

ROAD SAFETY AND MOBILE PHONE USE IN THE ASIA-PACIFIC REGION



DECADE OF ACTION FOR
ROAD SAFETY

2021 - 2030

 **ESCAP** 75
MOVING FORWARD TOGETHER



The shaded areas of the map indicate ESCAP member countries and associate member countries. *

The Economic and Social Commission for Asia and the Pacific (ESCAP) is the most inclusive intergovernmental platform in the Asia-Pacific region. The Commission promotes cooperation among its 53 member countries and 9 associate member countries in pursuit of solutions to sustainable development challenges. ESCAP is one of the five regional commissions of the United Nations.

The ESCAP secretariat supports inclusive, resilient and sustainable development in the region by generating action-oriented knowledge, and by providing technical assistance and capacity-building services in support of national development objectives, regional agreements and the implementation of the 2030 Agenda for Sustainable Development.

** The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.*

Road Safety and Mobile Phone Use in the Asia-Pacific Region

The views expressed in this report are those of the author and do not necessarily reflect the views of the United Nations Secretariat. The opinions, figures, tables, estimates and recommendations depicted in this report are those of the author and should not necessarily be considered as reflecting the views or carrying the endorsement of the United Nations.

The designations employed and the presentation of the material including maps in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Mention of firm names and commercial products does not imply the endorsement of the United Nations.

This publication may be reproduced in whole or in part for educational or non-profit purposes without special permission from the copyright holder, provided that the source is acknowledged.

The ESCAP Publications Office would appreciate receiving a copy of any publication that uses this publication as a source. No use may be made of this publication for resale or any other commercial purpose whatsoever without prior permission. Applications for such permission, with a statement of the purpose and extent or reproduction, should be addressed to the Secretary of the Publications Board, United Nations, New York.

United Nations publication issued by the Sustainable Transport Section, Transport Division, ESCAP

Cover photos credit: Josip Ivankovic / Unsplash – Martheus Bertelli / Pexels.
Cover design: Sélim Denoux.

Acknowledgments

The report was prepared under the overall guidance and technical inputs of Ishtiaque Ahmed, PhD, Economic Affairs Officer. Valuable advice was extended by Thanattaporn Rasamit, Chief of the Sustainable Transportation Section and by Weimin Ren, Director of the Transport Division of ESCAP.

The report was prepared by Martin Small, an international consultant with the technical support of Sihui Hu, Nabila Imam, and Nadia Binte Mohammad; and the graphic design was done by Selim Denoux in the Transport Division of ESCAP.

Table of Contents

EXECUTIVE SUMMARY	8
1. INTRODUCTION	10
2. ROAD SAFETY IN THE SUSTAINABLE DEVELOPMENT GOALS	10
3. GLOBAL AND REGIONAL ROAD SAFETY PLANS	13
4. ESCAP ROAD SAFETY PERFORMANCE AND AGENDA	14
5. ROAD SAFETY RISK FACTORS	18
5.1 Infrastructure safety.....	18
5.2 Vehicle safety	19
5.3 User behaviour	20
6. MOBILE PHONE USE WHILE DRIVING	22
6.1 What is the role of mobile phones in sustainable development?	22
6.2 What are the injury risks in using mobile phones while driving?	23
6.3 What are the prevailing attitudes and reported behaviours?	26
7. COUNTERMEASURES TO MOBILE PHONE USE WHILE DRIVING	31
7.1 Infrastructure and vehicle measures	31
7.2 Behavioural measures.....	31
8. CONCLUSIONS AND RECOMMENDATIONS	37
REFERENCES	39
Appendix A: United Nations Road Safety Conventions.....	43
Appendix B: Country laws on behaviour risk factors and mobile phone subscriptions	45
Appendix C: Mobile Phone Laws	50

List of Tables

Table 1. UN Voluntary Road Safety Performance Targets and their Rationale.....	11
Table 2. ESCAP recommendations for member countries (source: ESCAP 2020).	17
Table 3. Increase in risk associated with distracting hand-held mobile phone tasks.....	26
Table 4. Self-declared behaviours – at least once in the past 30 days.....	27
Table 5. Behaviour beliefs and attitudes of drivers and riders concerning the use of mobile of mobile phone while driving.....	27
Table 6. Perceived behaviour control (self-efficacy) concerning the use of mobile of mobile phone while driving.....	28
Table 7. Risk perception of talking on a mobile phone while driving.....	28

Table 8. Personal acceptability of unsafe traffic behaviours related to the use of mobile phone while driving.....	29
Table 9. Perceived risk of detection for key risk behaviours.....	29
Table 10. Perceived risk of detection for mobile phone use by country	29
Table 11. Attitudes to traffic rules/penalties for using a phone while driving/riding.....	30
Table 12. Support for zero tolerance approach to mobile phone use.....	30
Table 13. Proposed implementation framework.....	35

List of Figures

Figure 1. ESCAP road traffic deaths 2007-2019	14
Figure 2. Rates of road traffic death per 100,000 population by ESCAP sub-region 2016-2019	15
Figure 3. ESCAP road traffic deaths and road traffic death rates 2016-2019	15
Figure 4. ESCAP country road traffic death changes 2016-2019	16
Figure 5. iRAP star ratings for ten low and middle income ESCAP member countries	19

Executive Summary

Road crashes resulted in an estimated 720,000 fatalities in the Asia-Pacific region in 2019 alone, which is the lowest in a decade. However, 56% of global fatalities are occurring in the ESCAP Region with one person killed by road crashes in every 44 seconds. The United Nations proclaimed the Second Decade of Action for Road Safety which aims to halve the number of global deaths and injuries from road traffic accident by 2030. The World Health Organisation has identified a number of key road safety risk factors associated with people's use of the road, and set performance targets for them: speeding, drink driving, non-use of helmets, non-use of seatbelts and child restraints, and use of mobile phones while driving.

The Global Plan for the Decade of Action for Road Safety 2021-2030, and Regional Plan of Action for Asia and the Pacific for the Second Decade of Action for Road Safety 2021–2030, provide important direction to support ESCAP member countries in their efforts to achieve these targets.

The Regional Plan recommends actions across seven arenas:

- Safe road infrastructure
- Safe vehicles
- Safe road use
- Post-crash care
- Safe speed, a cross-cutting issue
- Modal shift, land use planning and reduced road use exposure
- Road safety management and leadership

Mobile phone use is one of the global road safety performance targets as research shows that hand-held phone use increases crash risk by three and a half times. Mobile phone related activities which take eyes off the road or hands off the controls are of greatest concern. Attitudinal data from ESCAP countries highlights widespread mobile phone use while driving, even though drivers recognize that it is dangerous, particularly hand-held phone use or texting, and there is a dominant view that mobile phone laws/penalties should be stricter.

A study of mobile phone use in North America concluded that the most effective laws and state safety efforts involved: unambiguous legal language that clearly defines when and how a wireless device can and cannot be used; penalties and fines in line with other traffic citations; and a combination of high-visibility enforcement of the law and targeted public information, education and outreach campaigns.

Use of a mobile phone while driving is dangerous, but the scale of the injury issue is uncertain due to a lack of information and there is little or no multilateral guidance on the problem. Good quality behavioural programmes will assist, but systematic safety measures regarding the road environment, vehicles and speed are also needed. Organisations which use the road traffic system, or which have staff who work in road traffic operating motor vehicles, have a responsibility to promote safe use of mobile phones.

It is recommended that ESCAP member countries review the laws applying to mobile phone use, based on a good practice protocol, focusing on any device being held in the hand, supported by enforcement and communications. It is also recommended that ESCAP member countries continue to work towards delivering a safe road traffic system to their communities,

through the implementation as appropriate of the Global Plan and the Regional Plan of Action for Asia and the Pacific for the Second Decade of Action for Road Safety 2021-2030.

1. Introduction

Road crashes resulted in an estimated 720,000 fatalities in the Asia-Pacific region in 2019 alone. Some progress has been made amongst ESCAP member countries, but the disproportionate burden carried by low and middle-income countries means significant additional effort is required over the course of this decade. In 2021, the United Nations proclaimed the Global Plan for the Decade of Action for Road Safety 2021-2030 which aims to halve the number of global deaths and injuries from road traffic accident by 2030.

The World Health Organisation (WHO) has identified a number of key road safety risk factors associated with people's use of the road. These are speeding, drink driving, non-use of helmets, non-use of seatbelts and child restraints, and use of mobile phones while driving. This study provides some context for the ESCAP road safety agenda, and briefly reviews the regional information available on key road safety risk factors. It then focuses on the risks associated with use of mobile phones while driving, which is considered to be one of the most common causes of road crashes for countries in the Asia-Pacific countries.

2. Road safety in the Sustainable Development Goals

The promulgation of the Global Plan for the Decade of Action for Road Safety 2011-2020 set a goal to 'stabilise and then reduce' road traffic deaths. While road death rates stabilised, preventing deaths from increasing at projected rates, the actual number of deaths estimated by WHO increased, to 1.35 million each year.

A significant development during this first Decade of Action was that road traffic injury was recognised for the first time as a major development issue within the United Nations Sustainable Development Goals (SDGs). This is because road traffic injury is a gateway to poverty across low and middle-income countries, with multiple negative social and economic impacts in families and communities.

Road traffic safety is a part of several SDGs, and is most commonly considered within the following two goals (United Nations 2015):

- **Goal 3 Good Health and Wellbeing**

The headline road safety indicator for Goal 3 is found in Target 3.6 which is "By 2030, halve the number of global deaths and injuries from road traffic accidents".






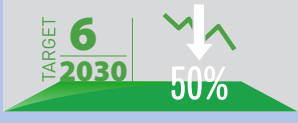

- **Goal 11 Sustainable Cities and Communities**






The headline road safety target for Goal 11 is found in Target 11.2 which is "By 2030 provide access to safe, affordable, accessible, and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older person."



Twelve voluntary road safety targets have been established and promulgated through WHO, which is responsible for this goal. (WHO 2017B) Table 1 sets out these targets and summarises the rationale for them. The first two, relating to the preparation of a national plan, and accession to relevant UN conventions, are enabling indicators – they need to be undertaken to enable different risks to be adequately addressed. The remainder focus on specific risks and issues requiring intervention to prevent fatal and serious road trauma (see Peden 2004, WHO 2017A, WHO 2018).

Table 1. UN Voluntary Road Safety Performance Targets and their Rationale

Safety Performance Target	Rationale
 <p>By 2020, all countries establish a comprehensive multisectoral national road safety action plan with time-bound targets</p>	<p>One of just six recommendations by the World Report on what countries need to do to tackle road traffic injury crisis</p>
 <p>By 2030, all countries accede to one or more of the core road safety-related UN legal instruments</p>	<p>Compliance with several conventions, particularly vehicle standards, would significantly reduce trauma</p>
 <p>By 2030, all new roads achieve technical standards for all road users that take into account road safety, or meet a three star rating or better</p>	<p>Crash costs typically halve with each incremental improvement in star rating, and 3 stars is regarded as the minimum performance</p>
 <p>By 2030, more than 75% of travel on existing roads is on roads that meet technical standards for all road users that take into account road safety</p>	<p>50% of trauma typically occurs on 10% of network, and road upgrades should be targeted to deliver best return on investment</p>
 <p>By 2030, 100% of new and used vehicles meet high quality safety standards, such as the recommended priority UN Regulations</p>	<p>Regulating import of new or used vehicles using the 8 highest priority UN standards would significantly reduce trauma</p>
 <p>By 2030, halve the proportion of vehicles travelling over the posted speed limit and achieve a reduction in speed-related injuries and fatalities</p>	<p>A 5% reduction in average speed can result in a 30% reduction in fatal crashes</p>
 <p>By 2030, increase the proportion of motorcycle riders correctly using standard helmets to close to 100%</p>	<p>Correct helmet use reduces the risk of fatal injuries by 42% and head injuries by 69%</p>

Safety Performance Target	Rationale
 <p>By 2030, increase the proportion of motor vehicle occupants using safety belts or standard child restraint systems to close to 100%</p>	<p>Wearing a seat-belt reduces the risk of death by 45-50% in the front seat, and of death and serious injury by 25% in the back seat</p>
 <p>By 2030, 50% reduction in injuries/ fatalities related to alcohol, and/or reduce injury/fatalities related to psychoactive substances</p>	<p>Studies in LMICs have shown that 33 - 69% of fatally injured drivers had consumed alcohol before their crash</p>
 <p>By 2030, all countries have national laws to restrict or prohibit the use of mobile phones while driving</p>	<p>Drivers using a mobile phone are around 4 times more likely to be involved in a crash (injury or non-injury) than drivers not using one</p>
 <p>By 2030, all countries regulate driving time and rest periods for professional drivers, and/or accede to relevant international regulation</p>	<p>For professional drivers and long distance drivers, both reduced sleep and long working hours combine to increase fatigue and risk</p>
 <p>By 2030, all countries establish and achieve national targets to minimize the time between a crash and the provision of first professional care</p>	<p>If fatality rates from severe injury were the same in LMICs as in HICs, up to 500,000 road deaths could be reduced every year</p>

3. Global and Regional Road Safety Plans

The Global Plan for the Decade of Action for Road Safety 2021-2030 prepared by WHO (WHO 2021), and Regional Plan of Action for Asia and the Pacific for the Second Decade of Action for Road Safety 2021–2030 prepared by the ESCAP (ESCAP 2022), provide important direction to support ESCAP member countries in their efforts to achieve these goals and targets.

The *Global Plan: Decade of Action for Road Safety 2021–2030* was developed by the World Health Organization and the United Nations Regional Commissions, in cooperation with stakeholders, as a guiding document to support the implementation of the Second Decade of Action 2021–2030 and its objectives. It responds to UN General Assembly Resolution 74/299 which declared the second decade and set a target to reduce road traffic deaths & injuries by at least 50% during that period.

