer and promptly stop at a safe location	27%	22%	25%	22%
Answer and continue to drive while completing the call	16%	10%	9%	17%
Answer and inform the caller that I will call back later	11%	21%	11%	22%
Hand over the phone to a passenger/pillion to answer the call	7%	6%	8%	6%
Answer when I stop at a traffic signal	7%	14%	9%	9%
Driving pattern while making a call				
Stop at a safe location, make the call, complete it	46%	40%	38%	41%
Stop at a safe location, dial the number and then continue driving	23%	27%	33%	22%
Call and continue to drive while completing the conversation	16%	10%	7%	21%
Call when I stop at a traffic signal	15%	23%	22%	15%

messages. By typology, the highest number of respondents who continue to drive while reading the message are four-wheeler drivers. When it comes to social media, 10% respondents continue to drive while checking social media, while 11% start checking social media notifications but

eventually stop to check properly. Based on typology, it is startling to note that the maximum proportion of respondents who continue to use social media while driving are auto-rickshaw drivers.



## 5.2 How is the phone handled when being used while driving?

85% respondents dial numbers manually while driving. This includes manually dialling a number (40%), using speed dial (8%) and also scrolling through saved numbers (37%) to dial a number.

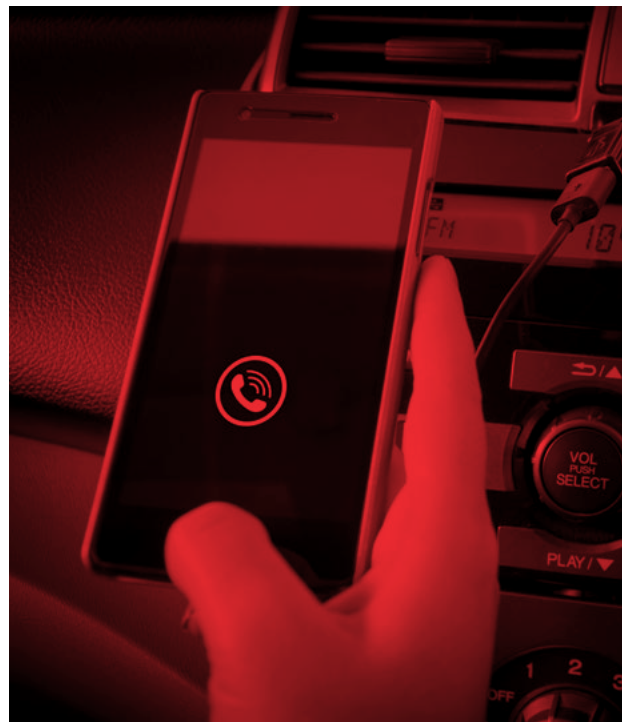
An analysis of the typology suggests that nearly 7 out of 10 truck/bus drivers dial manually for making calls when driving. Close to half of all four-wheeler drivers (47%) scroll through saved numbers to make a call while driving. With regard to duration of calls, a majority of the calls (84%) are less than five minutes and 1% calls are more than 10 minutes in duration. Almost 3% auto-rickshaw drivers talk for a duration of 10 minutes or more which is not found in other types of respondents.

**Almost 43% respondents reported that they hold the phone in their hand while talking and driving.**

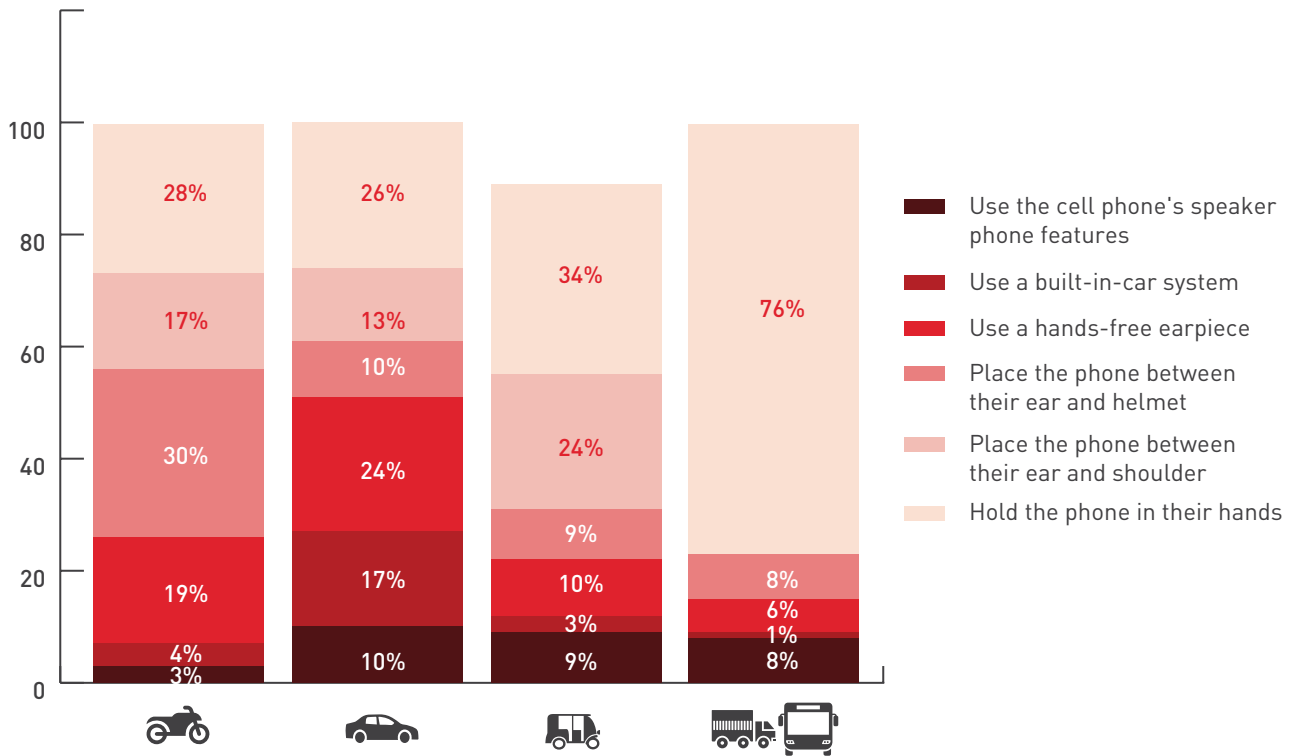
15% of the respondents said that they place the phone between their ear and shoulder when talking over phone. Another 15% respondents reported that they use the hands-free device/ear phone while talking over phone and driving.

