



Road Safety in the Asia-Pacific Region

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1. Context

1.1 Background on road safety situation

Road safety is a sustainable development challenge for the whole world. The global road traffic deaths and rates of road traffic death remain unacceptably high as an estimated 1.35 million road traffic deaths occurred in 2016 which was about 3,700 road traffic deaths a day.¹ Globally, road crashes are the 8th leading cause of death for people of all ages and number one cause of death for children and young adults 5-29 years of age. However, the rates of road traffic death remained constant since the beginning of the millennium, which was about 18 road traffic deaths per 100,000 population.

However, the Global Status Report on Road Safety 2018 emphasized that as progress is made in prevention and control of infectious diseases, the relative contribution of deaths from noncommunicable diseases and injuries continued to increase during the last decades. Globally an estimated three per cent of GDP is lost due to road traffic crashes². The World Bank estimated the cost of the road crashes to the developing countries at USD100 billion a year based on lost GDP between 1-2 per cent a year³. In some of the developing countries, the estimated GDP losses are even as high as six per cent (Islamic Republic of Iran). In the high-income countries though the economic loss is as low as one per cent of the GDP, the social impact is considerable. A study⁴ in the Republic of Korea showed that many victims (70.7 per cent of the disabled) of road crashes experienced job losses after a road crash. Another study⁵ that considered the impact of road crashes in Bangladesh showed that most bereaved households went into debt and one third of households had to sell an asset after a road traffic death. Moreover, road crashes have a serious flow-on effect on hospital systems, especially in the developing countries. For example, at the Thai Binh General Hospital in Viet Nam, more than half of patients admitted with injuries were road crash victims.⁶

As shown in Appendix 2a-**Figure 1**, the burden of road traffic deaths is disproportionately high among middle-income countries in relation to the size of their populations. Globally, the population of middle-income countries accounts for 74 percent of the world's population, and road traffic deaths account for more than 78 percent. The middle-income countries in the ESCAP region account for 93 percent of the region's population but have more than 97 percent

1 Global Status Report on Road Safety 2018 published by the World Health Organization (data for 2016).

2 International Road Assessment Programme and the World Bank 2008. The true cost of road crashes: Valuing life and cost of a serious injury (Washington, D.C.).

3 World Bank, Economic Perspectives on Traffic Safety. www.worldbank.org.

4 World Bank Blogs. Visited on 15 September 2017. Available at:

<http://blogs.worldbank.org/transport/road-crashes-have-more-impact-poverty-you-probably-thought>

5 TRL Limited (2004). Published project report PPR 010. Visited on 14 March 2017. Available at: <https://assets.publishing.service.gov.uk/media/57a08cbced915d622c001533/R7780.pdf>.

6 Nguyen, H., Ivers, R.Q., Jan S., Martiniuk, A.L.C., Li, Q. and C. Phoung. 2012. 'The economic burden of road traffic injuries: Evidence from a provincial general hospital in Vietnam', *Injury Prevention* 10.1136/injuryprev-2011-040293.

of road traffic deaths. This indicates that middle-income countries of the ESCAP region need more attention towards improving road safety. Between 2013 and 2016, in the ESCAP region, road traffic death number reduced in 14 upper-middle- and high-income countries, while only 7 lower-middle-income countries succeeded in reducing road crash deaths.

For both global and ESCAP region, the number of low-income countries is small, and the high-income countries have small population so the **middle-income countries account for the largest proportion of both population and road traffic deaths**. It can be found that the **proportion of road deaths exceeds the proportion of the population, both globally and in the ESCAP region**.

1.2 WHO Road Crash Data

This report summarizes the analyses of the road safety data from the ESCAP member countries fall under the road safety management pillar of the UN Decade of Action for Road Safety (2011-2020). This study considered analyzed data involving different pillars and areas of the The United Nations Global Framework Plan of Action 2018. The pillars and areas under the framework are shown in Figure 5 of the Appendix 2 of this report.

Data analysis in this report are based on data from Global Status Reports on Road Safety 2015⁷ and 2018⁸ published by World Health Organization (WHO). Data in 2013 are obtained from Global Status Report on Road Safety 2015; Data in 2016 are obtained from Global Status Report on Road Safety 2018.

Appendix 1 provides information about the ESCAP member countries: Geographic location; Country income status by the World Bank; Availability of the data in the Global Status Report on Road Safety 2015 and 2018. WHO GRS Info⁹ is an app created by WHO to allow to explore and interact with the data from the Global status report on road safety 2018. The app is available in the App Store and Google Play.

1.3 Importance of improving road safety in the ESCAP region toward addressing road safety globally

To illustrate the importance of focusing on and enhancing road safety in the ESCAP region, projections for different scenarios are shown in Appendix 2a-**Table 2**.

The first scenario projects if the number of road traffic deaths in the ESCAP region increases at the current rate, and the road traffic deaths in other countries can be controlled, what global trend of the road traffic deaths would be over the next decade. There are three different projections about other countries (Appendix 2a-**Figure 2**): first option is shown by solid line which means that Non-ESCAP countries keep the

⁷ https://www.who.int/violence_injury_prevention/road_safety_status/2018/en/

⁸ https://www.who.int/violence_injury_prevention/road_safety_status/2015/en/

⁹ https://www.who.int/violence_injury_prevention/road_safety_status/GRSInfo-App/en/

same road traffic deaths as in 2016 and have no change in the number. Second dotted line shows that Non-ESCAP high-income countries decrease by 50 per cent and other Non-ESCAP countries (middle-income and low-income countries) increase as usual. Last line means that the Non-ESCAP high-income countries reduce their road traffic deaths to zero and other Non-ESCAP countries increase as usual. As can be seen from the three different lines for the global trend, which are on the top of the Appendix 2a-**Figure 2**, while the road traffic deaths of other countries are controlled at different levels, the number of global road traffic deaths will have a slow growth rate in the short term. However, due to the large increase in the value of the ESCAP region, the number of road traffic deaths worldwide will still return to a high growth rate in the long term.

Appendix 2a-**Figure 3** projects a 50 per cent reduction in road traffic deaths in high-income countries in Non-ESCAP regions and the rest of the Non-ESCAP countries grow at the current rate, and how the number of road traffic deaths in the ESCAP region affects the global rate in three different options. The three options are: ESCAP increases as usual (Appendix 2a-**Figure 3**), maintains the same road traffic deaths as 2016 and another one is reduce by 50 per cent. As the global lines shown in this diagram, the global trend of the total road traffic deaths will change along with the ESCAP region.

Appendix 2a-**Figure 4** shows how would the global number change, if the ESCAP region have changes on their road traffic deaths while Non-ESCAP high-income countries in other regions reduce to zero road traffic deaths and other Non-ESCAP countries increase as usual. The three global projections lines look similar as the Appendix 2a-**Figure 3**, which means the trend of global road traffic deaths is significantly influenced by road traffic deaths of ESCAP region.

All the current projection diagrams above indicate that Asia-Pacific region needs more attention and improvements. **Any changes on road safety in Asia-Pacific region will make huge difference globally.** SDG targets 3.6 and 11.2 will be hard to achieve without significant effort for improvement in the Asia-Pacific region (Appendix 2a-**Figure 2, 3, 4**).

1.4 Plans and targets for road safety

Since the Global Plan for the Decade of Action for Road Safety 2011-2020¹⁰ was launched by the global community, many Governments of the region have been grappling with the challenges of ensuring that their transport programmes result in safe operation. However, more efforts are needed to achieve Sustainable Development Goal targets 3.6¹¹ (by 2020, halve the number of global deaths and injuries from road traffic crashes) and 11.2 (by 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety).

The UN Decade of Action (2011-2020) includes five pillars. These pillars include Pillar 1: Road safety management; Pillar 2: Safer roads and mobility; Pillar 3: Safer vehicles; Pillar 4: Safer

¹⁰ https://www.who.int/roadsafety/decade_of_action/plan/en/

¹¹ <https://sustainabledevelopment.un.org/sdg3>

road users; Pillar 5: Post-crash response. The United Nations Global Framework Plan of Action for Road Safety was adopted in November 2018 by the global community as the way to effectively and efficiently support national efforts for road safety and guide international assistance underpinned by the United Nations Road Safety Trust Fund.

The Global Framework Plan of Action for Road Safety as shown in Appendix 2a-**Figure 5**, which provides a holistic approach in address road safety, including legislation, enforcement, education of 5 pillars according to the 2011-2020 Decade of Action on Road Safety. The following chapters covers the key components of the Global Framework Plan of Action.

- Chapter 2 explains the road traffic deaths and the quality of road crash data.
- Chapter 3 describes actions for road safety in Asia-Pacific region, including road safety management, safer roads and mobility, safer vehicles, post-crash care.
- Chapter 4 is about legislation and enforcement on safer road users.
- Chapter 5 and Chapter 6 provide key findings and recommendations based on data analysis.

2. Burden of road traffic death

2.1 Road traffic deaths

The United Nations General Assembly adopted a set of Sustainable Development Goals (SDGs) in 2015. The SDG target 3.6¹² is to halve the number of global deaths and injuries from road traffic crashes. The number of global road traffic deaths continues to rise steadily, reaching an estimated road traffic deaths number of 1.3 million in 2016. Therefore, it remains far from sufficient to achieve the target. The road safety problem in the ESCAP region is serious and urgent on account of the size of population and number of motor vehicles.

- For the Asia-Pacific region, the 44 reporting countries accounted for two-thirds of the world's population in 2016 (Appendix 2b-**Figure 6**), but **the proportion of road traffic deaths was slightly larger than that of population** (Appendix 2b-**Figure 7**), accounting for about 60 per cent of the global road traffic deaths.
- **The South and South-West Asia sub-region was the most severe, accounting for 26 per cent of the population but nearly one-third of deaths.** In second place was the East and North-East Asia sub-region.
- Progress in reducing road traffic deaths is not uniform across regions and income levels in Asia-Pacific region. From 2013 to 2016, there were different changes in the number of road traffic deaths in different countries in ESCAP region (see Appendix 2b-**Figure 8**). There has also been more progress in reducing the number of road traffic deaths among upper-middle-income and high-income countries than lower-middle-income and low-income countries. Between 2013 and 2016, some reductions were observed in 14 upper-middle- and high-income countries while only 7 lower-middle-income countries get reduction. Overall, the number of deaths increased in 20 countries during this period, the majority occurred in lower-middle income countries.

Rates of road traffic death per 100,000 population

- The road traffic death numbers in the ESCAP region showed an increasing trend over the last decade. **Countries in Asia-Pacific region had nearly the same rate of traffic death as the global rate with about 18 deaths per 100,000 population.**
- There was significant variation across the Asia-Pacific sub-regions, where the rates of death ranges from 8 to 20 deaths per 100,000 population (Appendix 2b-**Figure 9**).
- The rate of road traffic death was highest in South-East Asia sub-region (18.9/100,000 people) in 2013, following by North and Central Asia sub-region (17.8/100,000 people) and East and North-East Asia sub-region (17.5/100,000 people). Countries in above three sub-regions showed decrease in the rates of road traffic death from 2013 to 2016.
- **But the rate of road traffic in South and South-West region has increased from 16.4 to 20.3 deaths per 100,000 population.**
- The Pacific sub-region had the lowest regional rate of 8 deaths per 100,000 population and

¹² <https://sustainabledevelopment.un.org/sdg3>

shows no change between 2013 and 2016. There continues to be a **strong association between the risk of a road traffic death and the income level of countries.**

- Appendix 2b-**Figure 10** shows the number of road traffic deaths and the rates per 100,000 population of the reported countries in Asia-Pacific region in both 2013 and 2016, from which we can find the differences among countries. A large number of countries have seen success in reducing road traffic deaths over the last few years, but progress varies significantly among different countries. Based on the above, it is shown that **the road safety in the ESCAP region varies significantly among different subregions and the situation is improving in most of the subregions except South and South-West Asia sub-region.**

Rates of road traffic death per 100,000 vehicles

- The road traffic death rates per 100,000 vehicles shows the situation from another dimension (Appendix 2b-**Figure 11**). The road traffic deaths for number of registered vehicles in the ESCAP region are greater than the global average (77.21 regionally vs 63.82 globally per 100,000 registered vehicles).
- Countries in Asia-Pacific region except the Pacific sub-region showed increase in the rate of road traffic death per 100,000 vehicles from 2013 to 2016. The rate of road traffic death was at least two times higher in South and South-West Asia sub-region countries than in other sub-region countries. Although the rate of road traffic death in Pacific sub-region was lowest, it has increased rapidly from 2013 to 2016.
- While the global number of vehicles is steadily rising, rates of road traffic death per 100,000 vehicles reduced from 135 in 2000 to 64 in 2016, which could be caused by a number of factors: 1) One suggests that some progress in mitigating the adverse effects of the increasing trend of the number of motorized vehicles could be achieved. Another potential explanation is the inconsistency of vehicle registration among countries in the region. More analysis is required to establish the impact of motorization on road safety in this region.

Road traffic deaths of Vulnerable Road Users

Vulnerable Road Users¹³ (VRU) are defined as non-motorized road users, which include pedestrians, cyclists, riders of motorized two- and three-wheelers. VRUs are at more risk in traffic and have less protection than car occupants.

- As shown in Appendix 2b-**Figure 12** and **Figure 13**, in 2016, **pedestrians, cyclists and motorized two- and three-wheelers represented more than half of all global and Asia-Pacific region deaths.**
- Significant number of deaths were among riders of motorized two- and three-wheelers who represented 29 per cent and 39 per cent of all deaths globally and regionally. The deaths of riders of motorized two- and three-wheelers in ESCAP sub-regions ranges from 5 per cent to 62 per cent. **In both South and South-West Asia region and South-East Asia region, most deaths were among riders of motorized two- and three-wheelers**

¹³ Global status report on road safety 2018. Geneva: World Health Organization; 2018. Licence: CC BY-NC-SA 3.0 IGO.

who represented 38 per cent and 62 per cent of all deaths respectively.

- Globally, pedestrians represent 20 per cent of all deaths. Pedestrians make up 13 per cent of all death in Asia-Pacific region. For ESCAP sub-regions, the deaths of pedestrian ranges from 11 per cent to 37 per cent. **East and North-East Asia subregion had the highest proportion of pedestrians road traffic death of 37 per cent.**
- The deaths of cyclist in the worldwide and Asia-Pacific region were relatively low, accounting for about 3 per cent and 2 per cent of all deaths respectively. The deaths of cyclist in ESCAP sub-region ranges from 1 per cent to 10 per cent. **East and North-East Asia subregion had the highest proportion of cyclists road traffic death of 10 per cent.**

2.2 Quality of road crash data

An important parameter in road safety management is the collection and use of accurate data related to road crashes and their severity levels. However, data on road traffic crashes are not robust in many ESCAP member countries. As per the Global Status Report on Road Safety 2018 published by the World Health Organization, **in 2016, 44 ESCAP member and associate member countries reported of 372,395 road traffic deaths, which was only 45.8 per cent of the total road traffic deaths figure estimated by the World Health Organization for those countries.** This resulted in a much lower reported rate of road traffic death of 8.65 per 100,000 population, in comparison to the estimated rate of more than 18 road traffic deaths per 100,000 population for the region.

The interpretation of the data is a pre-requisite for accurate diagnostics of the road safety issues. Moreover, the data is a basic input for evidence-based policy making. However, data constraints and inaccurate data reporting system prevent understanding of the real magnitude and issues of the road safety problem. In China, police-reported data and death registration data showed different trends in road traffic death rates during 2002-2007.¹⁴ In Kandy district of Sri Lanka, the extent of under reporting was as high as 56 per cent demonstrating that the real burden of road traffic crashes was underestimated.¹⁵ It is observed that the sources of accident data are biased, particularly in case of non-fatal crashes, as non-fatal cases are settled locally, either by paying some treatment cost or through mutual settlements.¹⁶ Accident Research Institute (ARI) of Bangladesh University of Engineering and Technology (BUET) conducted a survey data on Dhaka-Aricha road to investigate the extent of underreporting. It was found that the extent of underreporting was as high as 60 per cent at some police stations.¹⁷

14 Bulletin of the World Health Organization. Available at: <http://www.who.int/bulletin/volumes/89/1/10-080317/en/>

15 Periyasami N, Lybnc CA, Dharmaratne SD, et al. (2013) Under reporting of road traffic injuries in the district of Kandy, Sri Lanka, BMJ Open 2013.

16 Bangladesh Rural Advancement Committee (BRAC). (2004). Promoting Road Safety through Community Education Programmes, Study Report: Betila (Bangladesh), BRAC Centre, 75 Mohakhali, Dhaka 1212, Bangladesh.

17 Ahsan, H. M., Raihan, M. A., Rahman, M. S., & Arefin, N. H. (2011). Reporting and recording of road traffic accidents in Bangladesh. Proceedings of 4th Annual Paper Meet and 1st Civil Engineering Congress, Dhaka, Bangladesh.

To address the problem of inconsistency and lack of accuracy of the road crash data in the Asia-Pacific region, establishment of a road safety observatory has been proposed by ADB, ESCAP ITF, FIA, and WB, in consultation with the WHO (provide reference to the two APRSO meeting minutes, ESCAP website). The proposed Asia-Pacific Road Safety Observatory (APRSO), which aims to become the regional forum on road safety data, policies and practices across Asia and the Pacific, will provide a platform for decision makers from countries in Asia and the Pacific to learn more on the importance of road crash data, but also to foster the development of a synergistic environment to empower countries to collect useful and timely information which would be useful for evidence-based policy making for improving road safety.

The proposed Asia-Pacific Road Safety Observatory (APRSO) would be for the countries of the ESCAP region to participate on a volunteer basis, and it would be a similar initiative to the Ibero American Road Safety Observatory (OISEVI) established since 2012, Africa Road Safety Observatory (ARSO) established since 2018 and the Middle East Road Safety Observatory which is under development since 2019.

Appendix 2b-**Figure 14** shows comparison of rates of road traffic deaths per 100,000 population between WHO estimated data and country reported data. Appendix 2b-**Figure 15** shows comparison of rates of road traffic deaths per 100,000 vehicles between WHO estimated data and country reported data.

3. National efforts on road safety

3.1 Road safety management

National funded agency and national strategies with long-term targets are essential for facilitating coordinated action for road safety. Road safety related issues involve a variety of sector and agencies¹⁸ (transport, legislation, police, urban planning, healthcare, etc.). The designation of lead agency aims at facilitating multi-sectoral collaboration and leading the national road safety plans. The functions of national agency include coordination, legislation, monitoring and evaluation. Sufficient funding promotes effective management and implement on road safety. The functions of monitoring and evaluation also lie in establishing data systems to measure and monitor road traffic deaths, injuries and crashes as well as process and outcome of road safety strategies. The United Nations General Assembly adopted a set of Sustainable Development Goals (SDGs) in 2015. The SDG target 3.6 is to halve the number of global deaths and injuries from road traffic crashes. The number of global road traffic deaths continues to rise steadily, it remains far from enough to achieve the target.

- In 2016, among the 44 participating countries in Asia-Pacific region, **most countries (41) reported having lead agency road safety and 36 countries were funded in national budget in 2016** (see Appendix 2c-**Figure 16**).
- **86 per cent of the member countries (38 countries) indicated that they had a national strategy for road safety of which 6 reported having strategies that were fully funded** (see Appendix 2c-**Figure 17**).
- 66 per cent of the member countries (29 countries) reported having a national target for road traffic deaths reduction (see Appendix 2c-**Figure 18**). Among those with road traffic death reduction target, Cook Islands and Kiribati both had target of zero crash-related deaths.
- 30 per cent of the member countries (13 countries) had reported targets of halving the number of road traffic deaths.
- Appendix 2e-**Table 4** shows the list of countries with good performance on road safety management.

3.2 Safer roads and mobility

Good road infrastructure is beneficial for saving lives and reducing deaths and injuries, especially Vulnerable Road Users (VRU). Inspection and star rating for both new road infrastructure and existing road are quite crucial to ensure a safe road environment. International Road Assessment Program (iRAP) proposed standards of star rating for pedestrians, cyclists, motorcyclists and vehicle occupants¹⁹. 5-star is the safest level. iRAP

¹⁸ Global Plan for the Decade of Action for Road Safety 2011-2020. Available at: https://www.who.int/roadsafety/decade_of_action/plan/en/

¹⁹ <http://www.irap.org/3-star-or-better/>

believes that improving the roads to a 3-star or better standard is essential to reduce road deaths and injuries. In urban areas, the large number of private cars on the roads has led to serious traffic jam and increased risk of road traffic injuries and crashes. Providing safe public transport helps to mitigate these problems and improve sustainable mobility. Most pedestrian collisions happen when pedestrians are crossing the road²⁰. Reducing speed limits in high volume pedestrian areas and school zones is also important for safe walking and safe cycling.

- In 2016, among the 44 participating countries in Asia-Pacific region, **66 per cent of the member countries (29 countries) reported carrying out road safety audits or star rating for new roads, while 75 per cent of the member countries (33 countries) carried out inspection or star rating on existing roads** (see Appendix 2c-**Figure 19**).
- 80 per cent of 44 reported countries in Asia-Pacific region implemented improvement on high-risk roads.
- 82 per cent of 44 reported countries in Asia-Pacific region had investment and policy in urban public transport in 2016.
- **41 per cent of the member countries (18 countries) reported designing standards for the safety of pedestrians or cyclists in 2016** (see Appendix 2c-**Figure 20**). The standards include separating pedestrians and cyclists from motorized traffic through sidewalks, footpaths, crossings, overpasses, underpasses, etc.; provision of safe crossing for pedestrians and cyclists.
- Appendix 2e-**Table 5** shows the list of countries with good performance on safer roads and mobility.

