

**Economic and Social Commission for Asia and the Pacific**

Committee on Transport

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Cross-cutting issues in transport**Safe and inclusive transport and mobility****Note by the secretariat***Summary*

Safe and inclusive transport and mobility is key to enabling participation in society, by providing access to socioeconomic and life-enhancing opportunities. It is broadly defined as the ability to safely and reliably access a preferred destination by navigating in an environment considerate of individual needs. Safe and inclusive transport and mobility can, thus, have a domino effect towards enhancing an inclusive society that leaves no one behind.

The present document contains selected regional considerations on safe and inclusive transport and mobility in the Asia-Pacific region, highlighting the potential areas for regional cooperation on transport and related activities of the Economic and Social Commission for Asia and the Pacific for reducing poverty, promoting gender equality and supporting social inclusion in the context of the 2030 Agenda for Sustainable Development. The present document also contains updated information on the secretariat's recent and ongoing activities on the relevant thematic areas of the Regional Action Programme for Sustainable Transport Connectivity in Asia and the Pacific, phase I (2017–2021).

The Committee on Transport may wish to consider the progress made since its previous session, held in 2018, discuss the merits of incorporating broader social considerations into the regional cooperation mechanisms for transport development and provide guidance to the secretariat on its future activities in this regard.

I. Introduction

1. Transport and mobility can contribute to reducing poverty and support equitable and inclusive social development in Asia and the Pacific. The availability of safe and reliable transport infrastructure and services that enable people and goods to reach a range of destinations at reasonable costs and within reasonable time frames is essential for economic growth and indispensable for a balanced distribution of economic and social benefits, as is ensuring proper management of the environmental impact of human development. As the global and regional policy discussions have evolved from the topic of establishing the link between transport and the Sustainable Development Goals to analysing how and under which conditions the transport sector can enable their realization, there is a need to reassess the social dimensions of transport and mobility.

* ESCAP/CTR/2020/L.1.

2. Traditional transport policies and interventions tend to focus on the economic impact of transport and connectivity, while their social benefits have often been believed to evolve as a by-product of the economic stimulus of infrastructure development and a corresponding increase in the volume of goods and passengers transported. Although this holds true to some extent, it does not necessarily reveal the full extent of the social dimensions of transport and mobility. Conversely, there is enough empirical evidence showing that extending infrastructure or reducing transport costs do not always guarantee a significant impact on poverty reduction or inequality. To the contrary, the persisting social gaps in the region can be partly attributed to the existing transport systems and policies which reflect the current distribution of economic and social power in today's societies. With the exception of road safety, which is extensively addressed in the activities of the Economic and Social Commission for Asia and the Pacific (ESCAP) and in the Regional Action Programme for Sustainable Transport Connectivity in Asia and the Pacific, phase I (2017–2021), these elements are largely absent from the systematic regional transport activities and transport cooperation of ESCAP member States.

3. The range of destinations that are safely accessible at any given departure point influences the range of choices made by individuals, social groups, businesses and so on. People living in poverty travel, on average, shorter distances and make fewer trips but take more time to do so and in less safe conditions than higher-income people. However, access to transport infrastructure should not be assumed to be an accurate or absolute indicator of access to destinations or opportunity, whether that is an employment, health-care or education destination, to name just a few. For example, access to a road does not mean that there is access to transport services nor that the essential destinations (for example, schools or hospitals) are accessible safely, at a reasonable time and affordable cost. One needs to factor in whether and how well-connected that road is to a broader network and whether public transport services are provided on that road or if car ownership is the only option. Therefore, equating access to transport with access to opportunity can only be accurate when the transport system is designed to ensure that these basic needs are met and when transport policy, investment and design are part of a broader social and poverty reduction strategy.

4. It follows that these elements need to be understood at a deeper level and considered more systematically in the transport policymaking process in the pursuit of the Sustainable Development Goals. Against this background, the present document contains selected regional considerations on safe and inclusive transport and mobility in the Asia-Pacific region, highlighting the potential areas for regional cooperation in transport and related activities of the secretariat for reducing poverty, promoting gender equality and supporting social inclusion in the context of the 2030 Agenda for Sustainable Development. The document also contains updated information on the secretariat's recent and ongoing activities on road safety, as envisaged in the Regional Action Programme for Sustainable Transport Connectivity in Asia and the Pacific, phase I (2017–2021).

II. Transport safety

A. Road safety: global goals and regional challenges

5. Globally, 97 per cent of transport-related deaths are estimated to occur on roads. Data from the World Health Organization (WHO) indicate that 1.35 million fatalities occurred from road crashes in 2016 (most recent available data), with the number of non-fatal injuries ranging from 20 million to 50 million. In the ESCAP region, one person is killed in a road crash every 38 seconds. That is two lives lost every minute and 2,200 per day. In 2016, the ESCAP region had

the same road crash death rate as the global average of 18 deaths per 100,000 inhabitants. The secretariat has estimated that between 2013 and 2016, road fatalities in the ESCAP region increased by 10.5 per cent, and if road crash fatalities in the region continue to increase at the same rate, no reduction in road crash deaths in non-ESCAP countries could help to achieve the desired global reduction as envisaged in the Sustainable Development Goals; additionally, the number of fatalities globally could increase to as much as 1.6 million by 2028.¹

6. Considering only fatalities, travel by road is the most dangerous mode of travel. While risk exposure levels across modes should be considered for making reliable comparisons, some general conclusions can be drawn from the number of fatalities recorded over time in each transport mode. For comparison, for commercial passenger aeroplane travel, there were zero fatalities in 2017 and 500 in 2018. Therefore, the fatal accident rate for large commercial passenger flights in 2018 was estimated at 0.36 per million flights, or one fatal accident for every 3 million flights.

7. Road safety has been prioritized in global mandates for several years already. Since 2004, a total of eight resolutions² have been adopted by the General Assembly, and since 2010, three ministerial declarations were adopted by the global community. In March 2010, the General Assembly proclaimed the Decade of Action for Road Safety for 2011–2020 in its resolution 64/255,³ with the aim of stabilizing and then reducing the number of road traffic fatalities globally. The adoption of the 2030 Agenda by the General Assembly in 2015 gave much needed impetus to improving road traffic safety, which is addressed in Sustainable Development Goal targets 3.6 and 11.2. Specifically, target 3.6 of Goal 3 aimed to halve the number of global deaths and injuries from road traffic accidents by 2020; however at the present date, halfway through 2020, WHO predictions show that target is no longer attainable. Attempting to accelerate progress, in November 2017 the member countries of WHO finalized a comprehensive set of a further 12 voluntary global performance targets for road safety risk factors and service delivery mechanisms,⁴ which were welcomed by the General Assembly in its resolution 72/271.