# 85%

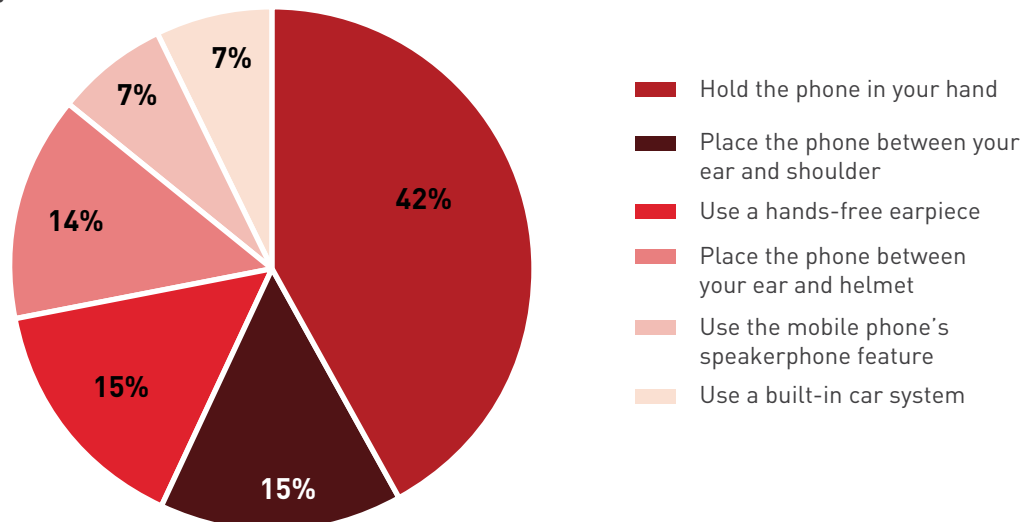
PEOPLE DIAL  
NUMBERS  
MANUALLY WHILE  
DRIVING



**Figure 6: Ways of handling the phone while talking on the phone during driving**



**Figure 7:  
Proportion of  
respondents who call  
when driving by ways of  
handling phone**



### 5.3 Effect on driving while using mobile phone

## 34%

DRIVERS TEND TO APPLY SUDDEN BRAKES WHEN TALKING ON THE PHONE WHILE DRIVING



The survey results also showed that driving while talking on the phone affects the behaviour of the driver. It was found that **47% of the respondents who used their phone while driving use turn signals less frequently, 38% look in rear view or side view mirrors less frequently, 34% apply the brakes suddenly, 21% change lanes more frequently, and 14% drive faster when talking on their mobile phones. Applying sudden brakes, which was found**





## 56%

FOUR-WHEELER DRIVERS REPORTED TO USING TURN SIGNAL LESS FREQUENTLY WHILE USING THE PHONE

more among truck/bus drivers at 44%, shows that **their reaction time is high**. The stopping distance for large vehicles is longer due to their higher momentum and therefore, being distracted is especially risky while driving a truck/bus.

Among other typologies, 56% four-wheeler drivers reported to using the turn signal less frequently while talking on the phone and 48% of auto-rickshaw drivers look in the rear/side view mirrors less frequently.





**Table 12: Proportion of respondents by different ways of driving while talking on the phone by typology**

Different ways of driving when talking while driving				
Drive slower	89%	88%	85%	82%
Change lanes less frequently	71%	79%	65%	61%
Look in rear or side view mirrors more frequently	57%	63%	48%	56%
Use turn signal less regularly	54%	56%	55%	31%
Use turn signal more regularly	38%	43%	25%	50%
Look in rear or side view mirrors less frequently	42%	35%	48%	34%
Apply the brakes suddenly	27%	26%	28%	44%
Change lanes more frequently	22%	19%	24%	19%
Drive faster	16%	16%	23%	4%
Others	4%	2%	3%	1%

## 5.4 Situations where mobile phone use avoided

The respondents were also asked whether there are any situations wherein they would never make a call. Bad weather and merging with traffic are two major reasons never to make a call. Bad weather is the major reason irrespective of the typology of the respondents. Interestingly, an effective enforcement system was seen to act as a deterrent with **38% respondents saying that they would not make a call when the area is under surveillance or when they see a police officer.**

**Table 13: Proportion of respondents who never call while driving by different situation by typology**

Any driving situation in which you would never call?				
Bumper to bumper traffic	38%	38%	34%	32%
On an empty road	19%	20%	21%	18%
Merging with traffic	37%	38%	39%	41%
Bad weather	43%	40%	38%	37%
Driving in a familiar route	22%	19%	19%	15%
Driving in unfamiliar area/roads	30%	30%	28%	23%
Driving at night time	31%	29%	30%	34%
Near schools	34%	34%	35%	34%
Residential streets	24%	22%	23%	25%
With other adult passengers in a car	20%	23%	19%	16%
With a baby or child on board	29%	27%	28%	24%
Winding/Curving roads	34%	35%	34%	33%
Marked Construction Zones	23%	24%	24%	24%
When I see a police officer	21%	22%	25%	22%
When I know the area is under camera based traffic surveillance	18%	16%	15%	13%
Others	3%	4%	4%	4%

**HOW DO DRIVERS  
PERCEIVE  
SAFETY AS  
PASSENGERS AND  
PEDESTRIANS?**





## PERCEPTION OF PASSENGERS AND PEDESTRIANS

This section captures information about risk perception of distracted driving if the respondents were passengers on board. The respondents were asked about their perception of safety when another person is indulging in distracted driving. This was done to analyze whether there is a change in perception of safety with respect to the behaviour of another person. This section also encompasses perception on the use of mobile phones by pedestrians while they are walking or crossing the road.

### 6.1 Perception of the passengers if the driver uses mobile phone while driving

An interesting pattern was found during the survey regarding the change in perception of safety by the respondents if they are passengers with the driver talking over the phone. The survey revealed that an overwhelming majority of respondents (96%) feel unsafe if the driver is talking on the mobile phone, reading or sending emails or messages, using social media or even talking on the mobile phone with a hands-free device while driving the vehicle. On the other hand, **86% of respondents would also feel unsafe if the driver is manipulating a navigation system for directions.**

# 96%

PEOPLE FEEL  
UNSAFE AS  
PASSENGERS IF  
THE DRIVER WAS  
USING A MOBILE  
PHONE WHILE  
DRIVING



Further analysis by the typology of respondents shows that irrespective of their typology, a majority of them perceive that distracted driving is extremely unsafe. A greater proportion of auto drivers perceive that they would, as a passenger, feel extremely unsafe (6 out of 10) if their driver is manipulating navigation while driving. About 77% truck/bus drivers said that it is extremely unsafe to drive while reading email messages or texts. Nearly 59% four-wheeler, auto-rickshaw and truck/bus drivers; and 57% two-wheeler riders said that it is extremely unsafe to drive even while talking on a mobile phone on a hands-free device.



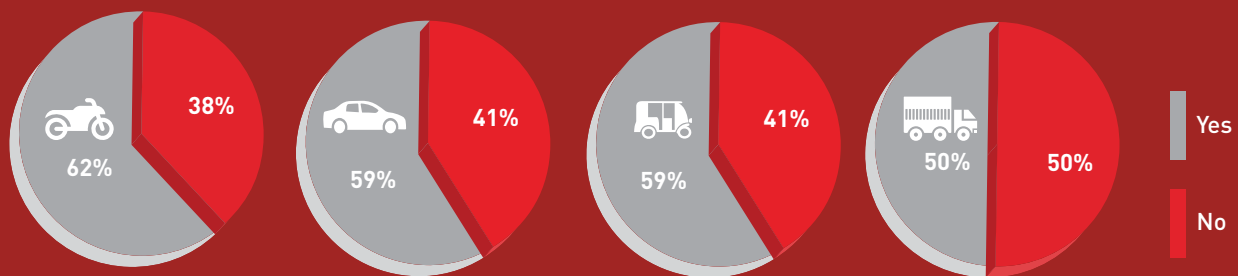


## 6.2 Reaction of respondents if their driver was using mobile phone while driving

Even though a majority of respondents admitted to feeling unsafe if the driver was using mobile phone while driving, comparatively lesser proportion of them reported that they would

have said something to the driver. **Only 57% said that they would say something to the driver if they feel unsafe**, which shows that even if they witness distracted driving and feel unsafe, they are unlikely to take any steps to stop the behaviour. By typology, truck/bus drivers, if they are passengers, are least likely to take any measures in case they found a driver distracted.

