

**Economic and Social Commission for Asia and the Pacific**
Committee on Transport**Sixth session**

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Item 3 (a) of the provisional agenda*

Cross-cutting issues in transport**Transport connectivity for efficient and resilient supply chains****Note by the secretariat***Summary*

One of the key purposes of transport connectivity is to support international trade. However, despite the significant progress observed in Asia and the Pacific in recent years, further efforts are needed to maximize the connectivity benefits and improve the performance of regional and global supply chains. The ongoing coronavirus disease pandemic has brought the issue of transport connectivity to the forefront, positioning it as a key component of pandemic response efforts and an integral part of recovery strategies.

The present document is focused on ways to enhance connectivity along the regional land transport networks and to better link the region to global supply chains, with due attention given to the situation of the countries with special needs and to interregional transport linkages between Asia and Europe.

The Committee on Transport may wish to discuss opportunities for transformative action in transport connectivity for efficient and resilient supply chains and provide further guidance on increasing the resilience and sustainability of freight transport in light of the lessons learned from responses to the pandemic.

I. Introduction

1. One of the key development purposes of transport connectivity is to redress the fragmented value-adding processes of international supply chains, by enabling the continuous movement of goods across borders.
2. The availability of transport infrastructure is a necessary but insufficient condition for achieving the end goal of providing reliable and cost-effective transport services to supply chain participants. It needs to be complemented by performant operational connectivity and, notably, the efficiency of cross-border freight operations. Approaching the issue of transport connectivity from a supply chain perspective encourages multimodality as a cost-optimizing strategy and, owing to the possibility of cascading negative effects along the supply chain,

* ESCAP/CTR/2020/L.1.

stimulates greater collaboration among participants, greater use of technology and stronger private-public cooperation in tackling the causes of inefficiencies.¹

3. Supply chain performance depends on the relationship between economic efficiency and resilience.² Leaner supply chains, while often more cost-effective, tend to have fewer buffers against external disruptions. The trade-offs between efficiency and resilience can be mitigated using information and communications technology (ICT) and data-sharing throughout a given supply chain. Governments can also help to manage risks by building a certain degree of redundancy into transport infrastructure and networks, guaranteeing emergency services, promoting intermodality and efficiently regulating cross-border freight.

4. Most aspects of the supply chain approach to transport connectivity are reflected in the work of the Economic and Social Commission for Asia and the Pacific (ESCAP) (see ESCAP/CTR/2020/1). The transport infrastructure connectivity work carried out under regional infrastructure agreements goes hand in hand with efforts to increase operational connectivity by means of transport facilitation, the use of technologies, and private-public dialogue and capacity-building on logistics efficiency. The promotion of intermodal transport corridors and the improvement of the international regulatory framework for multimodal freight contracts strengthen multimodality.

5. At the same time, progress on transport connectivity in Asia and the Pacific remains insufficient. Costs and delays in the movement of goods are driven up by missing links and inadequate infrastructure quality in the regional transport network and exacerbated by factors including divergent technical standards, insufficient use of electronic information exchange and lack of liberalization of transport services. Progress in intermodal integration is hampered by the lack of coordinated policies that target infrastructure, transport and logistics. Overall, transport connectivity remains uneven across the region, with a widening gap between high-performing countries and those that are lagging behind, often countries with special needs.³

6. The ongoing coronavirus disease (COVID-19) pandemic has brought transport connectivity to the forefront, positioning it as a key component of pandemic response efforts and recovery strategies. It is therefore critical that efforts in this area go beyond restoring the pre-pandemic level of transport connectivity and pursue greater resilience to future disruptions.

7. The present document contains an analysis of the main issues pertaining to regional transport connectivity for supply chain performance in Asia and the Pacific, including the impact of the ongoing pandemic on freight transport connectivity and the ways forward to enhance connectivity along the land transport networks and better link the region in its entirety to global supply chains. It also serves to highlight the challenge of transitioning to a more resilient

¹ Alan McKinnon, “Balancing efficiency and resilience in multimodal supply chains”, International Transport Forum Discussion Papers (Paris, Organization for Economic Cooperation and Development/International Transport Forum, 2018).

² Resilience, here is defined as the ability of a system to prepare for, absorb, recover from, and adapt to disturbances or shocks to the system. For transport systems, resilience often refers to the ability of the system to maintain its services or to restore itself to that level of service in a specified time frame.