Asian highway design standard for road safety²¹ was adopted by the 7th Meeting of the Working Group on the Asian Highway Network in December 2017. The Asian Highway classification and design standards as stipulated to the Intergovernmental Agreement on the Asian Highway Network provides the minimum standards and guidelines for construction, improvement and maintenance of Asian Highway routes by the member countries.

3.3 Safer vehicles

It is important to ensure that the design of vehicles meet safety standards. Vehicles reached standards contribute to the avoidance of road traffic crashes and to a reduction in the likelihood of serious injury in the event of a crash. 8 vehicle safety standards are recommended by Global NCAP (New Car Assessment Programs)²². The priority UN vehicle safety standards include Frontal impact protection, Side impact protection, Electronic stability control, Pedestrian front protection, Seatbelts, Seat-belt anchorages, Child seats, Motorcycle anti-lock braking system (ABS). In 2016, **less than 23 per cent of countries reported applying UN vehicle safety standards in Asia-Pacific region** (Appendix 2c-**Figure 21**). Appendix 2e-**Table 6** shows the list of countries with good performance on safer vehicles.

²⁰ Global status report on road safety 2018. Geneva: World Health Organization; 2018. Licence: CC BYNC-SA 3.0 IGO.

²¹ The detailed “Design Guideline” is available from www.unescap.org/resources/road-safety-infrastructure-its.

²² Global status report on road safety 2018. Geneva: World Health Organization; 2018. Licence: CC BYNC-SA 3.0 IGO.

3.4 Post-crash care

Once the road traffic crash does happen, the top priority would be timely and effective post-crash response. A small delay may make a huge difference to human life. Well-developed emergency care systems are essential to save lives and reduce disability and death²³. Universal emergency care access numbers should be free of charge and ensure everyone know the emergency care access number by memory. Sufferers and bystanders could take quick action to activate the emergency care system at the scene when a crash does occur. Apart from effective access call number, prehospital care also includes coordinated dispatch of ambulances and trained providers²⁴. Conducting national assessment of the emergency care system provides data and information which helps to guide and improve post-crash care. Trauma registries are databases that collect information on patients who have been treated in a hospital for injuries caused by trauma. It can be used to improve the efficiency and quality of trauma care.

- In 2016, **61 per cent of the member countries (27 countries) had reported single telephone number of emergency care access with full national coverage** (see Appendix 2c-[Figure 22](#)).
- 14 per cent of the member countries (6 countries) had reported a formal process to train and certify prehospital providers in 2016.
- 55 per cent of the member countries (24 countries) reported conducting assessment of emergency care systems in 2016.
- **Less than 50 per cent of countries had reported national or subnational trauma registries** (see Appendix 2c-[Figure 23](#)).
- Appendix 2e-[Table 7](#) shows the list of countries with good performance on post-crash care.

²³ Save LIVES - A road safety technical package. Geneva: World Health Organization; 2017. Licence: CC BY-NC-SA 3.0 IGO

²⁴ Supporting those affected by road traffic crashes. Geneva, World Health Organization, 2016.

4. National efforts on safer road users

Enacting and enforcing legislation on key risk factors of road safety are essential to prevent road traffic injuries and deaths. Key risk factors include speeding, drink-driving, use of motorcycle helmets, use of seatbelts, use of child restraints, mobile phone use while driving and drug-driving²⁵. They all have great impacts on the severity of the consequences of a crash. Although, most of countries in Asia-Pacific region enacted legislation on key risk factors of road safety. Enforcement is still a challenge. Enforcement can be rated as “Good” if it is 8 or above on a scale of zero to ten²⁶.

- In 2016, 98 per cent of the member countries (43 countries) had reported law on speed limit, drink-driving and motorcycle helmet use, representing 99 per cent of total population in ESCAP region. 70 per cent-90 per cent of countries had reported law on seat belt, mobile phone use and drug-driving (Appendix 2d-[Figure 24](#)). **But only 23 per cent of the member countries (10 countries) reported had law on child restraint, representing 10 per cent of total population in ESCAP region.** Appendix 2d-[Figure 25](#) shows population covered by laws on 7 risk factors in Asia-Pacific region.
- As shown in Appendix 2d-[Figure 26](#), 32 per cent of the member countries (14 countries) rated enforcement of speed limit above 8 on a scale of 0 to 10 in 2016. 34 per cent of the member countries (15 countries) rated enforcement of drink-driving as “Good” enforcement. 41 per cent of the member countries (18 countries) rated enforcement of motorcycle helmet above 8 on a scale of 0 to 10. Enforcement of seat-belt law was weak in many countries. Only 21 per cent of the member countries (10 countries) rated enforcement of drink-driving as “Good” enforcement. **Enforcement of road safety related laws were still limited in most countries.**
- Appendix 2e-[Table 8](#) shows the list of countries with good performance on laws on 7 risk factors. Appendix 2e-[Table 9](#) shows the list of countries rated as “Good” performance on laws.

4.1 Speed limit law and enforcement

Speed is a key risk factor in road traffic crashes. Vehicle travels in high speed will increase the risk of crash and severity of injures. Vulnerable road users such as pedestrians, cyclists, moped riders and motorcyclists are particularly at high risk of severe or fatal injury when motor vehicles collide with them because of their lack of protection. **Most vulnerable road users have an 80 per cent likelihood of being killed at an impact speed of 50 km/h, but this risk is reduced to 10 per cent at a 30 km/h impact speed.** In a modern car, a car occupant wearing a seat belt has an 80 per cent likelihood of being killed at an impact speed of 70 km/h in a side

²⁵ Global status report on road safety 2018. Geneva: World Health Organization; 2018. Licence: CC BYNC-SA 3.0 IGO.

²⁶ Global status report on road safety 2018. Geneva: World Health Organization; 2018. Licence: CC BYNC-SA 3.0 IGO.

impact crash, but this risk is reduced to 10 per cent at a 50 km/h impact speed. In addition, in a modern car a car occupant wearing a seat belt has an 80 per cent likelihood of being killed at an impact speed of 90 km/h in a frontal impact crash, but this risk is reduced to 10 per cent at a 70 km/h impact speed. That is, even small reductions in speed result in substantial safety benefits to all road users with the greatest gains made for vulnerable road users (see Appendix 2d-[Figure 27](#))²⁷. Research indicated that urban speed limits not exceeding 50km/h are recommended for urban areas²⁸. Appendix 2d-[Figure 28](#) shows the proportion of countries with different urban speed limit ranges in 2016. Over 50 per cent of the countries have urban speed limits higher than 50 kilometer per hour.

But at subnational level, it is better to set different speed limits according to situation of certain areas or roads. Provincial or local authority should be provided with power to modify speed limits in different contexts, such as winding roads, residential areas and school zones with high volume of pedestrians, cyclists and other vulnerable road users.

Approaches of enforcement of speed law include manual and automated enforcement²⁹ (such as fixed and mobile camera devices). Automated enforcement is more cost-effective than manual method, which can detect and capture vehicles traveling at high speeds. Automated enforcement saves additional manpower and resources and helps to reduce excessive speeding and improve safety for all road users. In addition, speed limit could be enforced with specific financial penalty based on degree of severity.

- In 2016, **43 per cent of the member countries (19 countries) had reported urban speed limits of 50km/h or below**. More than half (57 per cent) of countries reported setting urban speed limits exceeding 50km/h or had no data available.
- But only 34 per cent of the member countries (15 countries) reported allowing local authorities to modify speed limits where necessary in 2016.
- Only 32 per cent of the member countries (14 countries) rated the enforcement of national speed limits at more than 8 (Good enforcement) on a scale of 0 to 10.
- But Appendix 2d-[Figure 29](#) suggests that manual speed enforcement remained the dominant method of enforcement in more than half (52 per cent) of all countries in 2016. **Only 18 per cent of the member countries (8 countries) employed automated enforcement.**
- Appendix 2e-[Table 10](#) shows the list of countries with good performance on speed limit law and enforcement.

A study³⁰ conducted by ESCAP on “” as one of the main causes for road crashes indicated that ESCAP member States could implement numerous highly effective speed management interventions. Speed management measures should be consistent with the global “Safe System”

²⁷ World Health Organisation (2004), *World report on Road Traffic Injury Prevention*, WHO, Geneva.

²⁸ Global status report on road safety 2018. Geneva: World Health Organization; 2018. Licence: CC BYNC-SA 3.0 IGO.

²⁹ Global status report on road safety 2018. Geneva: World Health Organization; 2018. Licence: CC BYNC-SA 3.0 IGO.

³⁰ ESCAP (2019), *Strategies to Tackle the Speed Issue for Road Safety in the Asia-Pacific Region: Implementation Framework*, Bangkok.

approach to road safety: road designers, builders and managers must take into account the known limits of the human body and must strive to reduce speeds with a view to creating road transport systems in which humans, are never exposed to crash forces beyond those which they can survive. That is, human life must lie at the heart of all speed management initiatives.

4.2 Drink-driving law and enforcement

Alcohol is a major risk factor for all types of fatal road traffic injury. Road users involving alcohol impacts driving performance and increases reaction time. Appendix 2d-**Figure 30** and Table 3 show the proportion of road traffic deaths involving alcohol. The proportion of deaths related to alcohol of reported countries varies from countries, ranging from 0.1 per cent to 100 per cent.

The risk of involvement in a crash increase as blood alcohol concentration (BAC) increase. The amount of alcohol within the bloodstream is described in terms of BAC³¹. **The BAC limit not exceeding 0.05g/dl are recommended for the general population³². Young drivers have more risk of a fatal crash compared with general and experienced drivers. The BAC limit not exceeding 0.02g/dl are recommended for young and novice drivers³³.** BAC can be measured through breath testing with a machine referred to as a breathalyzer.

- In 2016, **50 per cent of the member countries (22 countries) had reported drink-driving law that set a BAC limit of less than or equal to 0.05g/dl for the general population.**
- While, **only 16 per cent of the member countries (7 countries) reported setting a BAC limit of less than or equal to 0.02g/dl for young and novice drivers.**
- 82 per cent of the member countries (36 countries) carried out random breath testing, and 75 per cent of the member countries (33 countries) employed breath testing in case of fatal crash in 2016.
- Appendix 2-**Table 11** shows the list of countries with good performance on drink-driving law and enforcement.

A study³⁴ conducted by ESCAP on “drink-driving” as one of the main causes for road crashes indicated that substantial proportion of road traffic deaths in ESCAP member countries are pedestrians, bicyclists, and motor-bike riders, however, it is unknown what percent of those road traffic deaths could be attributed to alcohol. **Countermeasures for alcohol- impaired drivers are evident but countermeasures for these vulnerable at-risk populations are underdeveloped and need to be addressed.** The study concluded that several ESCAP member

³¹ Drinking and Driving: a road safety manual for decision-makers and practitioners. Geneva, Global Road Safety Partnership, 2007.

³² Global status report on road safety 2018. Geneva: World Health Organization; 2018. Licence: CC BYNC-SA 3.0 IGO.

³³ Global status report on road safety 2018. Geneva: World Health Organization; 2018. Licence: CC BYNC-SA 3.0 IGO.

³⁴ ESCAP (2019), Strategies to Tackle the Impaired Driving for Road Safety in the Asia-Pacific Region: Implementation Framework, Bangkok.

countries could make progress in reducing drink-driving related road traffic deaths, however, more work needs to be accomplished to make a significant impact. A general deterrent effect (i.e., all drivers want to avoid drink-driving) gives the “biggest bang for the buck” in countermeasures and is cost effective. **That strategy involves laws, enforcement, reasonable sanctions, publicity as well as institutional development.** The study also concluded that ESCAP member countries would need to implement a combination of strategies to reduce drink-driving related crashes in the region.

4.3 Motorcycle helmet law and enforcement

The number of both two- and three- wheelers motorcycles increased rapidly in many low-income and middle-income countries. But they are more vulnerable because they are less visible in traffic flow and lack of physical protection. The road crash deaths of riders of motorized two- and three-wheelers are higher than other vulnerable road users, representing 29 per cent and 39 per cent of all deaths globally and regionally. Injuries to the head and brain are the main cause of death, that is why helmet is important to motorcycle drivers. Impact-absorbing liner and comfort padding inside play important roles in reducing injuries and protecting skull and brain. Research indicated that white and lighter-colored helmets are more helpful to prevent motorcycle crashes³⁵. Correct helmet use can lead to a 42 per cent reduction in the risk of fatal injuries and a 69 per cent reduction in the risk of head injuries³⁶.

- Most (95 per cent) of countries reported applying motorcycle helmet law to all riders, both drivers and passengers in 2016.
- **52 per cent of the member countries (23 countries) reported requiring helmet to be fastened. 59 per cent of countries (26 countries) referred to and specify a standard for helmet in law.**
- **34 per cent of the member countries (15 countries) had reported restriction on children passengers on motorcycles** (see Appendix 2d-**Figure 31**). They set a minimum age for children riding a motorcycle.
- Appendix 2e-**Table 12** shows the list of countries with good performance on motorcycle helmet law and enforcement.

4.4 Seat-belt law and enforcement

The use of seatbelts could prevent many deaths and serious injuries in a motor vehicle crash. The seatbelts don't prevent crashes from occurring, but it is effective to reduce the severity of injury to vehicle occupants and increase the chance of survival³⁷. **Wearing a seatbelt reduces the risk of death among drivers and front seat occupants by 45 per cent-50 per cent, and**

³⁵ Helmets: a road safety manual for decision-makers and practitioners. Geneva, World Health Organization, 2006.

³⁶ Global status report on road safety 2018. Geneva: World Health Organization; 2018. Licence: CC BYNC-SA 3.0 IGO.

³⁷ Seat-belts and child restraints: a road safety manual for decision-makers and practitioners London, FIA Foundation for the Automobile and Society, 2009

the risk of death and serious injuries among rear seat occupants by 25 per cent³⁸.

- In 2016, 80 per cent of countries in Asia-Pacific region had laws on seat-belts applied to drivers, **the proportion of countries reported applying seat-belt law to front seat passengers and rear seat passengers are 75 and 50 per cents**, respectively (see Appendix 2d-**Figure 32**).
- Globally, the proportion of countries reported applying seat-belt law to drivers, front seat passengers and rear seat passengers are higher than in ESCAP region, representing 90 per cent, 87 per cent and 62 per cent, respectively.
- In comparison, 100 per cent of European Union (EU) countries had reported laws on seatbelt applied to both drivers, front and rear seat passengers. All EU countries are developed countries, including Austria, Belgium, Bulgaria, Croatia, Republic of Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the UK.
- Enforcement of seat-belt law is weak in many countries. **Only 10 countries reported rating enforcement of seat-belt laws above 8 on a scale of 0 to 10 in 2016.**
- Appendix 2e-**Table 13** shows the list of countries with good performance on seat-belt law and enforcement.

4.5 Child restraints law and enforcement

Child restraints have the same functions and effects as seatbelts, including child seats for infants and booster seats for older kids. Child restraints are designed for reducing the severity of injury to children occupants if crash occurs³⁹. The use of child restraint can lead to at least a 60 per cent reduction in deaths. The child restraint should be used by the parents for their children. Additionally, no child should be allowed to seat on the front seat of a car. In addition, parents need to choose the right child restraint which is suitable for child's size. That is why the implementation of child restraints law are weak and challenging.

- **Only 10 countries of all 44 participating countries had reported law on child restraint and 4 countries reported usage rates of child restraint.**
- As shown in Appendix 2d-**Figure 33**, 48 per cent of the member countries (21 countries) had reported restriction on children seated in front seat, of which 15 countries allowed child in child restraint of front seat and 6 countries prohibited based on child's age.
- Half of countries having child restraint law set a minimum age for children seating in vehicle. 14 per cent of the member countries (6 countries) referred to and specify child restraint standard in law.
- Appendix 2e-**Table 14** shows the list of countries with good performance on child restraints law and enforcement.

³⁸ Global status report on road safety 2018. Geneva: World Health Organization; 2018. Licence: CC BYNC-SA 3.0 IGO.

³⁹ Seat-belts and child restraints: a road safety manual for decision-makers and practitioners London, FIA Foundation for the Automobile and Society, 2009

4.6 Distracted driving law and enforcement

Driver distraction can result from a series of sources, including talking, eating and drinking, grooming, using a cell phone or smartphone, adjusting radio or player, etc.⁴⁰. Drivers holding their phone to ear and having a conversation have impact on driving performance and potential effect on global road safety. Nowadays, it is common that drivers checking social media or texting messages while stopped at the lights or in traffic, using their hand-held devices (mobile and smart phones, MP3 players, etc.). Wireless Bluetooth devices allowed people using phone without the use of hands. Even drivers use devices which is fully hands-free, they still will be distracted by using a mobile phone while driving. Distracted driving affects and delays drivers' response and reaction time.

Data on using mobile phone while driving remained limited in many countries in 2016.

- 77 per cent of the member countries (34 countries) had reported laws on mobile phone use while driving (see Appendix 2d-**Figure 34**).
- **73 per cent of the member countries (32 countries) had reported ban on hand-held mobile use while driving.**
- **16 per cent of the member countries (7 countries) had reported ban on hand-free mobile use while driving.**
- Appendix 2e-**Table 15** shows the list of countries with good performance on mobile phone law and enforcement.

Apart from distracted sources mentioned above, drug-driving is also a factor of distracted driving. Psychoactive drugs affect the functioning of the brain. It may delay driver's reaction time and information processing, impact motor performance and attention⁴¹. Most (89 per cent) of countries had law on drug-driving.

⁴⁰ Mobile phone use: a growing problem of driver distraction. Geneva, Switzerland, World Health Organization, 2011 (http://www.who.int/violence_injury_prevention/publications/road_traffic/en/index.html).

⁴¹ Drug use and road safety: a policy brief. Geneva, Switzerland, World Health Organization, 2016.

5. Key findings

Based on the above analyses as indicated in Sections 1-4, the following key findings could be noted:

Road safety problem in the ESCAP region

More than 60 per cent of the global road crash deaths occurs in the region. Road crash deaths increased by 10 per cent between 2013 and 2016 in the ESCAP region. The ESCAP region had the same road crash death rate as the global average of 18 deaths per 100,000 inhabitants in 2016. However, analyses have shown that if ESCAP countries continue to increase at the rate of 2016, no reduction in road crash deaths in non-ESCAP countries could help in achieving the desired global reduction.

The road safety situation in the South and South-West Asia subregion of ESCAP region was the worst accounting for nearly one-third of the regional road deaths. Progress in reducing road traffic deaths in 2016 is not uniform among the different income-groups of countries in the region. In the ESCAP region, Lower-middle income countries accounted for about 55 per cent of road deaths and upper-middle income countries accounted for about 42 per cent of the road deaths in 2016.

Vulnerable road-users which include pedestrians, cyclists, riders of motorized two- and three-wheelers represented more than half of all Asia-Pacific region road crash deaths.

Quality of Road Safety data

Data on road safety are not robust in many ESCAP member countries. For the Global Status Report on Road Safety 2018, 44 ESCAP members and associate members reported 372,395 road deaths in 2016 which was only 45.8 per cent of the total number estimated by the World Health Organization.

Road safety targets

Thirteen of the ESCAP member countries adopted a road safety target which was in line with the Decade of Action for Road Safety and the Target 3.6 of the Sustainable Development Goals. Two countries, namely, Cook Islands and Kiribati had targets of zero crash-related deaths in their respective countries.

Road safety management

Ninety-three per cent of the ESCAP member countries (41 countries) had a designated lead agency for road safety and among those countries, 36 countries were funded partially or fully through the respective national budgets. Out of the 38 countries that reported that they had national strategies for improving road safety, only six countries received full support of funding for implementation of the strategies.

Safer roads and mobility

Only 66 per cent of the member countries (29 countries) conducted road safety audits or star rating for new roads, and 75 per cent of the countries (33 countries) carried out inspection or star rating on existing roads.

Safer vehicle

In the ESCAP region, less than 23 per cent of countries (10 countries) reported applying UN vehicle safety standards.

Post-crash care

As 40 per cent of the member countries (17 countries) did not have a single telephone number of emergency care access with full national coverage. Only six countries had a formal process to train and certify pre-hospital providers in 2016. Moreover, less than 50 per cent of the member countries (21 countries) had national or subnational trauma registry databases.

Legislation and enforcements

In 2016, 98 per cent of the member countries (43 countries) had reported having laws on speed limit, drink-driving and motorcycle helmet use, representing 99 per cent of total population in the ESCAP region. In between 70-90 per cent of the member countries had reported having laws on seat belt, mobile phone use and drug-driving. But only 23 per cent of the member countries (10 countries) reported to having laws on child restraint, representing 10 per cent of total population in the ESCAP region. Enforcements of laws were perceived to be weak in many countries.

In 2016, 43 per cent of the member countries (19 countries) had reported urban speed limits of 50km/h or below. Only 34 per cent of the member countries (15 countries) reported allowing local authorities to modify speed limits where necessary in 2016. Manual speed enforcement remained the dominant method of enforcement in more than half (52 per cent) of all countries in 2016. Only 18 per cent of the member countries (8 countries) deployed automated enforcement.

Most of the ESCAP member countries adopted a drink-driving law in their country. However, only 50 per cent of the member countries (22 countries) had a drink-driving law with a set BAC limit of less than or equal to 0.05g/dl which is the internationally adopted limit for the general population. Only 16 per cent of the member countries (7 countries) set a lower BAC limit for young and novice drivers. The enforcement of the drink-driving law was also lacking as only 33 of the 44 countries employed breath testing in case of fatal crash in 2016. No drug-driving law existed 11 per cent of the member countries (25 countries).

While most of the (95 per cent, 41 countries) ESCAP member countries applied motorcycle helmet law to both drivers and passengers, notably, half of those countries did not require the helmet to be fastened while worn by a driver or passenger, which is an internationally recognized component of a helmet law. Only 34 per cent of the member countries (fifteen countries) required child passengers to wear helmets on motorcycles.