**Figure 8: Proportion of respondents who on feeling unsafe due to driver's distracted driving, would say something to the driver by typology**



## 6.3 Perception and behaviour of the pedestrians regarding mobile phone use on road





The survey also showed that the perception of respondents about safety as pedestrians varies greatly.

While crossing the road, 89% people felt unsafe if they were talking on the phone. While walking on

the road, 85% people felt unsafe. Though it is a fact that footpaths are rare in India, respondents feel unsafe even on the existing ones, with 83% reported to feeling unsafe while walking on them. The use of mobile phone while crossing the road is perceived to be more risky and life threatening, irrespective of the typology of the respondents. Using the mobile while walking on the footpath is perceived to be more unsafe by auto-rickshaw drivers, whereas truck/bus drivers perceived that walking on the road and talking over mobile is

life threatening. Around 60% two-wheeler riders, four-wheeler and auto-rickshaw drivers felt that using mobile phone while walking on the roads was extremely unsafe and life threatening. About 68% truck/bus drivers felt that using mobile phone while crossing the road was extremely unsafe and life threatening, 19% of them felt that it is absolutely safe to use mobile phones while walking on the footpath.





**Table 14: Risk perception of the respondents about pedestrians while talking over mobile and walking on the road by typology**

As a driver do you feel that pedestrians using mobile phone while walking on the road are at risk and can cause accidents?					Total average
Yes, at all times	51%	53%	50%	48%	50%
Yes, sometimes	33%	32%	34%	36%	34%
I don't think so	16%	15%	16%	16%	16%





Risk perception of the respondents about pedestrians while talking over mobile phone and walking on the road by typology shows that a comparatively lesser proportion of truck/bus drivers perceive that it is always risky and can cause road accidents, whereas half of the respondents from the rest of all other three typologies think that it can cause road accidents.

**Table 15: Risk perception of the respondents on mobile phone use by pedestrians in different situations by typology**





► **How safe is to use mobile phone while walking **on the footpath**?** ◀

Perception				
Not at all safe and life threatening	23%	24%	34%	33%
Relatively safe but not life threatening	39%	38%	33%	30%
Can be safe depending on external factors such as traffic	18%	19%	17%	17%
It is safe	18%	17%	14%	19%
Can't say	2%	2%	2%	1%

► **How safe is it to use mobile phone while **walking on the road**?** ◀

Perception				
Not at all safe and life threatening	60%	59%	61%	57%
Relatively safe but not life threatening	21%	23%	23%	22%
Can be safe depending on external factors such as traffic	16%	13%	14%	17%
It is safe	2%	3%	1%	3%
Can't say	1%	2%	1%	1%

► **How safe is it to use mobile phone while **crossing the road**?** ◀

Perception				
Not at all safe and life threatening	68%	69%	71%	68%
Relatively safe but not life threatening	17%	18%	16%	18%
Can be safe depending on external factors such as traffic	11%	11%	10%	10%
It is safe	2%	1%	2%	2%
Can't say	2%	1%	1%	2%



## 6.4 Perception on Distracted Driving

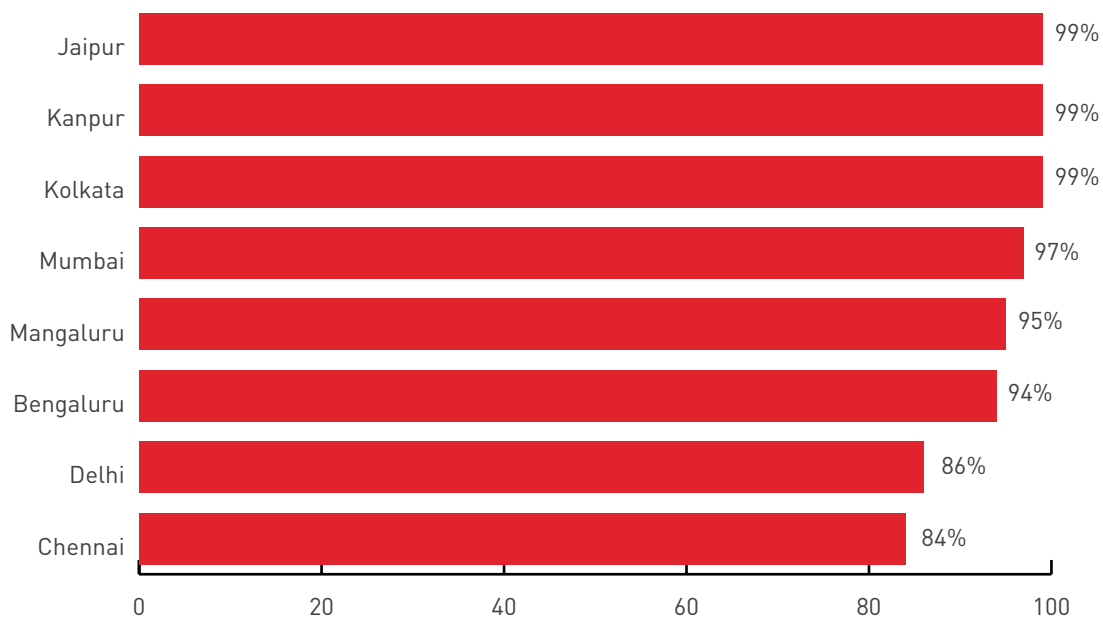
When asked about how dangerous the use of mobile phone while driving is, 94% responded that they think that it is dangerous. By typology, a greater proportion of two-wheeler drivers (96%) felt that it is dangerous and 92% auto rickshaw drivers were of the same opinion. In Chennai and Delhi, a comparatively lesser proportion of respondents think that using mobile while driving can be dangerous, while in other cities it is more than 90% respondents who felt the same.