³ *Review of Sustainable Transport Connectivity in Asia and the Pacific 2019: Addressing the Challenges for Freight Transport* (United Nations publication, Sales No. E.20.II.F.2).

and sustainable freight sector as part of the efforts to build back better following the pandemic.

II. Supply chain connectivity and the coronavirus disease pandemic

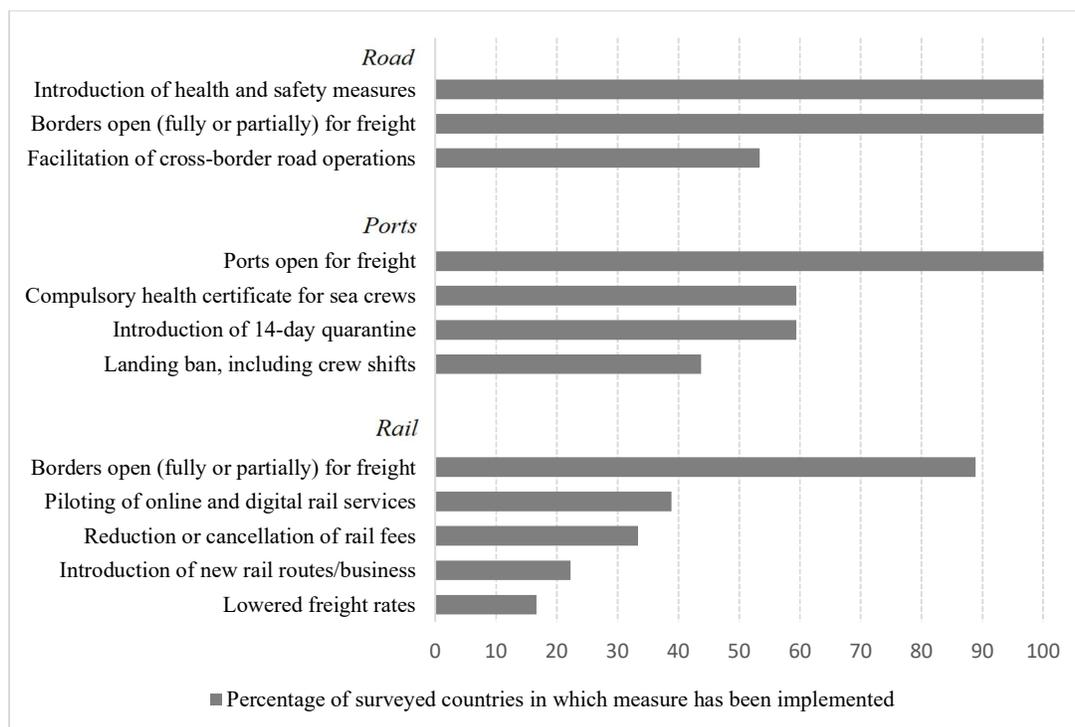
8. The COVID-19 pandemic has exposed the major limitations of contemporary supply chains. The established practices of freight consolidation, lean inventories and just-in-time delivery have limited the resilience of international supply chains, leading to shortages of some critical goods and imbalances in freight delivery.⁴ Likewise, the pandemic has revealed a hidden precarity in the transport sector as entire segments, such as the aviation sector, small and medium transport operators, freight forwarders and many others, started crumbling when faced with the reduced demand, increasing operational restrictions and other challenges arising from the pandemic. Fractured supply chains and weakened transport and logistics capabilities adversely affect national capacities to implement the 2030 Agenda for Sustainable Development.⁵

9. At the same time, the Asia-Pacific region has made great efforts to preserve transport connectivity during the pandemic (see figure I). Member countries of the Asian Highway network have maintained all or a significant part of their land borders open for freight. Two thirds of member countries have implemented special trade and transport facilitation measures, helping to ensure smoother movement of essential goods and, in many cases, of general freight. Freight transport has proceeded with limited interruptions along the Trans-Asian Railway network, making rail transport an even more vital link in international trade, especially for the movement of essential goods and medical supplies. Likewise, ports have remained operational for freight, supporting the bulk of global trade and preventing the total dismantling of global supply chains.

⁴ Jean-Paul Rodrigue, “Coronavirus impacts on trade and supply chains”, presentation made at the METRANS Advisory Board meeting (Los Angeles, United States of America, 2020).

⁵ ESCAP, “Policy responses to COVID-19: transport connectivity in Asia and the Pacific”, 22 April 2020.