8. Against this background, the third Global Ministerial Conference on Road Safety was held in Sweden, in February 2020. The Global Ministerial Conference proposed a renewed global road safety vision that describes how existing accomplishments combined with progressive techniques can lead to a new era in which road safety is integrated into a range of social development policies and pursued in a comprehensive manner.⁵ This vision formed the basis for the Stockholm Declaration,⁶ in which, adding to existing commitments, member countries are called upon to contribute to reducing road traffic deaths by at least 50 per cent from 2020 to 2030; businesses and industries of all sizes and sectors are called upon to apply safe system principles to the entire value chain; and public organizations at all levels are called upon to procure safe and

¹ ESCAP, *Road Safety in the Asia-Pacific Region* (Bangkok, 2019).

² Resolutions on road safety adopted by the General Assembly are available at www.who.int/roadsafety/about/resolutions/download/en/.

³ Information about the Decade of Action is available at www.who.int/roadsafety/decade_of_action/en/.

⁴ See www.who.int/violence_injury_prevention/road_traffic/road-safety-targets/en/.

⁵ Sweden, Swedish Transport Administration, *Saving Lives Beyond 2020: the Next Steps – Recommendations of the Academic Expert Group for the 3rd Global Ministerial Conference on Road Safety* (Borlänge, Sweden, 2019).

⁶ See www.roadsafetysweden.com/contentassets/b37f0951c837443eb9661668d5be439e/stockholm-declaration-english.pdf.

sustainable transport services and vehicles while encouraging the private sector to follow the same example.

9. Regional initiatives and activities have followed suit in the ESCAP region. The Regional Road Safety Goals and Targets for Asia and the Pacific 2016–2020 were adopted by the Third Ministerial Conference on Transport in Moscow in 2016, aiming for a 50 per cent reduction in fatalities and serious injuries on the roads of the region by 2020. Commission resolution 74/3 on improving road safety in Asia and the Pacific for sustainable transport systems was subsequently adopted, in which the Commission called upon member States and the secretariat to further strengthen international cooperation and knowledge-sharing on road safety at all levels.

10. Ensuing regional activities have included emphasis on improving road infrastructure, which is an important factor in road safety, especially in the low-income and lower-middle income countries of the Asia-Pacific region. The roadway and roadside elements influence crash risk as they are closely linked to how road users perceive the road environment. A study on Mumbai-Pune Expressway road crashes⁷ in India showed that the combination of human and infrastructure factors accounted for 22.5 per cent of all road crashes. Safer roads can be achieved by integrating safety into the planning, design, construction and operation of roads. For example, a study on median width revealed that a multi-lane highway with a three-metre wide median has a 4 per cent greater probability of crashes than a highway with a nine-metre wide median.⁸ While planning, designing and building a road is possible almost everywhere in the region, projects that upgrade the safety features of an entire route or a road network are still rare.

11. The adoption of annex II bis to the Intergovernmental Agreement on the Asian Highway Network entitled “Asian Highway Design Standards for Road Safety”, in December 2017, was a promising step towards implementing common safety standards for infrastructure facilities. As per article 8, paragraph 5, of the Agreement, the new annex will enter into force 12 months after two thirds of the parties to the Agreement have deposited an instrument of acceptance with the Secretary-General. However, as of August 2020 no instruments of acceptance had been deposited, indicating a need to further promote regional norm-setting and to strengthen efforts to fully leverage the potential of the ESCAP legislative framework.

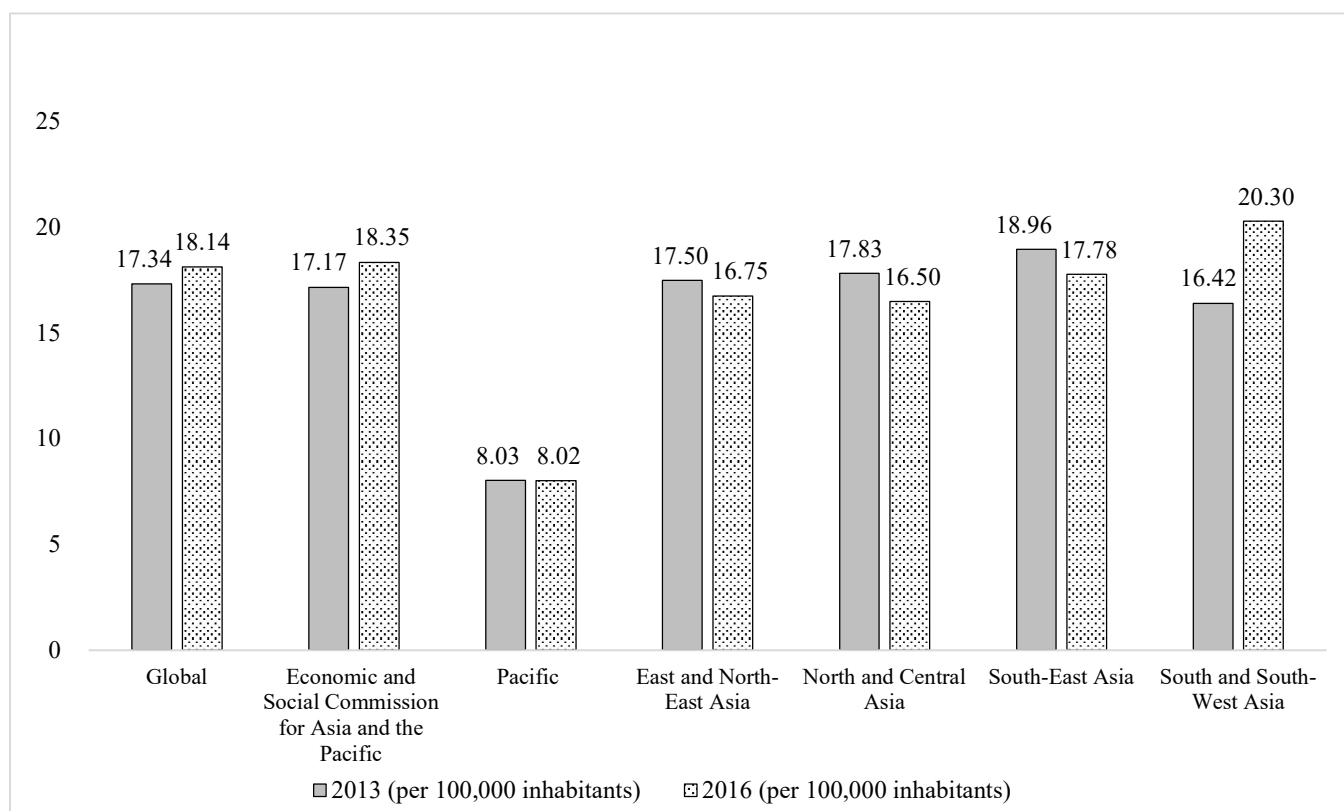
12. The establishment of the United Nations Road Safety Fund in 2018, pursuant to General Assembly resolution 70/260, was meant to provide an important supplementary source of much-needed funding to address road safety challenges worldwide. Since the establishment of the Fund, five pilot projects were approved in 2019 and 10 more in February 2020. The secretariat is supporting the implementation of two projects financed by the Fund in 2019 and 2020, on strengthening speed management in the Philippines and improving the driver licensing system in the Lao People’s Democratic Republic.