In 2016, still 25 per cent of the reporting member countries (11 countries) did not have a seat-belt law for front-seat passengers. Moreover, 50 per cent of the member countries reported that they did not apply a seat-belt law for rear-seat passengers as well as did not have restriction on children seated in front- seat.

6. Recommendations

To improve road safety in the ESCAP region, the following recommendations are made:

Road Safety Data

As the inaccurate road safety data (road crash data and performance related data) reporting system constraints the understanding of the real magnitude and issues of the road safety problem in the region, it is important to improve the data collection, preservation, analysis and the reporting system in the member countries. As discussed in Section 2.2, in the Asia-Pacific region, establishment of a road safety observatory by the member countries would be highly beneficial and strongly recommended (Section 1).

Vulnerable Road User Safety

ESCAP member countries are recommended to prioritize the improvement of vulnerable road user safety in their respective countries (Section 2).

Road safety targets

ESCAP member countries that have not adopted a road safety target which is in line with the regionally and globally adopted road safety targets, are recommended to adopt an appropriate road safety target for the next decade. The UN Decade of Action for Road Safety (2011-2020) as well as the SDG target 3.6 specified reduction of road crash deaths by 50 per cent in the member countries by 2020. In addition to the above, the World Health Organization (WHO) in collaboration with other United Nations Agencies and Regional Commissions developed the global performance targets on key risk factors and service delivery mechanisms to reduce road traffic fatalities and injuries, aligned to the UN Sustainable Development Goals for 2030. In November 2017, a comprehensive set of Global Road Safety Performance Targets (12-targets) was put forward aiming to guide global road safety policy and related activities up to 2030. Member countries are recommended to consider using those targets for their national road safety performance monitoring (Section 2).

Road safety management

The Global Framework Plan of Action for Road Safety 2018 was adopted by the international community as the way to effectively and efficiently support national efforts for road safety and guide international assistance underpinned by the United Nations Road Safety Trust Fund. Member countries are recommended to follow the Plan of Action while designing their national road safety programme.

It is recommended that member countries would consider allocating adequate budget for road safety interventions to implement their road safety strategies, such as integrating road safety considerations as part of all infrastructure development approval process (Section 3.1).

Safer roads and mobility

The road safety audit and star rating of roads is widely accepted as an effective tool for improving the performance of road infrastructure safety, it is recommended that all ESCAP member countries would conduct road safety audits and inspections of both new roads and existing roads. The cost of road safety audits could be accounted by the economic impact of road crashes (Section 3.2).

Safer vehicle

As the vehicle standards vary among ESCAP member countries. It is recommended that member countries would consider adopting and applying the 8 priority UN vehicle safety standards through integrating with their national vehicle safety standards (Section 3.3).

Post-crash care

It is recommended that the ESCAP member countries would take national initiatives to improve their post-crash response and care facilities such as providing national single telephone number of emergency care and improving pre-hospital and trauma care services (Section 3.4).

Legislation and enforcement

The most cost-effective road safety intervention is to reduce speed, where appropriate, such as 30 km/hr in urban roads (Section 4.1).

It is important that an appropriate drink-driving law and drug-driving law are enacted in the countries where those have not been done yet, and stronger enforcement systems are in place for reducing drink-driving and drug-driving related road crashes. The drink-driving law must include an appropriate maximum blood alcohol level for different age of the driver groups as per the risks involved for them. The drug-driving laws must address the local conditions and needs (Section 4.2).

It is recommended that member countries that do not have an appropriate helmet law would develop and enact an appropriate helmet law as well as enforce the law effectively for improving motorized 2-wheeler safety (Section 4.3).

ESCAP member countries are recommended to work on developing, enacting and enforcing seat-belt laws and child-restraint laws to reduce the severity level of road crashes (Section 4.4, Section 4.5).

Financing for Road safety Initiative

An important milestone achieved by the international community was the establishment of a United Nations Road Safety Fund (UNRSF) which was officially launched in April 2018. The UN Road Safety Fund is a multi-partner trust fund to facilitate concrete action toward

achievement of the road safety targets of the Sustainable Development Goals. The Fund's goal is to leverage the collective knowledge and capability of its participating United Nations organizations to achieve global impact and long-term developmental change in a substantial reduction in road traffic injuries and deaths, and the economic loss arising therefrom. Following the establishment of the UNRSF, an early harvest project proposal of the United Nations ESCAP was approved in early 2019. The project entitled "Strengthening Speed Management in the Philippines" is currently being implemented by the United Nations ESCAP in partnership with the Global Road Safety Partnership (GRSP) and in cooperation with other entities. It is expected that the UNRSF will be a valuable source of funding for the Participating UN Organizations including ESCAP, towards improving road safety in the Asia-Pacific region.

The relevant agencies/entities are encouraged to develop national proposals that address the road safety issues in line with the Global Framework Plan of Action for Road Safety 2018. The potential applicants are encouraged to consult the United Nations Inter-agencies in their country. The UN inter-agencies could work together collectively to develop project proposals with holistic approaches as well as with local considerations. The ESCAP secretariat stands ready to provide road safety related technical supports to the applicants from its member countries.

Awareness on Road Safety Status in the ESCAP region

To support national policy makers to increase awareness of road safety in their respective countries, as a part of this report, two editable infographics (see Appendix 3) were prepared to provide easy-to-understand overview of road safety situation in the Asia-Pacific region. While the two infographics are created in English, the digital files are editable for other languages for easy of dissemination to a wider audience.

The infographics are also available for download at ESCAP website:

<https://www.unescap.org/announcement/road-safety-status-asia-pacific-region>

Appendices

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Appendix 2: Burden of Road Traffic Death Related Figures and Tables

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Appendix 1. ESCAP Member Countries with World Bank Grouping, ESCAP Subregion Members and Data Availability

Information about the ESCAP member countries a) Geographic location b) Country income status by the World Bank c) Availability of the data in the Global Status Report on Road Safety 2015 and 2018

Table 1. List of ESCAP member countries reported in WHO report and their designated ESCAP sub-regions and World Bank income category.

Country /Area	World Bank Grouping	ESCAP Sub-Region	Reported in 2015 (Data for 2013)	Reported in 2018 (Data for 2016)
Member States (53)				
Afghanistan	Low-Income	South and South-West Asia	✓	✓
Armenia	Upper-Middle-Income	North and Central Asia	✓	✓
Australia	High-Income	Pacific	✓	✓
Azerbaijan	Upper-Middle-Income	North and Central Asia	✓	✓
Bangladesh	Lower-Middle-Income	South and South-West Asia	✓	✓
Bhutan	Lower-Middle-Income	South and South-West Asia	✓	✓
Brunei Darussalam	High-Income	South-East Asia	-	-
Cambodia	Lower-Middle-Income	South-East Asia	✓	✓
China	Upper-Middle-Income	East and North-East Asia	✓	✓
Democratic People's Republic of Korea	Low-Income	East and North-East Asia	-	-
Fiji	Upper-Middle-Income	Pacific	✓	✓
France	High-Income	Out of Region	✓	✓
Georgia	Lower-Middle-Income	North and Central Asia	✓	✓
India	Lower-Middle-Income	South and South-West Asia	✓	✓
Indonesia	Lower-Middle-Income	South-East Asia	✓	✓
Iran (Islamic Republic of)	Upper-Middle-Income	South and South-West Asia	✓	✓
Japan	High-Income	East and North-East Asia	✓	✓
Kazakhstan	Upper-Middle-Income	North and Central Asia	✓	✓
Kiribati	Lower-Middle-Income	Pacific	✓	✓
Kyrgyzstan	Lower-Middle-Income	North and Central Asia	✓	✓
Lao People's Democratic Republic	Lower-Middle-Income	South-East Asia	✓	✓
Malaysia	Upper-Middle-Income	South-East Asia	✓	✓
Maldives	Upper-Middle-Income	South and South-West Asia	✓	✓

Country /Area	World Bank Grouping	ESCAP Sub-Region	Reported in 2015 (Data for 2013)	Reported in 2018 (Data for 2016)
Marshall Islands	Upper-Middle-Income	Pacific	✓	-
Micronesia (Federated States of)	Lower-Middle-Income	Pacific	✓	✓
Mongolia	Lower-Middle-Income	East and North-East Asia	✓	✓
Myanmar	Lower-Middle-Income	South-East Asia	✓	✓
Nauru	Upper-Middle-Income	Pacific	-	-
Nepal	Low-Income	South and South-West Asia	✓	✓
Netherlands	High-Income	Out of Region	✓	✓
New Zealand	High-Income	Pacific	✓	✓
Pakistan	Lower-Middle-Income	South and South-West Asia	✓	✓
Palau	Upper-Middle-Income	Pacific	✓	-
Papua New Guinea	Lower-Middle-Income	Pacific	✓	✓
Philippines	Lower-Middle-Income	South-East Asia	✓	✓
Republic of Korea	High-Income	East and North-East Asia	✓	✓
Russian Federation	Upper-Middle-Income	North and Central Asia	✓	✓
Samoa	Upper-Middle-Income	Pacific	✓	✓
Singapore	High-Income	South-East Asia	✓	✓
Solomon Islands	Lower-Middle-Income	Pacific	✓	✓
Sri Lanka	Lower-Middle-Income	South and South-West Asia	✓	✓
Tajikistan	Low-Income	North and Central Asia	✓	✓
Thailand	Upper-Middle-Income	South-East Asia	✓	✓
Timor-Leste	Lower-Middle-Income	South-East Asia	✓	✓
Tonga	Upper-Middle-Income	Pacific	✓	✓
Turkey	Upper-Middle-Income	South and South-West Asia	✓	✓
Turkmenistan	Upper-Middle-Income	North and Central Asia	✓	✓
United Kingdom of Great Britain and Northern Ireland	High-Income	Out of Region	✓	✓
United States of America	High-Income	Out of Region	✓	✓
Tuvalu	Upper-Middle-Income	Pacific	-	-
Uzbekistan	Lower-Middle-Income	North and Central Asia	✓	✓
Vanuatu	Lower-Middle-Income	Pacific	✓	✓
Viet Nam	Lower-Middle-Income	South-East Asia	✓	✓

Country /Area	World Bank Grouping	ESCAP Sub-Region	Reported in 2015 (Data for 2013)	Reported in 2018 (Data for 2016)
Associate Members (9)				
American Samoa	Upper-Middle-Income	Pacific	-	-
Cook Islands	Other	Pacific	✓	✓
French Polynesia	High-Income	Pacific	-	-
Guam	High-Income	Pacific	-	-
Hong Kong, China	High-Income	East and North-East Asia	-	-
Macao, China	High-Income	East and North-East Asia	-	-
New Caledonia	High-Income	Pacific	-	-
Niue	Other	Pacific	-	-
Northern Mariana Islands	High-Income	Pacific	-	-

✓: countries reported in WHO report

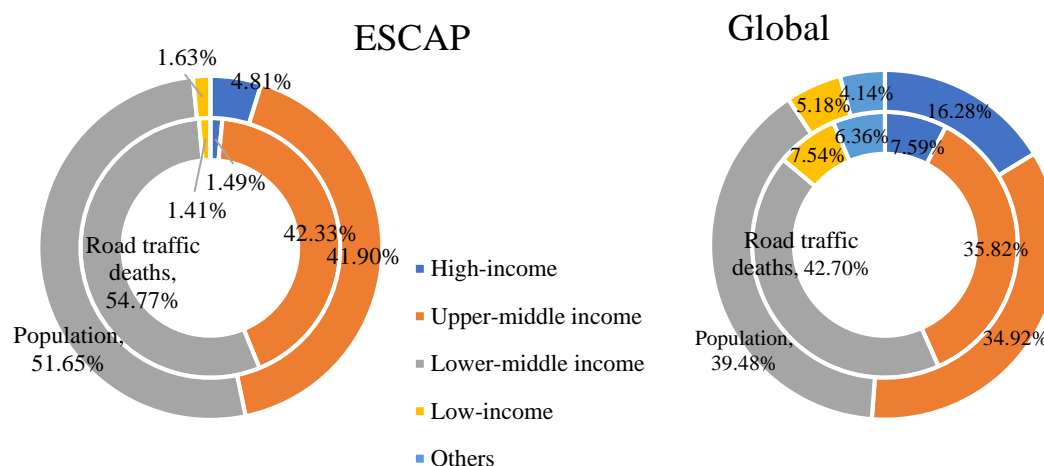
-: countries did not report in WHO report

Member countries out of Asia-Pacific region are not considered in this report.

Appendix 2. Burden of Road Traffic Deaths Related Figures and Tables

Appendix 2.a (Figures and tables in chapter 1)

Figure 1. Proportion of population and road traffic deaths by income category- global and ESCAP region, 2016



Source: Global status report on road safety 2018

Table 2. Scenarios on trends of global road traffic deaths

Scenarios	Options
1- ESCAP increases as usual (same rate of road traffic death increase between 2013 and 2016) (Figure 2)	a- Non-ESCAP countries have no change
	b- Non-ESCAP high-income countries decrease by 50 per cent and other Non-ESCAP countries increase as usual (rate of road traffic death increase between 2013 and 2016)
	c- Non-ESCAP high-income countries have 0 road traffic death by 2020 and other Non-ESCAP countries increase as usual (rate of road traffic death increase between 2013 and 2016)
2- Non-ESCAP high-income countries decrease by 50 per cent and other Non-ESCAP countries increase as usual (same rate of road traffic death increase between 2013 and 2016) (Figure 3)	a- ESCAP increase as usual (rate of road traffic death increase between 2013 and 2016)
	b- ESCAP have same road traffic deaths as 2016
	c- ESCAP reduce 50 per cent of road traffic deaths
3- Non-ESCAP high-income countries have 0 road traffic deaths by 2020 and other Non-ESCAP countries increase as usual (same rate of road traffic death increase between 2013 and 2016) (Figure 4)	a- ESCAP increase as usual (rate of road traffic deaths between 2013 and 2016)
	b- ESCAP have same road traffic deaths as 2016
	c- ESCAP reduce 50 per cent of road traffic deaths

Figure 2. Scenario 1: ESCAP region countries increase as usual and Non-ESCAP member countries considered- three different options

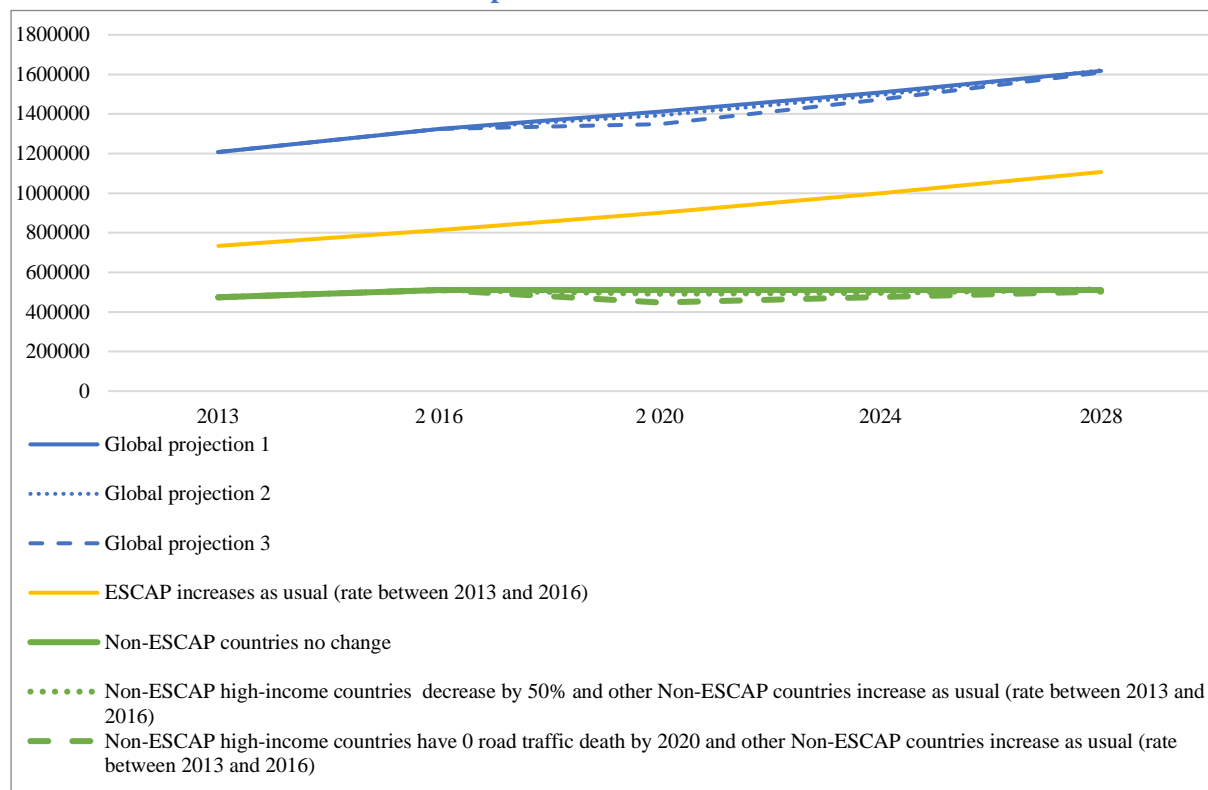


Figure 3. Scenario 2: ESCAP region countries change (three options), while the Non-ESCAP region high-income countries decrease by 50 per cent from the 2016 number and other Non-ESCAP countries increase as usual

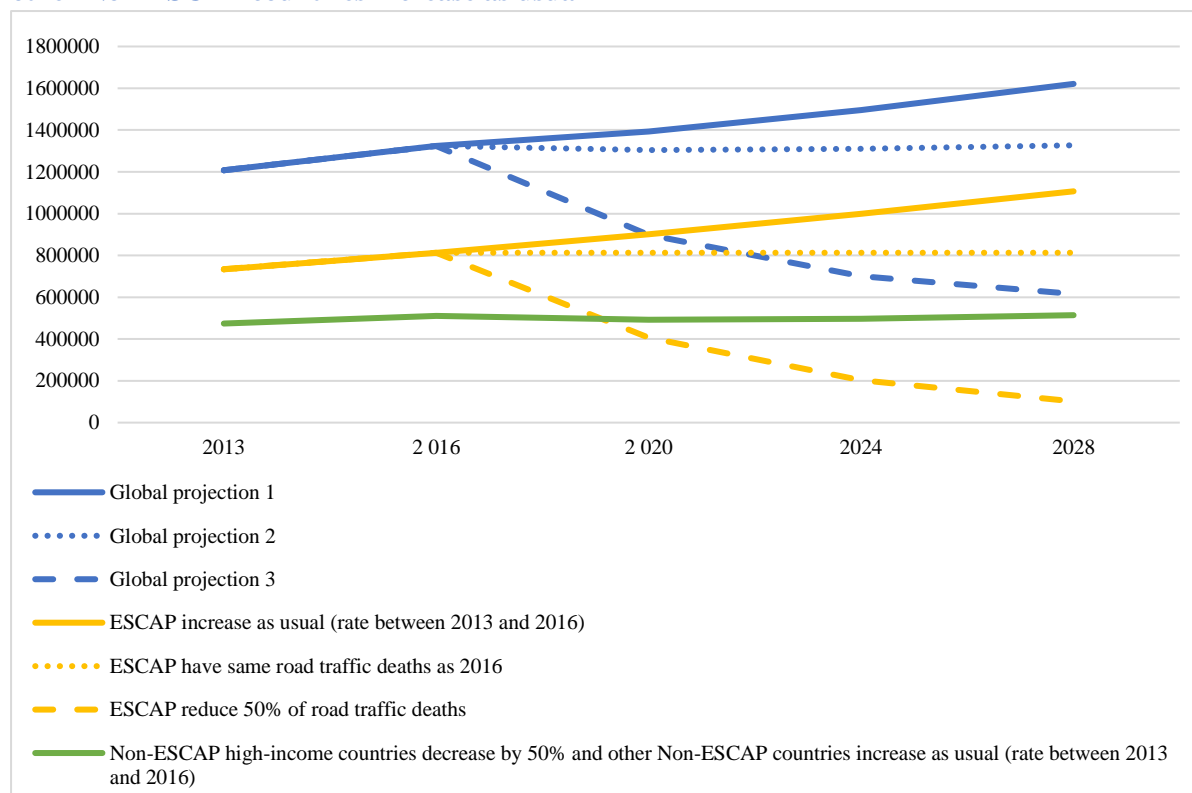


Figure 4. Scenario 3: ESCAP region countries change (three options) while the Non-

ESCAP high-income countries reduce to zero road traffic death by 2020 and other Non-ESCAP countries increase as usual