Figure I
Implementation of transport connectivity measures in Asia-Pacific countries during the coronavirus disease pandemic



Source: ESCAP calculations based on online ESCAP repository of transport-related COVID-19 policy measures. Available at www.unescap.org/our-work/transport/transport-facilitation-and-connecting-subregional-transport-networks/monitoring-transport-policy-response-covid-19 (accessed on 24 July 2020).

10. The pandemic has also created great momentum for digitization and shown that there is high potential for a more balanced and sustainable modal split of freight transport, as the use of rail has grown to compensate for the interruptions in road transport operations.⁶

11. The full impact of the pandemic on the international freight transport sector has yet to be assessed. It varies significantly across regions and countries and diverges strongly across the segments of the freight industry (see table).

⁶ For instance, as reported by China Communications News on 22 March 2020, despite the disruptions, the China-Europe Railway Express saw steady growth in the first quarter of 2020, with a total of 1,941 trips run by freight trains carrying 174,000 twenty-foot equivalent units of containers. The number of trips run by freight trains and the number of containers transported saw year-on-year increases of 15 per cent and 18 per cent, respectively.

Impact of the coronavirus disease pandemic on freight transport as at mid-June 2020

<i>Transport subsector</i>	<i>Service</i>	<i>Mobility</i>	<i>Financial cost</i>	<i>Freight forwarding demand</i>
Road freight	Domestic	Negative to mixed	Negative	Negative to mixed
	International			
Rail freight	Domestic	Negative to neutral or positive		
	International			
Air freight	Belly cargo	Negative on most routes and neutral or positive on some routes		Very negative
	Cargo only			Positive
Maritime freight	Short-sea liner	Negative or very negative		Negative to mixed
	Deep-sea liner			

Source: ESCAP calculations based on an updated presentation of Lauri Ojala, “The fall and rise of freight transport during the coronavirus pandemic”, given during an International Transport Forum webinar on 23 June 2020.

Note: The impact on rail and road freight shown in the table has been adjusted on the basis of the secretariat’s estimates to reflect the situation in Asia and the Pacific, which constitutes a departure from the global situation for the two modes. For air and maritime freight, the situation reflected in the table holds true at both the global and regional levels.

12. Still, it is clear that the connectivity disruptions wreaked by the pandemic are likely to have a strong and long-lasting effect on international trade. The latest World Trade Organization (WTO) estimates suggest that transport and travel costs have the highest potential to affect international trade during the pandemic.⁷ These costs account for 15 per cent of trade costs in agriculture, 19 per cent in goods-related services such as retail and wholesale, and approximately 31 per cent in manufacturing. Owing to the scale of the impact and the severity of containment measures including additional inspections, reduced hours of operation and road and border closures, trade costs could increase by as much as 25 per cent.⁸ Transport containment measures could reduce global freight transport volumes by up to 36 per cent by the end of 2020, with the highest reduction projected for South-East Asia, Central Asia and parts of South Asia.⁹

13. Lastly, significant financial losses sustained by the transport sector will have a lasting impact on its competitiveness in the aftermath of the pandemic unless they are properly addressed in the recovery stage. While freight air

⁷ WTO, “Trade costs in the time of global pandemic”, information note, 12 August 2020.

⁸ Maryla Maliszewska, Aaditya Mattoo and Dominique van der Mensbrugge, “The potential impact of COVID-19 on GDP and trade: a preliminary assessment”, Policy Research Working Paper, No. 9211 (Washington, D.C., World Bank, 2020).

⁹ International Transport Forum, “COVID-19 transport brief: how badly will the coronavirus crisis hit global freight?”, 11 May 2020.

transport is the most affected, the international road freight industry is expected to experience a turnover decline in 2020 of 18 per cent or approximately \$652 billion. In Asia, the expected decrease is 21 per cent.¹⁰ Even if rail freight experienced a much lower decline than road freight and was particularly resilient in Asia, it could still bear an overall loss of \$1.7 billion for 2020 and 2021.¹¹

14. The above considerations should inform strategies to scale up and adjust the ongoing initiatives to improve freight connectivity in Asia and the Pacific.

III. Enhancing connectivity along the regional land transport networks in Asia and the Pacific

A. Asian Highway network

15. With the amendments made to the Intergovernmental Agreement on the Asian Highway Network in 2019, the network now covers more than 145,000 km, including an additional 15,000 km of highways in China.