⁷ JP Research India PVT LTD, “Mumbai – Pune Expressway road accident study” (Maharashtra, India, 2019). Available at <http://rassi.org.in/pdf/Mumbai%20Pune%20Expressway%20Road%20Accident%20Study%202018.pdf>.

⁸ David L. Harkey and others, “Accident modification factors for traffic engineering and ITS improvements”, National Cooperative Highway Research Program Report 617 (Washington, D.C., Transportation Research Board, 2008).

13. Despite ongoing efforts, the overall number of road traffic fatalities continues to increase. The secretariat’s calculations, based on data available from WHO (the custodian agency for the relevant Sustainable Development Goal indicator, 3.6.1), indicate that road traffic fatalities increased from 733,541 in 2013 to 812,995 in 2016, an increase of almost 11 per cent during this period. Furthermore, the Asia-Pacific region accounted for 62.5 per cent of the global road traffic fatalities in 2016. While in East and North-East Asia, North and Central Asia, and South-East Asia there has been a reduction in road traffic fatality rates, in South and South-West Asia there was an increase from 16.42 to 20.30 fatalities per 100,000 inhabitants. The road traffic fatality rates by subregion are presented in figure I.

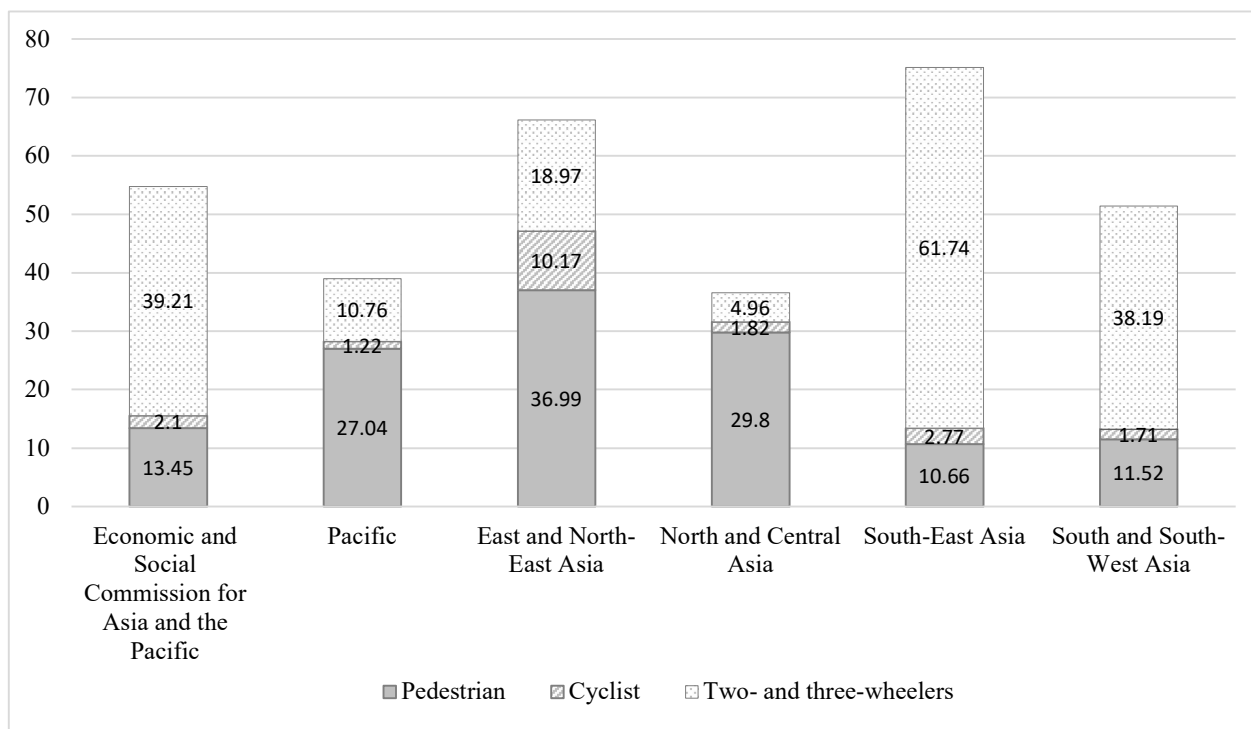
Figure I
Road traffic fatalities per 100,000 inhabitants in 2013 and 2016



Source: ESCAP calculations based on data from WHO.

14. Road crashes also affect types of road users differently. Vulnerable road users, namely pedestrians, cyclists and users of motorized two- and three-wheelers, represent 54.8 per cent of fatalities in Asia and the Pacific. Notably, pedestrians and cyclists represent 15.5 per cent of all deaths in the region, while those using motorized two- and three-wheelers represent 39.2 per cent of fatalities. South-East Asia and East and North-East Asia have the highest proportion of vulnerable road user fatalities, accounting for 75.2 and 66.1 per cent of fatalities, respectively. In South-East Asia, most fatalities are among riders of motorized two- and three-wheelers, which represents 61.7 per cent of all road traffic fatalities (figure II).

Figure II
Fatalities of vulnerable road users in the Economic and Social Commission for Asia and the Pacific region in 2016
 (Percentage)



Source: ESCAP calculations based on data from WHO.