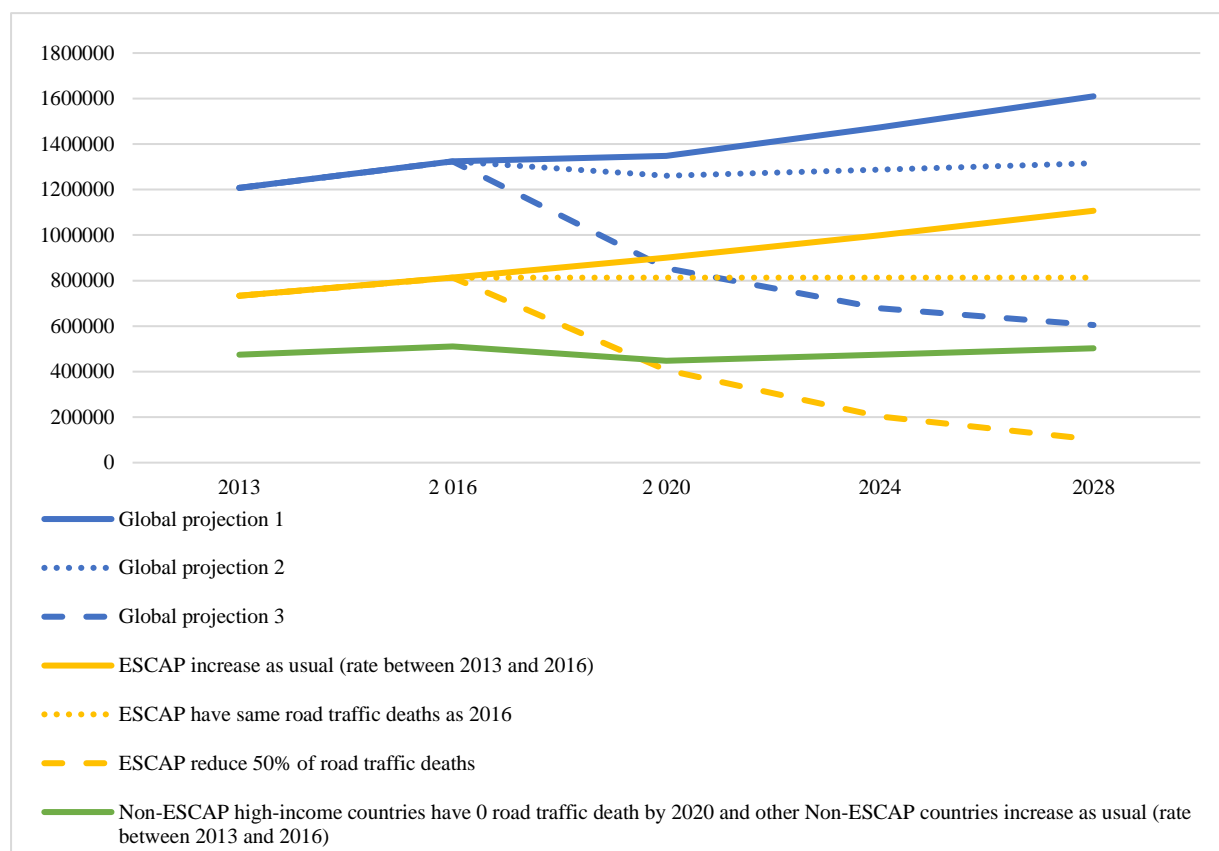


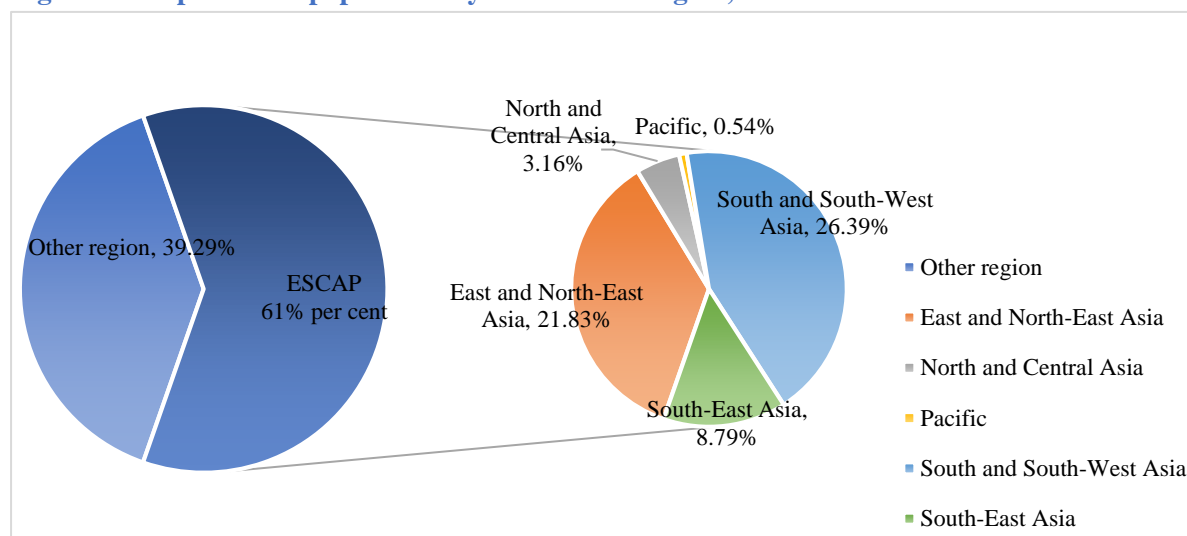
Figure 5. New Global Framework Plan of Action for Road Safety (2018)

Area Pillar	Legislation	Enforcement	Education	Technology	International Regulatory Support
Road safety management					
Safe user	Traffic rules Drivers Cyclists Pedestrians	Lawful behavior ensured by police and inspectors	Awareness raising, training and examination	Supportive technology and equipment, rules reminders	UN RS legal instruments and resolutions, WP.1, SC.1, WP.15
Safe vehicle	Rules and standards for admission of vehicles to traffic	Certification and inspections by qualified inspectors	Awareness raising for users, training for inspectors	Supportive technology and equipment, compliance reminders	UN RS legal instruments and resolutions, WP.1, WP.29
Safe road	Standards for design, construction, maintenance and signage	Audit, assessment and inspection by qualified teams	Awareness raising for road managers, users, and for inspectors	Forgiving and self-explaining road design, intelligent road systems	UN RS legal instruments and resolutions, int. standards WP.1, SC.1
Effective post- crash response	Standards for data collection post-crash response and investigation	Oversight of rescue services, investigators investigating crashes	First aid and rescue service training, investigators training	Supportive technology and equipment	Consolidated resolution, int. standards, WP.1, SC.1

Source: United Nations Road Safety Trust Fund, 2018

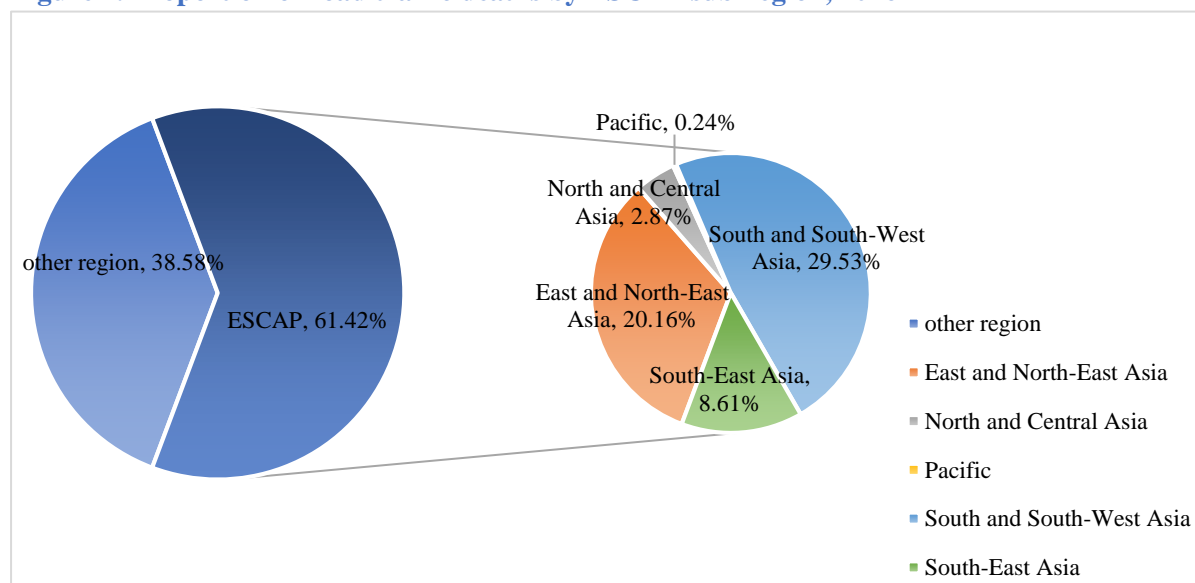
Appendix 2.b (Figures and tables in chapter 2)

Figure 6. Proportion of population by ESCAP sub-region, 2016



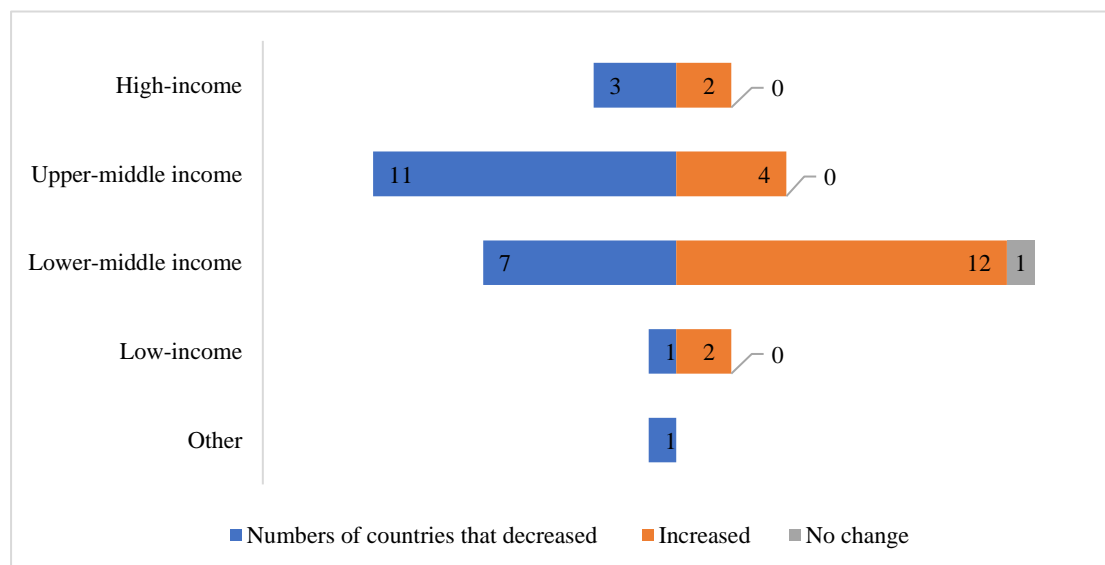
Source: Global status report on road safety 2018

Figure 7. Proportion of road traffic deaths by ESCAP sub-region, 2016



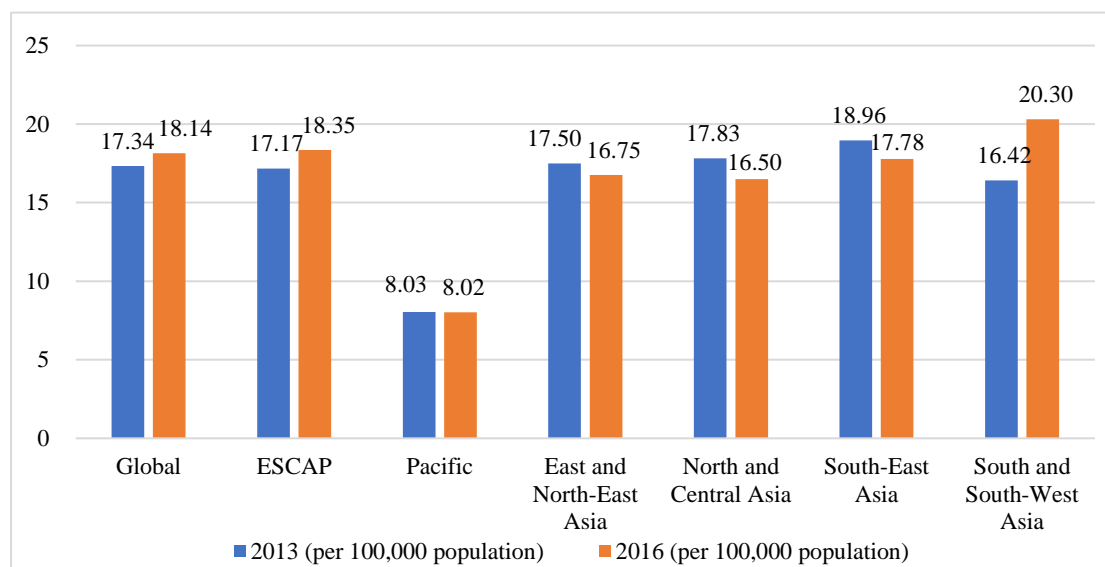
Source: Global status report on road safety 2018

Figure 8. Number of countries with change in road traffic death by country income category in Asia-Pacific region, from 2013 to 2016



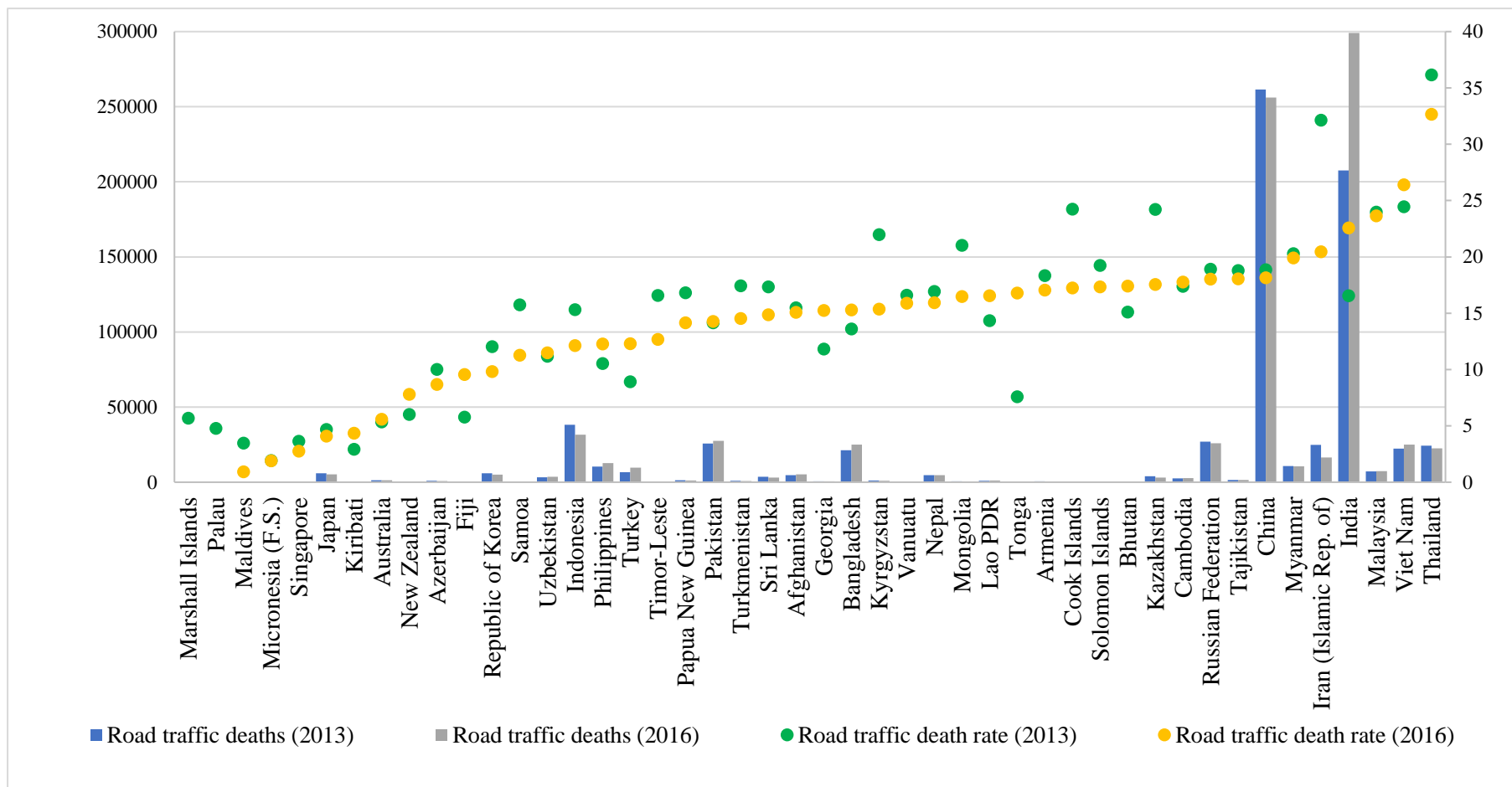
Source: Global status report on road safety 2015; Global status report on road safety 2018

Figure 9. Rates of road traffic death per 100,000 population by ESCAP sub-region, 2013 and 2016



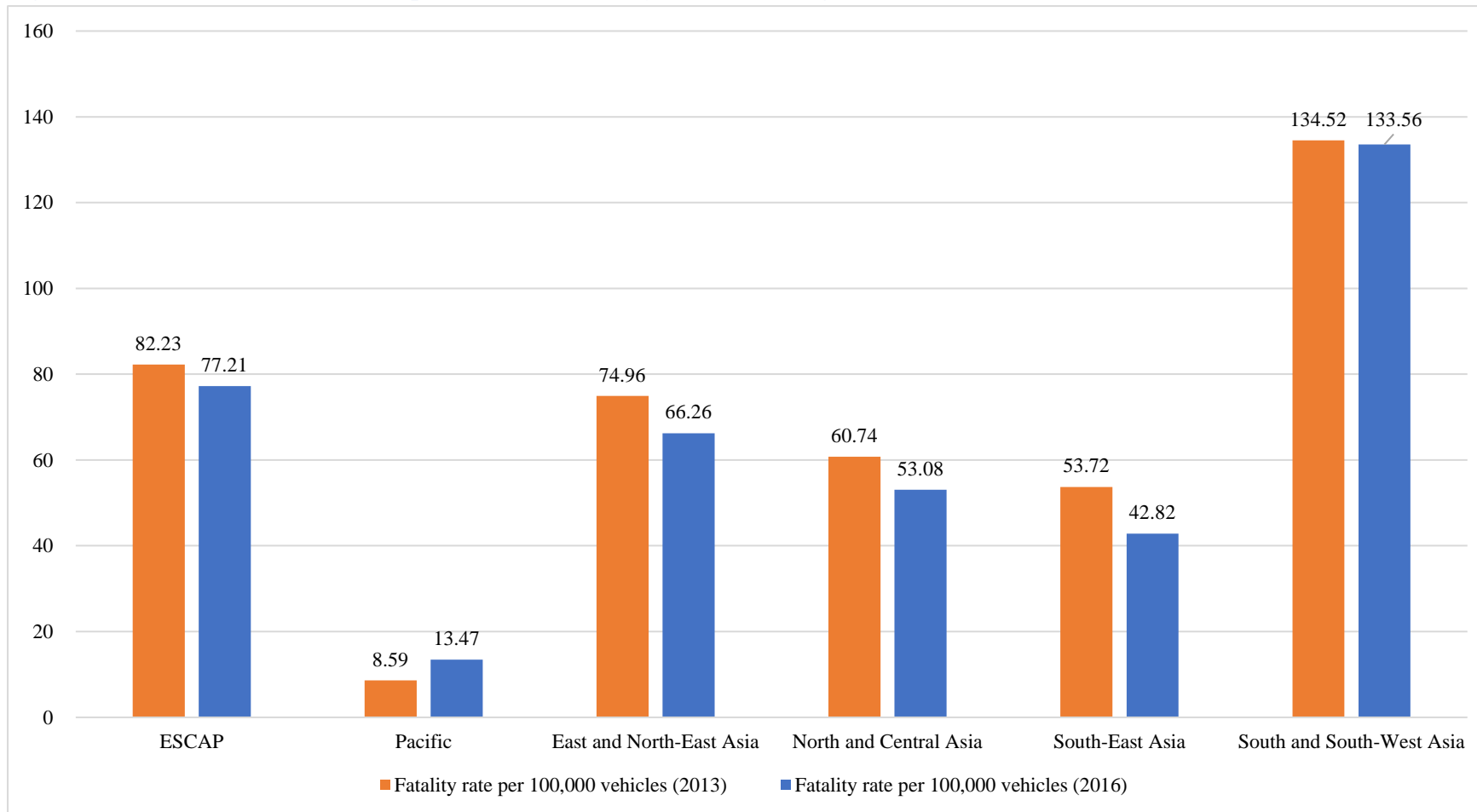
Source: Global status report on road safety 2015; Global status report on road safety 2018