16. While the network continues to expand, the quality of its routes remains a concern. Although the majority of the network consists of class II roads (38 per cent), followed by primary and class I roads (35 per cent), it is reported that in some countries in Central, South and South-East Asia, more than 50 per cent of Asian Highway routes are class III or below.¹² These substandard conditions continue to adversely affect road transport operations, leading to increases in congestion, transport costs, road accidents, emissions and other environmental externalities.

17. In parallel to enhancing the infrastructure quality along the network, significant efforts are still needed to improve operational connectivity by further harmonizing applicable standards; using new technologies and automation; and, in light of recent developments, coordinating policy responses to pandemics and similar disruptions.

1. Enhancing operational connectivity along the Asian Highway network

18. As acknowledged in the Regional Strategic Framework for the Facilitation of International Road Transport, there remain major gaps in the harmonization of regional standards for international road transport. This is notably the case for weights, dimensions and emissions of road vehicles used in international traffic, as shown in the assessment carried out by the secretariat as part of the project on strengthening the capacity of ESCAP member States to harmonize standards on weights, dimensions and emissions of road vehicles for the facilitation of transport along the network. The differences in these standards create additional transport costs as transport operators need to purchase additional fleet vehicles, increase the number of trips and acquire necessary permits and certificates.

19. The project assessment shows scope for the further harmonization of standards concerning freight vehicle dimensions, weights and emissions. However, for harmonization to have a tangible impact, a complete set of

¹⁰ International Road Transport Union, *COVID-19 Impacts on the Road Transport Industry* (Geneva, 2020).

¹¹ International Union of Railways, “First estimation of the global economic impact of COVID-19 on rail transport”, July 2020.

¹² ESCAP, Asian Highway database. Available at www.unescap.org/resources/asian-highway-database (accessed on 15 July 2020).

complementary measures needs to be considered, including mutual recognition by participating countries of technical inspection certificates and the regional system of weighbridges and measuring stations.¹³

20. In parallel to the need to harmonize technical standards, the further liberalization of the traffic rights along the network remains a priority. A major step was taken in this area when the parties to the Intergovernmental Agreement on International Road Transport along the Asian Highway Network (China, Mongolia and the Russian Federation) launched its implementation immediately after the first meeting of the Joint Committee established to supervise the implementation of the Agreement, held on 3 and 4 July 2019 in Manzhouli, China. Another relevant development was the organization of the first meeting of the Joint Committee established under the Agreement of the Shanghai Cooperation Organization Member States on the Facilitation of International Road Transport. The meeting, supported by the secretariat in partnership with the Shanghai Cooperation Organization, was held in Xiamen, China, on 13 and 14 December 2018, with the participation of all nine current parties to the Agreement.

2. Transition towards a smart Asian Highway network

21. The use of ICT has gained great momentum in the work related to the network, and the urgency of adopting new technology, especially contactless solutions, has been heightened by the pandemic.

22. Most of the transport facilitation tools and models maintained by the secretariat facilitate the use of new technologies. Notably, its Standard Model of Logistics Information Systems offers practical guidance on setting up systems for the electronic exchange of information to facilitate cargo, vehicles and crew clearance and payment of duties and other taxes.¹⁴

23. Supporting the implementation of new technologies, such as highly and fully automated vehicles for long-distance freight traffic along the network, would constitute a major step in this area. These technologies can help to reduce fuel consumption, congestion and road accidents and, as shown in the context of the current pandemic, protect the health of road crew and border-crossing personnel. However, the deployment of such technologies requires a common regional understanding on the principles of automated driving technologies. Regional cooperation is also indispensable when it comes to border-crossing requirements for highly or fully automated vehicles, which expand the scope of traditional infrastructure requirements and transport facilitation initiatives. In this context, the secretariat is currently implementing a project aimed at offering a proof of concept and a regulatory perspective on the use of highly and fully automated vehicles along the network.

3. Coordinating emergency response efforts along the Asian Highway network

24. The fragmented policy responses to the pandemic have revealed shortcomings in regional cooperation on cross-border transport in times of pandemics and other disruptions. Recognizing this, the secretariat published a special policy brief on policy responses to COVID-19 and transport connectivity in Asia and the Pacific and set up a dedicated webpage to monitor policy responses along the regional transport network.¹⁵ The secretariat has also held

¹³ ESCAP, *Strengthening the Capacity of ESCAP Member States to Harmonize Standards on Weights, Dimensions and Emissions of Road Vehicles for Facilitation of Transport along the Asian Highway Network: Study Report 2019* (Bangkok, 2019).