Recommendations were made under the following areas, and can be used to inform the development of national road safety action plans that are tailored to local contexts, available resources and capacity:

- Multi-modal transport and land-use planning
- Safe road infrastructure
- Vehicle safety
- Safe road use
- Post-crash response

The following requirements for implementation were identified:

- Financing
- Legal frameworks
- Speed management
- Capacity development
- Ensuring a gender perspective in transport planning
- Adapting technologies to the Safe System
- Focus on low and middle-income countries.

Governments were identified as having the primary responsibility to implement a road safety action plan, with contributions also needed from:

- Academia, civil society and youth
- Private sector
- Funders
- the United Nations.

The *Regional Plan of Action for Asia and the Pacific for the Second Decade of Action for Road Safety 2021–2030* is based on the Global Plan. It recognizes that the Asia-Pacific Region is unique and diverse in terms of culture, climate, geography, and road safety circumstances, and is designed to accommodate this extraordinary uniqueness and diversity.

The Regional Plan recommends actions across seven critical areas, largely based on the Global Plan, with two additions (speed management and road safety management) considered specifically relevant to the Region.

The seven arenas are:

- Safe road infrastructure
- Safe vehicles
- Safe road use
- Post-crash care
- Safe speed, a cross-cutting issue
- Modal shift, land use planning and reduced road use exposure
- Road safety management and leadership

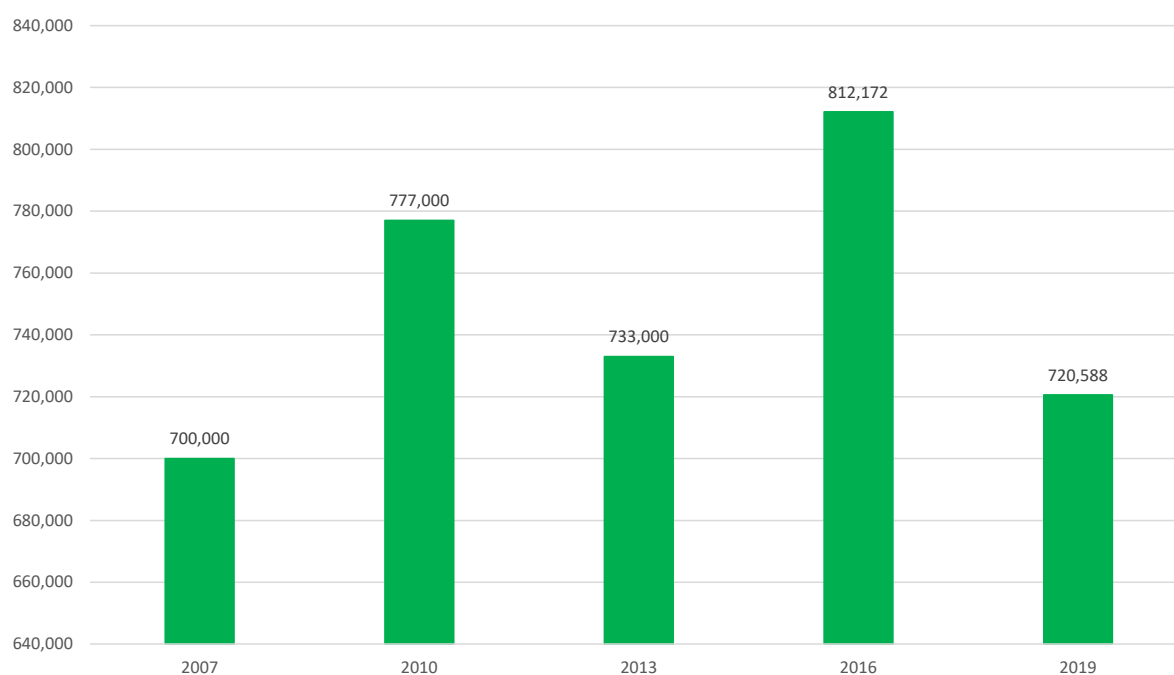
Institutionally, it is also important to recognise the value to ESCAP member countries of the recently established Asia Pacific Road Safety Observatory supported by the Asian Development Bank.

4. ESCAP road safety performance and agenda

Road safety data is a significant issue for all ESCAP member countries, particularly for low and middle-income countries. Many countries do not have reliable crash and injury data management systems which mean that the scale of the road safety problem is often understated. WHO has undertaken several analyses of road fatalities over the last decade, which have used a fully documented process to estimate the total number of fatalities across all countries, and thus provide some point of comparison.

Figure 1 shows that ESCAP road traffic deaths in 2019 declined to their lowest estimated level in a decade. However, 56% of global fatalities are occurring in the ESCAP Region with one person killed by road crashes in every 44 seconds.

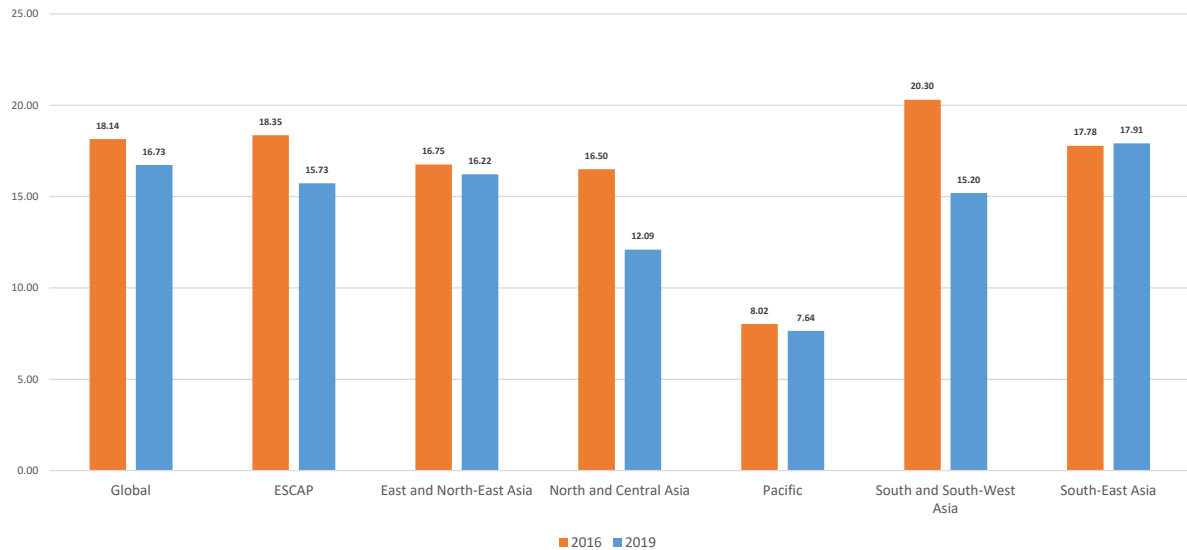
Figure 1. ESCAP road traffic deaths 2007-2019



Source: Global Health Observatory

Figure 2 shows that the lowest rates of road traffic death are in the Pacific, and the biggest improvement has been in North and Central Asia and in South and South-West Asia.

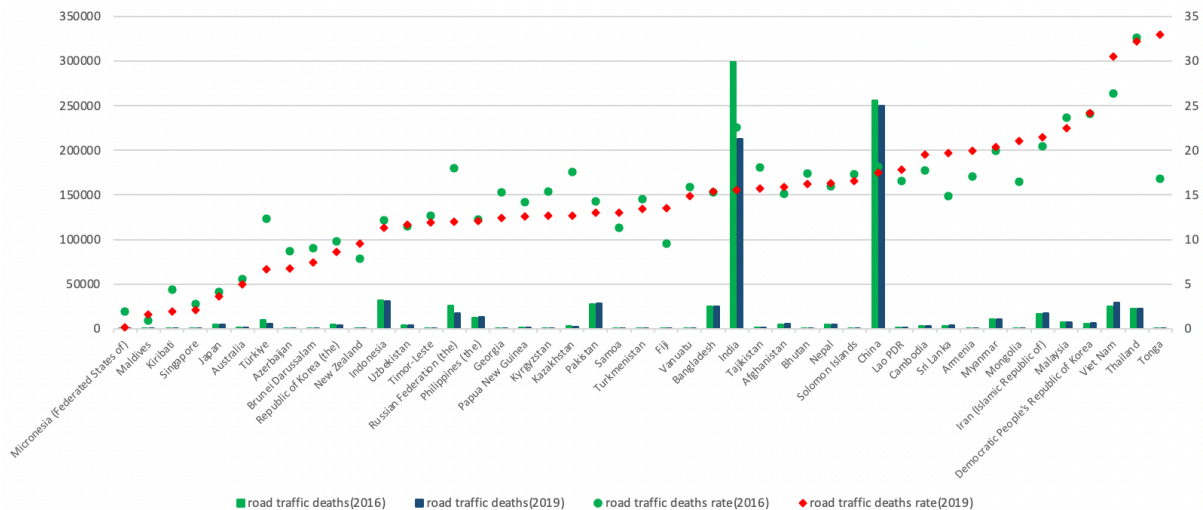
Figure 2. Rates of road traffic death per 100,000 population by ESCAP sub-region 2016-2019



Source: Global Health Observatory

Figure 3 illustrates the very substantial improvements in India where the estimated road traffic death rate decreased by 30% from 2016 to 2019.

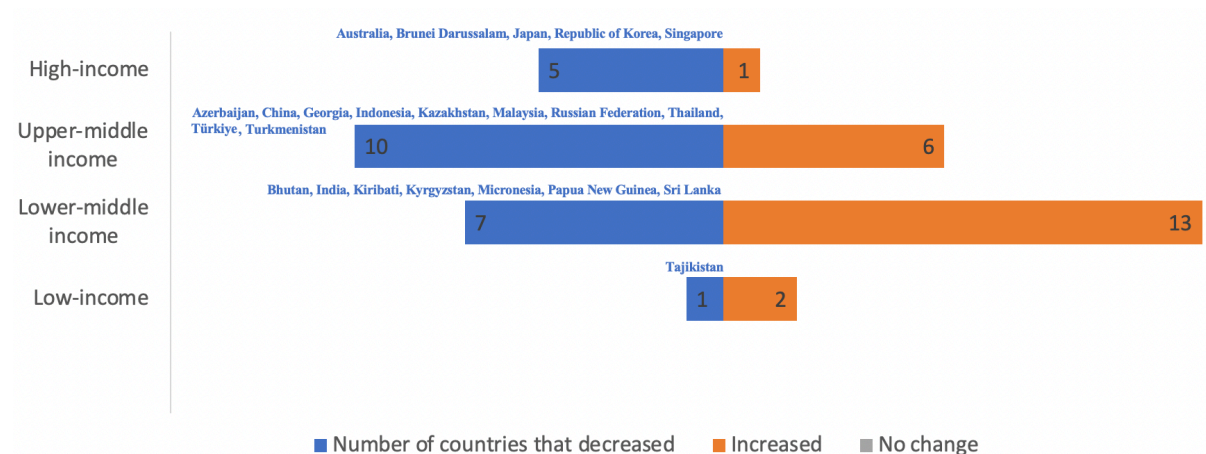
Figure 3. ESCAP road traffic deaths and road traffic death rates 2016-2019



Source: Global Health Observatory

Figure 4 highlights that the majority of high and upper-middle income countries have been able to improve performance, but only a minority of lower-middle and low-income countries.

Figure 4. ESCAP country road traffic death changes 2016-2019



Source: Global Health Observatory

Previous ESCAP analysis has shown that there is a big difference in the average safety experienced between high-income countries (7.2 fatalities per 100,000 population) and all other countries (upper-middle 1.7, lower-middle 15.5, and low-income 15.5). There has been inconsistent progress across all regions and income levels in the Asia-Pacific region. Rapid increases in motorization, particularly two-wheeled motorization, compounded by sufficient improvement in the safety of road traffic system has led to increases in road traffic deaths and injuries.

Countries in the region have very limited leeway for trial and error. They need to be able to prioritize their efforts toward eliminating key causes of road traffic crashes, fatalities and injuries. ESCAP has provided substantial advice on the overall leadership, management and capacity building requirements among member countries.

A major report prepared by ESCAP at the time of the Stockholm Ministerial in February 2020 made several sets of recommendations for member countries for the new decade. (ESCAP 2020) These are set out in Table 2. ESCAP also recommended that development partners including the bilateral and multilateral development banks contribute towards addressing the demand for road safety especially in low and middle-income countries.

Table 2. ESCAP recommendations for member countries (source: ESCAP 2020).

Area of Concern	<i>It is recommended that member countries ...</i>
Strengthening of Road Safety Management	<ul style="list-style-type: none"> • Show strong leadership at the national level to strengthen road safety management capacity • Adopt an appropriate road safety target for the next decade • Develop, adopt and implement their national action plans in line with an upcoming Regional Plan of Action for Asia and the Pacific for the Second Decade of Action for Road Safety 2021–2030
Improving Road Safety Related Data	<ul style="list-style-type: none"> • Improve road crash and related data collection, preservation, analysis, and reporting systems • Consider becoming a member of the Asia-Pacific Road Safety Observatory
Emphasising Vulnerable Road User Safety	<ul style="list-style-type: none"> • Prioritize the improvement of vulnerable road user safety through policy development, setting challenging but achievable targets and monitoring the progress of vulnerable road user safety • Develop a road safety culture in society so that road safety is improved through human behavioural changes at all levels and for all
Improving Road Infrastructure	<ul style="list-style-type: none"> • Conduct road safety audits and inspections and star ratings for both new road infrastructure and existing roads to ensure a safe road environment • Improve roads to a 3-Star or better standard as per the International Road Assessment Program methodology to reduce road deaths and injuries • Who are Parties to the Intergovernmental Agreement on the Asian Highway Network, deposit with the Secretary-General an instrument of acceptance of annex II bis (which provides the minimum standards and guidelines for construction, improvement, and maintenance of the Asian Highway routes) to the Intergovernmental Agreement as a matter of urgency
Utilizing Intelligent Transport Systems	<ul style="list-style-type: none"> • Consider deploying ITS technologies with appropriate planning, rules and regulations as well as institutional set ups, so that ITS benefits can be utilized in improving road safety
Strengthening the Safe System Approach in the new Decade	<ul style="list-style-type: none"> • In consideration of the above, take a holistic approach to addressing all factors that may be involved in a road crash • Implement well-coordinated road safety projects involving multiple sectors
Enhancing collaboration related to road safety	<ul style="list-style-type: none"> • Develop enhanced regional cooperation and adopt concrete activities to accelerate progress on the relevant Sustainable Development Goals in the next phase of the Regional Action Programme for Sustainable Transport Development in Asia and the Pacific (2022-2026)

Area of Concern	It is recommended that member countries ...
Financing for Road Safety Initiatives	<ul style="list-style-type: none"> • Allocate increased budget for improving road safety

This leadership agenda describes the urgently needed investment and action in order to achieve sustained reductions in road trauma over the course of this decade and beyond. It is very well aligned with the global road safety agenda, part of the sustainable development agenda expressed through the SDGs.