Figure 10. Number and rates of road traffic death in ESCAP region, 2013 and 2016



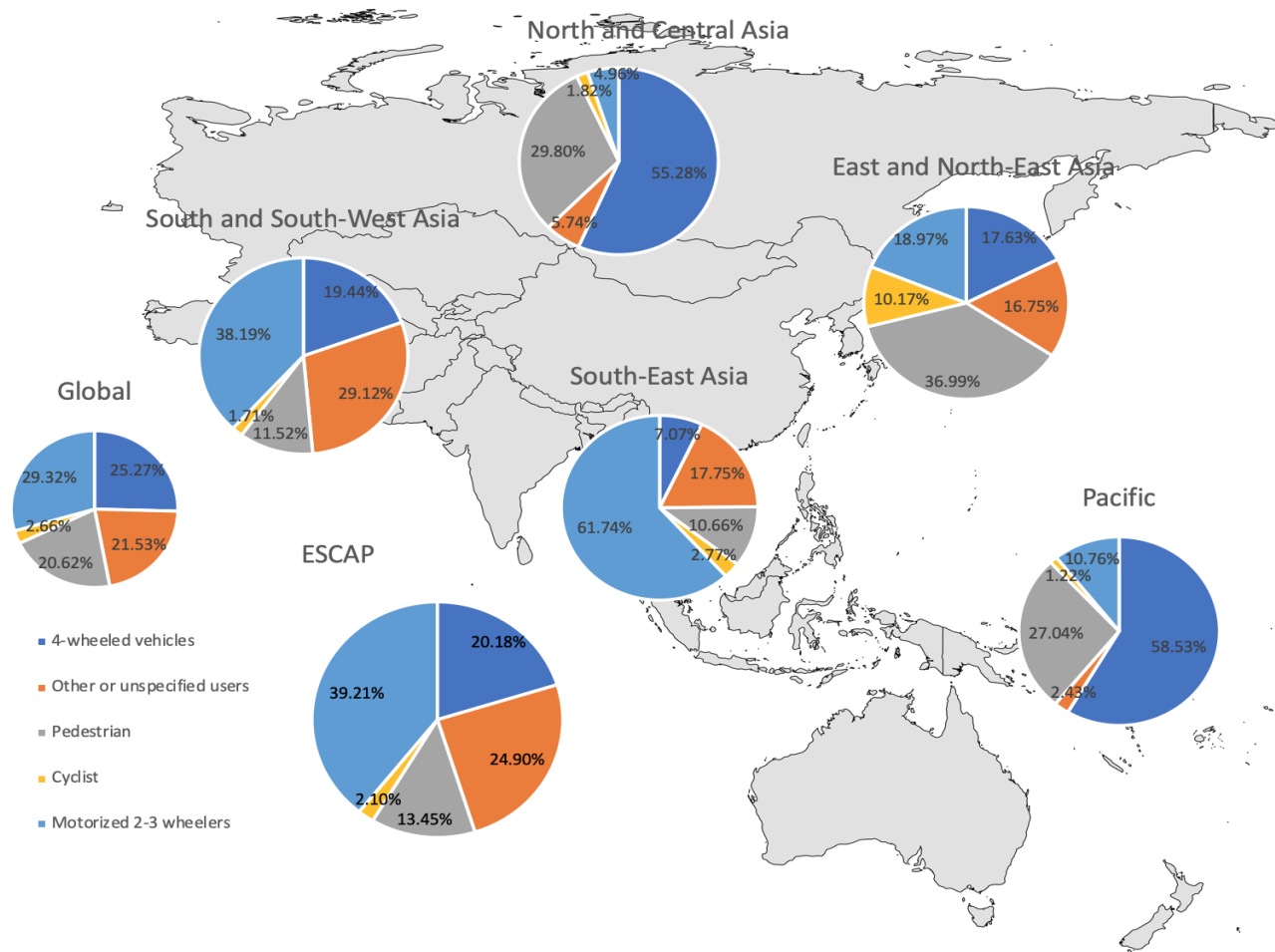
Source: Global status report on road safety 2015; Global status report on road safety 2018

Figure 11. Rates of road traffic death per 100,000 vehicles by ESCAP sub-region, 2013 and 2016



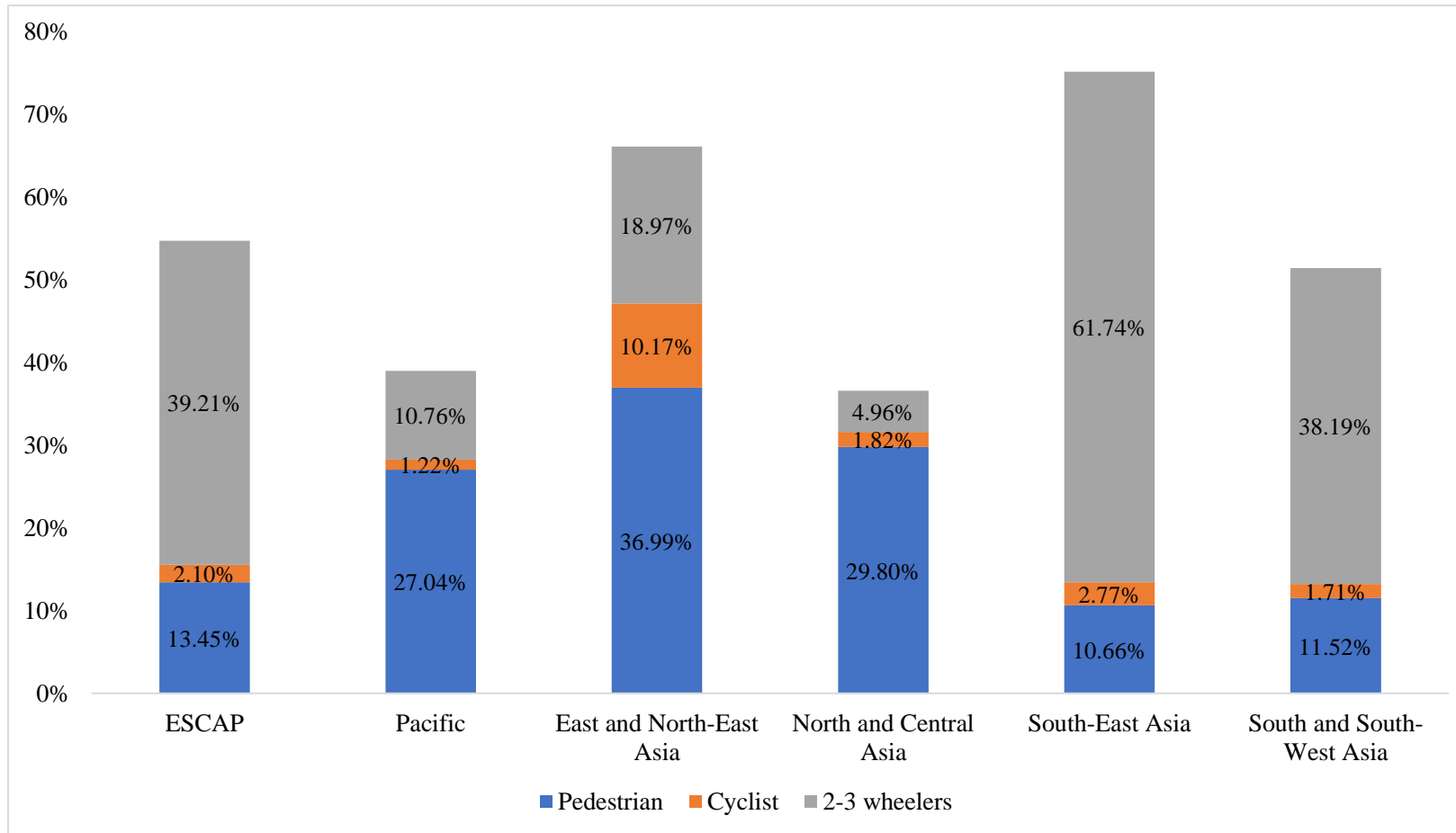
Source: Global status report on road safety 2015; Global status report on road safety 2018

Figure 12. Distribution map of road traffic deaths by road user type, 2016



Source: Global status report on road safety 2018; The base map is from UN New York.

Figure 13. Proportion of vulnerable road user by ESCAP sub-region, 2016



Source: Global status report on road safety 2018

Figure 14. Comparison of rates of road traffic deaths per 100,000 population between WHO estimated data and country reported data, 2016

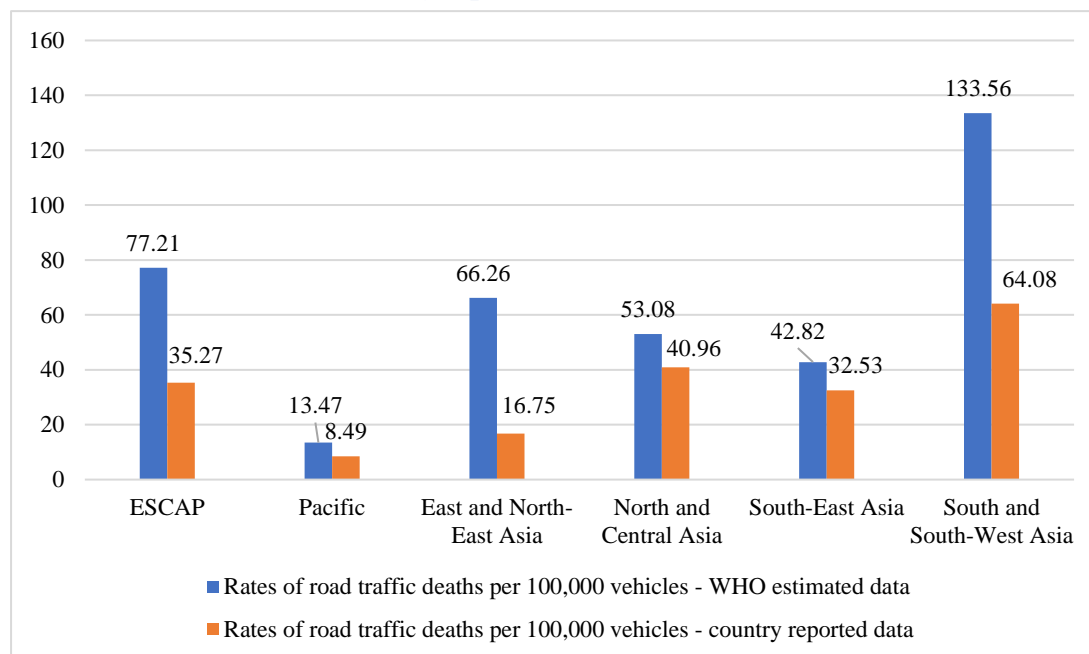
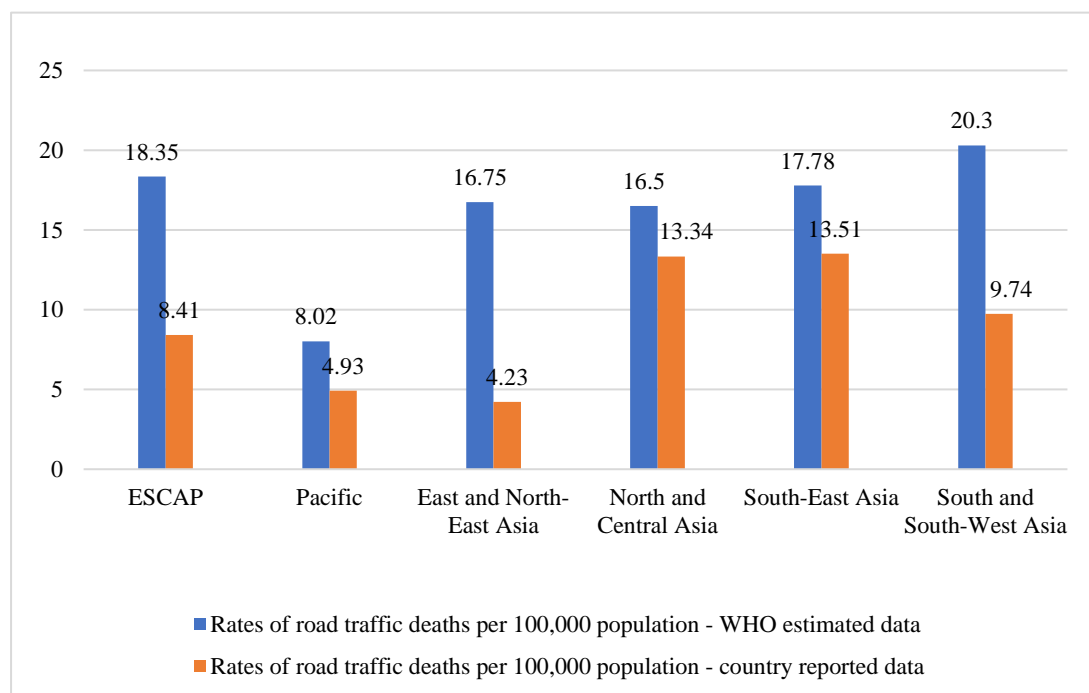
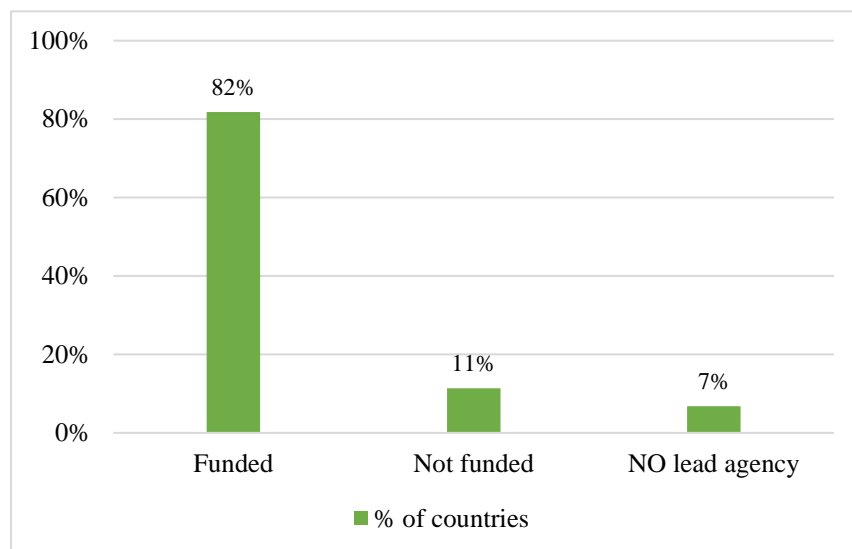


Figure 15. Comparison of rates of road traffic deaths per 100,000 vehicles between WHO estimated data and country reported data, 2016



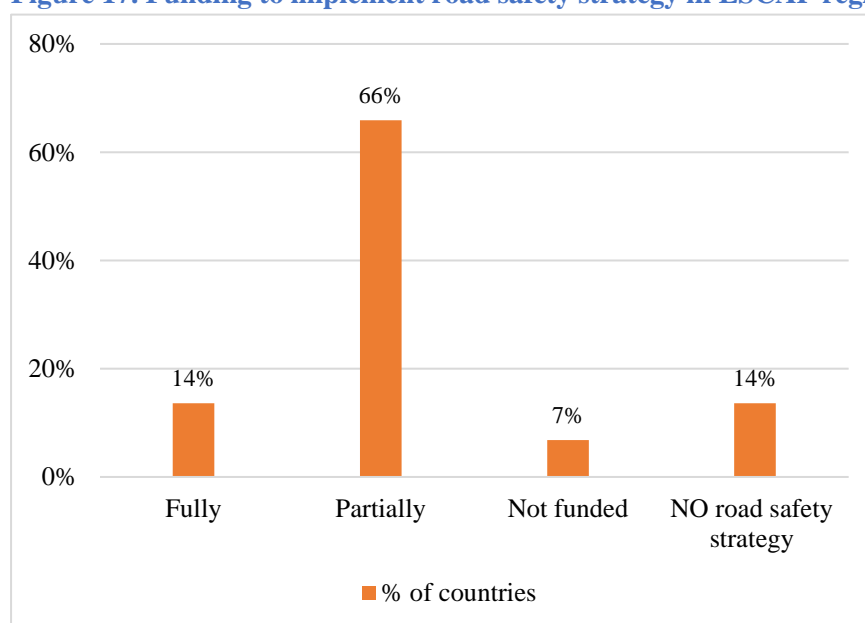
Appendix 2.c (Figures and tables in chapter 3)

Figure 16. Lead agency of road safety funded in national budget in ESCAP region, 2016



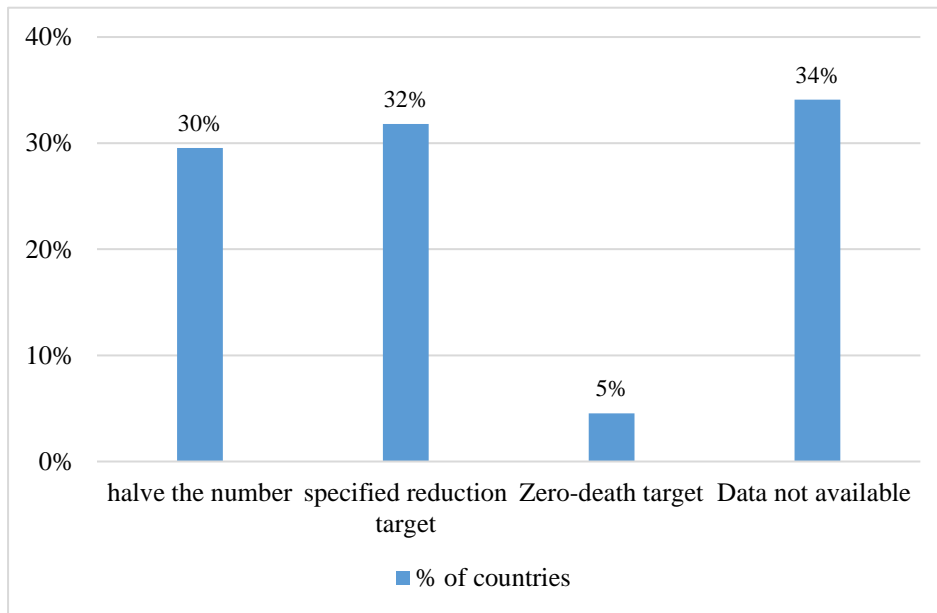
Source: Global status report on road safety 2018

Figure 17. Funding to implement road safety strategy in ESCAP region, 2016



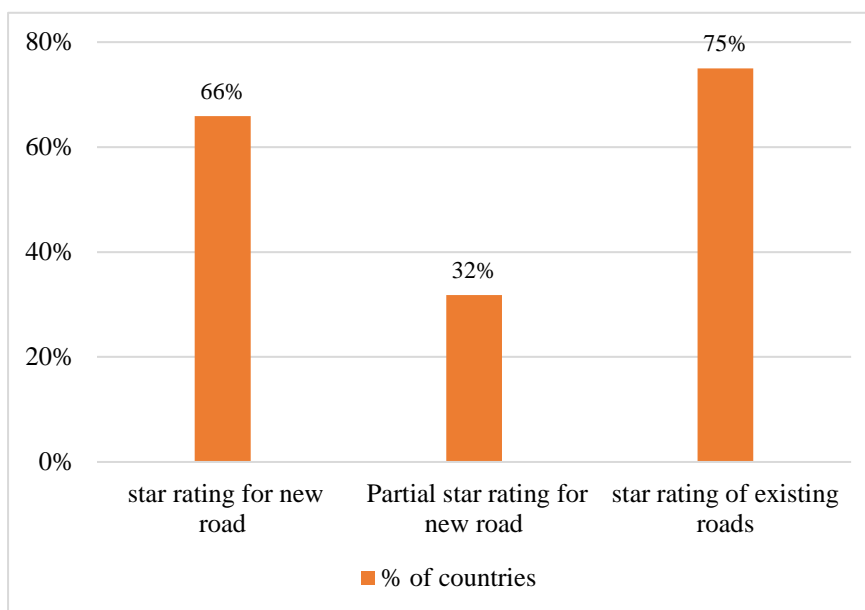
Source: Global status report on road safety 2018

Figure 18. Road traffic deaths reduction target in ESCAP region, 2016



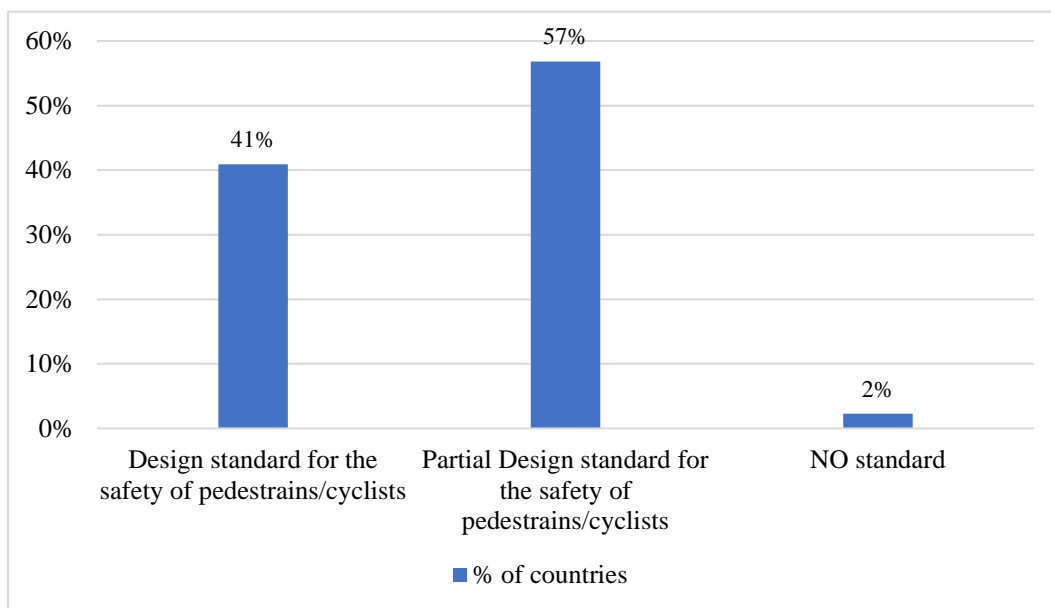
Source: Global status report on road safety 2018

Figure 19. Star rating required for new and existing roads in ESCAP region, 2016



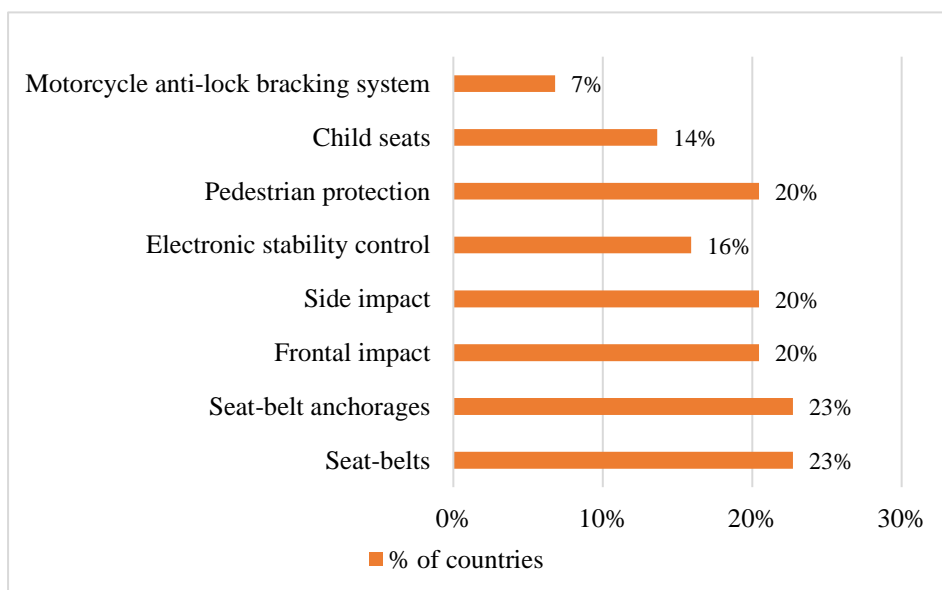
Source: Global status report on road safety 2018