¹⁴ See E/ESCAP/MCT(3)/11, annex V.

¹⁵ ESCAP, "Policy responses to COVID-19."

several online meetings on COVID-19 and transport connectivity, including an expert group meeting on safe and seamless transport connectivity along the Asian Highway network during and after the pandemic, on 25 June 2020.¹⁶

25. The expert group reviewed the considerable efforts made by member States to ensure that essential road transport could continue along the Asian Highway network. It highlighted the major steps that had been taken in the digitization and facilitation of cross-border transport as part of the COVID-19 response. At the same time, it registered important concerns about the state of regional connectivity and recalled that regional cooperation provided the most effective means of response in the course of the crisis and in its aftermath. In that context, the expert group recommended that the member countries of the network consider common responses and regional arrangements, including the following: (a) setting up a centralized source of information on national measures affecting regional transport connectivity; b) developing recommendations on standardized cross-border freight transport procedures and formalities under special circumstances similar to the pandemic; and (c) considering regional or subregional arrangements for joint collective action such as the establishment of green lanes or corridors, mutual recognition or waiver of transport documents and other appropriate measures.

26. This view was reiterated by transport experts from 10 Association of Southeast Asian Nations (ASEAN) countries who participated in a joint webinar on preserving transport connectivity and building freight transport resilience in ASEAN, organized by the ESCAP secretariat and held on 9 July 2020 in cooperation with the International Transport Forum and the ASEAN secretariat. During the webinar, representatives requested support for their countries in the development of recovery guidelines for resilient and sustainable connectivity with a focus on cross-border road transport.

27. Following up on these requests, the secretariat is working on technical and policy tools to support a more harmonized approach to the pandemic response in cross-border transport. Such a harmonized response could be achieved by establishing regional or subregional guidelines on pandemic response and recovery actions related to cross-border freight. It could also be supported by harmonized model provisions to be inserted into existing regional or bilateral transport agreements. To support advancement in this area, additional resources were mobilized by the secretariat under the framework of the United Nations system-wide rapid response project entitled “Transport and trade connectivity in the age of pandemics: United Nations solutions for contactless, seamless and collaborative transport and trade”.

B. Trans-Asian Railway network

28. The growth of traffic in international freight transport along the corridors of the Trans-Asian Railway network in recent years and even during the pandemic¹⁷ has underscored the great benefits of international rail transport, including a higher resilience to pandemics and similar disruptions. The current crisis caused by the pandemic can be viewed as an opportunity for railways to strengthen their comparative advantages by harmonizing electronic exchange

¹⁶ See www.unescap.org/events/virtual-expert-group-meeting-safe-and-seamless-transport-connectivity-along-asian-highway.

¹⁷ The number of China-Europe freight trains rose 36 per cent year-on-year to 5,122 in the first half of 2020. See Global Times, “China-Europe cargo train reaches 1,169 in June, setting a new record”, 15 July 2020. Available at www.globaltimes.cn/content/1194623.shtml.

among themselves, deepening digitization and scaling up the use of smart rail solutions.¹⁸

1. Harmonizing electronic information exchange in rail transport

29. Issues related to the facilitation of international rail transport have been receiving increasing attention in the region, and the Committee on Transport, at its fifth session, took note of the draft framework for enhancing the efficiency of railway border crossings along the Trans-Asian Railway network and beyond. The Committee acknowledged that a common understanding of the issues identified in the draft framework, which included electronic information exchange among railways and between railways and control agencies, would be instrumental in ironing out inefficiencies in international rail transport (ESCAP/CTR/2018/8, para. 29).

30. The issue of electronic exchange of information among railways was further considered by the Working Group on the Trans-Asian Railway Network at its 6th meeting, held in December 2019. The Working Group recognized that scattered initiatives lacking in coherence could undermine the seamless flow of information along the railway corridors and lead to inordinate delays at the border crossings. It requested the secretariat to consult with interested member countries to identify good practices and explore the possibility of a multilateral arrangement on the issue (ESCAP/TARN/WG/2019/6, para. 17).

31. On 7 and 8 July 2020, ESCAP and the Organization for Cooperation between Railways held a joint virtual meeting of experts on challenges and opportunities for international railway transport along the Trans-Asian Railway network and beyond during the pandemic.¹⁹ Participants at the meeting reaffirmed the need for a suitable modality for the harmonization of electronic information exchange among railways and between railway and control agencies. The secretariat stands ready to support the parties in this important initiative.