5. Road safety risk factors

Of the ten risk factors identified through the United Nations and expressed as voluntary road safety performance indicators, ESCAP has focused advice on behavioural factors. This focus on behavioural risk factors is reinforced by the:

- *2020 UN General Assembly Resolution 74/299*, which invites member countries that have not already done so to consider adopting comprehensive legislation on key risk factors, including the non-use of seat belts, child restraints and helmets, the drinking of alcohol and driving, and speeding, and to consider implementing appropriate, effective and evidence- and/or science-based legislation on other risk factors related to *distracted* or *impaired* driving
- *2021 Global Plan*, which recommends that member countries enact and enforce road safety legislation to: set maximum speed limits; establish blood alcohol concentration (BAC) limits to prevent drink-driving; mandate the use of safety belts, child restraints and helmets; restrict the use of handheld electronic devices while driving; and establish a dedicated enforcement agency, provide training and ensure adequate equipment for enforcement activities.
- *2022 Regional Plan*, which in conjunction with the Global Plan recommends that ESCAP member countries:
 - ensure that all policies and programs are based on rigorous scientific evidence that the policy or intervention is effective in saving lives and injuries, and
 - adopt enforcement activities and processes which deliver strong general deterrence, as the established key to changing behaviour.

The behavioural risk factors are briefly reviewed here, along with high level information on infrastructure safety and vehicle safety, before focusing on mobile phone use while driving.

5.1 Infrastructure safety

As per the voluntary road safety performance targets, ESCAP encourages member countries to ensure that new roads of the Asian Highway network are 3-star or better International Road Assessment Programme (iRAP) safety ratings for all road users and that more than 75 per cent of travel on existing roads is 3-star or better for all road users. (ESCAP 2020) The “star” rating relates directly to the comprehensive safety performance management system developed by the International Road Assessment Programme (iRAP) (1 star is the lowest rating and 5 star is the highest).

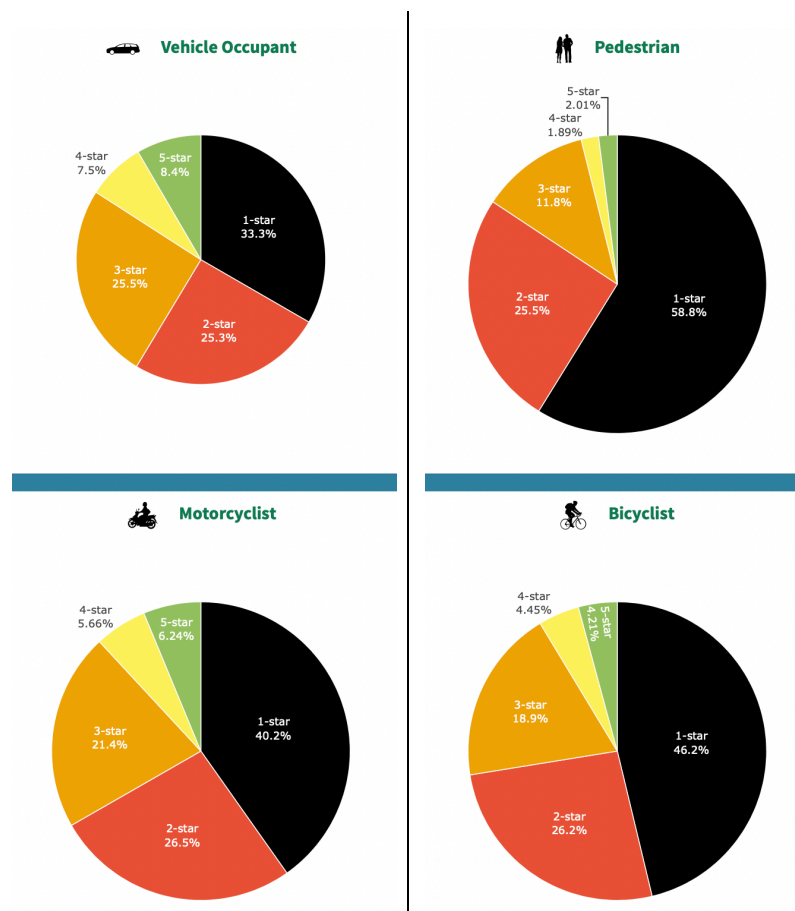
Figure 5 provides results of iRAP analysis of approximately 40,000 km of road across ten low and middle-income member countries of ESCAP (Bangladesh, Bhutan, China, Fiji, India, Indonesia, Nepal, Papua New Guinea, the Philippines and Viet Nam). It illustrates the effort

required to achieve a minimum three-star safety rating. The minimum three-star rating is achieved on only:

- 41% of the network for vehicle occupants
- 33% of the network for motorcyclists
- 28% of the network for bicyclists
- 16% of the network for pedestrians.

The technical ESCAP documentation to enhance road safety for the Asian Highway network promotes a “safe systems” approach consisting of “both active and passive measures, taking into account the frailty of human beings to making errors and their limited tolerance of injury to impact forces in a collision.” (ESCAP 2020)

Figure 5. iRAP star ratings for ten low and middle income ESCAP member countries



Source: www.irap.org

5.2 Vehicle safety

Improving vehicle safety is critical to achieving sustained reductions in serious road trauma. The safety quality of vehicles entering the national fleet needs to be increased, and the vehicles which are in the fleet need to be maintained in roadworthy condition.

The UN has identified a number of key road safety conventions (ESCAP 2021) which are set out in Appendix A. Perhaps the most significant of these in safety outcome terms are the 1958, 1997 and 1998 conventions which relate to the regulation of motor vehicle safety standards.

From all of the vehicle safety regulations which have subsequently been set, the World Health Organisation and the Global New Car Assessment Programme have identified the following eight vehicle safety standards as being the highest priority for countries to tackle their road safety problem:

- Frontal impact protection and side impact protection (R94 and R95)
- Electronic stability control (R140)
- Pedestrian front protection (R127)
- Seat-belts and seat-belt anchorages (R14 & R16)
- Child restraints (R129)
- Motorcycle anti-lock braking systems (R78).

The UN regulatory system for vehicle safety was developed for the purposes of improving the safety of new vehicles being built, whether for domestic or international markets. It is also, however, very relevant for the safety of used vehicles entering a national fleet and can be used by those ESCAP member countries which import used vehicles to better regulate the safety quality of their national fleets.

The primary safety value of motor vehicle technology is that it can reduce the risk of a crash occurring and reduce the injury consequences if a crash does occur. Vehicle defects are not often the cause of crashes, but there is consistent evidence that the major vehicle defect factors in road crashes, in high income countries at least, are (in descending order of importance): brakes, tyres, lights, steering, and loading. (Statista 2020) This is highly likely to be the case across all ESCAP member countries.

5.3 User behaviour

The safety performance management disciplines which are in place, the safety quality of the road infrastructure, and the safety quality of the national vehicle fleet, are all vital to prevent serious road trauma. The other critical preventive element is the driver or rider of the motor vehicle. While road users should expect much greater safety protection from other parts of the road traffic system, motor vehicle drivers and riders continue to bear major safety responsibilities themselves.

Motor vehicle drivers/riders need to be properly licensed, and there are many different ways in which any national driver licensing system can be improved to ensure this base level of safety capability. Once a licence is issued, the focus needs to be on reinforcing a small number of critical behavioural issues – the focus of the UN voluntary road safety targets are:

- Driving at an appropriate **speed** (and always within the regulated limit)
- Not consuming **alcohol** before or while driving
- Wearing a safety **helmet** on a motorcycle

- Wearing a **seatbelt** as either a driver or passenger (including **child restraints**)
- Non-use of **mobile phones**.

Some unsafe behaviours can be easily observed and are very frustrating for other road users, such as tailgating, but are actually manifestations of a more fundamental behavioural problem such as speeding. Some unsafe behaviours, such as wrong-way driving, reflect either a poor licensing system (providing licences to people who do not know basic traffic rules), a general lack of compliance with traffic rules, or traffic engineering issues.

ESCAP has prepared contemporary and systematic advice for member countries on several key behaviours:

- Speeding
- Impaired driving
- Motorcycle helmet use
- Seat-belts and child restraints



Source: *Distracted driving, Manila*. Ishtiaque Ahmed, PhD.

These studies have identified comprehensive corrective actions to tackle these key risk factors, and help countries target policies and implementation plans. This includes regulations, enforcement and control measures that can cost effectively and efficiently reduce road traffic crashes, fatalities and injuries.

The primary data set used internationally for monitoring and reporting road safety performance and risk factors is managed and published by WHO (WHO 2018). The coverage of these laws by member countries is set out in Appendix B.

Almost all countries have laws in place regarding three key risk factors:

- Speed – 43 out of 44 countries
- Alcohol – 43 out of 44 countries
- Motorcycle helmets – 43 out of 44 countries

The coverage is not as good for seatbelts – 38 out of 44 countries – and is quite poor for child restraints. Only ten countries have laws in place regarding child restraints.

Relative priority of mobile phone use

A lot of ESCAP member countries currently regulate mobile phone use. Thirty four countries have laws in place regarding mobile phone use, which can be distinguished between whether or not the phone is being held by the driver or rider. Of these, seven countries also ban hands-free use of mobile phones. This issue is explored more fully below.

There is little multilateral guidance material regarding the scale and nature of mobile phone use in traffic as a road safety problem, or the means of systematically reducing the level of

trauma associated with mobile phone use in traffic. Other issues have taken greater priority. For example, a series of road safety manuals for decision makers and practitioners have been prepared by the World Health Organisation, the FIA Foundation, the Global Road Safety Partnership and the World Bank over the last two decades. They address speeding, drink driving, seatbelts, motorcycle helmets, pedestrian safety, powered two and three-wheeler safety, cyclist safety, and data systems, and road traffic injury prevention as a whole.

A reason for this prioritisation is that there is a lot of knowledge about the scale and nature and interventions about a number of these road safety risk factors. For example, speed is both a major cause and a major aggravator of serious road trauma, while motorcycle helmet wearing and seatbelt wearing provide essential protections for motorised users involved in a crash. There is strong evidence about how to cost effectively reduce the effects of these safety problems, but this evidence does not exist in relation to mobile phone use.

As an illustration of this, the Global Road Safety Facility of the World Bank undertook a systematic assessment of the evidence for a very wide range of interventions, focused on practicable evidence for low and middle-income countries. The study listed and rated all those interventions which demonstrated a capacity to prevent road traffic injury. They reported average reductions of 20-30% of road crashes with injuries associated with intensive enforcement programs focused on speed, drink driving, seatbelts, and identified clear safety benefits from motorcycle helmet enforcement as well. (Turner et al 2021)

The absence of mobile phone interventions in this GRSF study and of multilateral guidance does not infer that mobile phone use in traffic is safe. It does, however, suggest that ESCAP member countries may be more certain of safety benefits from addressing other user behaviour safety issues.

6. Mobile phone use while driving

This section looks first at the wider development context for mobile phones, then summarises key research information associated with the safety risks of using mobile phones while controlling a motor vehicle in traffic.

6.1 What is the role of mobile phones in sustainable development?

Managing technological development is an important part of the global road safety equation – technology improves road safety programs, but also creates road safety risks. Mobile communications technology could facilitate better post-crash care, such as bystander care for the injured, ambulance calls, or route guidance to the nearest medical facility for informal transport. More broadly, better communications technology supports more sustainable mobility options, and reduced exposure to risk through road travel. There is a significant downside that needs to be managed, but first it is important to consider the wider development context within which mobile phones are used by drivers and riders.

Mobile phones are integrated into the SDGs, with five information and communication technology (ICT) indicators having been developed under the following Sustainable Development Goals (SDGs):

- Goal 4 Quality Education

- Goal 5 Gender Equality
- Goal 9 Industry, Innovation and Infrastructure, and
- Goal 17 Partnerships for the Goals.

Two of these relate directly to mobile phone use. SDG 9 *Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation* illustrates the importance of mobile phone access in society. Target 9.c is to “Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020”. (United Nations 2021B) The indicator established for this target is “Proportion of population covered by a mobile network, by technology.” Although potential users face several other barriers to connectivity, this is considered a minimum indicator for ICT access. Fixed-telephone networks are often limited to urban and highly populated areas and, in most developing countries, mobile broadband is often the only way to connect to the internet. Thus, a primary development goal is to increase access to mobile phone use.

SDG 5 *Achieve gender equality and empower all women and girls* illustrates the importance of mobile phones to reducing inequalities in society. Target 5.b is to “Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women”. The indicator established for this target is “Proportion of individuals who own a mobile telephone, by sex”.