Figure 20. Design standard for the safety of pedestrians/cyclists in ESCAP region, 2016



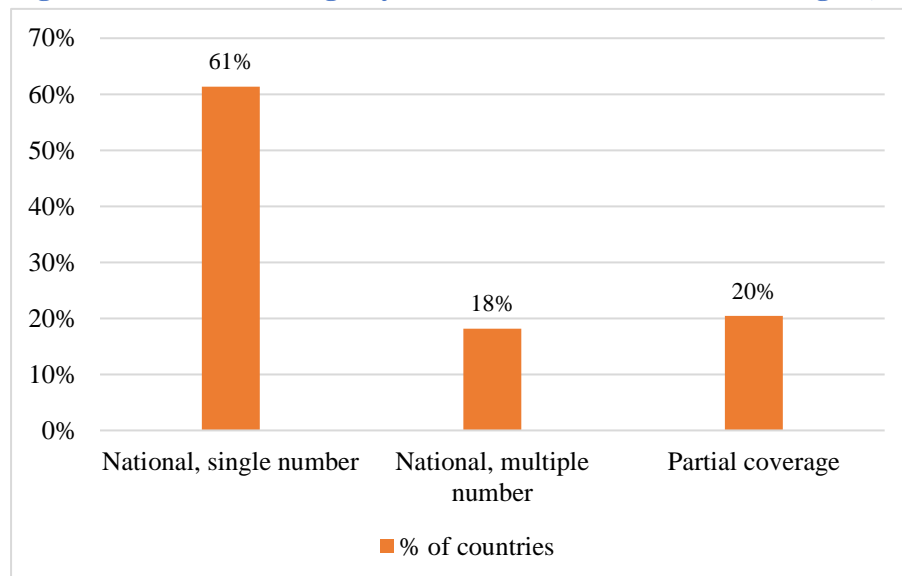
Source: Global status report on road safety 2018

Figure 21. Proportion of countries applied UN vehicle safety standards in ESCAP region, 2016



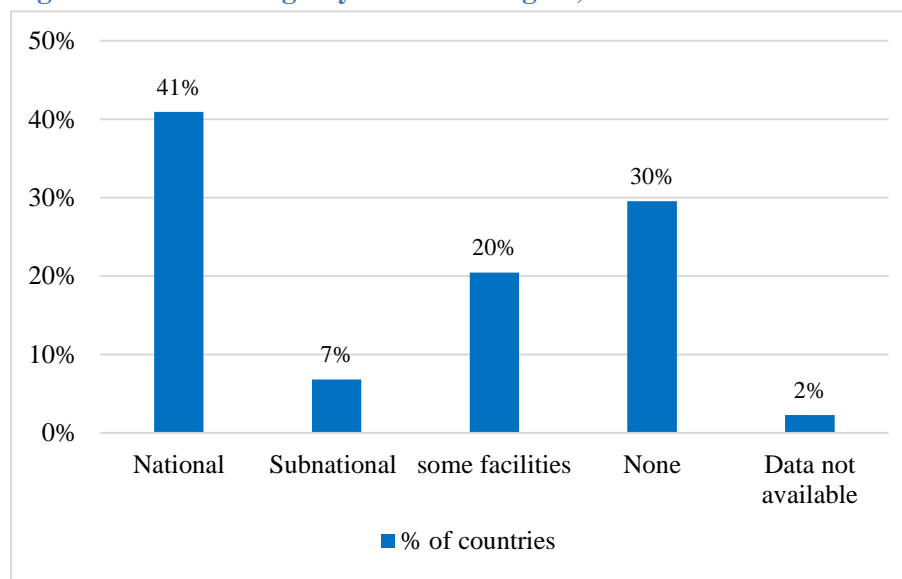
Source: Global status report on road safety 2018

Figure 22. National emergency care access number in ESCAP region, 2016



Source: Global status report on road safety 2018

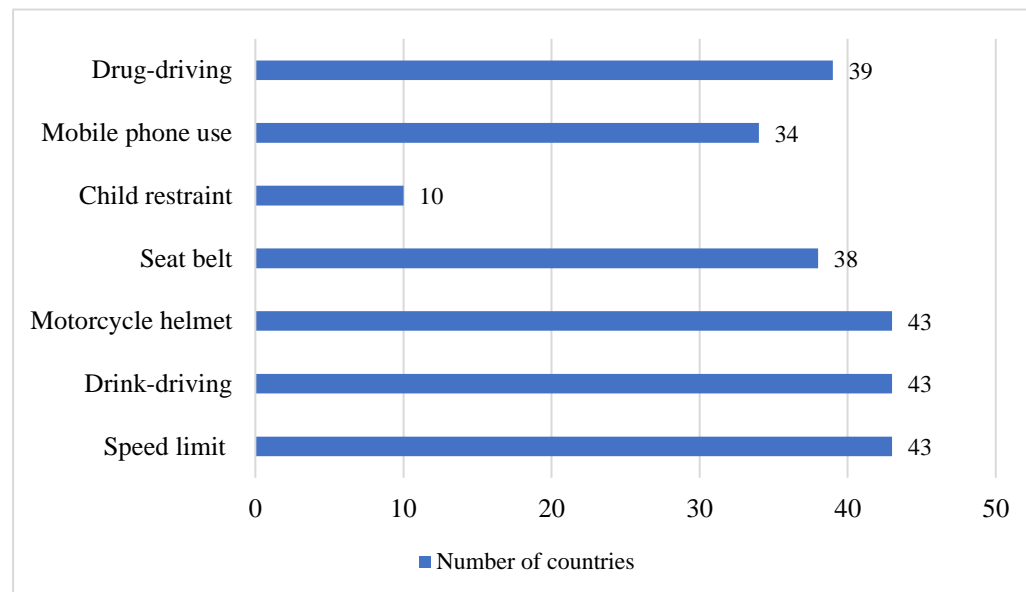
Figure 23. Trauma registry in ESCAP region, 2016



Source: Global status report on road safety 2018

Appendix 2.d (Figures and tables in chapter 4)

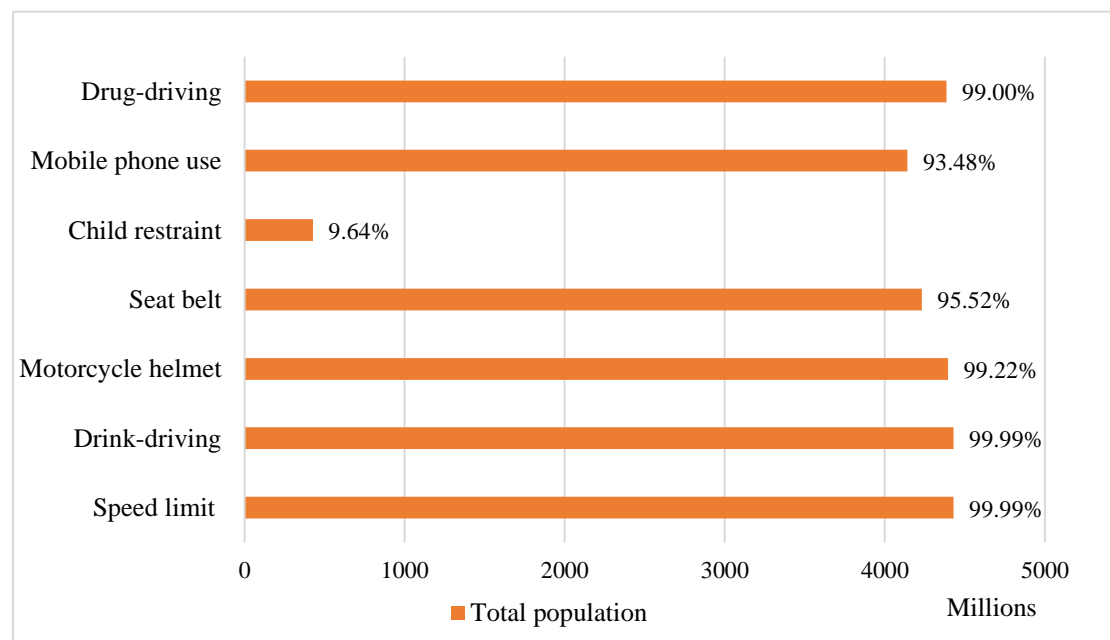
Figure 24. Countries with laws on 7 risk factors* in ESCAP region, 2016



*7 risk factors: Speed limit, drink-driving, motorcycle helmet, seat-belt, child restraint, mobile phone use, drug-driving.

Source: Global status report on road safety 2018

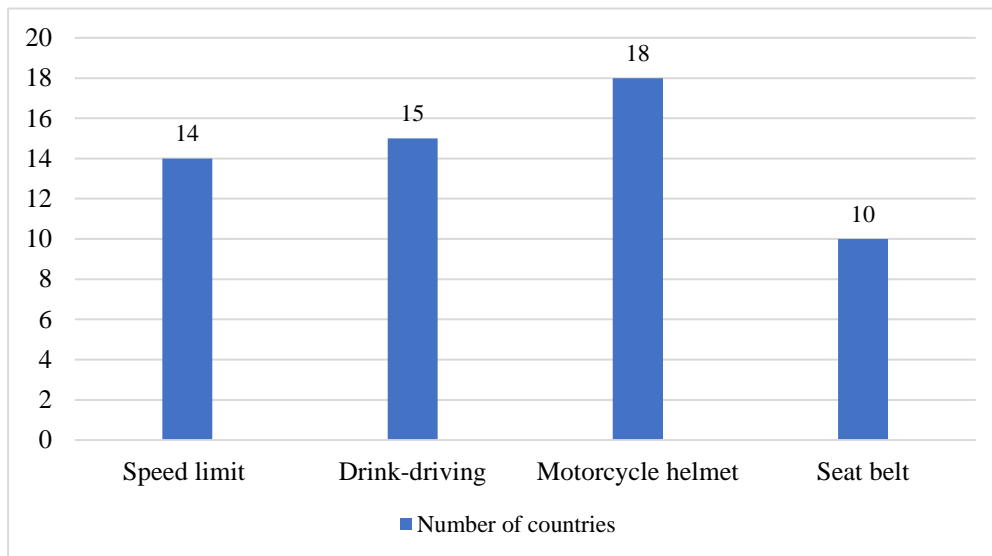
Figure 25. Population covered by laws on 7 risk factors* in ESCAP region, 2016



*7 risk factors: Speed limit, drink-driving, motorcycle helmet, seat-belt, child restraint, mobile phone use, drug-driving.

Source: Global status report on road safety 2018

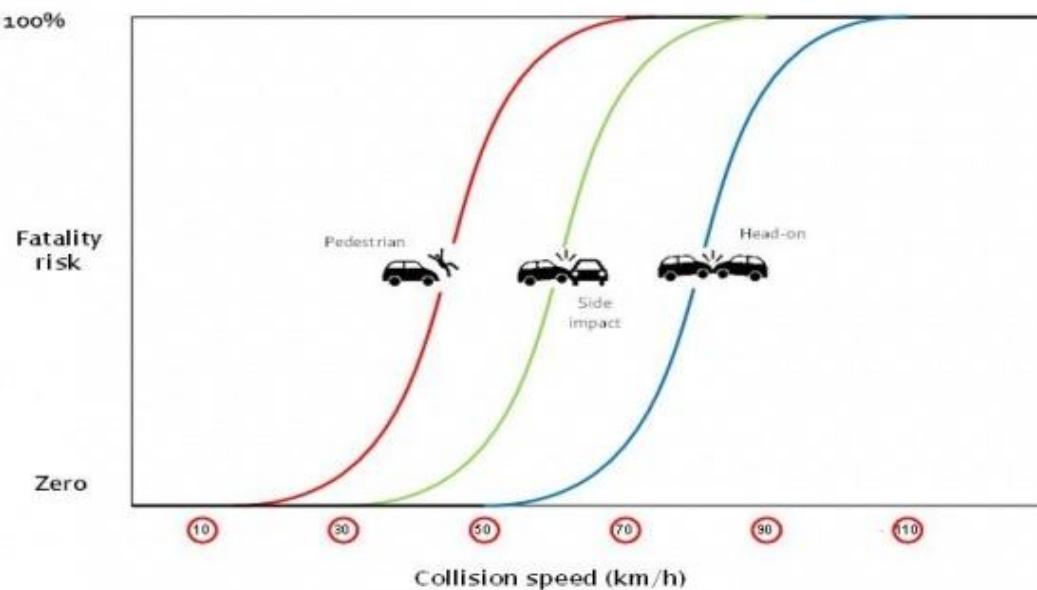
Figure 26. Number of countries rated as Good enforcement* on laws in ESCAP region, 2016



*Good enforcement: Enforcement can be rated as “Good” if it is 8 or above on a scale of 0 to 10.

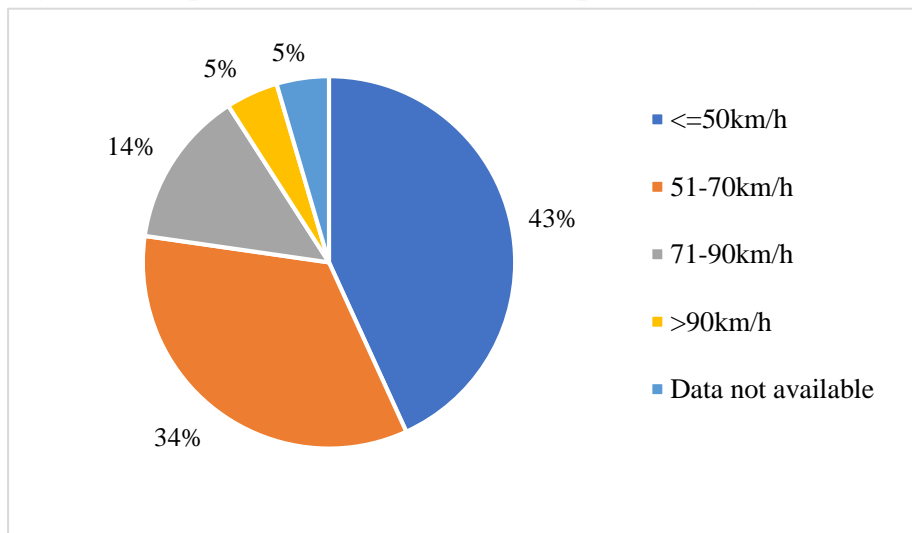
Source: Global status report on road safety 2018

Figure 27. The relationship between impact speed and survivability for different crash scenarios.



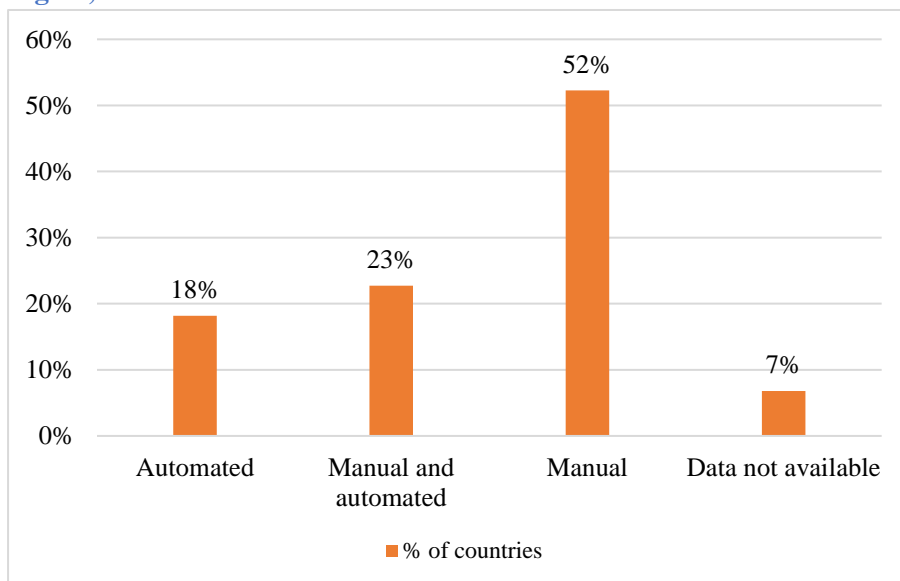
Source: <http://www.gw.govt.nz/survivable-speeds/>

Figure 28. Proportion of countries by urban speed limit range in ESCAP region, 2016



Source: Global status report on road safety 2018

Figure 29. Proportion of countries by type of enforcement on speed limit in ESCAP region, 2016



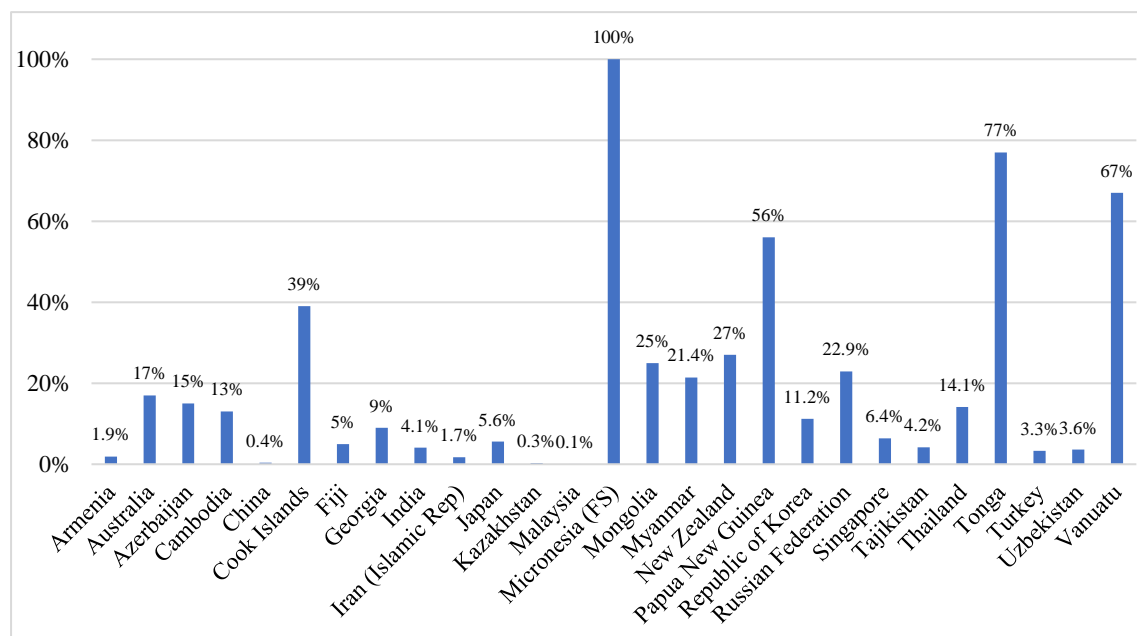
Source: Global status report on road safety 2018

Table 3. Road traffic deaths related to alcohol by country/ area

Country/Area	WHO number of road traffic deaths	% road traffic deaths involving alcohol	Road traffic deaths involving alcohol
Armenia	499	1.9 %	9
Australia	1351	17 %	230
Azerbaijan	845	15 %	127
Cambodia	2803	13 %	364
China	256180	0.4 %	1025
Cook Islands	3	39 %	1
Fiji	86	5 %	4
Georgia	599	9 %	54
India	299091	4.1 %	12263
Iran (Islamic Republic of)	16426	1.7 %	279
Japan	5224	5.6 %	293
Kazakhstan	3158	0.3 %	9
Malaysia	7374	0.1 %	7
Micronesia (Federated States of)	2	100 %	2
Mongolia	499	25 %	125
Myanmar	10540	21.4 %	2256
New Zealand	364	27 %	98
Papua New Guinea	1145	56 %	641
Republic of Korea	4990	11.2 %	559
Russian Federation	25969	22.9 %	5947
Singapore	155	6.4 %	10
Tajikistan	1577	4.2 %	66
Thailand	22491	14.1 %	3171
Tonga	18	77 %	14
Turkey	9782	3.3 %	323
Uzbekistan	3617	3.6 %	130
Vanuatu	43	67 %	29