2. Deepening digitization and implementing smart rail services

32. The crisis unleashed by the pandemic presents an opportunity for the railways of the region to deepen digitization and implement smart railway solutions, which would further enhance operational efficiency, lower costs and strengthen the competitiveness of railway transport along the network.

33. Digitizing railways in the Asia-Pacific region is fraught with multiple challenges such as the digital divide, fragmented levels of development of railways and concerns about data protection and cyber security. Therefore, harnessing the full potential of the digitization of the region's railways requires a framework, including the following: (a) a regional consensus on key areas to be digitized along with a path to scaling up; (b) a plan of action to support railways in landlocked and least developed countries to leapfrog to digitization; and (c) a platform for sharing and learning from the experience of railway digitization.

34. To support the railways of the region, the secretariat, under the framework of the above-mentioned project on transport and trade connectivity

¹⁸ ESCAP and Organization for Cooperation between Railways, "Joint ESCAP-OSJD statement: strengthening international railway transport for a more sustainable transport connectivity in the aftermath of COVID-19 pandemic", 8 July 2020. Available at www.unescap.org/covid19.

¹⁹ See www.unescap.org/events/joint-escap-osjd-virtual-meeting-experts-challenges-opportunities-international-railway.

in the age of pandemics, has prepared a study on smart railway solutions during the pandemic. The main areas where such solutions have been developed include the following: (a) operations; (b) maintenance; (c) safety and security; (d) rolling stock; (e) border crossings; (f) intermodal linkages; (g) client orientation; and (h) financing. The recommendation of the study and the proposed framework for digitizing railways in the region will be presented to the Working Group at its next meeting, to be held in 2021.

C. Dry ports and intermodal transport

35. Dry ports, like all intermodal facilities, help to meet supply chain requirements by grouping highway and railway access together with the processing of customs formalities, warehousing, consolidation and distribution, manufacturing and other economic activities along transport corridors. The Intergovernmental Agreement on Dry Ports provides for the coordinated development of the regional transport and logistics system and serves to complement the Intergovernmental Agreements on the Asian Highway Network and on the Trans-Asian Railway Network, with a view to facilitating modal integration at the infrastructure planning stage in support of a common regional multimodal network.

36. Despite their continuing interest in dry ports and other intermodal transport facilities, member States continue to experience challenges and issues in the development and operation thereof owing to infrastructural insufficiencies, institutional matters, lack of deployment of new technologies and other factors. These challenges demonstrate the continued need for capacity-building and technical assistance in promoting dry port development. Further efforts are also needed to obtain greater benefits from the dynamism of the dry port development in the region.

1. A holistic approach

37. Dry ports are key to transport efficiency, representing points of convergence where multiple interactions between transport modes, operators and service providers can be synchronized. These facilities offer benefits to a broad spectrum of stakeholders, such as port operators and local or national authorities, who can use them to implement a range of economic, social and environmental policies. Thus, the development and operation of dry ports, especially dry ports of international importance, can be more efficiently addressed if they are considered holistically as an integral part of international intermodal transport corridors.

38. At its 3rd meeting, held in November 2019, the Working Group on Dry Ports emphasized the need to include dry port development in the broader context of international intermodal transport and economic corridors and scale up the catalytic role of dry ports in the shift to sustainable freight operations and in expanding the scope of the economic and social benefits of transport connectivity. It requested the secretariat to further consider the interconnected development of intermodal transport corridors, including transport corridors connecting Asia and Europe, and dry ports located along such corridors.

2. Digital solutions

39. The application of ICT in transport operations, including intermodal and multimodal transport with the involvement of dry ports, increases the reliability and security of goods carriage and enables simplified customs and other control formalities at dry ports. Owing to the current intensive digital transformation of the transport industry and increased relevance of contactless solutions,

especially in light of the pandemic, the rapid deployment and implementation of ICT at dry ports is imperative to ensure their competitiveness in the transport service market.