# 94%

PEOPLE  
BELIEVED THAT  
USE OF MOBILE  
PHONES WHILE  
DRIVING IS  
DANGEROUS

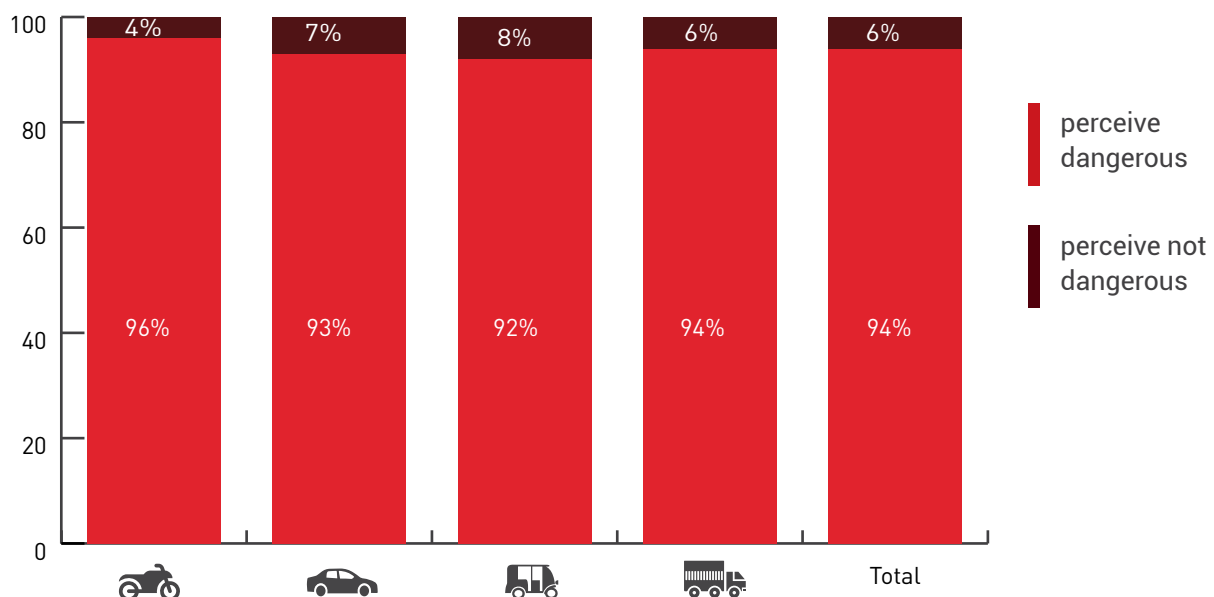


**Figure 9: Proportion of respondents who think that using mobile phone while driving is dangerous by cities**

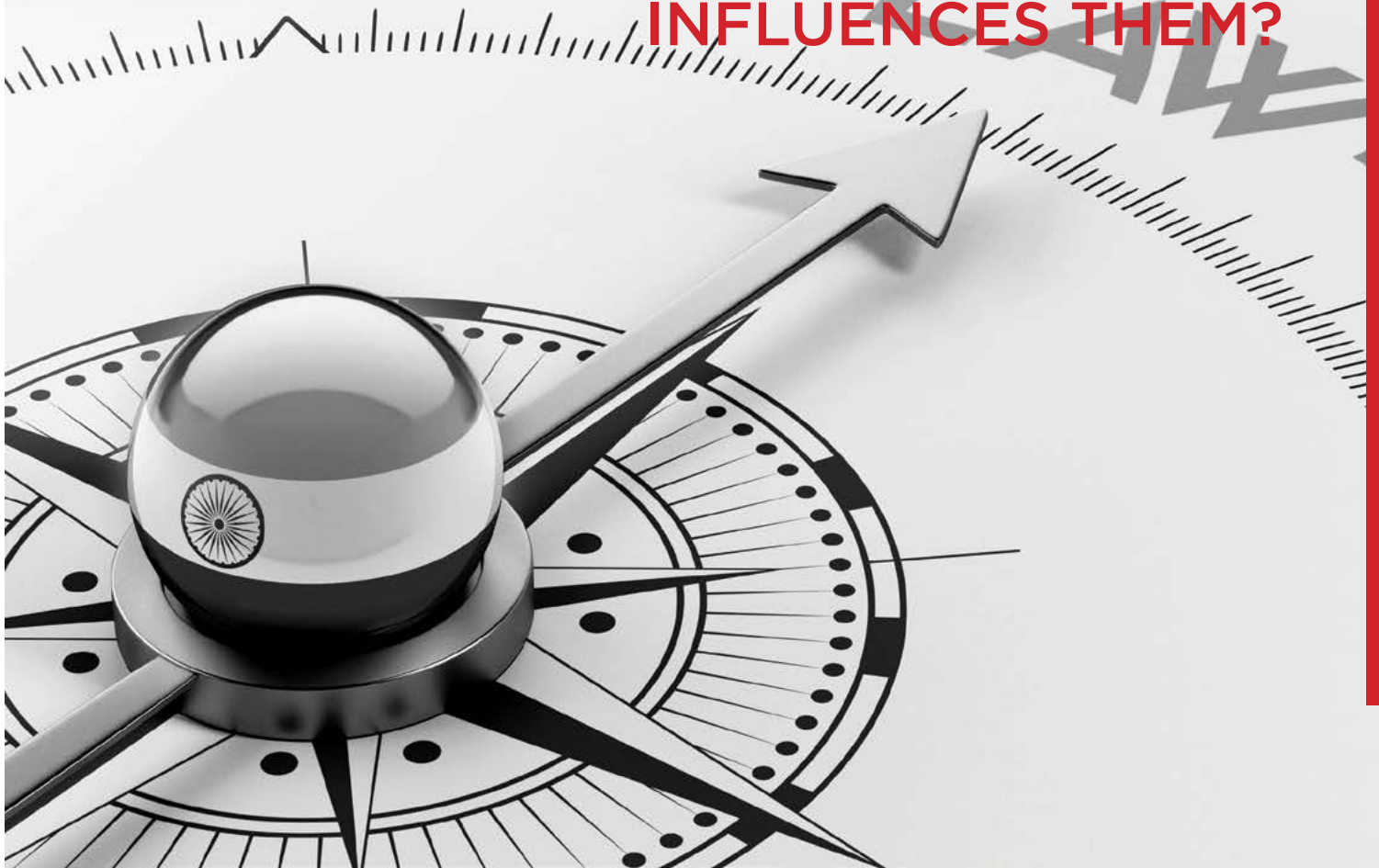


By typology, it was found that 96% two-wheeler riders, 93% four-wheeler drivers, 92% auto-rickshaw drivers and 94% truck/bus drivers felt that it is dangerous to use mobile phone when driving:

**Figure 10: Risk perception of the respondents about using mobile phones while driving by typology**



**HOW AWARE ARE  
PEOPLE ABOUT THE  
LAW AND WHAT  
INFLUENCES THEM?**



# AWARENESS OF LAW, INFLUENCE OF CHILDREN AND EXPOSURE TO CRASHES

In this section, respondents' awareness of the law, influence of children on their likelihood to use a mobile phone while driving, and whether prior exposure to accidents influences their behaviour has been sought.

## 7.1 Awareness about the law/ punishment for mobile phone usage while driving

While the study revealed that **15% respondents were not aware about the fact that using a mobile phone while driving is an offence, 4 out of 10 respondents did not know the quantum of fine for the offence.**

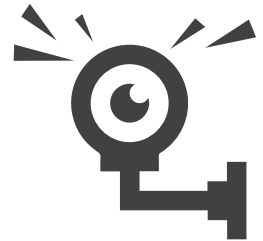
However, 68% respondents reported that they strongly support the use of high-speed cameras by police to apprehend drivers using mobile phone while driving.

Typology-wise assessment shows that only about 61% truck/bus drivers know about the fine for using mobile phones while driving. 33% four wheeler drivers do not support the use of high speed cameras by police to apprehend drivers using mobile phone while driving and 40% of them do not know about the fine for using mobile phones while driving. Over 80% two-wheeler, four-wheeler, auto-rickshaw and truck/bus drivers know that using mobile phones while driving is an

offence. On the other hand, a little over 60% of all respondents, in different typologies, know about the fine for using mobile phones while driving.