The International Telecommunication Union, which has responsibility for ICT targets within the SDGs notes that “empowering more women with mobile phones has been shown to accelerate social and economic development” and that in 36 of the 80 countries for which data is available, there was a gender imbalance in mobile phone ownership towards men, in many cases quite significantly. (United Nations 2021B)

Mobile phones provide connection to jobs, business opportunities and services which assist in lifting people out of poverty, and are considered a critical development tool. Mobile phone subscriptions have been increasing significantly over the last decade (see Appendix B, which illustrates this for the fifty three ESCAP member countries). Nevertheless, the use of the ubiquitous mobile phone by a motor vehicle driver or rider increases exposure to injury risk in road traffic, which is itself a ubiquitous part of human life.

6.2 What are the injury risks in using mobile phones while driving?

This section draws on research evidence to address the primary safety issues associated with use of a mobile phone while driving/riding a motor vehicle. It then reports on research evidence to identify the risk of crashing when using a mobile phone, and what is known about the scale of the problem.

6.2.1 Primary safety issues

The safety problems associated with mobile phone use arise from distraction. Driver distraction has been defined as “the diversion of attention from activities critical for safe driving to a competing activity.” (ITS Technical Task Force 2010)

There are a variety of things that may, if engaged with, distract a driver: (Regan and Hallett 2011)

- Objects (eg, mobile phone or advertising billboard)

- Events (eg, weather event or roadside incident)
- Passengers
- Other road users and vehicles
- Animals
- Internal stimulus and thought.

They may trigger attention being diverted away from critical safe driving activities by being: (Hallett et al 2011)

- Seen (eg advertising billboard)
- Heard (eg ambulance)
- Smelt (eg engine fumes)
- Felt physically (eg a tyre blowout)
- Felt emotionally (whether negative or positive).

While there are infinite sources of distraction, the distraction can cause one or more of the following unsafe responses: (CARRSQ 2020)

- Eyes off the Road (visual distraction – the driver takes eyes off activities critical for safe driving)
- Mind off the Road (cognitive distraction – the driver takes mind off activities critical for safe driving)
- Ears off the Road (arising from cognitive distraction – as a result of having their mind off the road, the driver is unable to listen for audible cues)
- Hands off the Controls (physical interference – the driver takes hands off controls that are critical for safe driving).

Using a mobile phone is not the only cause of distraction for a driver. One study reports that approximately 30% of distraction-related crashes relate to sources outside the vehicle. (Gordon 2009) These may be within the roadway itself (such as road works, road signs, road users, motor vehicles, incidents), within the wider road environment (such as buildings or advertising), or beyond (such as weather or scenery).

There are many potential distractions for a motor vehicle driver/rider inside the vehicle, such as eating and drinking and using the entertainment system. Simple conversations with passengers can be problematic while engaged in complex driving tasks, and complex conversations with passengers can be problematic while engaged in simple driving tasks. Both can compromise the capacity of the driver/rider to recognise and react to hazards in the road environment (CARRSQ 2020)

While a wide range of potential distractions for a driver or rider had been present for decades, the rising ubiquity of mobile phones led to them being recognised as a major new injury risk. Research has subsequently shown that dialling, texting and talking on a mobile phone while driving can lead to: (Oviedo-Trespalacios 2018, Li et al 2020, Haque and Washington 2014A, Oviedo-Trespalacios et al 2018, Haque and Washington 2014B)

- Riskier decision making – a driver's ability to judge distances, speed, space and environmental conditions may be affected
- Slower reactions
- Speed and vehicle control variations

- Less controlled braking – the driver will tend to brake later, with more force and less control.



Source: *Distracted driving, Manila*. Ishtiaque Ahmed, PhD

Any distracting activity will necessarily reduce the time spent by the driver on monitoring the road and traffic environment.

In summary, using a mobile phone while driving distracts drivers and riders from the requirements of safely operating a motor vehicle. It is not the only distraction issue in road traffic safety (for example, talking with passengers, eating and drinking, or using the entertainment of navigation systems are also distractions). Using a mobile phone also distracts safe use of the road by non-motorised users (pedestrians, cyclists and operators of other non-motorised vehicles). There are also many other sources of distraction outside the motor vehicle. Nevertheless, use of a mobile phone while in control of a motor vehicle is a defined safety risk leading to visual distraction, cognitive distraction, and physical interference from safe control of the motor vehicle, thus creating risk of injury to the operator and to others.

6.2.2 What are the crash and injury risks?

Studies consistently link a series of phone related tasks to increased crash and safety risks. At a headline level, studies show hand-held phone use increasing crash risk by three and a half times. Table 3, prepared by the National Road Safety Partnership Program (NRSP) in Australia, breaks down the results of four studies into four distracting tasks. (Dingus et al 2016, Fitch et al 2013, Klauer et al 2014, Victor et al 2014,)

Table 3. Increase in risk associated with distracting hand-held mobile phone tasks

Distracting tasks	Increase in risk of a crash or near-crash or other safety-critical event
Texting	6.1 times 5.6 times 3.9 times (for novice drivers)
Locating and reaching	4.8 times 3.7 times 7.1 times (for novice drivers)
Dialling	12.2 times 2.5 times 8.3 times (for novice drivers)
Conversing	2.2 times No increase in risk

Source: NRSPP 2016

This understanding of the crash and injury risks largely comes from naturalistic driving studies. Naturalistic studies rely on data collection systems with multiple sensors (such as video cameras, GPS, accelerometers) which unobtrusively record a driver's interaction with the whole road environment. This allows for example information on where the driver is looking, how fast the vehicle is travelling, and what other road users are doing, and allows analysis of what is happening in normal and in particularly hazardous situations.

This highlights the following:

- Texting is consistently the highest risk activity
- Locating and reaching and dialing are consistently high-risk activities, particularly for novice drivers
- It is unclear whether or not talking on a mobile phone significantly increases risk.
- Mobile phone-related activities which take eyes off the road or hands off the controls are of greatest concern.

It is, however, difficult to say exactly what the scale of the injury issue is relating to mobile phone use. A research note prepared by the National Highway Traffic Safety Administration in the United States of America (USA) reported that 8% of fatal crashes in 2020 involved distraction, and 1% of crashes (12% of all distraction-involved crashes) involved mobile phone use. (National Centre for Statistics and Analysis 2022) A Norwegian study reported that mobile phones are involved in 2-4% of all fatal crashes. (Sundfør et al 2019)

Crash involvement data is considered to be under-reported, particularly for non-fatal crashes – it is difficult for Police to find evidence of illegal mobile phone use at the scene of a crash, and there is a lack of behavioral detail preceding the crash. One recent analysis concludes that “the lack of behavioral detail around driver distraction could result in an overestimation or underestimation of the problem.” (Regan and Oviedo-Trespacios 2022) A more blunt conclusion from the Insurance Institute of Highway Safety in the USA is that “there are no reliable estimates of the number of crashes caused by distracted drivers.” (IIHS 2022)

6.3 What are the prevailing attitudes and reported behaviours?

There is limited consistent information across ESCAP member countries regarding user attitudes and behaviours. However, one European research program has conducted studies

across all regions of the world, and some data is available – mostly for the Republic of Korea, India, Japan and Australia, but also for Malaysia, Thailand and Viet Nam.

Table 4 shows that, in regard to car drivers, more than two out of five drivers in the Republic of Korea and India report having talked on a hand-held mobile phone at least once in the past 30 days, and less than one in five drivers in Japan and Australia. A similar proportion have texted. A significantly greater proportion of drivers have talked on a hands-free phone in the last 30 days. (Goldenbeld et al 2022) Looking specifically at moped or motorcycle riders, many respondents declared that they had read a text/message/email or checked social media while riding at least once in the last 30 days. (Yannis et al 2022)

Table 4. Self-declared behaviours – at least once in the past 30 days

Country	Moped or motorcyclist: Read a text/message/ email or check social media while riding a moped or motorcycle %	Car driver: Talk on hand-held phone while driving %	Car driver: Talk on hands-free phone while driving %	Car driver: Read a text/message/email or check social media while driving %
Republic of Korea	26.3	42.6	67.0	41.7
India	29.5	41.6	57.4	38.7
Japan	14.8	17.8	27.6	25.7
Australia	29.3	12.4	41.3	19.1
Malaysia	40.6	56.7	72.8	50.4
Thailand	32	55.3	65.9	40.7
Viet Nam	28.2	45.4	52.2	42.4

Although it is a common behaviour, over 90% of drivers and riders do not seek to explain away the behaviour, and do not have unrealistic views about the safety of the different distracting tasks. Table 5 illustrates that less than one in ten car drivers or motorcycle riders in the Republic of Korea, India, Japan and Australia report that they: (Pires et al 2019)

- use a mobile phone while driving because they always want to be available
- often use a mobile phone while driving to save time.

Table 5. Behaviour beliefs and attitudes of drivers and riders concerning the use of mobile of mobile phone while driving

Country	I use a mobile phone while driving because I always want to be available	To save time, I often use a mobile phone while driving
Republic of Korea	6.1	7.5
India	7.1	7.1

Japan	4.1	2.6
Australia	3.5	4.2

Table 6 illustrates that less than one in ten drivers and riders agree with the following statements: (Pires et al 2019)

- I trust myself when I check my messages on the mobile phone while driving
- I have the ability to write a message on the mobile phone while driving
- I am able to talk on a hand-held mobile phone while driving.

Table 6. Perceived behaviour control (self-efficacy) concerning the use of mobile of mobile phone while driving

Country	I trust myself when I check my messages on the mobile phone while driving %	I have the ability to write a message on the mobile phone while driving %	I am able to talk on a hand-held mobile phone while driving %
Republic of Korea	4.1	3.2	6
India	12	7.6	9.8
Japan	3.5	2.4	4.3
Australia	5.6	3.3	8

Table 7 illustrates that there are country variances in the proportion of drivers and riders who think that using a hand-held phone while driving may cause a crash. Only one in three Indian respondents think this is the case, about one in two Japanese respondents, and over three out of four Australian respondents. Fewer drivers and riders in each country think that using a hands-free phone while driving may cause a crash. (Pires et al 2019)

Table 7. Risk perception of talking on a mobile phone while driving

Country	Causes of a road car crash: Using hand-held phone while driving %	Causes of a road car crash: Using hands-free phone while driving %
India	55.5	50.5
Japan	33.6	29.5
Australia	78.8	53.9

Table 8 illustrates that there are very low levels of personal acceptability across all countries (in the order of less than one in twenty respondents) for either talking on a hand-held phone or texting. Talking on a hands-free phone is many times more acceptable, relatively speaking. An exception to this is in India, where hands-free phone use is prohibited. (Pires et al 2019)

Table 8. Personal acceptability of unsafe traffic behaviours related to the use of mobile phone while driving

Country	Talk on hand-held phone is acceptable %	Talk on hands-free phone is acceptable %	Texting is acceptable %
Republic of Korea	4.6	36	3.6
India	5.8	13.6	7.8
Japan	3	23.3	2.1
Australia	2.8	24.3	1.6

Within a group of nine Asia-Pacific countries (which included two non-ESCAP member countries), car drivers were asked about the perceived risk of detection for illegal speeding, seatbelt use, drink driving and mobile phone use. Table 9 illustrates that drivers considered they were least likely to be detected for mobile phone use. (Goldenbeld 2022)

Table 9. Perceived risk of detection for key risk behaviours

Country	Car drivers' perceived likelihood of being checked for a traffic violation %
Speeding	36.5
Seatbelt use	36.2
Alcohol use	32
Mobile phone use	26.1

Table 10 illustrates that the perceived risk of detection for mobile phone use was significantly lower in the Republic of Korea, and significantly higher in Malaysia. (Goldenbeld 2022)

Table 10. Perceived risk of detection for mobile phone use by country

Country	Car drivers' perceived likelihood of being checked by the police for the use of hand-held mobile phone to talk or text while driving %
Republic of Korea	10.5
India	26.9
Japan	19.4
Australia	21.1
Malaysia	38
Thailand	25.2
Viet Nam	24

Table 11 illustrates that, generally, there is a very clear view amongst respondents that traffic rules/penalties for using a mobile phone while driving/riding should be stricter, and that existing rules are not being checked sufficiently. There is also a minority view that the mobile phone rules/penalties are too severe. (Goldenbeld 2022)

Table 11. Attitudes to traffic rules/penalties for using a phone while driving/riding

Country	Traffic rules/penalties should be stricter %	Traffic rules are not being checked sufficiently %	Traffic rules/penalties are too severe %
Republic of Korea	89.8	89.4	8.8
India	93.6	78.7	37.4
Japan	87.5	85.6	23.5
Australia	66.8	68.3	23.3
Malaysia	94.1	79.2	34.4
Thailand	91.1	90.3	31
Viet Nam	92.4	79.3	31.3

Finally, Table 12 illustrates that there is a strong view in favour of a “zero tolerance” approach for any use of hand-held or hands-free mobile phones. (Van den Berghe 2022)

Table 12. Support for zero tolerance approach to mobile phone use

Country	Support for zero tolerance for using any type of mobile phone while driving (hand-held or hands-free) for all drivers %
The Republic of Korea	51.1
India	70.9
Japan	51.0
Australia	57.6
Malaysia	58.0
Thailand	56.9
Viet Nam	71.8

In summary, while the data draws a lot from high-income countries, there are some broadly consistent attitudes and behaviours from across the ESCAP member countries for which data is available:

- With the exception of Japan and Australia, there is widespread hand-held use of mobile phones including reading/texting/web-browsing while driving or riding
- Very few drivers seek to explain away the behaviour, or claim that they can reasonably both drive and use a mobile phone
- Drivers correctly perceive that hands-free use is not as dangerous as hand-held phone use and overwhelmingly reject the notion that talking on a hand-held phone or texting is acceptable
- Drivers perceive they are less likely to be detected for using a mobile phone than for other key safety behaviours

- There is a dominant view that mobile phone laws/penalties should be stricter, and are not checked sufficiently, and only a minority view that the laws/penalties are too severe.