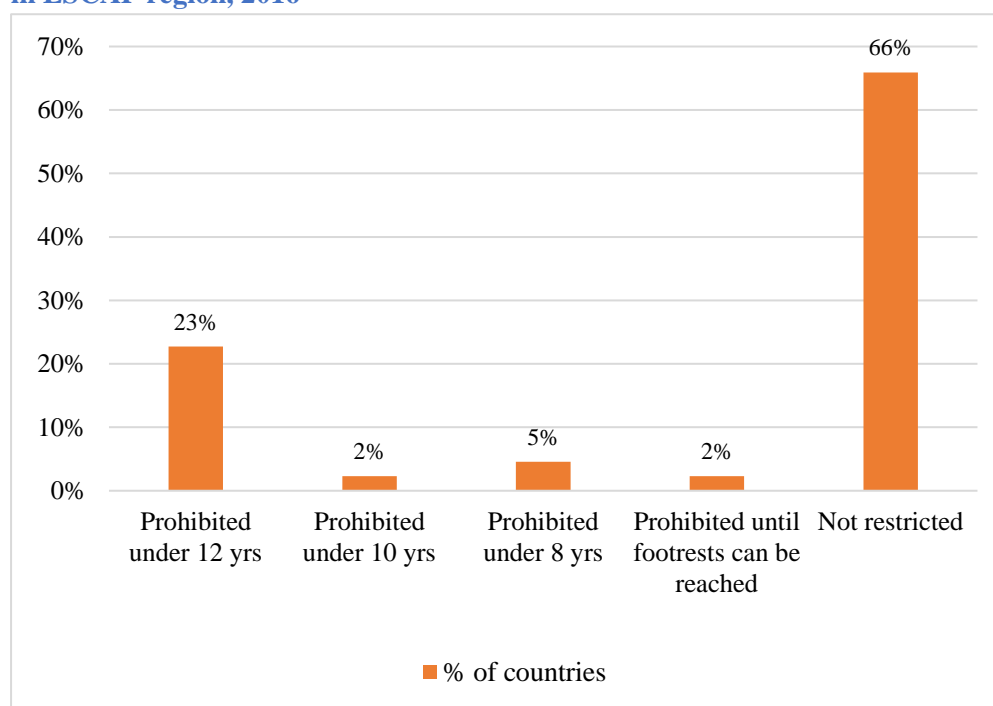
Source: Global status report on road safety 2018

Figure 30. Proportion of road traffic deaths involving alcohol in ESCAP region, 2016



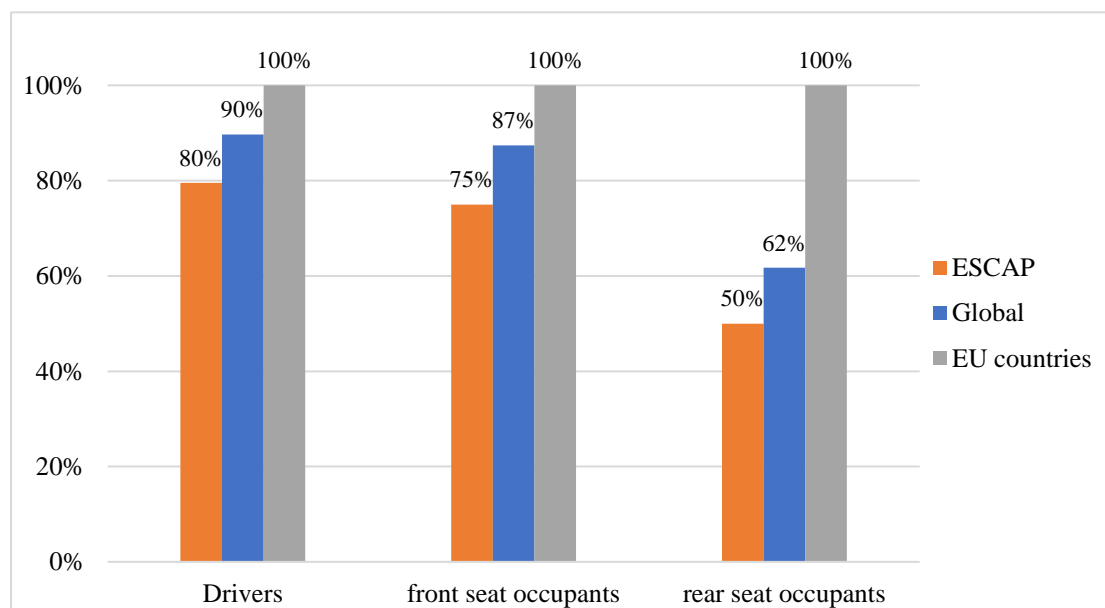
Source: Global status report on road safety 2018

Figure 31. Proportion of countries had restriction on children passengers on motorcycles in ESCAP region, 2016



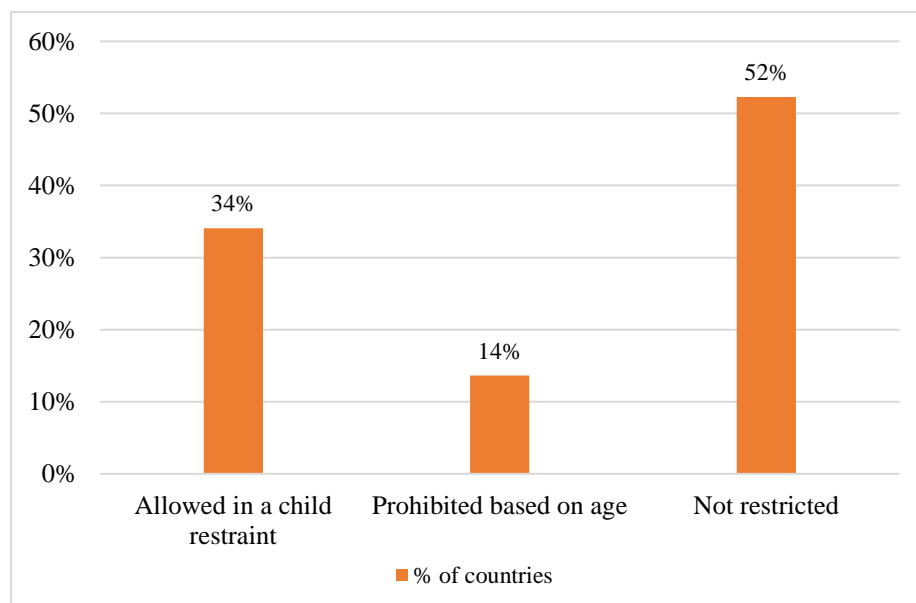
Source: Global status report on road safety 2018

Figure 32. Proportion of countries applied seat-belt law to riders, 2016



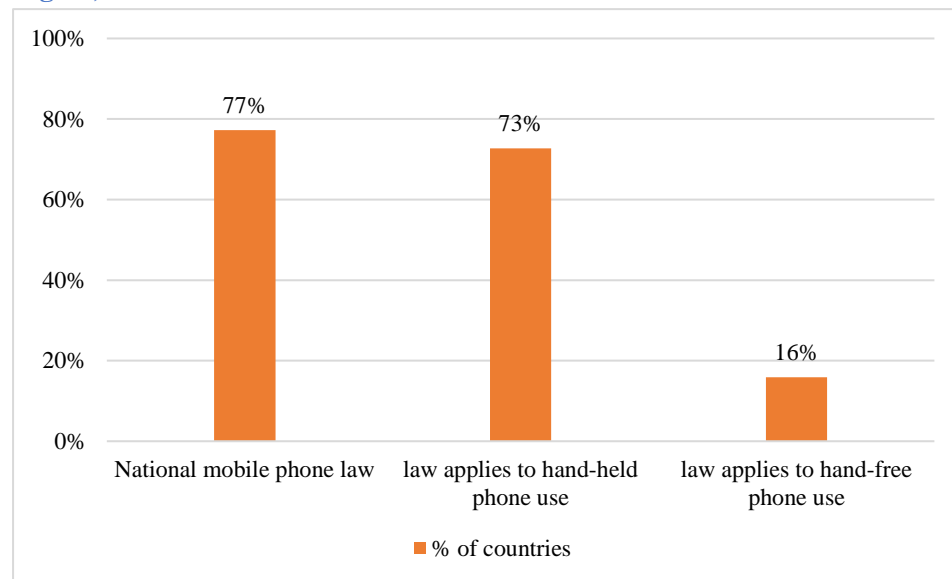
Source: Global status report on road safety 2018

Figure 33. Proportion of countries had restriction on children seated in front seat in ESCAP region, 2016



Source: Global status report on road safety 2018

Figure 34. Proportion of countries had law on mobile phone use while driving in ESCAP region, 2016



Source: Global status report on road safety 2018

Appendix 2.e (List of countries with good performance on road safety)

Table 4. List of countries with good performance on road safety management, strategy and targets

	Funded Lead agency	Funding to road safety strategy		Road traffic deaths reduction target		
		Fully	Partially	Halve the number	Specified reduction target	Zero-death target
Afghanistan	-	-	-	-	-	-
Armenia	✓	-	-	-	-	-
Australia	✓	-	-	-	✓	-
Azerbaijan	✓	-	-	-	-	-
Bangladesh	-	-	✓	✓	-	-
Bhutan	✓	-	✓	-	✓	-
Cambodia	✓	-	✓	✓	-	-
China	✓	-	✓	-	✓	-
Cook Islands	✓	-	✓	-	-	✓
Fiji	✓	-	✓	✓	-	-
Georgia	✓	-	✓	-	✓	-
India	✓	-	✓	✓	-	-
Indonesia	✓	-	✓	✓	-	-
Iran (Islamic Republic of)	-	-	✓	-	✓	-
Japan	✓	✓	-	-	✓	-
Kazakhstan	✓	-	✓	-	✓	-
Kiribati	-	-	✓	-	-	✓
Kyrgyzstan	✓	-	✓	-	✓	-
Lao People's Democratic Republic	✓	-	✓	✓	-	-
Malaysia	✓	-	✓	✓	-	-

	Funded Lead agency	Funding to road safety strategy		Road traffic deaths reduction target		
		Fully	Partially	Halve the number	Specified reduction target	Zero-death target
Maldives	✓	-	-	-	-	-
Micronesia (Federated States of)	-	-	-	-	-	-
Mongolia	✓	-	✓	✓	-	-
Myanmar	-	-	-	✓	-	-
Nepal	✓	-	✓	-	-	-
New Zealand	✓	✓	-	-	✓	-
Pakistan	✓	✓	-	-	-	-
Papua New Guinea	✓	-	✓	-	-	-
Philippines	✓	✓	-	✓	-	-
Republic of Korea	✓	-	✓	-	✓	-
Russian Federation	✓	-	✓	-	✓	-
Samoa	✓	-	✓	-	✓	-
Singapore	✓	-	✓	-	-	-
Solomon Islands	✓	-	-	-	-	-
Sri Lanka	-	-	✓	✓	-	-
Tajikistan	✓	-	✓	-	-	-
Thailand	✓	-	✓	-	✓	-
Timor-Leste	✓	-	✓	-	-	-
Tonga	✓	-	✓	✓	-	-
Turkey	-	✓	-	✓	-	-
Turkmenistan	✓	✓	-	-	-	-
Uzbekistan	✓	-	-	-	-	-
Vanuatu	✓	-	✓	-	-	-
Viet Nam	✓	-	✓	-	✓	-

Source: Global status report on road safety 2018

Table 5. List of countries with good performance on safer mobility

	Stat rating/ inspection			Design standard for the safety of pedestrians/cyclists		Investments to upgrade high risk locations	Policies or investment in urban public transport	Policies promoting walking and cycling	
	New roads		Existing roads	Fully	Partial			National	Subnational
	Fully	Partial							
Afghanistan	-	✓	-	-	✓	✓	✓	-	-
Armenia	✓	-	✓	-	✓	✓	✓	-	-
Australia	✓	-	✓	✓	-	✓	-	✓	-
Azerbaijan	-	✓	✓	-	✓	-	✓	-	-
Bangladesh	-	✓	✓	✓	-	✓	✓	-	-
Bhutan	✓	-	✓	✓	-	✓	✓	✓	-
Cambodia	✓	-	✓	-	-	✓	-	-	-
China	✓	-	✓	✓	-	✓	✓	✓	-
Cook Islands	-	✓	✓	-	✓	✓	-	✓	-
Fiji	✓	-	✓	-	✓	✓	✓	✓	-
Georgia	✓	-	-	-	✓	✓	✓	✓	-
India	-	✓	✓	✓	-	✓	✓	-	-
Indonesia	✓	-	✓	✓	-	✓	✓	-	✓
Iran (Islamic Republic of)	✓	-	✓	-	✓	✓	✓	-	✓
Japan	✓	-	✓	✓	-	✓	✓	✓	-
Kazakhstan	✓	-	✓	✓	-	✓	✓	-	-
Kiribati	✓	-	-	-	✓	✓	✓	✓	-
Kyrgyzstan	✓	-	-	-	✓	✓	✓	-	-
Lao People's Democratic Republic	-	✓	-	-	✓	✓	-	✓	-
Malaysia	✓	-	✓	✓	-	✓	✓	✓	-
Maldives	-	-	✓	-	✓	-	✓	-	-
Micronesia (Federated States of)	-	✓	✓	-	✓	-	-	-	-
Mongolia	✓	-	-	-	✓	-	✓	✓	-

	Stat rating/ inspection			Design standard for the safety of pedestrians/cyclists		Investments to upgrade high risk locations	Policies or investment in urban public transport	Policies promoting walking and cycling	
	New roads		Existing roads	Fully	Partial			National	Subnational
	Fully	Partial							
Myanmar	✓	-	✓	✓	-	✓	✓	✓	-
Nepal	-	✓	✓	-	✓	-	✓	-	-
New Zealand	✓	-	✓	✓	-	✓	✓	✓	-
Pakistan	✓	-	✓	-	✓	✓	✓	-	-
Papua New Guinea	-	✓	✓	-	✓	-	-	-	✓
Philippines	✓	-	✓	-	✓	✓	✓	✓	-
Republic of Korea	✓	-	✓	✓	-	✓	✓	✓	-
Russian Federation	✓	-	-	✓	-	✓	✓	-	✓
Samoa	✓	-	✓	-	✓	✓	✓	-	✓
Singapore	✓	-	✓	✓	-	-	✓	✓	-
Solomon Islands	✓	-	✓	✓	-	-	✓	-	-
Sri Lanka	-	✓	-	-	✓	✓	-	-	✓
Tajikistan	✓	-	✓	-	✓	✓	✓	-	-
Thailand	-	✓	✓	-	✓	✓	✓	✓	-
Timor-Leste	-	✓	-	✓	-	-	✓	✓	-
Tonga	✓	-	✓	-	✓	✓	-	-	✓
Turkey	-	✓	✓	✓	-	✓	✓	✓	-
Turkmenistan	✓	-	-	-	✓	✓	✓	✓	-
Uzbekistan	✓	-	✓	✓	-	✓	✓	-	-
Vanuatu	-	✓	-	-	✓	✓	✓	-	-
Viet Nam	✓	-	✓	-	✓	✓	✓	-	✓

Source: Global status report on road safety 2018

Table 6. List of countries with good performance on vehicle standards

	UN Vehicle standard							
	Seat-belts	Seat-belt anchorages	Frontal impact	Side impact	Electronic stability control	Pedestrian protection	Child seats	Motorcycle anti-lock braking system
Afghanistan	-	-	-	-	-	-	-	-
Armenia	-	-	-	-	-	-	-	-
Australia	✓	✓	✓	✓	✓	✓	-	✓
Azerbaijan	-	-	-	-	-	-	-	-
Bangladesh	-	-	-	-	-	-	-	-
Bhutan	-	-	-	-	-	-	-	-
Cambodia	-	-	-	-	-	-	-	-
China	✓	✓	✓	✓	-	-	-	-
Cook Islands	-	-	-	-	-	-	-	-
Fiji	-	-	-	-	-	-	-	-
Georgia	-	-	-	-	-	-	-	-
India	✓	✓	✓	✓	-	✓	-	✓
Indonesia	-	-	-	-	-	-	-	-
Iran (Islamic Republic of)	-	-	-	-	-	-	-	-
Japan	✓	✓	✓	✓	✓	✓	✓	✓
Kazakhstan	-	-	-	-	-	-	-	-
Kiribati	-	-	-	-	-	-	-	-
Kyrgyzstan	-	-	-	-	-	-	-	-
Lao People's Democratic Republic	-	-	-	-	-	-	-	-
Malaysia	✓	✓	✓	✓	✓	✓	✓	-
Maldives	-	-	-	-	-	-	-	-
Micronesia (Federated States of)	-	-	-	-	-	-	-	-
Mongolia	-	-	-	-	-	-	-	-

	UN Vehicle standard							
	Seat-belts	Seat-belt anchorages	Frontal impact	Side impact	Electronic stability control	Pedestrian protection	Child seats	Motorcycle anti-lock braking system
Myanmar	-	-	-	-	-	-	-	-
Nepal	-	-	-	-	-	-	-	-
New Zealand	✓	✓	✓	✓	✓	✓	✓	-
Pakistan	-	-	-	-	-	-	-	-
Papua New Guinea	-	-	-	-	-	-	-	-
Philippines	-	-	-	-	-	-	-	-
Republic of Korea	✓	✓	✓	✓	✓	✓	✓	-
Russian Federation	✓	✓	✓	✓	✓	✓	✓	-
Samoa	-	-	-	-	-	-	-	-
Singapore	-	-	-	-	-	-	-	-
Solomon Islands	-	-	-	-	-	-	-	-
Sri Lanka	-	-	-	-	-	-	-	-
Tajikistan	-	-	-	-	-	-	-	-
Thailand	✓	✓	-	-	-	✓	-	-
Timor-Leste	-	-	-	-	-	-	-	-
Tonga	-	-	-	-	-	-	-	-
Turkey	✓	✓	✓	✓	✓	✓	✓	-
Turkmenistan	-	-	-	-	-	-	-	-
Uzbekistan	-	-	-	-	-	-	-	-
Vanuatu	-	-	-	-	-	-	-	-
Viet Nam	-	-	-	-	-	-	-	-

Source: Global status report on road safety 2018

Table 7. List of countries with good performance on post-crash response

	National emergency care access number		Trauma registry		Formal certification for prehospital providers	National assessment of emergency care systems
	Single number	Multiple number	National	Subnational		
Afghanistan	✓	-	-	-	-	-
Armenia	✓	-	✓	-	-	✓
Australia	✓	-	✓	-	-	✓
Azerbaijan	✓	-	✓	-	-	-
Bangladesh	-	-	-	-	-	-
Bhutan	✓	-	-	-	-	✓
Cambodia	-	✓	✓	-	-	-
China	✓	-	✓	-	✓	✓
Cook Islands	✓	-	✓	-	-	-
Fiji	-	✓	-	-	-	-
Georgia	✓	-	-	-	-	✓
India	-	-	-	-	-	✓
Indonesia	-	-	-	-	-	✓
Iran (Islamic Republic of)	✓	-	-	✓	✓	✓
Japan	✓	-	✓	-	-	✓
Kazakhstan	✓	-	✓	-	-	✓
Kiribati	-	✓	✓	-	-	✓
Kyrgyzstan	✓	-	-	-	✓	✓
Lao People's Democratic Republic	-	-	-	-	-	✓
Malaysia	✓	-	-	-	-	✓
Maldives	-	-	-	-	-	-
Micronesia (Federated States of)	-	✓	-	-	-	-
Mongolia	✓	-	✓	-	-	-
Myanmar	-	✓	✓	-	-	-

	National emergency care access number		Trauma registry		Formal certification for prehospital providers	National assessment of emergency care systems
	Single number	Multiple number	National	Subnational		
Nepal	-	-	-	-	-	-
New Zealand	✓	-	✓	-	-	✓
Pakistan	-	✓	-	✓	-	-
Papua New Guinea	-	-	-	-	-	✓
Philippines	✓	-	✓	-	-	-
Republic of Korea	✓	-	-	✓	✓	✓
Russian Federation	✓	-	-	-	-	✓
Samoa	-	✓	-	-	-	-
Singapore	✓	-	✓	-	-	✓
Solomon Islands	✓	-	-	-	-	-
Sri Lanka	-	-	-	-	-	-
Tajikistan	✓	-	✓	-	-	✓
Thailand	✓	-	-	-	✓	✓
Timor-Leste	✓	-	✓	-	-	✓
Tonga	-	✓	-	-	-	-
Turkey	✓	-	-	-	✓	✓
Turkmenistan	✓	-	-	-	-	✓
Uzbekistan	✓	-	-	-	-	-
Vanuatu	✓	-	✓	-	-	-
Viet Nam	-	-	✓	-	-	-

Source: Global status report on road safety 2018

Table 8. List of countries with good performance on laws on 7 risk factors

	Countries with laws on 7 risk factors						
	Speed limit	Drink-driving	Motorcycle helmet	Seat belt	Child restraint	Mobile phone use	Drug-driving
Afghanistan	✓	✓	-	-	-	-	✓
Armenia	✓	✓	✓	✓	-	✓	✓
Australia	✓	✓	✓	✓	✓	✓	✓
Azerbaijan	✓	✓	✓	✓	-	✓	✓
Bangladesh	✓	✓	✓	-	-	-	✓
Bhutan	✓	✓	✓	✓	-	✓	✓
Cambodia	✓	✓	✓	✓	✓	✓	✓
China	✓	✓	✓	✓	-	✓	✓
Cook Islands	✓	✓	✓	-	-	-	✓
Fiji	✓	✓	✓	✓	✓	✓	✓
Georgia	✓	✓	✓	✓	-	✓	✓
India	✓	✓	✓	✓	-	✓	✓
Indonesia	✓	✓	✓	✓	-	✓	✓
Iran (Islamic Republic of)	✓	✓	✓	✓	-	✓	✓
Japan	✓	✓	✓	✓	✓	✓	✓
Kazakhstan	✓	✓	✓	✓	✓	✓	✓
Kiribati	✓	✓	✓	✓	-	✓	✓
Kyrgyzstan	✓	✓	✓	✓	-	✓	✓
Lao People's Democratic Republic	✓	✓	✓	✓	✓	✓	-
Malaysia	✓	✓	✓	✓	-	✓	-
Maldives	✓	-	✓	✓	-	✓	-
Micronesia (Federated States of)	✓	✓	✓	-	-	-	✓
Mongolia	✓	✓	✓	✓	-	✓	✓
Myanmar	✓	✓	✓	✓	-	-	✓