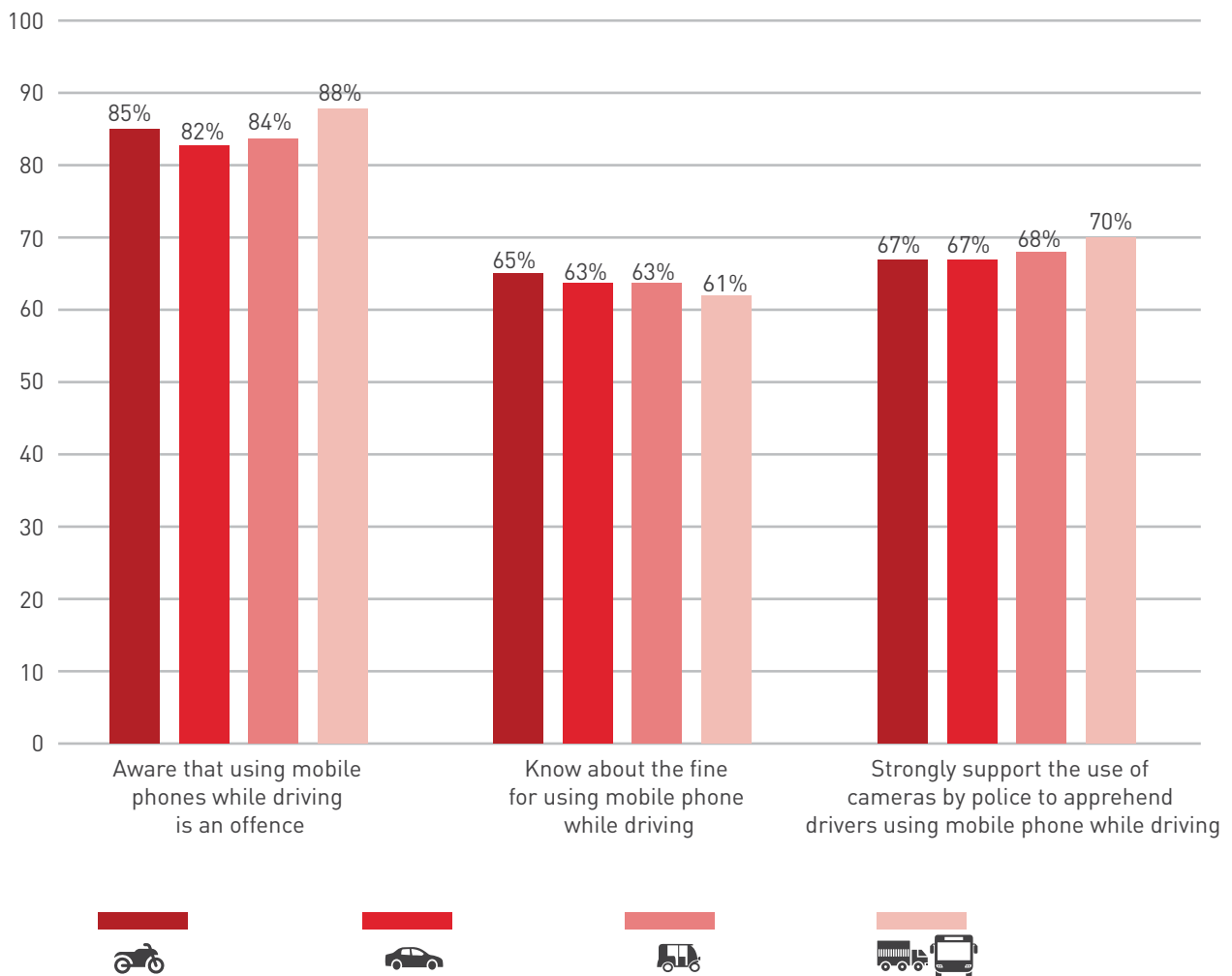
# 68%

PEOPLE SUPPORT THE USE OF ENFORCEMENT CAMERAS TO APPREHEND DRIVERS USING MOBILE PHONES WHILE DRIVING





**Figure 11: Proportion of respondents aware about law regarding use of mobile phone while driving**



Amongst cities, 1 out of 2 respondents in Delhi and Jaipur are not aware of the fact that there is a fine for using mobile phone while driving and 63% in Kanpur and 58% in Mumbai do not know about the fine for using mobile phone while driving.

**Table 16: Proportion of respondents aware about law regarding use of mobile phone while driving**

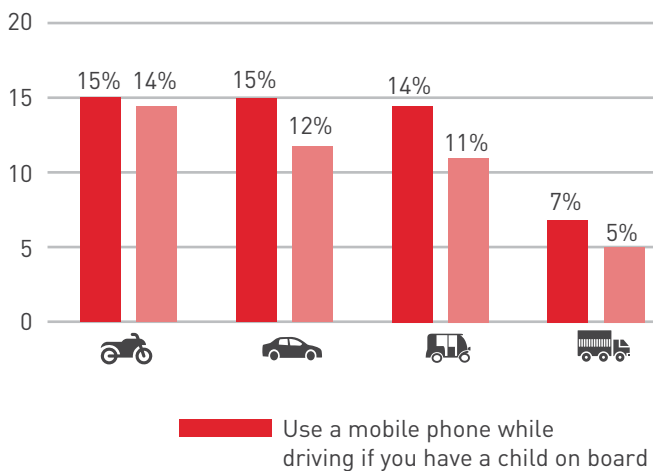
Awareness	Delhi	Chennai	Jaipur	Bengaluru	Mangaluru	Kanpur	Mumbai	Kolkata
Aware that using mobile phones while driving is an offence	61%	64%	94%	84%	93%	98%	93%	94%
Know about the fine for using mobile phone while driving	51%	69%	52%	85%	92%	37%	42%	73%
Strongly support use of high-speed cameras by police to apprehend drivers using mobile phones while driving	51%	59%	93%	36%	73%	87%	61%	89%

## 7.2 Behavioural effects of driving when children are involved

To understand whether there is any change in the behavioural patterns of drivers when children are involved, two scenarios were presented to the respondents. One was to ascertain their behaviour of driving in a distracted manner when a child was on board the vehicle, and the other was when the respondent drove the vehicle in a school zone. It was found that fewer people are likely to use a mobile phone while driving with a child on board, with only 13% among all respondents across all

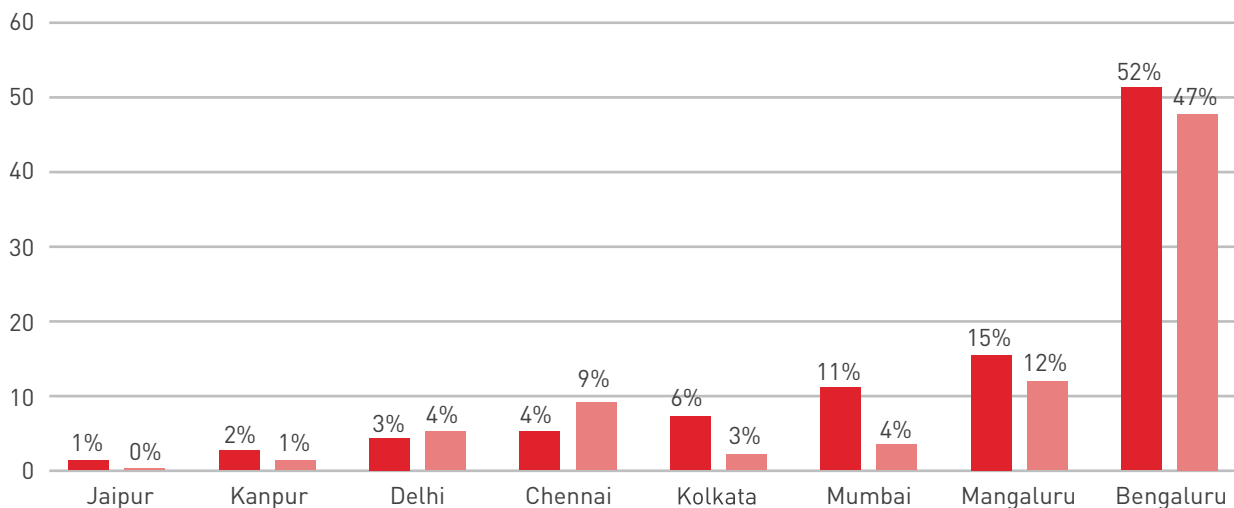
typologies admitting to using a mobile phone while driving with a child on board. Out of the 13% respondents, the likelihood of drivers using a mobile phone with a child on board was higher among young respondents below 35 years. It was also revealed that only 11% respondents would use mobile phones while driving in the vicinity of a school. Those who are less than 35 years of age tend to use their mobile phones more often while driving in the vicinity of school than those who are older than 35 years. However, in this regard, truck/bus drivers tend to be more careful and refrain from using mobile phones in the vicinity of a school.