7. Countermeasures to mobile phone use while driving

A number of countermeasures to prevent mobile phone use while driving are available, some of them drawn from the wider perspective of reducing the impact of distraction in road traffic. Infrastructure and vehicle measures are briefly described before focusing on behavioural measures

7.1 Infrastructure and vehicle measures

Looking at the wider issue of distracted driving, the European Road Safety Observatory summarised some infrastructure and vehicle safety countermeasures which can be deployed to reduce the impact of distracted driving. (European Commission 2022) Planning rules can be put in place and enforced to stop placement of roadside advertising that can be highly distracting, particularly luminated digital signage. Direct perceptual measures can be installed in the roadway such as longitudinal rumble strips to warn drivers through sound and vibration that they are leaving a lane. Finally, barriers can be installed to minimise injury if a vehicle leaves the roadway as a result of distraction.

Advanced driver assistance systems in vehicles can provide similar support against distracted driving. Lane departure warnings, forward collision warnings, or more direct intervention technology such as autonomous emergency braking can reduce the impact of distracted driving by preventing the vehicle from running off the road or driving into a vehicle in front. These are proven safety technologies, but some designs come with drawbacks. For example, “they can distract the driver when continuous information about the broad driving context is given or when the human machine interface leads to increased workload ... (and) too many perceived unnecessary alerts of distraction can lead to a “cry wolf” effect, resulting in drivers ignoring the alarms.” (European Commission 2022)

Global road safety efforts continue to coalesce around a vision of eliminating fatal and serious injury on the road, and the efforts required from many different parts of society to realise this vision. In this environment, it is possible that the manufacturers of motor vehicles and telecommunications equipment and the associated systems suppliers assume greater responsibility to significantly reduce the safety impact of mobile phone use.

There are a variety of different vehicle and phone applications which can block use of telecommunications while a phone is in a vehicle. Good safety design could make much greater and more sophisticated use of this capability in the future. Until then, behavioural approaches to reducing mobile phone use in traffic are most likely going to continue to dominate.

7.2 Behavioural measures

There is a wide body of evidence which demonstrates the effectiveness of well-designed behavioural programs to reduce fatal and serious injury crashes. Broadly, the characteristics of good road traffic safety behavioural programmes are:

- There is a strong sense of political and community support for the measure, which is reflected in legal and financial resources to deliver sustained behaviour change
- There is a law in place which can be easily communicated, and complied with, and enforced against those who do not comply
- There is a clear enforcement strategy in place and operational which focuses on deterring the undesired behaviour within the whole community – the goal is to increase the perceived risk of detection
- There is a clear communications strategy in place which delivers key messages informing the community of the desired behaviour, of the enforcement strategy which is in place, and of the consequences of non-compliance – the goal is to reinforce the enforcement strategy
- There is an evaluation and ongoing learning by doing strategy in place to establish a baseline and ongoing monitoring program regarding the desired behaviour, and to ensure that enforcement and communications strategies are continually improved.

Each of these elements can be put in place to maximise the benefits of a program to reduce mobile phone use by drivers and riders.



Source: *Distracted driving, Manila*, , shtiaque Ahmed, PhD

Mobile phone law

It must be recognised that, unlike other significant road safety behavioural issues such as speeding or drink driving or helmet wearing, studies have not conclusively demonstrated the safety value of mobile phone laws. A study conducted by the Insurance Institute of Highway Safety in the United States of America examined 16 different pieces of research which investigated the “relationship between laws banning cellphone use and crash outcomes found an encouraging reduction in crashes. On average, bans of texting or cellphone use were associated with an approximate 6% reduction in fatal crash metrics ... (but) the results do not represent strong evidence of a causal relationship, however, due to methodological limitations.” (Reagan 2021).

Nevertheless, the use of hand-held phones, particularly when eyes are taken off the road, is clearly a major safety danger, and national governments have acted accordingly. 34 ESCAP member countries have laws in place regarding mobile phone use by drivers and riders, as do many more countries around the world.

Appendix C summarises the law in a number of ESCAP member countries (Australia, India, Japan, the Republic of Korea, New Zealand and Singapore) and provides the full text of an Anti-Distracted Driving Act passed in the Philippines in 2015. It is useful to consider what may be the best legal framework regarding mobile phone use.

A major study on the use of electronic devices while driving was undertaken in the USA through the Behavioral Traffic Safety Cooperative Research Program, which is managed by the Transportation Research Board, under the direction and oversight of the Governors Highway Safety Association, with funding provided by the National Highway Traffic Safety Administration.

The study examined the law in all 50 states, the District of Columbia and ten Canadian provinces, assessed the strength of the law; and performed an in-depth review of 20 jurisdictions. Researchers concluded that the most effective laws and state safety efforts in regard to mobile phone use involved:

- Unambiguous statutory language that clearly defines when and how a wireless device can and cannot be used
- Penalties and fines in line with other traffic citations
- A combination of high-visibility enforcement of the law and targeted public information, education and outreach campaigns
- Sustained coalition-building efforts.

A protocol was developed to rate mobile phone legislation across all States. (National Academies of Sciences, Engineering, and Medicine (2021) The rating system is set out in Appendix C. The rating system needs to be considered in the context of the unique traffic enforcement environment in the USA, such as the distinction between secondary and primary violations. Nevertheless, four key features are considered relevant across all countries.

Behaviours covered	The law should apply to any phone or electronic device being held in the hand, and not be limited to texting, or manipulating or dialing
Types of drivers covered	The law should cover all drivers and riders
When law is enforceable	The law should apply at all times, whether stationary or in motion
Penalty range for first offence	The penalty points and fines applying to prosecution should be at the high end of the spectrum

A recent analysis of distraction from a Vision Zero perspective reinforces the need for road rules to move towards technology-neutral approaches for regulating driver distraction problem: “Laws that regulate the use of particular technology devices (e.g., mobile phones, visual display units) are becoming quickly outdated as new technologies and modes of interaction with them emerge.” (Regan and Oviedo-Trespalacios 2022)

Enforcement programmes regarding mobile phone use should follow general deterrence strategies which apply across the entire driving and riding population – “anyone, anywhere, anytime”. Mobile phone use should be a part of any enforcement programme which needs to

focus on key safety issues which are amenable to enforcement – speeding, drink driving, seatbelt use and helmet wearing. Enforcement should also be backed up clear and consistent communications. The Australian state of New South Wales has begun to use camera enforcement systems to enforce laws to prohibit mobile phone use in road traffic.¹

Organisational policies

It should be noted that compliance with expectations of safe mobile phone use is not restricted to public law enforcement agencies. Organisations which use the road traffic system, or which have staff who work in road traffic operating motor vehicles, have a responsibility to ensure that the company actions do not endanger their staff or other road users. Organisations should have road traffic safety policies which support use of safe vehicles and promote safe behaviours amongst employees, and mobile phone use is one critical aspect of this.

The NRSPP, a collaborative network housed within the Monash University Accident Research Centre to support Australian businesses in developing a positive road safety culture, prepared the following good practice minimum principles for a safe mobile phone use policy (NRSPP 2016):

- Always keep your eyes on the road
- Never text, write or read while driving
- Buy, install and use a cradle for your phone
- Use your smart phone and the car's features, such as Bluetooth and hands-free
- Don't automatically answer your phone; consider the road and traffic conditions
- Ensure the caller knows you are driving
- If you pull over for a call, ensure it is safe for you and other road users.

This provides a useful point of reference for all organisations to support safe mobile phone use.

Implementation Framework

The following framework set out in Table 13 is a guideline for the implementation of a campaign to raise awareness of the dangers associated with mobile phone use by drivers and riders, and to reduce hand-held mobile phone use by them. This framework can be adjusted to the conditions of each country, and does not need to be completed sequentially.

¹ <https://roadsafety.transport.nsw.gov.au/stayingsafe/mobilephones/technology.html>

Table 13. Proposed implementation framework.

1. Problem assessment
<ul style="list-style-type: none"> • Assess the extent of the mobile phone use problem • Gather available data on the extent of mobile phone use by drivers and riders • Identify why are drivers and riders using mobile phones • Who oversees road safety? • Who are the national stakeholders regarding mobile phone use by drivers and riders? • Is there a mobile phone use law in place? • Is the law clear, and has it been explained in simple local language? • Have any mobile phone campaigns been attempted so far, and what happened as a result? • Are any funds available to develop a campaign? • Use this assessment to prioritize actions
2. Assemble a Project team
<ul style="list-style-type: none"> • Assign roles to working group members, including experts on vehicles, telecommunications, legislation, and social behaviour
3. Develop a strategic plan of action to address key challenges
<ul style="list-style-type: none"> • Set the program's objectives • Set targets • Choose performance indicators • Decide on activities • Set a time frame and phasing of the program • Estimate resource needs • Set up a monitoring mechanism • Ensure sustainability of the program
4. Implement the strategic plan of action
<ul style="list-style-type: none"> • Policy and legislation • Enforcement and penalties • Publicity campaigns to support enforcement • Promote safe mobile phone policies in major workplaces • Other voluntary approaches
5. Evaluate the countermeasures which have been implemented
<ul style="list-style-type: none"> • Planning the evaluation (at the beginning of the project onset) • Choosing evaluation methods • Dissemination and feedback

Evaluation

Special reference is required to evaluation. It is important to evaluate any behavioural programme, and guidelines are available to assess the prevalence of mobile phone use in traffic. (Vollrath 2019) The hand-held use of mobile phones in traffic can be easily and efficiently observed and accurately recorded by independent and trained observers.

Observational studies provide the most direct and valid data to measure the prevalence of phone use in traffic. Self-report studies are suitable to understand the subjective background

of mobile phone use in traffic or to describe the traffic participants' behaviours in more detail. Observational and self-report methods can be combined to understand who is using the mobile phone and why, in order to better engage with the user and promote safer behaviour.

Three recommended types of self-report studies are:

- Roadside interviews: traffic participants are approached directly after a trip or during a trip and asked about mobile phone in a defined phase of their last/current trip.
- Telephone interviews: participants are asked about their last made trip and then about their mobile phone use during that trip.
- Online survey: participants are asked about their last trip or about all their trips made in the last 24 hours and then about their mobile phone use during one (randomly selected) specific trip.

It is important that a baseline of existing mobile phone use is established early on, and regularly updated as the program is delivered.

8. Conclusions and Recommendations

This report addressing the key behavioural risks and laws associated with mobile phone use while driving highlights that the use of a mobile phone is a defined safety risk leading to visual distraction, cognitive distraction, and physical interference from safe control of the motor vehicle, thus creating risk of injury. It can lead to:

- Riskier decision making
- Slower reactions
- Speed and vehicle control variations
- Less controlled braking.

Research from naturalistic driving studies show that hand-held phone use increases crash risk by three and a half times, and that:

- Texting is the highest risk activity
- Locating, reaching for, and dialling the mobile phone are also high-risk activities, particularly for novice drivers
- It is unclear whether or not talking on a mobile phone significantly increases risk.

Mobile phone related activities which take eyes off the road or hands off the controls are of greatest concern.

Attitudinal data from ESCAP countries indicate:

- There is widespread hand-held use across of mobile phones including reading/texting/web-browsing while driving or riding
- Drivers in Australia, India, the Republic of Korea and Japan correctly perceive that hands-free use is not as dangerous as hand-held phone use and consider talking on a hand-held phone or texting is unacceptable
- There is a dominant view that mobile phone laws/penalties should be stricter, and are not checked sufficiently, and only a minority view that the laws/penalties are too severe
- Less than one in ten car drivers or motorcycle riders in the Republic of Korea, India, Japan and Australia report unrealistic views about the danger of using a mobile phone or their capacity operate safely while doing so.

A study of mobile phone use by the USA Governor's Highway Safety Association (across 50 states and ten Canadian provinces) reported that the most effective laws and state safety efforts involved:

- Unambiguous legal language that clearly defines when and how a wireless device can and cannot be used
- Penalties and fines in line with other traffic citations
- A combination of high-visibility enforcement of the law and targeted public information, education and outreach campaigns
- Sustained coalition-building efforts

A supporting behavioural programmes would comprise:

- A strong sense of political and community support for tackling the problem
- A clear enforcement and supporting communications strategy
- An evaluation strategy to continually improve the programme.

It is, however, difficult to say exactly what the scale of the injury issue is relating to mobile phone use, and there is little or no multilateral guidance on how to address this behavioural risk, unlike other major risks such as drink driving, speeding, helmet use. As with other behavioural issues, it is important to strengthen different parts of the road traffic system, such as the design and management of the road network, improving vehicle safety regulation, and reducing motor vehicle traffic speed.

Recommendations

1. It is recommended that ESCAP member countries with current mobile phone laws review the laws applying to mobile phone use while driving to ensure they:

- Apply to any phone or electronic device being held in the hand
- Are not limited to texting, or manipulating or dialing
- Cover all drivers and riders
- Apply at all times, whether stationary or in motion
- Apply penalty points and fines to prosecution at the high end of the spectrum.

2. It is recommended that ESCAP member countries without mobile phone laws introduce laws which meet the above requirements.

3. It is recommended that ESCAP member countries promote:

- Good practice enforcement and supporting communications programmes as part of a wider behavioural change effort to reduce the incidence of mobile phone use while driving
- Internal road safety policies by organisations which address a range of risk factors including use of a mobile phone while operating a motor vehicle
- Programs and activities which will reduce the impact of distracted driving through improvement to the road environment, better vehicle safety regulation, and speed reduction measures.

4. It is recommended that ESCAP member countries continue to work towards delivering a safe road traffic system to their communities, through the implementation as appropriate of the Global Plan and the Regional Plan of Action for Asia and the Pacific for the Second Decade of Action for Road Safety 2021–2030.