15. Against this background of rising fatalities, with funding support from the Russian Federation, ESCAP implemented in 2018 and 2019 a project tackling the main causes of road traffic crashes, fatalities and injuries in Asia-Pacific countries to achieve the road safety targets of the Sustainable Development Goals. The project was designed to support ESCAP member countries in achieving the goal of 50 per cent reduction in road traffic fatalities and injuries by enhancing their capacities to formulate and implement comprehensive road safety policies and plans that address the main causes of road traffic crashes, fatalities and injuries. These include impaired driving, speeding and lack of law enforcement.

16. The project's two reports⁹ included status assessments in the region as well as policy recommendations providing guidance to the member countries in their efforts to address these road safety challenges and to target relevant policies and implementation plans, including regulations and enforcement and control measures as well as how to optimize limited resources. The policy recommendations were discussed at a regional seminar held in New Delhi, which was organized in collaboration with the Asian Institute of Transport Development on 24 and 25 April 2019. Two subregional capacity-building workshops were also held, in Manila for South-East Asia on 27 and 28 August 2019 and in Baku for North and Central Asia on 3 and 4 October 2019, in collaboration with the Department of Transport of the Philippines and the

⁹ ESCAP, *Strategies to Tackle the Issue of Speed for Road Safety in the Asia-Pacific Region: Implementation Framework* (ST/ESCAP/2888); and *Strategies to Tackle the Issue of Impaired Driving for Road Safety in the Asia-Pacific Region: Implementation Framework* (ST/ESCAP/2887).

Ministry of Transport, Communications and High Technologies of Azerbaijan, respectively.

17. Addressing road safety involves a variety of sectors and agencies, including transport, legislation, law enforcement, urban planning and health care, among others. Accordingly, designating a nationally funded agency to facilitate multisectoral collaboration and lead the development and implementation of national road safety plans is essential for effective fatality reduction. In 2016, of the 44 reporting countries in the Asia-Pacific region, 41 countries reported having a lead road safety agency, and, of those, 36 received funding in the national budget.

18. As encouraging as this is, effective monitoring and evaluation of progress is contingent upon accurate data systems to measure and monitor road traffic deaths, injuries and crashes. This is proving to be a formidable challenge in Asia and the Pacific. In many ESCAP member countries, underreporting of road crashes is a significant problem, especially in the low- and middle-income countries. This is an inhibiting factor in understanding the scale and impact of the problem. A comparison between government-reported road crash fatalities and fatalities estimated by WHO in 2016 showed underreporting in the low-income countries by 84 per cent and in the middle-income countries by 51 per cent.¹⁰ The secretariat calculated that, as a result, several member States appear to have the much lower fatality rate of fewer than 9 fatalities per 100,000 inhabitants, as compared to the fatality rate of 18.17 fatalities per 100,000 inhabitants estimated by WHO in those countries.

19. To address this data discrepancy, in early 2019, ESCAP joined the initiative for the establishment of a road safety observatory for the Asia-Pacific region. The aim of the Asia-Pacific Road Safety Observatory is to become the regional forum on road safety data, policies and practices across the region. It will provide a platform for decision makers to learn more about the importance of accurate and harmonized crash data and to foster the development of a synergistic environment to empower countries to collect useful and timely information to address the ongoing road safety crisis.

20. The initiative was launched by the Asian Development Bank, the International Automobile Federation, the International Transport Forum, ESCAP and the World Bank, with support from WHO and the Global Road Safety Facility. Funding support is provided by UK Aid Network and the Government of Japan through the Partnership for Quality Infrastructure with the World Bank. The kick-off workshop was hosted by the World Bank in Singapore in March 2019, and a second workshop was hosted by ESCAP in Bangkok in December 2019. The establishment of the Observatory was officially announced at the third Ministerial Conference on Road Safety in Stockholm in February 2020. The first workshop on implementation regarding the Observatory was held online on 26 August 2020 by the Asian Development Bank in collaboration with ESCAP and other development partners.

21. As of the end of August 2020, six member countries¹¹ have confirmed their membership in the Observatory. For the Observatory to become a functional regional tool for improving road safety, it will be important to ensure its regional acceptance and widespread use. In that regard, broad participation and membership by ESCAP member States will be critical for moving forward,

¹⁰ World Bank, *Guide for Road Safety Opportunities and Challenges: Low- and Middle-Income Countries Country Profiles* (Washington, D.C., 2019).

¹¹ Afghanistan, Azerbaijan, Cambodia, Kazakhstan, the Lao People's Democratic Republic and Mongolia. Myanmar has expressed interest in becoming an observer.

particularly for harmonizing the methodologies for the collection and analysis of road safety data through the envisaged regional database.

22. It would be remiss to not mention the enabling role of technology for enhancing road safety and the work of the secretariat and its member States. Intelligent transport systems have been shown to improve the safety, efficiency and convenience of the road system by using advanced information technologies while minimizing costly large-scale road construction. Activities in the region indicate that intelligent transport systems can address traffic congestion and reduce traffic crashes as well as their severity. In Japan, a real-time incident detection and warning system installed on a dangerous curve on the Hanshin Expressway decreased the rate of secondary crashes by 50 per cent.¹² A study in Hubei, China, demonstrated how virtual reality training of school-age children can improve pedestrian behaviour significantly.¹³ In the Republic of Korea, an automated speed enforcement system reduced crash frequency by an estimated 28 per cent and decreased crash fatalities by an estimated 60 per cent.¹⁴

23. The efforts to address traffic safety issues with intelligent transport systems in the region are not without challenges. The cycle of development of new technologies is shorter than the policy cycle, resulting in belated follow-up in terms of organization and implementation of regulations and policies. Successful implementation of intelligent transport systems thus requires cross-sectoral and concerted organizational mechanisms encompassing the public and private sectors, as well as harmonization between different stakeholders. The secretariat's activities and projects on intelligent transport systems are designed on the premise that regional standards would facilitate efficient interactions among applications and seamless services.

B. Rail and maritime safety

24. Rail transport is considered one of the safest ways to travel, but accidents do occur. As in other high-risk industries, railways need to ensure safety in a dynamic, demanding operational environment by managing threats and errors such as mechanical defects, track or asset maintenance, weather conditions, signalling issues and driver errors that could lead to fires, collisions or derailments with multiple casualties in the event of an accident. Railway systems are also particularly vulnerable to the behaviour of people outside of the railway system. According to the International Union of Railways, third parties such as road users at road-rail grade intersections as well as suicide attempts and other

¹² See United States of America, Department of Transport, Office of the Assistant Secretary for Research and Technology, "In Japan, a real-time incident detection and warning system installed on a dangerous curve on the Hanshin Expressway decreased the rate of secondary crashes by 50 percent", Intelligent Transportation Systems Joint Program Office, October 1997. Available at www.itsbenefits.its.dot.gov/its/benecost.nsf/ID/0C9B25220A2190578525733A006D5E37?OpenDocument&Query=Home.