**Figure 12: Proportion of respondents who reported to behaving differently for child safety by typology**



Further analysis of city-wise variation of behavioural pattern regarding safety of children reveals that in Bengaluru, almost half of all respondents tend to use mobile phones with a child on board. Bengaluru reveals a similar picture in mobile phone usage near a school. In Mumbai, however, 11% respondents would use mobile phones while driving with a child on board and in Mangaluru, 15% do the same. In Jaipur on the other hand, it was revealed that nobody would use a mobile phone while driving in the vicinity of a school.

**Figure 13: Proportion of respondents who reported to behaving differently for child safety**



### 7.3 Exposure to accidents due to Distracted Driving

Being involved in an accident or having a near-miss can influence road user behaviour drastically. This section seeks to further understand to what extent such behaviour changes.





Respondents were asked three questions during the survey to capture the exposure to accidents due to distracted driving. It was found that half of the respondents have seen or know of an accident caused because of using mobile phone

## 20%

PEOPLE HAVE HAD A NEAR-MISS OR A CRASH DUE TO USE OF MOBILE PHONE WHILE DRIVING

while driving, while 1 in 5 respondents had personally experienced an accident or a near-miss accident when using a mobile phone while driving.

**Table 17: Exposure to accidents by typology**

Exposure to accidents				
Respondents who have had an accident or a near-miss when using a mobile phone while driving	22%	19%	15%	24%
Respondents who have seen or know of an accident caused because of mobile phone usage while driving	51%	52%	51%	46%
Respondents who have experienced a near-miss (accident) due to mobile phone usage while walking on/crossing the road	38%	38%	36%	40%

**A typology-wise analysis shows that almost 1 in 4 truck/bus drivers had experienced an accident or a near-miss when using mobile phones while driving.** Nearly 20% four wheeler drivers and 22% two wheeler riders have had an accident or a near-miss when using mobile phone while driving.

**Table 18: Proportion of respondents reported to having exposure of accidents due to distracted driving by cities**

Awareness	Delhi	Chennai	Jaipur	Bengaluru	Mangaluru	Kanpur	Mumbai	Kolkata
Respondents who have had an accident or a near-miss when using a mobile phone while driving	6%	32%	3%	62%	30%	3%	12%	9%
Respondents who have seen or know of an accident caused because of mobile phone usage while driving	43%	38%	26%	63%	60%	60%	60%	50%
Respondents who have experienced a near-miss (accident) due to mobile phone usage while walking on/crossing the road	26%	31%	9%	66%	28%	62%	44%	36%

Amongst cities, the proportion of respondents who reported to have an accident or a near-miss when using mobile phones while driving is highest (62%) in Bengaluru, followed by Chennai with 32% and lowest in Kanpur and Jaipur. In Bengaluru, the highest proportion of respondents have had an experience of a near-miss by using a mobile phone while walking on/crossing the road, followed by Kanpur.

**It is observed that those who had experienced an accident or a near-miss, tend to reduce the use of mobile for receiving and even for making calls than those who had no exposure to accidents.**

Amongst those who have had an accident or a near-miss when using mobile phone while driving,

30% claimed to have always received a call while driving. Contrastingly, amongst those who never had an accident or a near-miss while driving, 70% claimed to have always received a call while driving. This shows that exposure to accidents strongly discourages road users to use mobile phone while driving and decreases mobile phone usage to a visible extent.

**Table 19: Exposure of accidents due to distracted driving by making/receiving calls while driving**

Exposure to accidents		How often do you receive a call while driving			How often do you receive a call while driving		
		Always	Sometimes/depends who is calling	Never	Always	Sometimes	Never
Have you had an accident or a near-miss when using mobile phone while driving?	Yes	30%	22%	19%	31%	24%	19%
	No	70%	78%	81%	69%	76%	81%
Have you seen or know of an accident because of use of mobile phone while driving?	Yes	46%	54%	47%	54%	54%	49%
	No	54%	46%	53%	46%	46%	51%
Have you ever experienced a near-miss accident while using the phone when walking on/crossing the road?	Yes	47%	41%	35%	36%	44%	36%
	No	53%	59%	65%	64%	56%	64%

Varying trends were observed in mobile phone usage for reading and sending text messages while driving. Amongst those who had experienced a near-miss accident when using phones while walking on/crossing the road, 56% claimed that

they still always read text messages/Whatsapp messages or emails while they were driving and 63% still sent text messages/Whatsapp messages or emails while driving.

**Table 20: Exposure of accidents due to distracted driving by sending/reading messages while driving**

Exposure to accidents		Do you ever read text messages/WhatsApp or e-mails while you are driving?			Do you ever send text messages/WhatsApp or e-mails while you are driving?		
		Always	Sometimes	Never	Always	Sometimes	Never
Have you had an accident or a near-miss when using mobile phone while driving?	Yes	56%	27%	19%	63%	28%	19%
	No	44%	73%	81%	37%	72%	81%
Have you seen or know of an accident because of use of mobile phone while driving?	Yes	56%	42%	51%	63%	45%	50%
	No	44%	58%	49%	37%	55%	50%
Have you ever experienced a near-miss accident while using the phone when walking on/crossing the road?	Yes	56%	37%	38%	63%	41%	38%
	No	44%	63%	62%	37%	59%	62%



## BROAD CONCLUSIONS

While studying the data and responses from the survey respondents, several conclusions stood out on people's driving behavior, awareness of laws and risk perception relating to distracted driving. These are detailed below.

### 8.1 Extent of use of mobile while driving

47% of all respondents to the survey revealed that they receive a call while driving and 28% said they made calls while driving. The findings across eight cities suggest that receiving a call is more prominent while driving than making calls.

On the basis of typology, 51% four-wheeler drivers said that they receive calls while driving. Truck and bus drivers are more inclined to make calls while driving, indicating that they are more likely to indulge in risky driving behavior compared to other types of drivers. 31% bus/truck drivers said they make calls while driving. Among cities, 67% in Kolkata said they receive calls while driving while in Bengaluru, it was as high as 70%. In fact, in Bengaluru, 65% reported to also making calls while driving - the highest among cities.

10% of respondents read text messages/emails and around 8% respondents send messages/emails while driving. The highest proportion

of respondents who reported to have used their mobile for texting/emails in cities was in Bengaluru.

7% respondents claimed to have used social media while driving. Use of social media is comparatively less among truck/bus drivers as the use of smart phones with internet connectivity is less among them. Surprisingly, a higher proportion of two-wheeler drivers use social media (11%) while driving, which is more than four-wheeler drivers (8%). Among cities, however, Bengaluru tops the list again with 44% respondents using social media while driving. This is synchronous with the fact that Bengaluru has the highest proportion of respondents who use smart phones with internet connectivity.