References

CARRS-Q (2020), Fact Sheet *Mobile phone use & distraction*. Centre for Accident Research & Road Safety – Queensland.

Dingus, T. A., Guo, F., Lee, S., Antin, J. F., Perez, M., Buchanan-King, M. & Hankey, J. 2016, *Driver crash risk factors and prevalence evaluation using naturalistic driving data*. Proceedings of the National Academy of Sciences of the United States of America, vol. 113(10), pp. 2636-2641.

ESCAP (2019). *Strategies to Tackle the Issue of Impaired Driving for Road Safety in the Asia-Pacific Region: Implementation Framework*. Bangkok.

ESCAP (2019). *Strategies to Tackle the Issue of Speed for Road Safety in the Asia-Pacific Region: Implementation Framework*. Bangkok.

ESCAP (2020). *Strategies to Tackle the Issue of Motorcycle Helmet Use for Road Safety in the Asia-Pacific Region: Implementation Framework*. Bangkok.

ESCAP (2020) *Road Safety: Saving Lives Beyond 2020 in the Asia-Pacific Region: Monograph*. United Nations, Bangkok.

ESCAP (2021). *Strategies to Tackle the Issue of Seatbelt and Child Restraint Use for Road Safety in the Asia-Pacific Region: Implementation Framework*. Bangkok.

ESCAP (2022) *Regional Plan of Action for Asia and the Pacific for the Second Decade of Action for Road Safety 2021–2030*. Bangkok.

https://www.unescap.org/sites/default/d8files/event-documents/EN_CTR5_Safe%20and%20inclusive%20and%20mobility%20%282%29.pdf

European Commission (2022) *Road safety thematic report – Driver distraction*. European Road Safety Observatory. Brussels, European Commission, Directorate General for Transport.

Fitch, GM, Soccolich, SA, Guo, F, McClafferty, J, Fang, Y, Olson, R, Perez, M, Hanowski, R, Hankey, J & Dingus, T 2013, *The impact of hand-held and hands-free cell phone use on driving performance and safety-critical event risk* Report no. DOT HS 811 757, National Highway Traffic Safety Administration, Washington, DC.

Goldenbeld, C., Buttler, I., & Ozeranska, I. (2022) *Enforcement and traffic violations*. ESRA2 Thematic report Nr. 6 (updated version). ESRA project (E-Survey of Road users' Attitudes). The Hague, Netherlands: SWOV Institute for Road Safety Research.

Gordon, C. P. (2009). Crash studies of driver distraction. In M. A. Regan, J. D. Lee, & K. L. Young (Eds.), *Driver distraction: Theory, effects and mitigation* (p. 281-304). Boca Raton, FL: CRC Press.

Hallett, C., Regan, M. A., & Bruyas, M.-P. (2011, 5-7 September). *Development and validation of a driver distraction impact assessment test*. Paper presented at the Second International Conference on Driver Distraction and Inattention, Gothenburg, Sweden.

Insurance Institute of Highway Safety (2022). *Distracted Driving*. Arlington. <https://www.iihs.org/topics/distracted-driving> Accessed July 2022.

- Haque, M. & Washington, S. (2014). A parametric duration model on reaction times of drivers distracted by mobile phone conversations. *Accident Analysis & Prevention*, 62, 42-53.
- Haque, M. & Washington, S. (2014). The impact of mobile phone distraction on the braking behaviour of young drivers: A hazard-based duration model. *Transportation Research Part C: Emerging Technologies*, 50, 13-27.
- ITS Technical Task Force (2010). *Expert Focus Group on Driver Distraction: Definition and Research Needs*. US-EU Bilateral ITS Technical Task Force. Berlin, Germany.
- Klauer, SG, Guo, F, Simons-Morton, BG, Ouimet, MC, Lee, SE & Dingus, TA 2014, Distracted driving and risk of road crashes among novice and experienced drivers. *New England Journal of Medicine*, vol 370, pp 54-9.
- Li, X., Oviedo-Trespalacios, O., & Rakotonirainy, A. (2020). Drivers' gap acceptance behaviours at intersections: A driving simulator study to understand the impact of mobile phone visual-manual interactions. *Accident Analysis & Prevention*, 138, 105486.
- National Academies of Sciences, Engineering, and Medicine 2021. *Using Electronic Devices While Driving: Legislation and Enforcement Implications*. Washington, DC: The National Academies Press.
- National Center for Statistics and Analysis (2022). *Distracted driving 2020*. Research Note DOT HS 813 309, National Highway Traffic Safety Administration.
- National Road Safety Partnership Program (2016) *A Guide to developing an effective policy for mobile phone use in vehicles*. Melbourne, Australia.
- Oviedo-Trespalacios, O. (2018). Getting away with texting: Behavioural adaptation of drivers engaging in visual-manual tasks while driving. *Transportation Research Part A: Policy and Practice*, 116, 112-121.
- Oviedo-Trespalacios, O., Haque, M. M., King, M., & Demmel, S. (2018). Driving behaviour while self-regulating mobile phone interactions: A human-machine system approach. *Accident Analysis & Prevention*, 118, 253-262.
- Peden, M., Scurfield, R., Sleet, D., Mohan, D., Hyder, A., Jarawan, E., Mathers, C. (Eds) (2004). *World report on road traffic injury prevention*. Geneva: World Health Organization.
- Pires, C., Areal, A., & Trigo, J. (2019) Distraction (mobile phone use). ESRA2 Thematic report Nr. 3. ESRA project (E-Survey of Road users' Attitudes). Lisbon, Portugal: Portuguese Road Safety Association.
- Regan, M.A., & Hallett, C. (2011). *Driver distraction and driver inattention: Definitions, Mechanisms, Effects and Mitigation*. In Porter, B. (Ed). *Handbook of Traffic Psychology*. Amsterdam, Netherlands: Elsevier. (Chapter 20)
- Regan M. A. and Oviedo-Trespalacios O. (2022) Driver Distraction: Mechanisms, Evidence, Prevention, and Mitigation, in K. E. Björnberg et al. (eds.) (2022), *The Vision Zero Handbook: Theory, Technology and Management for a Zero Casualty Policy*.
- Reagan I.J. (2021) *Review of recent literature on the effectiveness of distracted driving laws*. Insurance Institute of Highway Safety, Virginia.

Statista (2020). *Road accidents caused by vehicle defect factors severity in Great Britain UK*. London. <https://www.statista.com/statistics/323086/road-accidents-caused-by-vehicle-defect-factors-severity-in-great-britain-uk/> Accessed July 2022.

Sundfør, H. B., Sagberg, F., & Høye, A. (2019). Inattention and distraction in fatal road crashes—results from in-depth crash investigations in Norway. *Accident Analysis & Prevention*, 125, 152–157.

Turner, B., Job, S. and Mitra, S. (2021). *Guide for Road Safety Interventions: Evidence of What Works and What Does Not Work*. Washington, DC., USA: World Bank.

United Nations (2015) *Resolution adopted by the General Assembly on 25 September 2015, Transforming our world: the 2030 Agenda for Sustainable Development (A/RES/70/1)*

United Nations (2021A). *The Sustainable Development Goals Report 2021 Extended Report Goal 5*. New York.

United Nations (2021B). *The Sustainable Development Goals Report 2021 Extended Report Goal 17*. New York.

Van den Berghe, W., Sgarra, V., Usami, D. S., González-Hernández, B. & Meesmann, U. (2022) *Public support for policy measures in road safety*. ESRA2 Thematic report Nr. 9 (updated version). ESRA project (E-Survey of Road users' Attitudes). Brussels, Belgium: Vias institute and Rome, Italy: CTL – Research Centre for Transport and Logistics.

Victor, T, Bärngman, J, Boda, C, Dozza, M, Engström, J, Flannagan, C, Lee J & Markkula, G 2014, *Analysis of naturalistic driving study data: safer glances, driver inattention, and crash risk*. Safety Project S08A prepublication draft, Safer vehicle and traffic safety centre at Chalmers, Gothenburg, Sweden.

Vollrath, M., Schumacher, M., Boets, S., & Meesman, U. (2019) *Guidelines for assessing the prevalence of mobile phone use in traffic*. Forum of European Road Safety Research Institutes Technical Paper.

WHO (2017A) *Save LIVES - A road safety technical package*. Geneva, World Health Organization.

WHO (2017B) *Global Road Safety Performance Targets*. Geneva, World Health Organization.

WHO (2018), *Global status report on road safety 2018*. Geneva, World Health Organization.

WHO (2021), *Global Plan for the Decade of Action for Road Safety 2021-2030*. Geneva, World Health Organization. <https://www.who.int/publications/m/item/global-plan-for-the-decade-of-action-for-road-safety-2021-2030>

Yannis, G., Laiou, A., Nikolaou, D., Usami, D.S., Sgarra, V., Azarko, A. (2022) *Moped drivers and motorcyclists*. ESRA2 Thematic report Nr. 12 (updated version). ESRA project (E-Survey of Road users' Attitudes). Athens, Greece: National Technical University of Athens.

Websites

- www.sdgs.un.org
- <https://www.ESCAP.org/sites/default/files/2-Annex%20II%20bis%20-Asian%20Highway%20Design%20Standards%20for%20Road%20Safety.pdf>
- https://road-safety.transport.ec.europa.eu/statistics-and-analysis_en
- www.irap.org/3-star-or-better

- www.vaccinesforroads.org/irap-big-data-tool

Appendix A: United Nations Road Safety Conventions

UN CONVENTIONS RELATED TO ROAD SAFETY IN THE ASIA-PACIFIC REGION



1

ROAD TRAFFIC, 1968

The 1968 Convention on Road Traffic is based on the desire to facilitate international road traffic and to increase road safety through the adoption of uniform traffic rules. The Convention consists of six Chapters including 56 Articles, and seven Annexes.

2

ROAD SIGNS AND SIGNALS, 1968

The 1968 Convention on Road Signs & Signals is based on the recognition that international uniformity of road signs, signals and symbols and of road markings is necessary in order to facilitate international road traffic and to increase road safety. The Convention consists of six Chapters including 48 Articles, and three Annexes.

3

VEHICLE REGULATIONS, 1958

The 1958 Agreement consisting of 16 Articles is based on the desire to reduce technical barriers to international trade and recognizing the importance of safety, environmental protection, energy efficiency and anti-theft performance of wheeled vehicles, equipment and parts. It contains an Appendix as well as eight Schedules of Administrative and Procedural Provisions.

4

GLOBAL VEHICLE REGULATIONS, 1998

The 1998 Agreement relates to vehicle regulations and provides a framework for developing global technical regulations for vehicles on safety and environmental performance. The Agreement consists of 16 Articles followed by Annex A providing definitions and Annex B providing the composition and rules of procedure of the Executive Committee.

5

TECHNICAL INSPECTION OF VEHICLES, 1997

The 1997 Agreement consisting of 13 Articles relates to vehicle inspections. The system of periodic technical inspections as described in the agreement is to ensure that vehicles in use are kept in a safe and environmentally friendly condition throughout their lifetime.

6

DANGEROUS GOODS BY ROAD (ADR), 1957

The 1957 Agreement (updated every two years) consisting of two Volumes outlines the highest level of safety acceptable to all Contracting Parties for permitting the transport of dangerous goods by road on their territories with cost/safety benefits considerations.

7

AETR, 1970

The 1970 European Agreement concerning the Work of Crews of Vehicles Engaged in International Road Transport (AETR) consists of 25 Articles, an Annex including 14 Articles in relation to control device and four Appendices.

Visit ESCAP Transport Division Website: www.unescap.org/our-work/transport



BENEFITS AND STATUS OF UN CONVENTIONS RELATED TO ROAD SAFETY IN THE ASIA-PACIFIC REGION



BENEFITS OF THE CONVENTIONS

ROAD TRAFFIC, 1968

- Provides an opportunity to apply best practices and experience as agglomerated in the Convention to make road traffic safer.
- Considers road user behaviour.
- Establishes rules of the road to be followed by drivers and pedestrians.

ROAD SIGNS AND SIGNALS, 1968

- Addresses the distracted driving issue.
- Addresses correct placement of road signs.
- Provides guidance on standardized road signs, signals and markings.
- Focuses on safe infrastructure which contributes to safer mobility.

VEHICLE REGULATIONS, 1958

- Provides the legal framework for adopting uniform UN Regulations for all types of wheeled vehicles manufactured, specifically related to safety and environmental aspects.
- Removes technical barriers in international trade.
- Addresses economic benefits by allowing for a system of reciprocal recognition of approvals, granted by the Contracting Parties of the agreement.

GLOBAL VEHICLE REGULATIONS, 1998

- Relates to vehicle regulations and provides a framework for developing global technical regulations for vehicles on safety and environmental performance.
- The rules related to creating and maintaining a registry of the global technical regulations referred to as the "Global Registry" are provided.
- Advanced technologies are addressed, for example, electric vehicles.

TECHNICAL INSPECTION OF VEHICLES, 1997

- Promotes keeping vehicles environmentally friendly and safe throughout their lifetime.
- Provides the legal framework for the inspection of wheeled vehicles and for the mutual recognition of inspection certificates for cross-border use of road vehicles.

DANGEROUS GOODS BY ROAD (ADR), 1957

- Facilitates transport, easy transit and trade of dangerous goods.
- Aims at preventing crashes during loading, unloading and transport and to mitigate as much as possible the effects should an incident occur.
- Addresses mutual recognition of packaging and travel certification.

AETR, 1970

- Addresses driving times and rest periods of professional drivers are regulated and monitored to prevent major crashes.
- Prevents fatigued driving by commercial vehicle drivers and thereby saves lives and serious injuries.