¹³ Heng Luo and others, "Using virtual reality to identify and modify risky pedestrian behaviors amongst Chinese children", *Traffic Injury Prevention*, vol. 21, 2020, Issue 1 (January 2020), pp. 108–113.

¹⁴ United States of America, Department of Transport, Office of the Assistant Secretary for Research and Technology, "An automated speed enforcement system deployed in Korea reduced crash frequency by 28 percent and decreased crash fatalities by 60 percent", Intelligent Transportation Systems Joint Program Office, 12–16 October 1998. Available at www.itsbenefits.its.dot.gov/its/benecost.nsf/ID/E3D512F0F38DD85285256B6000627E82?OpenDocument&Query=Home.

such events represented almost 97 per cent of the rail-related fatalities recorded in 2018.

25. In the shipping sector, the number of reported shipping incidents in the region has increased by 22 per cent in the past four years, according to the *Safety and Shipping Review 2019: An Annual Review of Trends and Developments in Shipping Losses and Safety* by the Allianz Global Corporate and Specialty. However, this is considered the result of the increasing volume of ships that pass through the region, rather than below-par safety standards. Indicatively, the number of ships passing through the Straits of Malacca increased from 71,359 in 2009 to 85,030 in 2018, which is a 2 per cent annual growth rate. For the most part, it is general cargo ships that are involved in marine casualties or incidents, with crew the most affected category of persons.

26. Conversely, the safety record of domestic passenger ferry services requires further attention. Approximately 2,000 deaths are known to occur annually as a result of passenger vessel accidents globally. Practically all of them involve ferries on domestic voyages. The vast majority of these accidents occur in Asia and the Pacific. Unseaworthy vessels, passenger overloading, deficiencies in evacuation systems, lifesaving equipment and search and rescue protocols are some of the key issues that need to be addressed through enhanced safety standards in the region. To that end, ESCAP and the International Maritime Organization jointly organized a virtual expert group meeting on 17 March 2020. The ensuing Bangkok Declaration on Enhancing Domestic Ferry Safety in Asia and the Pacific and on the Development of Model Regulations on Domestic Ferry Safety marked the beginning of efforts towards the development of relevant action plans and the implementation of capacity development programmes in this area.

III. Broader perspectives on inclusive transport

27. The ESCAP region has an estimated 400 million people living in extreme poverty, or below the threshold of \$1.90 a day. At the higher international poverty line of \$3.20 a day, the number of the poor rises to 1.2 billion, accounting for more than a quarter of the region's total population. Beyond monetary measures, indicators of multidimensional aspects of poverty show that in many parts of the region, a large share of the population still lacks access to basic infrastructure and services, including transport.

28. Transport disadvantage, which is specific to an entire country or region, and social disadvantage, which is specific to individuals, households and groups, directly and indirectly interact to cause what is referred to as transport poverty, thus handicapping the affected person(s) even further. The result of such an accumulation of disadvantages is inaccessibility, which, in turn, leads to social exclusion. This mechanism explains why transport-related deprivations and geographic isolation particularly affect vulnerable socioeconomic groups.

A. Links to poverty and inequality: a space for further policy interventions in transport

29. Transport poverty is hard to measure, and there is no universally agreed definition. Moreover, some question whether it even exists as a stand-alone phenomenon or whether it is simply an extension of being poor. In general, an individual can be considered transport poor if, in order to satisfy daily basic activity needs, at least one of the following conditions apply:

(a) There is no transport option that is suited to the individual's physical condition and capabilities;

(b) The existing transport options do not reach destinations where the individual can fulfil his/her daily activity needs;

(c) The weekly amount spent on transport leaves the household with a residual income below the official poverty line;

(d) The individual needs to spend an excessive amount of time travelling, leading to time poverty or social isolation;

(e) The prevailing travel conditions are dangerous, unsafe or unhealthy.

30. Documenting and addressing the link between transport interventions and the various dimensions of poverty, accessibility and income inequality warrants more systematic research and policy attention. There is a lack of analysis of how and when transport interventions can help to reduce poverty and income inequality in the available literature, leaving significant knowledge gaps for the development of transport policies. Even though the association between transport infrastructure and economic growth has been well established, there is little evidence to show that economic growth attributable to infrastructure development alone will consequently lead to a reduction in inequality.

31. A review of the studies that have attempted to model the impact of infrastructure on income distribution or inequality shows there is no unanimity in the theoretical literature on the predicted relationship. The direction of the relationship depends on the assumptions made regarding the nature of infrastructure investment and the manner in which it is financed; the kind of infrastructure services considered; the sectors in the economy and sets of agents or population groups in the economy; and whether the distinction between impact on income and impact on wealth distribution has been considered, among other differences. Similarly, empirical literature on this topic also does not provide a unanimous conclusion in terms of infrastructure development leading to a reduction or increase in inequality. There is thus little systematic information on access to, and affordability of, infrastructure services for different percentiles of the income distribution, whether over time or across countries.

32. While infrastructure may conceivably help to reduce inequality, at the same time inequality may hamper the provision of infrastructure services to the poor. For example, in cases where there is a clear improvement in the provision of transport infrastructure and services, it is often observed that the poorest segments of society are not able to directly benefit from it; conversely, they may be marginalized by the externalities related to that growth. A pertinent example of this is the rate of urbanization in the region. In Asia, the urban population is nearing 50 per cent, even though the continent remains home to the world's largest rural population. The composition of emerging urban centres in the region includes a significant proportion of households in poverty that are found to spend a higher percentage of their income on transport and have lower vehicle ownership rates. In addition, there has been a trend of decreasing urban density, as cities accommodate motorized transport and low-density housing is built on their outskirts. These tend to be poor residential areas that often lack access to road infrastructure and connectivity with the rest of the city. The growth of cities and the reduction in density increases trip distances. This causes more complex journeys and makes the provision of public transport more difficult away from city centres.

33. Despite substantial road building in the region's cities, congestion has been getting worse and average traffic speeds have been declining. Congestion affects all road users, and poor people frequently have to walk or cycle or travel in slow-moving, overcrowded buses without necessarily considering this safe, reliable or easy. While rural road building can directly benefit poor communities, urban transport interventions such as new roads, subways or other rail lines and bus rapid transit are often designed to reduce urban congestion due to increasing car use and do not equally benefit poorer sections of the population unless designed to do so.