	Countries with laws on 7 risk factors						
	Speed limit	Drink-driving	Motorcycle helmet	Seat belt	Child restraint	Mobile phone use	Drug-driving
Nepal	✓	✓	✓	✓	-	-	✓
New Zealand	✓	✓	✓	✓	✓	✓	✓
Pakistan	✓	✓	✓	✓	-	✓	✓
Papua New Guinea	✓	✓	✓	✓	-	-	✓
Philippines	✓	✓	✓	✓	-	✓	✓
Republic of Korea	✓	✓	✓	✓	-	✓	✓
Russian Federation	✓	✓	✓	✓	✓	✓	✓
Samoa	✓	✓	✓	✓	-	✓	✓
Singapore	✓	✓	✓	✓	✓	✓	✓
Solomon Islands	✓	✓	✓	-	-	-	✓
Sri Lanka	✓	✓	✓	✓	-	✓	✓
Tajikistan	✓	✓	✓	✓	-	✓	✓
Thailand	✓	✓	✓	✓	-	✓	✓
Timor-Leste	✓	✓	✓	✓	-	✓	✓
Tonga	✓	✓	✓	-	-	-	-
Turkey	✓	✓	✓	✓	✓	✓	✓
Turkmenistan	✓	✓	✓	✓	-	✓	-
Uzbekistan	✓	✓	✓	✓	-	✓	✓
Vanuatu	-	✓	✓	✓	-	-	✓
Viet Nam	✓	✓	✓	✓	-	✓	✓

Source: Global status report on road safety 2018

Table 9. List of countries with good enforcement on laws

	Good enforcement						
	Speed limit	Drink-driving	Motorcycle helmet	Seat belt	Child restraint	Mobile phone use	Drug-driving
Afghanistan	-	-	-	-	-	-	-
Armenia	✓	-	✓	✓	-	-	-
Australia	✓	✓	✓	-	-	-	-
Azerbaijan	✓	✓	-	-	-	-	-
Bangladesh	-	-	-	-	-	-	-
Bhutan	-	-	✓	-	-	-	-
Cambodia	-	-	-	-	-	-	-
China	✓	✓	-	-	-	-	-
Cook Islands	-	-	-	-	-	-	-
Fiji	-	-	✓	-	-	-	-
Georgia	-	-	-	✓	-	-	-
India	-	-	-	-	-	-	-
Indonesia	✓	✓	✓	✓	-	-	-
Iran (Islamic Republic of)	-	-	-	✓	-	-	-
Japan	-	✓	✓	-	-	-	-
Kazakhstan	-	-	-	-	-	-	-
Kiribati	-	-	-	-	-	-	-
Kyrgyzstan	-	-	-	-	-	-	-
Lao People's Democratic Republic	-	-	-	-	-	-	-
Malaysia	-	-	✓	-	-	-	-
Maldives	-	-	-	-	-	-	-
Micronesia (Federated States of)	-	-	-	-	-	-	-
Mongolia	-	✓	-	-	-	-	-
Myanmar	-	-	-	-	-	-	-

	Good enforcement						
	Speed limit	Drink-driving	Motorcycle helmet	Seat belt	Child restraint	Mobile phone use	Drug-driving
Nepal	-	✓	✓	-	-	-	-
New Zealand	-	-	✓	-	✓	-	-
Pakistan	-	-	-	-	-	-	-
Papua New Guinea	-	-	-	-	-	-	-
Philippines	-	-	-	-	-	-	-
Republic of Korea	✓	-	-	✓	-	-	-
Russian Federation	✓	-	-	-	-	-	-
Samoa	✓	✓	✓	✓	-	-	-
Singapore	✓	✓	✓	✓	✓	-	-
Solomon Islands	-	-	-	-	-	-	-
Sri Lanka	✓	✓	✓	✓	-	-	-
Tajikistan	✓	✓	-	-	-	-	-
Thailand	-	-	-	-	-	-	-
Timor-Leste	-	-	-	-	-	-	-
Tonga	-	-	✓	-	-	-	-
Turkey	✓	✓	✓	✓	✓	-	-
Turkmenistan	✓	✓	✓	✓	-	-	-
Uzbekistan	✓	✓	✓	-	-	-	-
Vanuatu	-	-	✓	-	-	-	-
Viet Nam	-	✓	✓	-	-	-	-

Source: Global status report on road safety 2018

*Countries highlight in gray indicate Good enforcement on laws. Enforcement can be rated as “Good” if it is 8 or above on a scale of 0 to 10.

Table 10. List of countries with good performance on speed laws and enforcement

	Urban speed limit ≤50km/h	Automated enforcement	Allow local authorities to modify speed limits
Afghanistan	-	-	-
Armenia	-	✓	-
Australia	✓	-	✓
Azerbaijan	-	✓	-
Bangladesh	-	-	-
Bhutan	✓	-	-
Cambodia	✓	-	-
China	✓	✓	✓
Cook Islands	✓	-	-
Fiji	✓	-	-
Georgia	-	✓	-
India	-	-	✓
Indonesia	✓	-	✓
Iran (Islamic Republic of)	-	-	-
Japan	-	-	✓
Kazakhstan	-	✓	-
Kiribati	✓	-	-
Kyrgyzstan	-	-	-
Lao People's Democratic Republic	✓	-	-
Malaysia	-	-	✓
Maldives	✓	-	-
Micronesia (Federated States of)	✓	-	✓
Mongolia	-	-	-
Myanmar	✓	✓	-

	Urban speed limit ≤50km/h	Automated enforcement	Allow local authorities to modify speed limits
Nepal	✓	-	-
New Zealand	✓	-	✓
Pakistan	-	-	✓
Papua New Guinea	-	-	-
Philippines	✓	-	✓
Republic of Korea	-	✓	✓
Russian Federation	-	✓	✓
Samoa	-	-	-
Singapore	-	-	-
Solomon Islands	-	-	✓
Sri Lanka	✓	-	-
Tajikistan	-	-	-
Thailand	-	-	-
Timor-Leste	✓	-	-
Tonga	✓	-	-
Turkey	✓	-	✓
Turkmenistan	-	-	✓
Uzbekistan	-	-	-
Vanuatu	-	-	-
Viet Nam	-	-	-

Source: Global status report on road safety 2018

Table 11. List of countries with good performance on drink-driving and enforcement

	BAC limits		Carried out random breath testing
	for general population <0.05g/dl	for young or novice drivers <0.02g/dl	
Afghanistan	-	-	✓
Armenia	✓	-	✓
Australia	✓	✓	✓
Azerbaijan	-	-	✓
Bangladesh	-	-	✓
Bhutan	-	✓	✓
Cambodia	✓	-	✓
China	✓	✓	✓
Cook Islands	-	-	✓
Fiji	-	✓	✓
Georgia	✓	-	✓
India	✓	-	✓
Indonesia	-	-	✓
Iran (Islamic Republic of)	-	-	✓
Japan	✓	-	✓
Kazakhstan	✓	-	-
Kiribati	✓	✓	✓
Kyrgyzstan	-	-	✓
Lao People's Democratic Republic	✓	-	✓
Malaysia	-	-	✓
Maldives	-	-	-
Micronesia (Federated States of)	-	-	-
Mongolia	✓	-	✓
Myanmar	-	-	✓
Nepal	-	-	✓
New Zealand	✓	✓	✓
Pakistan	-	-	-
Papua New Guinea	-	-	-
Philippines	✓	-	✓
Republic of Korea	✓	-	✓
Russian Federation	✓	-	✓
Samoa	-	-	✓
Singapore	-	-	✓
Solomon Islands	✓	-	✓
Sri Lanka	-	-	-
Tajikistan	-	-	✓
Thailand	✓	✓	✓
Timor-Leste	✓	-	-
Tonga	✓	-	✓
Turkey	✓	-	✓
Turkmenistan	✓	-	✓

	BAC limits		Carried out random breath testing
	for general population <0.05g/dl	for young or novice drivers <0.02g/dl	
Uzbekistan	-	-	✓
Vanuatu	-	-	-
Viet Nam	✓	-	✓

*BAC blood alcohol concentrations

Source: Global status report on road safety 2018

Table 12. List of countries with good performance on helmet laws and enforcement

	Helmet fastening required	Referred to helmet standard in law	Apply helmet law to all riders
Afghanistan	-	-	-
Armenia	✓	-	✓
Australia	✓	✓	✓
Azerbaijan	-	-	✓
Bangladesh	-	✓	✓
Bhutan	✓	✓	✓
Cambodia	-	✓	✓
China	-	✓	✓
Cook Islands	-	✓	✓
Fiji	✓	-	✓
Georgia	✓	-	✓
India	✓	✓	✓
Indonesia	-	✓	✓
Iran (Islamic Republic of)	-	✓	✓
Japan	-	✓	✓
Kazakhstan	✓	-	✓
Kiribati	-	✓	✓
Kyrgyzstan	✓	-	✓
Lao People's Democratic Republic	-	-	✓
Malaysia	✓	✓	✓
Maldives	-	-	-
Micronesia (Federated States of)	-	-	✓
Mongolia	-	-	✓
Myanmar	✓	-	✓
Nepal	-	-	✓
New Zealand	✓	✓	✓
Pakistan	-	-	✓
Papua New Guinea	✓	✓	✓
Philippines	-	✓	✓
Republic of Korea	-	✓	✓
Russian Federation	✓	✓	✓
Samoa	✓	-	✓
Singapore	✓	✓	✓
Solomon Islands	✓	✓	✓
Sri Lanka	-	✓	✓
Tajikistan	✓	-	✓
Thailand	✓	✓	✓
Timor-Leste	✓	✓	✓
Tonga	✓	✓	✓
Turkey	-	✓	✓
Turkmenistan	-	-	✓
Uzbekistan	✓	-	✓

	Helmet fastening required	Referred to helmet standard in law	Apply helmet law to all riders
Vanuatu	✓	✓	✓
Viet Nam	✓	✓	✓

Source: Global status report on road safety 2018

Table 13. List of countries with good performance on seat-belt laws and enforcement

	Seat belt applies to		
	Drivers	Front seat passengers	Rear-seat passengers
Afghanistan	-	-	-
Armenia	✓	✓	✓
Australia	✓	✓	✓
Azerbaijan	-	-	-
Bangladesh	-	-	-
Bhutan	✓	✓	✓
Cambodia	✓	✓	-
China	✓	✓	✓
Cook Islands	-	-	-
Fiji	✓	✓	✓
Georgia	✓	✓	-
India	✓	✓	✓
Indonesia	✓	✓	-
Iran (Islamic Republic of)	✓	✓	✓
Japan	✓	✓	✓
Kazakhstan	✓	✓	✓
Kiribati	✓	✓	✓
Kyrgyzstan	-	-	-
Lao People's Democratic Republic	✓	✓	-
Malaysia	✓	✓	-
Maldives	-	-	-
Micronesia (Federated States of)	-	-	-
Mongolia	✓	✓	✓
Myanmar	✓	✓	✓
Nepal	✓	✓	-
New Zealand	✓	✓	✓
Pakistan	✓	-	-
Papua New Guinea	✓	✓	✓
Philippines	✓	✓	✓
Republic of Korea	✓	✓	✓
Russian Federation	✓	✓	✓
Samoa	✓	✓	-
Singapore	✓	✓	✓
Solomon Islands	-	-	-
Sri Lanka	✓	✓	-
Tajikistan	✓	✓	-
Thailand	✓	✓	✓
Timor-Leste	✓	✓	✓
Tonga	-	-	-
Turkey	✓	✓	✓
Turkmenistan	✓	✓	✓

	Seat belt applies to		
	Drivers	Front seat passengers	Rear-seat passengers
Uzbekistan	✓	-	-
Vanuatu	✓	✓	-
Viet Nam	✓	✓	-

Source: Global status report on road safety 2018

Table 14. List of countries with good performance on child restraints laws and enforcement

	Had restriction on children seated in front seat		Referred to child restraint standard in law
	Allowed in a child restraint	Prohibited based on age	
Afghanistan	-	-	-
Armenia	✓	-	-
Australia	-	✓	✓
Azerbaijan	✓	-	-
Bangladesh	-	-	-
Bhutan	-	-	-
Cambodia	-	✓	-
China	-	-	-
Cook Islands	-	-	-
Fiji	✓	-	-
Georgia	-	✓	-
India	-	-	-
Indonesia	-	-	-
Iran (Islamic Republic of)	-	✓	-
Japan	✓	-	✓
Kazakhstan	✓	-	✓
Kiribati	-	-	-
Kyrgyzstan	✓	-	-
Lao People's Democratic Republic	-	-	-
Malaysia	-	-	-
Maldives	-	-	-
Micronesia (Federated States of)	-	-	-
Mongolia	-	-	-
Myanmar	-	-	-
Nepal	-	-	-
New Zealand	✓	-	-
Pakistan	-	-	-
Papua New Guinea	-	-	-
Philippines	-	✓	-
Republic of Korea	✓	-	-
Russian Federation	✓	-	✓
Samoa	-	-	-
Singapore	✓	-	✓
Solomon Islands	-	-	-
Sri Lanka	-	-	-
Tajikistan	✓	-	-
Thailand	-	-	-

	Had restriction on children seated in front seat		Referred to child restraint standard in law
	Allowed in a child restraint	Prohibited based on age	
Timor-Leste	-	✓	-
Tonga	-	-	-
Turkey	✓	-	✓
Turkmenistan	✓	-	-
Uzbekistan	✓	-	-
Vanuatu	✓	-	-
Viet Nam	-	-	-

Source: Global status report on road safety 2018

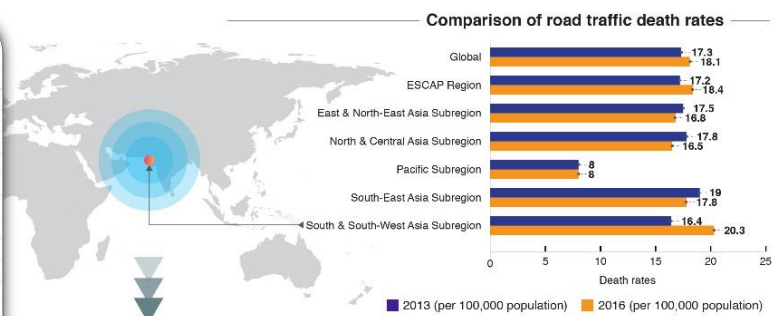
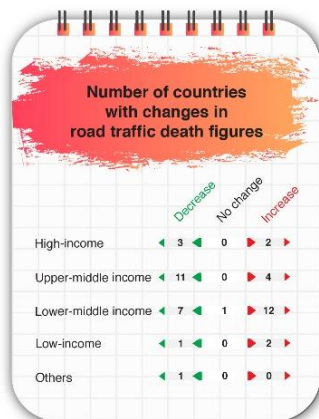
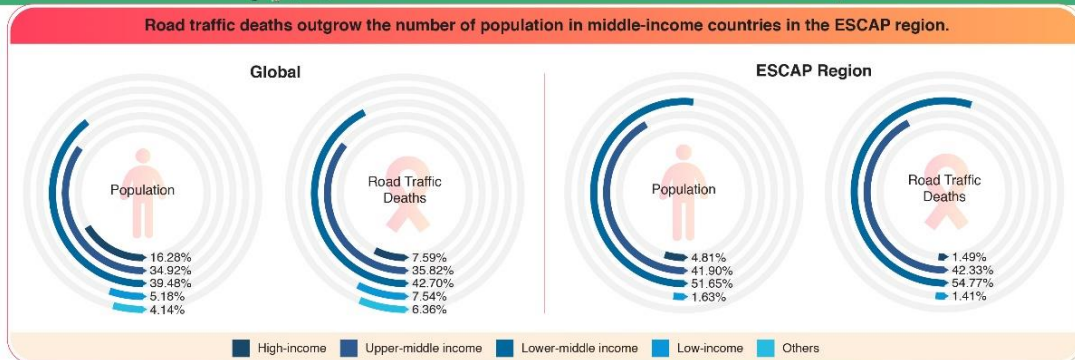
Table 15. List of countries with good performance on mobile phone laws

	Had ban on phone use while driving	
	Hand-held phone	Hand-free phone
Afghanistan	-	-
Armenia	-	-
Australia	✓	-
Azerbaijan	✓	-
Bangladesh	-	-
Bhutan	✓	-
Cambodia	✓	-
China	✓	-
Cook Islands	-	-
Fiji	✓	✓
Georgia	✓	-
India	✓	✓
Indonesia	-	-
Iran (Islamic Republic of)	✓	✓
Japan	✓	-
Kazakhstan	✓	-
Kiribati	✓	-
Kyrgyzstan	✓	-
Lao People's Democratic Republic	✓	✓
Malaysia	✓	-
Maldives	✓	-
Micronesia (Federated States of)	-	-
Mongolia	✓	-
Myanmar	-	-
Nepal	-	-
New Zealand	✓	-
Pakistan	✓	-
Papua New Guinea	-	-
Philippines	✓	-
Republic of Korea	✓	-
Russian Federation	✓	-
Samoa	✓	-
Singapore	✓	-
Solomon Islands	-	-
Sri Lanka	✓	-
Tajikistan	✓	-
Thailand	✓	-
Timor-Leste	✓	-
Tonga	-	-
Turkey	✓	✓
Turkmenistan	✓	✓
Uzbekistan	✓	✓
Vanuatu	-	-

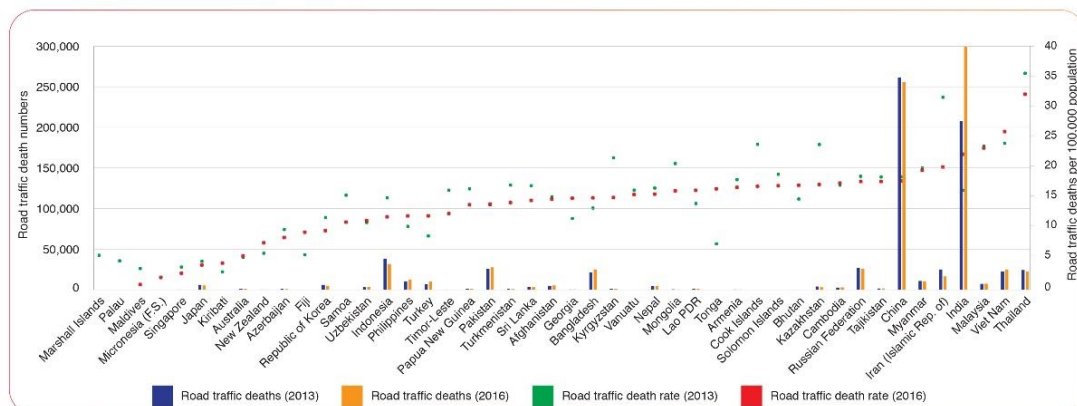
	Had ban on phone use while driving	
	Hand-held phone	Hand-free phone
Viet Nam	✓	-

Source: Global status report on road safety 2018

Appendix 3. Infographics with the Status of Road Safety in the Asia-Pacific Region



Road traffic death rates are the highest among countries in South and South-West Asia.



Global Status Report on Road Safety 2015 and 2018 by the World Health Organization (WHO)
https://www.who.int/violence_injury_prevention/road_safety_status/2015/en/
https://www.who.int/violence_injury_prevention/road_safety_status/2018/en/
 Visit ESCAP Transport Division Website: www.unescap.org/our-work/transport



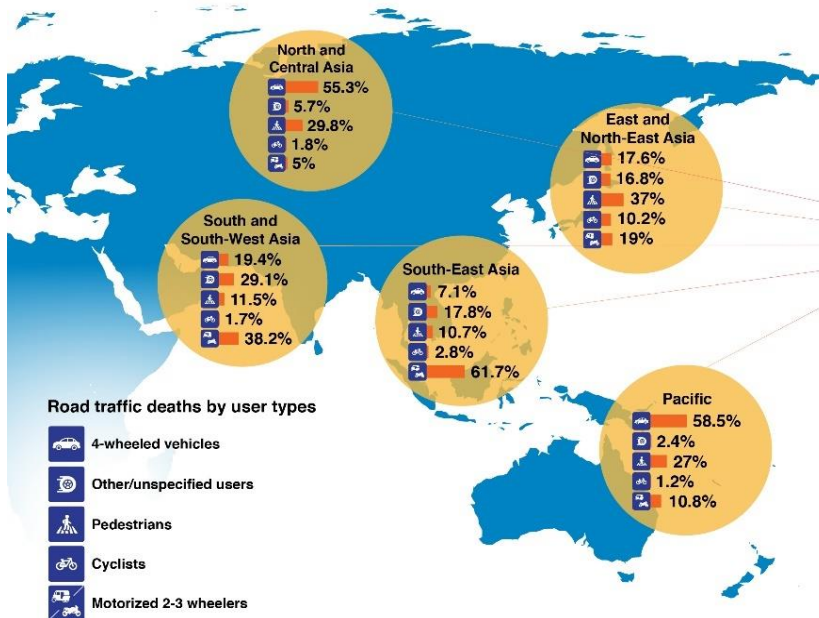
KEY RISK FACTORS AND ROAD TRAFFIC DEATHS BY USER TYPES IN THE ASIA-PACIFIC REGION



More legislations are needed on **seatbelt usage**, **child restraint**, **mobile phone usage** and **drug-driving**.

More awareness-building is needed on 3 risk factors including **speeding**, **drink-driving** and **helmet usage**.

Subregion	Road user type				Risk factors		
	Seatbelt usage	Child restraint	Mobile phone usage	Drug-driving	Speeding	Drink-driving	Helmet usage
East and North-East Asia	100%	25%	100%	100%	100%	100%	100%
North and Central Asia	100%	22%	100%	89%	100%	100%	100%
Pacific	64%	27%	45%	91%	91%	100%	100%
South-East Asia	100%	30%	90%	80%	100%	100%	100%
South and South-West Asia	80%	10%	70%	90%	100%	91%	91%



Pedestrians, cyclists and motorized 2- and 3-wheelers

accounted for **55%** of all road traffic deaths in the Asia-Pacific region.



Global Status Report on Road Safety 2018 by the World Health Organization (WHO)
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