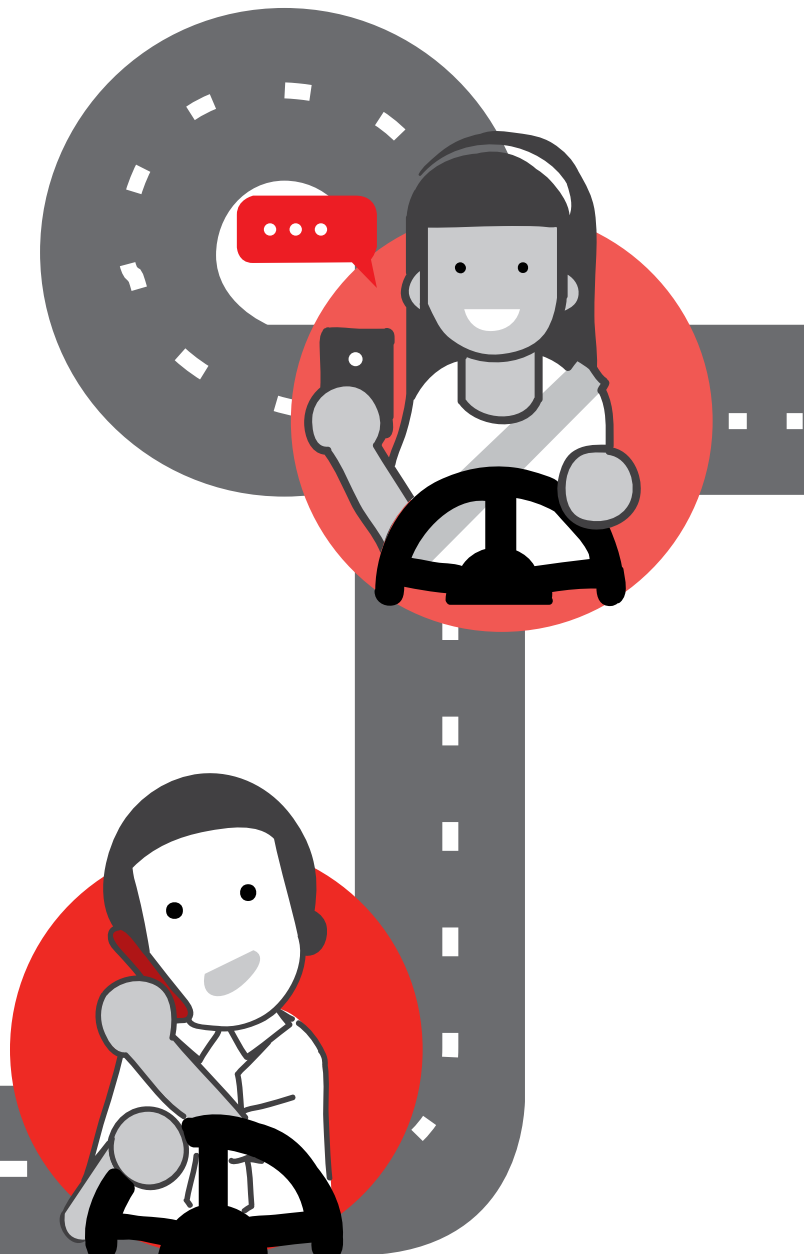


## 8.2 Purpose of using mobile phone while driving

41% of the respondents answer calls while driving if the purpose of the call is work-related, while another 36% if they are driving at a low speed. Among typologies, a majority of auto-rickshaw drivers pick up calls during non-stressful traffic conditions and if they were personal/social calls.

A high proportion of the truck/bus drivers reported that they generally answer calls and make calls if it is work related than any other reasons. In Kolkata and Delhi, 61% and 49% respondents respectively said that they answer calls if they are personal/social calls.

The survey results also showed that effective traffic enforcement system either in the form of traffic policemen or electronic surveillance has a deterring effect on drivers using mobile phone with 18% respondents saying that they would not make a call when the area is under surveillance or when they see a police officer.



### 8.3 Ways of using the phone while driving and impact on driving

Alarmingly, 60% respondents said they answer calls without parking at a safe location. Out of them, 13% said that they, in fact, continue driving while speaking on the phone. Answering and continuing to drive while completing the call is more prevalent among two-wheeler and truck/bus drivers than others. Similarly for reading and sending messages/emails, 63% and 64% respondents respectively said that they do not stop at a safe location and an overall of 10% respondents continue to drive while checking social media.

Respondents reported reduction in driving performance when driving and using the mobile phone. 47% respondents across categories said they use turn signals less frequently while driving and talking on the phone and 34% said they brake more suddenly. 21% of drivers said they change lanes more frequently when messaging and driving. This reduced driving performance increases the chances of road crashes.

### 8.4 Risk perception about use of mobile on road and while driving

The respondents were asked if they felt unsafe being a passenger while their driver is talking over the phone. It was found that 96% felt extremely unsafe if their driver was talking on the phone. 86% felt extremely unsafe even if the driver was using a navigation system for directions. These figures show that while distracted driving is perceived to be unsafe by respondents as passengers, a high proportion of them do not feel so when they are behind the wheel. Interestingly, it was revealed that 43% of respondents wouldn't say anything to a driver if they felt unsafe.

When the respondents were asked how risky they felt it would be for a pedestrian to walk on the road while talking on the phone, 59% felt that it is not at all safe and may be life-threatening. Crossing the road while talking on the phone is perceived to be more life-threatening and risky compared to walking and standing on the roadside and talking on the phone, as 2 out of 3 respondents perceive it to be risky.

Respondents in all cities agreed that distracted driving while talking on the phone is dangerous and life-threatening with 94% responding that they think it is dangerous. In Chennai and Delhi, a comparatively lesser proportion of respondents think that using mobile while driving can be dangerous.



## 8.5 Awareness about the law and penalties

Around 15% of the respondents were not aware that using mobile phones while driving is an offence. An even much lesser proportion of respondents are aware that there is a fine for using mobile phone while driving. Only around half of the respondents in Delhi and Jaipur, and even lesser proportion of respondents in Kanpur and Mumbai, are aware about the fact that there is a fine for using mobile phone while driving.

While the results show that a robust enforcement system can be used as an effective tool to correct distracted driving, almost 68% of the respondents reported that they strongly support the use of high-speed cameras by police to apprehend drivers using mobile phone while driving.

It was found that fewer people are likely to use a mobile phone while driving with a child on board, with only 13% among all respondents across all typologies admitting to using a mobile phone while driving with a child on board. Out of the 13% respondents, the likelihood of drivers using a mobile phone with a child on board was higher among young respondents below 35 years. Around 11% respondents use mobile phone while driving in the vicinity of a school. In Bengaluru, almost half of the respondents tend to use mobile phones while driving even with a child on board. Similarly,

regarding use of mobile phones while driving near a school, Bengaluru is found to have a high proportion of respondents who reported to use mobile phones in the vicinity of a school.

## 8.6 Exposure to accidents due to use of mobile

It was found that half of the respondents have seen or know of an accident caused due to the use mobile phone while driving. 1 in every 5 respondents has personally experienced an accident or a near-miss incident when using mobile phone while driving in past.

Around 38% respondents have experienced a near-miss accident while using the phone while walking on/crossing the road. Almost 1 in every 4 truck/bus drivers had experienced an accident or near-miss when using the phone while driving.