34. Another example of the impact of inadequate transport on the poor can be extracted from regional data on maternal mortality, the reduction of which is included in the Sustainable Development Goals. In Asia and the Pacific, the average maternal mortality rate is extremely high at 127 per 100,000 live births, according to the United Nations Population Fund. Researchers have extensively documented how inadequate, physically inaccessible or prohibitively expensive transport to basic health facilities and/or for referrals to hospitals continues to be a major cause of perinatal mortality in the region.

35. Transport issues overlap with safety and crime prevention, which also disproportionately affect the poor. Theft of bicycles or motorcycles represents a critical asset loss for individuals and households in poverty. Lack of effective enforcement of traffic rules designed to protect vulnerable road users leads to crashes and accidents. Crime and harassment on public transport and while waiting for public transport is a problem in many cities, especially for women. Poor street lighting affects low-income areas more than higher income areas and contributes to poor road safety as well as curtailing the after-dark movements of many people, especially women, for fear of crime or harassment. Unsuitable pedestrian facilities, such as desolate pedestrian tunnels or overhead bridges, can also be unsafe.

36. It follows that the transport sector can do more to better articulate its role as a vehicle of poverty reduction and social inclusion. However, improved transport alone cannot reduce poverty. While transport systems are development prerequisites, in the absence of a special focus on poverty reduction and accompanying wider policies, they cannot bring about well-being, solve the challenges of poverty and increasing inequality associated with social mobility, or fulfil its role as one of the key mechanisms for the development of human capabilities. Although social inclusion, and exclusion, should be regarded as a process rather than a fixed state, operational understandings often overlook its dynamic, relational and multi-scalar nature.

37. In order to address these issues effectively, it is not only necessary to conceptualize the links between poverty, inequality and transport but also to collect and analyse the relevant information and translate it into policies and investment choices. There is a striking lack of data in the region on this topic. Findings and conclusions can be extrapolated through proxy indicators and data collected for other development areas. In view of the pressing need to accelerate progress towards achieving the Sustainable Development Goals, it is imperative that regional cooperation on transport incorporates direct poverty reduction considerations in transport interventions and that appropriate data and metrics be developed to support decision makers.

38. In this context, ESCAP, with funding support from the Russian Federation, is implementing a project for the period 2020–2021 in partnership with the Russian University of Transport on enhancing cooperation among transport research, education and training institutes and government agencies for sustainable transport development in selected countries of Asia and the Pacific.

The aim of the project is to establish a regional network for exchanging knowledge among transport research, education and training institutes and government agencies within the ESCAP region. The project will also include the development of a comprehensive sustainable transport education and training programme for transport professionals, meant to directly enhance Governments' capacity to implement sustainable transport strategies and policies. Furthermore, the project will directly benefit transport professionals and contribute to building a qualified human resource base that can fully assess the wider social, economic and environmental impacts of transport systems and services, as well as utilize appropriate new technology in implementing sustainable and inclusive transport policies and programmes.

B. The road safety-poverty reduction nexus

39. In addition to lives lost, an estimated 3 per cent of gross domestic product (GDP) is lost due to road crashes globally. The World Bank estimated the cost of road crashes to developing countries at \$100 billion a year based on lost GDP of between 1 and 2 per cent a year. In some developing countries, the estimated GDP losses are as high as 6 per cent. Furthermore, according to a simulation scenario by the World Bank and the Global Road Safety Facility, halving fatalities and injuries due to road traffic over the period 2014–2038 could potentially add 22 per cent to GDP per capita in Thailand, 15 per cent in China, 14 per cent in India and 7 per cent in the Philippines.¹⁵

40. According to WHO, 93 per cent of all fatal road crashes occur in low- and middle-income countries, which are home to 85 per cent of the world's people, who nevertheless own only 60 per cent of all vehicles. The statistic shows that the risk of dying in a traffic accident is three times higher in low-income countries than in high-income countries. Furthermore, the transport conditions and mobility behaviours of lower-income population groups have been documented to have very specific patterns that are highly differentiated from their higher-income counterparts in almost every country in the world. Specific recognition of these differences is extremely important for the planning and delivery of policies that can reduce road traffic injuries and fatalities.

41. Accordingly, it could be contended that, as with other technological advances, neither the benefits nor the costs of motorization are equally or fairly distributed, and that poverty and road traffic deaths and injuries are strongly interlinked. For example, a study in Bangladesh showed that mortality from road traffic injuries was twice as high among the poorest socioeconomic groups as among the richest. Furthermore, the research found that fewer seriously injured poor people are able to return to their jobs, and more than 70 per cent of poor bereaved families suffered a decrease in household income following a road crash. Another study noted that, in India, in the majority of poor households who have a family member injured in a road crash, at least one person has to stop working – predominantly women – to care for that family member, thus incurring immediate economic effects as a result of lost income. Another case study in the Republic of Korea highlighted that close to 71 per cent of people who suffer a disability as a result of a road crash experience job loss, and a significant portion of those victims remain unemployed for a long time. Furthermore, 49.5 per cent of those injured from road crashes in the Republic of Korea were forced to give up the home they owned and move into rental properties. A detailed study in Cambodia reached the conclusion that road traffic crashes lead to a 21 per cent income loss for affected families.

¹⁵ World Bank, *The High Toll of Traffic Injuries: Unacceptable and Preventable* (Washington, D.C., 2017).

42. The aim of the Sustainable Development Goals is to address the factors which cause and perpetuate poverty. The pattern of road traffic crashes shows that poor people are more likely to be involved in a crash, and the economic impact on people with low incomes can be more significant, pushing people deeper into poverty or limiting their future economic potential. Given that road traffic deaths and serious injuries are largely preventable, road safety should be considered an element of poverty reduction strategies at the regional, national and household levels. The secretariat's activities and regional cooperation on road safety currently do not systematically address this link. Considering the availability of data, there is scope for the secretariat's work on road safety to include data analysis and relevant policy considerations.

C. Inclusive transport for persons with disabilities

43. Almost 60 per cent of the world's 650 million persons with disabilities live in Asia and the Pacific. Persons with disabilities are more likely to experience adverse socioeconomic outcomes than persons without disabilities, such as less education, poorer health outcomes, lower levels of employment and higher poverty rates. A fundamental factor in the link between disability and poverty is limited access to transport or inability to use transport services. Lack of mobility has economic and social consequences. In economic terms, a large number of people are lost to the workforce and so cannot contribute to the national economy. The World Bank estimates losses of between 15 and 40 per cent in GDP due to disability in low-income countries. In social terms, poverty and ill health associated with disability affect quality of life, not only of the individual with a disability but also of their entire family and the wider community.