ACCESSION STATUS AS OF 2021

- Ratification, accession, definite signature
- Signature

	Road Traffic, 1968	Road Signs and Signals, 1968	Vehicle Regulations, 1968	Global Vehicle Regulation, 1998	Technique Of Inspection, 1997	Dang. Goods by Roads (ADR), 1957	AETR, 1970
Afghanistan							
Armenia							
Australia							
Azerbaijan							
Bangladesh							
Bhutan							
Brunei Darussalam							
Cambodia							
China							
Democratic People's Republic of Korea							
Fiji							
Georgia							
India							
Indonesia							
Iran (Islamic Republic of)							
Japan							
Kazakhstan							
Kiribati							
Kyrgyzstan							
Lao People's Democratic Republic							
Malaysia							
Maldives							
Marshall Islands							
Micronesia (Federated States of)							
Mongolia							
Myanmar							
Nauru							
Nepal							
New Zealand							
Pakistan							
Palau							
Papua New Guinea							
Philippines							
Republic of Korea							
Russian Federation							
Samoa							
Singapore							
Solomon Islands							
Sri Lanka							
Tajikistan							
Thailand							
Timor-Leste							
Tonga							
Turkey							
Turkmenistan							
Tuvalu							
Uzbekistan							
Vanuatu							
Viet Nam							

Visit ESCAP Transport Division Website: www.unescap.org/our-work/transport



Appendix B: Country laws on behaviour risk factors and mobile phone subscriptions

Table B1: Countries with Laws on 5 Risk Factors

	Speed limit	Drink driving	Motorcycle helmet	Seatbelts	Mobile phone
Afghanistan	P	P			
Armenia	P	P	P	P	P
Australia	P	P	P	P	P
Azerbaijan	P	P	P	P	P
Bangladesh	P	P	P		P
Bhutan	P	P	P	P	P
Cambodia	P	P	P	P	P
China	P	P	P	P	P
Cook Islands (the)	P	P	P		
Fiji	P	P	P	P	P
Georgia	P	P	P	P	P
India	P	P	P	P	P
Indonesia	P	P	P	P	P
Iran (Islamic Republic of)	P	P	P	P	P
Japan	P	P	P	P	P
Kazakhstan	P	P	P	P	P
Kiribati	P	P	P	P	P
Kyrgyzstan	P	P	P	P	P
Lao People's Democratic Republic	P	P	P	P	P
Malaysia	P	P	P	P	P
Maldives	P		P	P	P
Micronesia (Federated States of)	P	P	P		
Mongolia	P	P	P	P	P
Myanmar	P	P	P	P	
Nepal	P	P	P	P	
New Zealand	P	P	P	P	P
Pakistan	P	P	P	P	P
Papua New Guinea	P	P	P	P	
Philippines (the)	P	P	P	P	P
Republic of Korea (the)	P	P	P	P	P
Russian Federation (the)	P	P	P	P	P
Samoa	P	P	P	P	P
Singapore	P	P	P	P	P
Solomon Islands	P	P	P		
Sri Lanka	P	P	P	P	P
Tajikistan	P	P	P	P	P
Thailand	P	P	P	P	P
Timor-Leste	P	P	P	P	P
Tonga	P	P	P		
Türkiye	P	P	P	P	P
Turkmenistan	P	P	P	P	P
Uzbekistan	P	P	P	P	P
Vanuatu		P	P	P	
Viet Nam	P	P	P	P	P

Table B2: Details of law regarding speed, alcohol and helmets

	Speed limit laws allow		Drink driving laws apply to		Motorcycle helmet laws require		
	Urban speed limit ≤50km/h	Local authorities to modify speed limits	All drivers BAC <0.05g/dl	Young or Novice driver BAC <0.02g/dl	Proper fastening	Approved standard helmet	All riders to wear
Afghanistan							P
Armenia			P		P		P
Australia	P	P	P	P	P	P	P
Azerbaijan							P
Bangladesh						P	P
Bhutan	P			P	P	P	P
Cambodia	P		P			P	P
China	P	P	P	P		P	P
Cook Islands (the)	P					P	P
Fiji	P			P	P		P
Georgia			P		P		P
India		P	P		P	P	P
Indonesia	P	P				P	P
Iran (Islamic Republic of)						P	P
Japan		P	P			P	P
Kazakhstan			P		P		P
Kiribati	P		P	P		P	P
Kyrgyzstan					P		P
Lao People's Democratic Republic	P		P				P
Malaysia		P			P	P	P
Maldives	P						
Micronesia (Federated States of)	P	P					P
Mongolia			P				P
Myanmar	P				P		P
Nepal	P						P
New Zealand	P	P	P	P	P	P	P
Pakistan		P					P
Papua New Guinea					P	P	P
Philippines (the)	P	P	P			P	P
Republic of Korea (the)		P	P			P	P
Russian Federation (the)		P	P		P	P	P
Samoa					P		P
Singapore					P	P	P

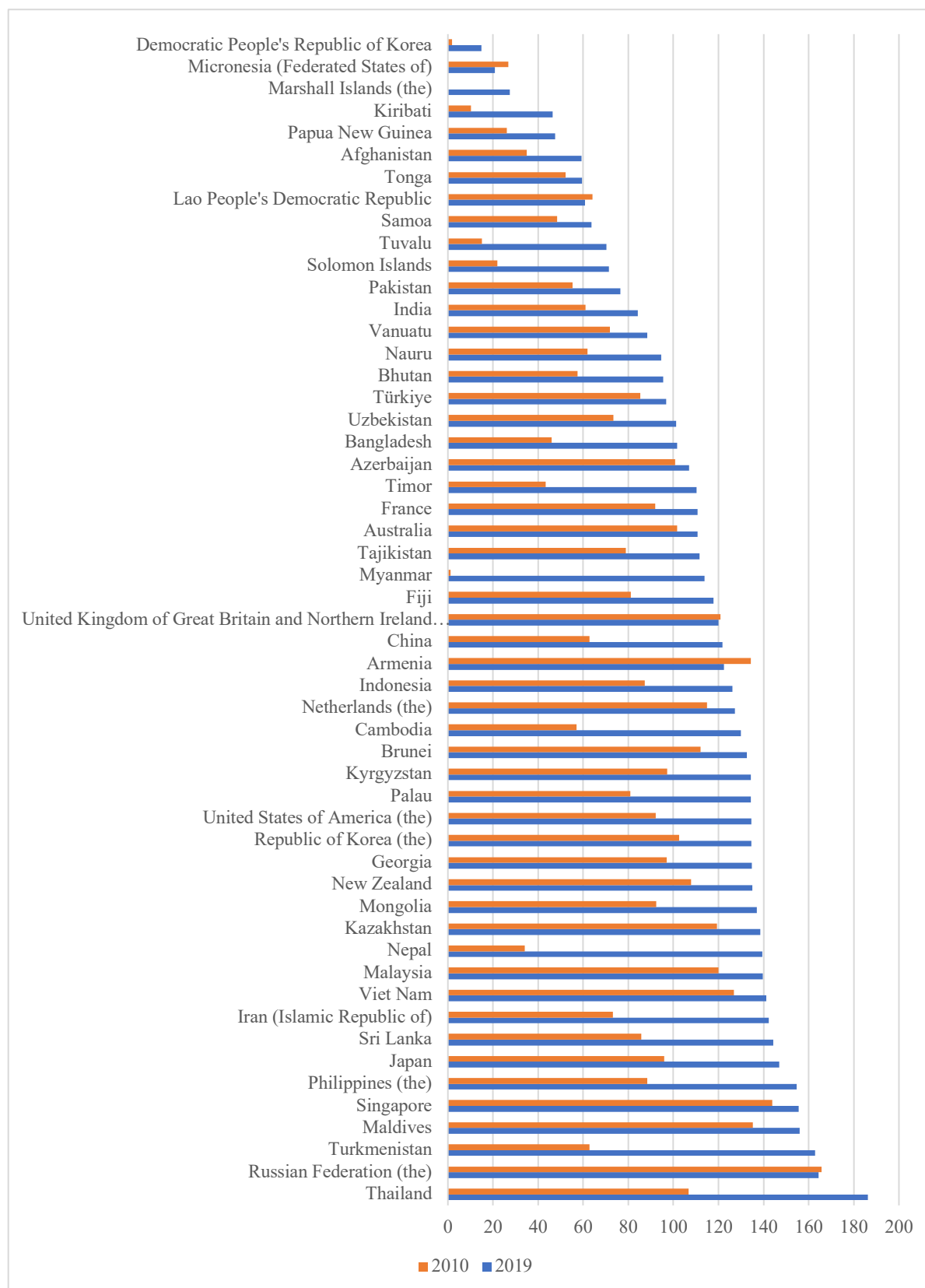
Solomon Islands		P	P		P	P	P
Sri Lanka	P					P	P
Tajikistan					P		P
Thailand			P	P	P	P	P
Timor-Leste	P		P		P	P	P
Tonga	P		P		P	P	P
Türkiye	P	P	P			P	P
Turkmenistan		P	P				P
Uzbekistan					P		P
Vanuatu					P	P	P
Viet Nam			P		P	P	P

Table B3: Details of law regarding restraints and phones

	Seatbelt / child restraint laws apply to				Mobile phone laws ban	
	Drivers	Front seat passengers	Rear seat passengers	Child restraints	Hand-held phone use	Hands-free phone use
Afghanistan						
Armenia	P	P	P	P		
Australia	P	P	P		P	
Azerbaijan				P	P	
Bangladesh					P	
Bhutan	P	P	P		P	
Cambodia	P	P			P	
China	P	P	P		P	
Cook Islands (the)						
Fiji	P	P	P	P	P	P
Georgia	P	P			P	
India	P	P	P		P	P
Indonesia	P	P				
Iran (Islamic Republic of)	P	P	P		P	P
Japan	P	P	P	P	P	
Kazakhstan	P	P	P	P	P	
Kiribati	P	P	P		P	
Kyrgyzstan				P	P	
Lao People's Democratic Republic	P	P			P	P
Malaysia	P	P			P	
Maldives					P	
Micronesia (Federated States of)						
Mongolia	P	P	P		P	

Myanmar	P	P	P			
Nepal	P	P				
New Zealand	P	P	P	P	P	
Pakistan	P				P	
Papua New Guinea	P	P	P			
Philippines (the)	P	P	P		P	
Republic of Korea (the)	P	P	P	P	P	
Russian Federation (the)	P	P	P	P	P	
Samoa	P	P			P	
Singapore	P	P	P	P	P	
Solomon Islands						
Sri Lanka	P	P			P	
Tajikistan	P	P		P	P	
Thailand	P	P	P		P	
Timor-Leste	P	P	P		P	
Tonga						
Türkiye	P	P	P	P	P	P
Turkmenistan	P	P	P	P	P	P
Uzbekistan	P			P	P	P
Vanuatu	P	P		P		
Viet Nam	P	P			P	

Figure B1: Growth in mobile phone subscriptions / 100 people, 2010-19 (International Telecommunication Union)²



² <http://data.worldbank.org/data-catalog/world-development-indicators>

Appendix C: Mobile Phone Laws

Mobile phone laws in Australia, India, Japan, the Republic of Korea, New Zealand and Singapore are summarised, using best available legal text, as a resource for comparison. Member countries seeking to introduce or improve law relating to mobile phone use are encouraged to specify policy intent, and then draft the traffic law in a manner consistent with national legal style.

The Philippines passed a separate Act of Parliament in 2015 defining and penalising distracted driving. The Act, known as the “Anti-Distracted Driving Act” is attached in full below.

Australia

Australian Road Rules

Rule 300 Use of mobile phones³

The driver of a vehicle must not use a mobile phone while the vehicle is moving, or is stationary but not parked, unless:

- a. the phone is being used to make or receive an audio phone call or to perform an audio playing function and the body of the phone:
 - i. is secured in a mounting affixed to the vehicle while being so used, or
 - ii. is not secured in a mounting affixed to the vehicle and is not being held by the driver, and the use of the phone does not require the driver, at any time while using it, to press anything on the body of the phone or to otherwise manipulate any part of the body of the phone, or
- b. the phone is functioning as a visual display unit that is being used as a driver's aid (for example, dispatch or navigation systems) and the phone is secured in a mounting affixed to the vehicle, or
- c. the vehicle is an emergency vehicle or a police vehicle.

This does not apply if the vehicle is stationary in a road related area, and the phone:

- a. is functioning as a payment device to enable the driver to pay for goods or services that are required to be paid for in the road related area, or
- b. is being used to display an electronic coupon, voucher, card or similar article that requires the body of the phone to be held in close proximity to another device located in the road related area in order for the article to be used or redeemed, or
- c. is being used as an electronic device that enables the driver to enter another road related area or land adjacent to the road related area.

For the purposes of the rule, a mobile phone is secured in a mounting affixed to the vehicle only if the mounting is commercially designed and manufactured for that purpose, and the mobile phone is secured in the mounting, and the mounting is affixed to the vehicle, in the manner intended by the manufacturer.

The rule does not apply to the driver of a vehicle who is the holder of a learner licence or a provisional licence. This is regulated at a State level – for example, New South Wales bans learner and provisional licence holders from making or receiving an audio call, or using music or driver's aid functions.

India

³ http://www5.austlii.edu.au/au/legis/nsw/consol_reg/rr2014104/s300.html

Motor Vehicles (Driving) Regulations, 2017⁴

Clause 37. Use of mobile telephones and communication devices. The driver shall not use any hand held mobile phone or other communication device.

Central Motor Vehicles (Eleventh Amendment) Rules, 2020⁵

Rule 165. Use of handheld device. Use of handheld communications devices while driving shall solely be used for route navigation in such a manner that shall not disturb the concentration of the driver while driving.