Proportion of respondents reported to have an accident or near-miss when using mobile phone while driving is found to be more in Bengaluru (62%), followed by Chennai (32%) and it is the lowest in Kanpur and Jaipur. The differentials in behavior by exposure indicate that the exposure to accidents due to mobile use has a significant positive impact on the behavior and the respondent who has previously been exposed to a near-miss or an accident becomes more cautious about using the phone while driving.



## INTERNATIONAL BEST PRACTICES

A serious and ever-growing threat, distracted driving is an important element of any road safety plan. The evidence from various surveys and studies across the globe, clearly reflects that driver distraction is amenable to intervention and can be effectively dealt with. Some challenges impeding this issue include lack of sufficient data, insufficient convergence between key authorities and ineffectual enforcement. However, practices and models in some countries have not only yielded results, these can also be contextualized in the Indian super structure to bolster prevention efforts.

In Buenos Aires, Argentina, a law was passed in 2007 that banned writing or reading text messages while driving, with a penalty of between 200 and 2000 pesos for violation. In the United States, 14 states, D.C., Puerto Rico, Guam and the U.S. Virgin Islands prohibit all drivers from using hand-held cell phones and, 38 states and Washington D.C. prohibit all kinds of mobile phone use for novice drivers. In 20 states and Washington D.C., school bus drivers are prohibited from using mobile phones when passengers are present. As mobile phones become increasingly integrated with other applications, the Canadian province of Alberta has proposed a bill with some of the most comprehensive provisions on distracted driving. The new amendment prohibits drivers from

holding or using hand-held mobile communication or entertainment devices, such as mobile phones, laptops or MP3 players while driving. The legislation also extends to other sources of distracted driving, including reading and writing, personal hygiene and grooming.

However, policy-makers in some countries are of the opinion that a complete ban on mobile phone use in vehicles is unrealistic because of difficulties related to enforcement of hands-free phones. For instance, Sweden, which has a good road safety record, does not ban the use of mobile phones while driving, but focuses initiatives on raising public awareness of the risk of distracted driving

As per the WHO, there is a lack of consistency in legislations relating to mobile phone use across the world. In fact, there are inconsistencies even within countries where laws are set at a state level. However, at the international level, there are a number of measures that aim to guide UN Member States to address the risk of mobile phones while driving. Article 8.6 of the Vienna Convention on Road Traffic, 1968, was amended in 2006 to include a ban on the use of mobile phones while driving.





## RECOMMENDED INTERVENTIONS

It is evident from the survey that despite being a threat to the safety of a road user, use of mobile phone is prevalent among Indian drivers. Noteworthy findings of this study show that use of mobile phones negatively impacts driving performance, which increases the chances of crashes. A significant portion of the respondents have directly been impacted by the use of mobile phones while driving. Their patterns and behavior are often risky and life-threatening, with a higher proportion using their phones to talk rather than text or use social media. Surprisingly, though, a high proportion of respondents felt unsafe if they were passengers and their driver was carrying out the same activities that cause distraction, given that many cab hailing services require the drivers to use mobile phone for navigation and coordinating with customers; there is more companies can do to make people feel safe. Analysis of the reasons when people are most likely to avoid use of mobile while driving shows that although there is a fear of enforcement, it ceases to act as a deterrent due to lack of awareness and ineffective implementation.

To reduce the use of mobile phones while driving, the following interventions are recommended:

### Effective legislation

Setting in place an effective legislative framework is paramount and the first step in tackling any

risk factor associated with road safety. The Motor Vehicles Act, 1988, the sole legislation dealing with road safety in India, does not expressly specify the use of a communication device to be a violation. At present, the enforcement agencies use the provision under Section 184 viz. 'Driving Dangerously' and interpret its text to include use of mobile phones while driving. In the Motor Vehicles (Amendment) Bill 2016 which was passed in the Lok Sabha on April 10, 2016, the proposed amendment to Section 184 has included the 'use of handheld communications devices while driving' to encompass driving in a manner which is dangerous to public in its definition. The proposed maximum penalty for the offence has also been increased from rupees two thousand to rupees five thousand, and the term of imprisonment has been increased from six months to one year.

### Visible and sustained enforcement

A visible and sustained enforcement mechanism has been proven to be an antidote for tackling all the risk factors contributing to road crash deaths. For a stronger and enhanced legislative framework to be effective, enforcement targeting mobile usage at a sustained level is crucial.



## Data collection

The absence of robust data, specifically related to crashes caused due to the use of mobile phone is a serious flaw. Police data collection system across the country need to incorporate the use of mobile phone in crashes as a field to be compulsory filled by investigating officers. The Ministry of Road Transport and Highways, Government of India on February 21st, 2017 has released a revised Road Accident Data and Reporting Format recommended to be used by all State Governments and UT Administrations and it does have in Column 13, "Use of Mobile Phone" as one of the options to ascertain the type of traffic violation that contributed to the crash. This new format should be adopted and implemented by police stations across the country.

## Powerful public campaigns

As observed and recorded in this study, a high proportion of people do accept that using mobile phone while driving is dangerous and they also do not feel safe when they are passengers and find the driver using mobile phone. Along with strong

legislation and effective enforcement, powerful messages through public campaigns need to be imparted in a sustained manner. According to the WHO, distracted driving is more than just a driving issue, but is a societal issue that results in part from lifestyle patterns and choices, with strong social factors governing what the public thinks of as acceptable levels of risk (for example, eating or listening to music while driving is generally considered acceptable).

## Company policies

Companies occupy a unique position of influencing road user behavior as they have workforce that is compelled to follow institutionalized policies. Every company needs to have a "Health, Safety and Well being Policy" with a clear directive to its employees to follow safety rules on the road. Vodafone India has a very robust safety policy and one of its 'absolute safety rules' is 'Never use your mobile phone while driving'.

## VODAFONE- SAVELIFE FOUNDATION "ROAD SAFE" MOBILE APPLICATION

The Vodafone-SaveLIFE Foundation "Road Safe" mobile application has been developed, under the 'Safety in Mobility' CSR initiative to help improve Road Safety in India. Following are the core functionalities of the App.



### Automatic Crash Detector

(Android only): Using the phone's accelerometer, this feature tries to detect a sudden drop in vehicle speed, and provides automatic voice enabled emergency response assistance.

### Distraction Free Driving

(Android only): To help a driver remain focussed on driving, this feature will automatically disable calls/SMS/Push notifications when the vehicle speed is above 10 km/hour.

### Road Safety Tips

Useful safety tips to different categories of road users

### How To Help An Injured Person

A handy guide for all Good Samaritans on their rights and how to help injured road crash victims

### In Case Of Emergency

A one-touch dial for emergency services and call/SMS to saved emergency contacts

### Traffic Offences & Fines

Details of all traffic offences and fines for States/Union Territories



FOR DISTRACTION-FREE DRIVING  
DOWNLOAD THE VODAFONE-SAVELIFE FOUNDATION "ROAD SAFE" APP  
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# ANNEXURE

## \*Sample Size Calculation

Assuming that the probability of a person using mobile phone while driving is 50 percent and considers 95 percent confidence interval; the required sample size would be using standard formula as given below:

Where:

$n$  = required sample size

$z$  = Z value (e.g. 1.96 for 95% confidence level)

$p$  = prevalence of Two-wheeler drivers who uses phone while driving (0.5 has been used as there is no prior information is not available)

$c$  = margin of error (5%)

Using above mentioned formula worked out sample size for Two-wheeler drivers who use mobile phone while driving is 384 which have been inflated to 400 for the sake of divisibility.

On the same lines sample size for each typology worked out as 400.

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