44. The Convention on the Rights of Persons with Disabilities does not have a specific article on transport but acknowledges its centrality for people with disabilities to access a range of services. In the Asia-Pacific region, the Incheon Strategy to "Make the Right Real" for Persons with Disabilities in Asia and the Pacific is the benchmark for progress for people with disabilities in the region and includes goals on access to transport. Safe, affordable, accessible and sustainable transport systems for people with disabilities as well as other vulnerable people is also a key target of the Sustainable Development Goals.

45. Much of the existing research tends to compare transport use between disabled and non-disabled populations, rather than between different groups of people with disabilities. Consequently, there is limited evidence of what works for specific groups. Given the scarcity of data on transport disadvantage for persons with disabilities, identifying solutions can be even more challenging. Moreover, there is very little research on the types of journeys persons with disabilities make, the modes of transport they use, and their overall experiences of the journey. Therefore, more information is needed for planners and policymakers to understand where, what and how they should best invest in making transport more inclusive of people with disabilities. Some examples of disability inclusive transport measures are outlined in the table.

Addressing mobility barriers

<i>Barrier to mobility</i>	<i>Wheelchair user</i>	<i>Walking difficulty</i>	<i>Vision impairment</i>	<i>Hearing impairment</i>	<i>Learning disability</i>	<i>Mental health issue</i>
Getting from home to bus stop/station	Appropriate wheelchair; smooth surfaces; barrier free sidewalks	Smooth surfaces; barrier free sidewalks; resting places	Barrier free sidewalks; tactile marking at crossing points	Visual directional signing	Clear signs	Clear signs
Access to mode of transport	Ramp or lift; raised bus stop; space on board	Handholds; raised bus stop or low floor bus	Colour contrast on step edges and handholds	Visual information	Clear information; staff available to help	Clear information; staff available to help
On the mode of transport	Smooth surfaces	Easy access to seat; time to reach seat before vehicle departs	Easy access to seat; audible information on next stop	Visual information on next stop	Clear information on next stop	Clear information, calm environment
After disembarking	Barrier free sidewalks	Barrier-free sidewalks; resting places	Tactile guidance; designated crossing points	Clear information	Clear information and signage	Clear information and signage

Source: Adapted from the Transformative Urban Mobility Initiative, Disability Inclusive Public Transport: Practical Steps to Making Public Transport Disability Inclusive (2019).

46. It follows that the mobility needs of people with disabilities must be factored into transport and city planning policies right from the start, because retrofitting accessibility features is difficult and expensive. Overall, the focus on inclusion still warrants a shift from a focus on access alone – which can be measured and audited by sets of standards and other tools – to broader discussions on inclusion. However, solutions need to ensure that the emphasis is put on adapting the environment, not the person.

D. Gender equality and women’s empowerment: transport is lagging on Sustainable Development Goal 5

47. Transport infrastructure and services are often mistaken as being gender neutral, however transport projects, systems and services do not equally serve men and women. The transport sector is traditionally gendered through socioeconomic conditions, traditional ways of life, women’s legal status, their position in the labour market and their role in decision-making.¹⁶ While extensive data on gender and transport for the region is generally lacking, the International Transport Forum has recently estimated that in the Asia-Pacific region, women are found in fewer than 20 per cent of transport jobs and are

¹⁶ Marie Thynell, “The quest for gender-sensitive and inclusive transport policies in growing Asian cities”, *Social Inclusion*, vol. 4, No. 3 (June 2016), pp. 72–82.

particularly underrepresented in senior roles in the transport, logistics and infrastructure sectors. Accordingly, gender perspectives are less likely to be considered in decision-making. Designing transport to respond to gender needs would, thus, require including women more systematically in the transport sector and in the decision-making processes.

48. Most research on transport and gender has been focused on the end-user perspective and analyses mobility choices and patterns; this is largely on account of data availability which makes this type of approach more comprehensive as compared to other gender perspectives. Women's everyday mobility is a central focus for gender scholars because they have long argued that a woman's ability to be mobile has a direct impact on her access to resources and opportunities. In other words, mobility is empowering and because it is empowering, more mobility is a good thing. Greater numbers of women in the region are now working farther away from home than ever before. As the urbanization and feminization of the urban labour force continues, urban public transit systems represent one of the most productive venues through which scholars have investigated gendered mobility.¹⁷ It is well-documented that women, particularly in low- and middle-income countries, have particular mobility patterns owing to their socially determined reproductive, productive and community-related gender roles.

49. The most common term used for women's mobility is trip-chaining, which involves multiple short or combined trips, typically by public transport, to fulfil several different objectives in as little time as possible. Women may turn down employment opportunities farther away from home if the transport system does not enable them to travel to and from work in time to also meet their domestic family care obligations or provide ample space and flexibility for them to travel with dependents and household goods. Instead, they may have little choice but to accept lower-paid local job opportunities or informal income sources closer to home. Gender differences in mobility and access are also affected by the affordability of transport services. Many women in the region tend to have more limited access to financial and other resources and/or earn less than their male counterparts.

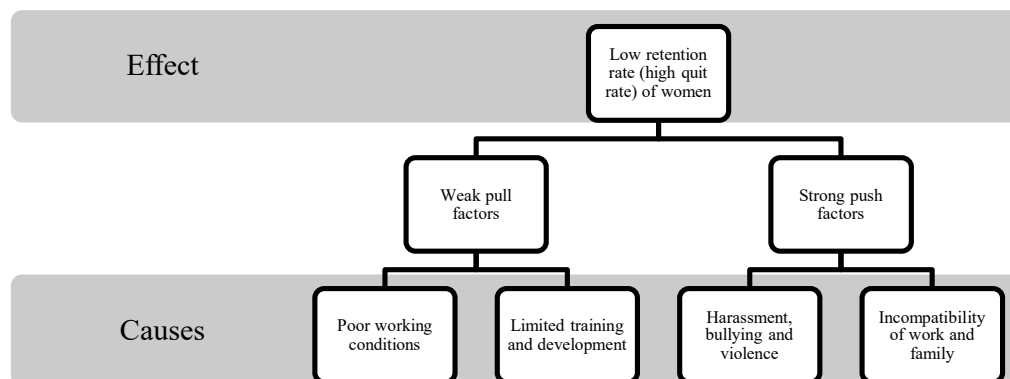
50. Women's mobility choices are also often dictated by safety concerns such as theft, assault or sexual harassment, all of which, statistically, affect women more than men. Gender transport patterns can also be influenced and determined by sociocultural practices, such as in societies where women are generally required to be escorted. At the same time, there is an increasing diversity in women's travel patterns, making the accurate and regular assessments of their travel an indispensable step in devising gender-sensitive transport policies. Furthermore, while statistically women are not more vulnerable to road crashes, they are dominantly the ones who look after family members injured or disabled by road crashes while often also becoming the main provider for the household.