Japan

The Road Traffic Act (Act No. 105 of 1960) Last Version: Act No. 76 of 2015

Article 71 (Rules to Be Observed by Drivers)⁶

The driver of a vehicle or streetcar must neither use a cellular telephone, car phone, or other wireless telephone (but only one that cannot be used to transmit or receive communications unless all or part of it is held in the hand) to make telephone calls (other than essential emergency calls to aid injured or sick persons or to maintain public safety while a motor vehicle or motorized bicycle is in motion) nor focus attention on the screen of a device (other than one as prescribed in the Vehicles for Road Transportation Act) installed or carried into a motor vehicle or onto a motorized bicycle while driving that motor-powered vehicle, except when it is at a stop.

Republic of Korea (the)

The Road Traffic Act (Act No. 7969, Jul. 19, 2006)

Article 49 (Matters to be observed by any driver)⁷

No driver shall use a cell phone (including a car phone) while driving a motor vehicle, except in the following cases:

- a. Where the motor vehicle comes to a stop
- b. Where an emergency motor vehicle is being driven
- c. Where it is necessary to report without delay various kinds of crimes or any accident, and
- d. Where any device prescribed by Presidential Decree as not impeding the safe driving of any motor vehicle is being used.

New Zealand

Land Transport (Road User) Rule 2004

Clause 73A Ban on use of mobile phones while driving⁸

A driver must not, while driving a vehicle:

- a. use a mobile phone to make, receive, or terminate a telephone call; or
- b. use a mobile phone to create, send, or read a text message; or
- c. use a mobile phone to create, send, or read an email; or
- d. use a mobile phone to create, send, or view a video message; or

The following exceptions apply:

⁴ <https://morth.nic.in/sites/default/files/Motor-Vehicle-Driving-Regulation-2017.pdf>

⁵ [https://morth.nic.in/sites/default/files/notifications_document/GSR%20584\(E\)%2025%20september%20Offences.%20Penalties%20&%20Procedure%20and%20Definitions%20committee%20F.pdf](https://morth.nic.in/sites/default/files/notifications_document/GSR%20584(E)%2025%20september%20Offences.%20Penalties%20&%20Procedure%20and%20Definitions%20committee%20F.pdf)

⁶ https://www.japaneselawtranslation.go.jp/en/laws/view/2962/en#je_ch4sc1at9

⁷ https://elaw.klri.re.kr/eng_service/lawView.do?hseq=906&lang=ENG

⁸ <https://www.legislation.govt.nz/regulation/public/2004/0427/latest/DLM2510830.html>

- a. An enforcement officer may, while driving a vehicle, use a mobile phone to make, receive, or terminate a telephone call if the officer is making, receiving, or terminating the call in the execution of the officer's duty.
- b. A driver may, while driving a vehicle, use a mobile phone if the driver is using the phone to make an emergency call and it is unsafe or impracticable for the driver to stop and park the vehicle to make the call.
- c. A driver may, while driving a vehicle, use a mobile phone to make, receive, or terminate a telephone call if:
 - i. the phone does not require the driver to hold or manipulate it to make, receive, or terminate the call
 - ii. the vehicle has stopped for a reason other than the normal starting and stopping of vehicles in a flow of traffic
 - iii. the phone is secured in a mounting fixed to the vehicle and if the driver manipulates or looks at the phone, he or she does so infrequently and briefly.

Singapore

Road Traffic Act 1961

Section 65B Use of mobile communication device while driving ⁹

A driver of a vehicle who holds in his or her hand a mobile communication device and operates any of its communicative or other functions, while the vehicle is in motion on a road or in a public place is guilty of an offence. This subsection does not apply to a mobile communication device that is a wearable device (such as a smart watch), when it is worn by the driver or rider in the manner intended by the manufacturer of the wearable device.

"Communicative function" means any of the following: sending or receiving oral or written messages, audio phone calls or video calls; sending or receiving electronic documents; sending or receiving still or moving images; sending or receiving audio or video files; providing access to the Internet. "Mobile communication device" means a mobile phone; or any wireless handheld device (such as a tablet computer) or wearable device (such as a smart watch) designed or capable of being used for a communicative function.

⁹ <https://sso.agc.gov.sg/Act/RTA1961?ProvIds=pr65B->

Philippines (the)

REPUBLIC OF THE PHILIPPINES
Congress of the Philippines
Metro Manila

Sixteenth Congress
Third Regular Session

Begun and held in Metro Manila, on Monday, the twenty-seventh day of July, two thousand fifteen.

REPUBLIC ACT No. 10913

An Act Defining and Penalizing Distracted Driving

Be it enacted by the Senate and House of Representatives of the Philippine Congress Assembled:

Section 1. Short Title. - This Act shall be known as the "Anti-Distracted Driving Act".

Section 2. Declaration of Policy. - It is hereby declared the policy of the State to safeguard its citizenry from the ruinous and extremely injurious effects of vehicular accidents.

While the State recognizes the vital roles of information and communications technology in nation-building, the State also takes cognizance of the inimical consequences of the unrestrained use of electronic mobile devices on road safety as to cause its regulation.

Section 3. Definition of Terms. - As used in this Act:

- (a) *Diplomatic motor vehicle* – any motor vehicle leased or owned by a foreign mission and its staff for their official use;
- (b) *Electronic entertainment and computing device* – any handheld electronic device capable of digital information processing, recording, capturing or displaying and computing operations such as, but not limited to, laptop, computers, tablets, video game consoles and calculators;
- (c) *Government motor vehicle* – any motor vehicle owned by the national government or any of its agencies, instrumentalities or political subdivisions, including government-owned or -controlled corporations or their subsidiaries for official use;
- (d) *Implementing agency* – the Department of Transportation and Communications-Land Transportation Office (DOTC-LTO);
- (e) *Mobile communications devices* – electronic communications equipment such as, but not limited to, cellular phones, wireless telephones, two-way radio transceivers, pagers and other similar devices capable of transmitting, receiving, or both, of encrypted data and/or signals through wireless electronic or any other similar means;
- (f) *Motor vehicle* – engine-driven vehicles such as, but not limited to, automobiles, trucks, vans, buses, jeeps, motorcycles and tricycles;
- (g) *Motorist* – a person driving a motor vehicle;
- (h) *Private motor vehicle* – any motor vehicle owned by individuals and juridical persons for private use; and
- (i) *Public motor vehicle* – a motor vehicle with a valid franchise issued by the appropriate government agency to operate as a public utility vehicle or any vehicle for hire.

Section 4. Distracted Driving. - Subject to the qualifications in Sections 5 and 6 of this Act, distracted driving refers to the performance by a motorist of any of the following acts in a motor vehicle in motion or temporarily stopped at a red light, whether diplomatic, public or private, which are hereby declared unlawful:

- (a) Using a mobile communications device to write, send, or read a text-based communication or to make or receive calls, and other similar acts; and
- (b) Using an electronic entertainment or computing device to play games, watch movies, surf the internet, compose messages, read e-books, perform calculations, and other similar acts.

Section 5. Extent of Coverage -

(a) The operation of a mobile communications device is not considered to be distracted driving if done using the aid of a hands-free function or similar device such as, but not limited to, a speaker phone, earphones and microphones or other similar devices which allow a person to make and receive calls without having to hold the mobile communications device: *Provided*, That the placement of the mobile communications device or the hands-free device does not interfere with the line of sight of the driver.

(b) Wheeled agricultural machineries such as tractors and construction equipment such as graders, rollers, backhoes, payloaders, cranes, bulldozers, mobile concrete mixers and the like, and other forms of conveyances such as bicycles, pedicabs, "habal-habal", trolleys, "kuligligs", wagons, carriages, carts, sledges, chariots or the like, whether animal or human-powered, are covered by the provisions of this Act as long as the same are operated or driven in public thoroughfares, highways or streets or under circumstances where public safety is under consideration.

(c) The provisions of this Act shall not apply to motorists of motor vehicles which are not in motion, except those which are stopped momentarily at a red light, or are pulled over to the side of the road in compliance with a traffic regulation.

Section 6. Exemptions. - The provisions of this Act shall not apply to the following:

(a) A motorist using a mobile phone for emergency purposes, including, but not limited to, an emergency call to a law enforcement agency, health care provider, fire department, or other emergency services, agency or entity; and

(b) A motorist using a mobile phone while operating an emergency vehicle such as an ambulance, a fire truck, and other vehicles providing emergency assistance, in the course and scope of his or her duties.

Section 7. Nationwide Public Information Campaign. - The DOTC-LTO, in coordination with the Philippine Information Agency (PIA), the Department of Education (DepEd), the Department of the Interior and Local Government (DILG), the Philippine National Police (PNP) and private agencies and organizations shall undertake a nationwide information, education and communication (IEC) campaign for a period of six (6) months from the effectivity of this Act.

Section 8. Penalties. - Any person who shall violate any provision of this Act shall be penalized with:

(a) A fine of five thousand pesos (₱5,000.00) for the first offense;

(b) A fine of ten thousand pesos (₱10,000.00) for the second offense;

(c) A fine of fifteen thousand pesos (₱15,000.00) and suspension of driver's license for three (3) months for the third offense; and

(d) A fine of twenty thousand pesos (₱20,000.00) and revocation of driver's license; *Provided*, That the implementing agency may increase the amount of fine herein imposed once every five (5) years in the amount not exceeding ten percent (10%) of the existing rates sought to be increased which shall take effect only upon publication in at least two (2) newspapers of general circulation: *Provided, further*, That a driver of a public utility vehicle, a school bus, a school service vehicle, a common carrier hauling volatile, flammable or toxic material, or a driver who commits an act classified herein as distracted driving within a fifty (50)-meter radius from the school premises shall be subject to a penalty of thirty thousand pesos (₱30,000.00) and suspension of one's driver's license for three (3) months.

The foregoing penalties shall be imposed without prejudice to other liabilities under the Revised Penal Code or any special law, arising out or on occasion of the herein prohibited acts.

Section 9. Liability of Owner and/or Operator of the Vehicle Driven by the Offender. - The owner and/or operator of the vehicle driven by the offender shall be directly and principally held liable together with the offender for the fine unless he or she is able to convincingly prove that he or she has exercised extraordinary diligence in the selection and supervision of his or her drivers in general and the offending driver in particular.

This section shall principally apply to the owners and/or operators of public utility vehicles and commercial vehicles such as delivery vans, cargo trucks, container trucks, school and company buses, hotel transports, cars or vans for rent, taxi cabs, and the like.

Section 10. *Enforcement and Assistance by Other Agencies.* - The Metro Manila Development Authority (MMDA), the PNP and other concerned government agencies and instrumentalities shall be responsible for the enforcement of the foregoing provisions and shall render such assistance as may be required by the DOTC-LTO in order to effectively implement the provisions of this Act.

Section 11. *Implementing Rules and Regulations.* - The DOTC-LTO shall promulgate the necessary implementing rules and regulations within sixty (60) days from the effectivity of this Act.

Section 12. *Repealing Clause.* - Any law, presidential decree or issuance, executive order, letter of instruction, administrative order, rule or regulation contrary to, or inconsistent with the provisions of this Act is hereby repealed, modified or amended accordingly.

Section 13. *Separability Clause.* - If, for any reason, any part or provision of this Act is declared invalid, such declaration shall not affect the other provisions of this Act.

Section 14. *Effectivity.* - This Act shall take effect fifteen (15) days after its publication in at least two (2) newspapers of general circulation.

Approved,

FELICIANO BELMONTE, JR.
Speaker of the House of Representatives

FRANKLIN M. DRILON
President of the Senate

This Act was passed by the Senate of the Philippines as Senate Bill No. 3211 on May 30, 2016 and adopted by the House of Representatives as an amendment to House Bill No. 4531 on June 6, 2016.

MARILYN B. BARUA-YAP
Secretary General
House of Representatives

OSCAR G. YABES
Secretary of the Senate

Approved: July 21, 2016

(Sgd.) **BENIGNO S. AQUINO, III**
President of the Philippines

Table C1: Primary components for ranking distracted driving laws

Component	Points Assigned	Justification
Violation Type		
No law	0	Primary violations are well received by law enforcement. It is a common belief that if the law is addressing an important traffic safety issue, the violation would be considered a primary offense.
Secondary	1	
Primary	2	
Behaviors Covered*		
No behavior	0	Law does not enforce any of the behaviors, or there is no law.
Texting	1	Limits the enforcement to a two-way communication device, meaning that someone could be manipulating a portable game, but since they are not texting, they cannot be cited, even though the behavior and level of distraction are similar.
Manipulating/dialing	2	Additional limitations beyond texting (which would include dialing or manipulating the electronic device) simplify enforcement and expand the types of devices covered to all electronic devices.
Handheld	3	More severe and most inclusive and, therefore, easier to enforce
Reading or speaking	1 extra point	More restrictive, but difficult to enforce. Note that many texting laws do include a reading restriction.
Types of Drivers Covered		
Law does not address any driver populations.	0	
Law <i>only</i> addresses specific populations.	1	Less severe and difficult to enforce
All drivers	2	
All drivers <i>and</i> there are one or more laws that are more stringent for specific populations	1 extra point	More restrictive on behaviors covered under the law or increased fines/penalties for special populations, although may be difficult to enforce
When Law Is Enforceable		
Law is not enforced in any situation.	0	Law is not clearly enforceable in any situation, or there is no law.
Only when vehicle is in motion	1	Allows for device use during stops in traffic—higher potential for use while driving.
At all times (stationary or in motion)	2	Enforceable at all times
Penalty Range for First Offense		
Warning/0 points	0	More points are associated with a stronger penalty and may increase compliance.
1–2 points	1	
3–4 points	2	
5 or more points	3	
Incremental Penalty		
No	0	Incremental penalty may increase compliance.
Yes	1	
Fine Range for First Offense		
No fine	0	Higher range of fines may increase compliance.
Low (Up to \$25, \$26–\$75)	1	
Medium (\$76–\$100, \$101–\$150)	2	
High (\$151–\$200, over \$200)	3	
Incremental Fine		
No	0	Incremental fines may increase compliance.
Yes	1	

*For laws with multiple behaviors covered, the least restrictive and easiest to enforce behavior was used for coding.