51. To better respond to the specific needs of women as users, the transport sector will need to attract, retain and train women at all levels. Data from the International Labour Organization (ILO) suggest that the transport sector has one of the poorest retention levels for women. To address this, special policy and legislative attention is warranted to address the working conditions and human resource policies of transport companies designed to mainstream gender, the opportunities for success and advancement for women, the barriers faced by

¹⁷ Anru Lee, "Gender, everyday mobility and mass transit in urban Asia", *Mobility in History*, vol. 8, Issue 1 (January 2017), pp. 85–94.

women in terms of education and training, as well as the level of social support available to women who work in the transport sector (figure III).

Figure III
Causes and effects of poor retention of women in the transport sector



Source: ILO, “Women in the transport sector”, Transport Policy Brief (2013).

52. Accordingly, it is imperative that research on gender and transport moves beyond the end-user perspective and delves deeper into transport as an employer of women and women in decision-making positions, both of which would serve the objective of better designed and, eventually, gender-neutral transport systems. To that end, improved statistics and gender-disaggregated data are essential to ensure systematic gender inclusion procedures for transport and in the training of professionals, as well as in the design and planning of networks and services. The secretariat is taking steps to mainstream gender in all its activities. Support by member States, particularly in providing gender-disaggregated data on transport as much as possible, will be instrumental in making progress in this regard.

E. Occupational health, safety and social protection for transport workers: addressing the decent work targets

53. Current transport policies and related ESCAP activities often tend to overlook the impact that policies and the design of transport systems may have on transport workers. Workers in the transport sector face daily risks of road crashes, physical hazards, violence, dangerous operational situations and exposure to harmful substances, particularly in the case of the transport of dangerous goods such as chemicals and flammable materials. Transport workers find themselves in a unique situation, as their workplace is usually a vehicle or vessel; accordingly, health and safety conditions in their workplace can have a direct impact on other transport users and on overall public safety. Market pressures and a need to increase income can, in certain cases, lead workers under pressure to disregard prevailing working-time arrangements or to overload their commercial vehicle, with negative consequences.

54. As examined by the ILO, patterns of social protection for transport workers vary across the region, meaning that access to health care and pensions as well as sickness, occupational injury, family, maternity and invalidity benefits might not be available to all transport workers. Informal workers in the sector are particularly vulnerable, as they often lack access to social protection mechanisms and work with low levels of income, productivity, skills, technology and capital. The coronavirus disease (COVID-19) pandemic further exacerbated the situation and placed transport workers at the forefront, as part of

the critical personnel dealing with the crisis but also as a particularly vulnerable group of people to protect.

55. While recognizing the importance of maintaining transport services and connectivity, Governments imposed strict quarantine measures and other health requirements on transport workers, especially in the case of cross-border transport operations. This also limited the movements and increased the border crossing waiting times due to various inspections. In Asia and the Pacific, seafarers were reportedly subject to the most stringent restrictions during the pandemic. Several ports did not allow seafarers to move or disembark for treatment or repatriation, which significantly worsened seafarers' health as well as their working conditions. As the difficulties faced by seafarers were prolonged, the International Maritime Organization enacted and circulated emergency guidelines and protocols and urged countries to support their seafarers' effective boarding, disembarking and repatriation.

56. Road transport workers engaged in international transport faced similar conditions, notably closed rest stops, increased waiting times at borders and longer working hours. To ensure an adequate supply of essential goods during the pandemic, many government agencies released temporary exceptions related to driver hours. This measure eased the supply shortages, but also increased the risk of fatigued driving, with commensurate risks for road traffic crashes.

57. Social distancing is also a challenge for truck drivers, employees at pickup and delivery locations, workers in public transport services and taxi drivers. Several businesses and public transport organizations initiated ad hoc protective policies and measures; however, the lack of coordinated and harmonized responses generated a multitude of problems, including concerns about the resilience of the sector owing to increased vulnerabilities of its workforce, working conditions and the occupational health and safety of the sector.

58. While these issues are regulated under the auspices of ILO to a large extent, there is ample scope for collaborative and synergetic actions for ESCAP member States to effectively analyse these issues and consider them as an integral part of regional policy directions.

IV. Issues for consideration by the Committee

59. The road safety data for the region suggest that drastic and multidisciplinary interventions are needed to reverse current trends. Beyond this, there is further scope to fully understand and utilize the poverty reduction potential of improving road safety.

60. Furthermore, the aspects of transport and mobility related to accessibility, inclusion, inequality and gender also need increased prominence in current transport policies at the national and regional levels. While the link between transport and social development issues is easy to ascertain, upon closer inspection it is not being sufficiently addressed. Redressing this requires significant, persistent and regionally coordinated efforts to incorporate social development considerations into the initial phases of policy definition and decision-making processes.

61. Finally, regional cooperation on safe and inclusive transport and mobility should be supported by topical and reliable research, data and related analysis methodologies, which are, in many respects, lacking in the region. It is thus imperative to improve statistics and gender-disaggregated transport data as a means of ensuring that the impact of transport policies on social development

can be measured and incorporated in the efforts towards achieving the Sustainable Development Goals. This is particularly important from the perspective of building a robust human resource base in the region, capable of fully assessing the impacts, positive spillovers, and trade-offs of transport policies across the entire spectrum of sustainable development.

62. In this light, the Committee may wish to take the following actions:

(a) Invite members and associate members to participate in the activities of the secretariat to improve research, data collection and training and dissemination of knowledge and good practices on road safety and urge members and associate members to work with the secretariat in identifying the most pressing road safety needs and to address them by making the best use of the United Nations Road Safety Fund;

(b) Encourage members and associate members to participate in the relevant efforts towards the development of model regulations on domestic ferry safety and associated action plans and capacity-building activities;

(c) Recommend more comprehensive attention to social considerations in the secretariat's work on transport, including by expressly taking into account outcomes on safe and inclusive transport and mobility in the next phase of the Regional Action Programme, to be developed in 2021.