40. There have been major developments in this area, such as a pilot project on multimodal sea-rail cargo transportation using electronic data exchange at all stages, implemented in the Russian Federation since 2019 on the basis of the overall approach and recommendations of a 2017 ESCAP study on information technology. As highlighted by the Working Group at its 3rd meeting, more efforts are needed to promote innovative solutions and business models in intermodal and multimodal transport operations and to develop a region-wide strategic vision of digital transport corridors. Accordingly, the secretariat has focused its most recent capacity-development activities on the introduction and implementation of digital solutions for dry ports, extending the activities related to the Regional Framework for the Planning, Design, Development and Operation of Dry Ports of International Importance, to cover digital solutions for dry ports.

3. Development of legal frameworks for intermodal and multimodal transport operations

41. Intermodal transport rationalizes the use of existing facilities, serves the requirements of global supply chains and promotes a more balanced modal split. The existing legal framework for multimodal transport operations, however, do not reflect developments in transport patterns, technology and markets. It still consists of several international conventions designed to regulate unimodal carriage, various regional and subregional agreements, national laws and standard term contracts.

42. The need to upgrade legal frameworks for international multimodal transport operations in support of the efficient operation of dry ports and intermodal transport corridors was stressed by the Working Group at its 3rd meeting. In that regard, the secretariat is implementing a capacity-development project on a harmonized legal regime for multimodal transport that would best suit the needs of member States.

IV. Linking Asia and the Pacific to global supply chains

A. Pursuing sustainable maritime connectivity

43. Owing to its competitive edge in transporting high-volume cargo over long distances, maritime transport accounts for more than 80 per cent of world merchandise trade by volume, representing a vital link to global economy for most if not all Asia-Pacific countries.

44. As highlighted in the theme study of the seventy-sixth session of the Commission, entitled *Changing Sails: Accelerating Regional Actions for Sustainable Oceans in Asia and the Pacific*, there are still significant challenges in connecting the region to major shipping routes. Notably, Pacific small island developing States continue to display the lowest levels of maritime connectivity in the world.

45. At the same time, there is potential for Asia and the Pacific to lead the global transition to greater sustainability in maritime connectivity by enforcing global regulations and instruments and strengthening its regional cooperation. Accordingly, in its resolution 76/1 on strengthening cooperation to promote the conservation and sustainable use of the oceans, seas and marine resources for sustainable development in Asia and the Pacific, adopted at its seventy-sixth

session, the Commission called for systematic regional dialogue on sustainable maritime connectivity as part of its work on promoting sustainable transport connectivity in the region. The secretariat will organize that dialogue, mobilizing existing institutional platforms and leveraging partnerships with the International Maritime Organization (IMO) and the United Nations Conference on Trade and Development (UNCTAD).

46. Regional cooperation will need to address the inclusiveness of maritime connectivity and support a transition to greater environmental sustainability in shipping. A key aspect of this work is to promote an integrated approach to sustainable shipping, in which port-oriented measures would complement the measures set out by IMO. At the present time, port development in the region is led by port authorities and terminal operators according to their individual capacities and priorities and the port's stage of development. To steer port development in the direction of greater sustainability, the secretariat has compiled guidelines on global and regional best practices.^{20,21}

47. As is the case in other transport sectors, digitization and smart technologies are a centrepiece of current port and maritime development. The transition to smart ports, in which new technologies and digitization are used to rationalize and streamline port activities, has proven to be a viable strategy to address both economic efficiency and environmental performance. This is the case under normal circumstances and holds true in times of great disruption, as demonstrated by the ongoing national responses to the pandemic.

48. Even if, overall, maritime transport has continued to be operational despite pandemic-related disruptions, the crisis has once again underscored the challenge of resilience for ports, which are already highly exposed to disruptions linked to climate change and natural climatic events. With that in mind, the secretariat has launched two Asia-Pacific study projects, on supporting smart port development policies and on facilitating sustainable and resilient port development to support sustainable maritime connectivity. This work and related activities are being implemented in close cooperation with IMO and UNCTAD.

B. Supporting sustainable transport connectivity between Asia and Europe

49. Strengthened and sustainable transport connectivity between Asia and Europe supports greater economic integration, more efficient resource allocation and the continued growth of mutually beneficial international trade on the Eurasian continent.

50. In the past three decades, many initiatives have been launched to improve Asia-Europe transport connectivity. Such initiatives at the international level include a wide range of activities carried out by the United Nations regional commissions, notably the Economic Commission for Europe (ECE) and ESCAP; the Asia-Europe Meeting initiative, with biennial meetings of the ministers of transport; and 13 railway transport corridors, most of which link North-East and Central Asia with Eastern Europe, proposed by the Organization for Cooperation between Railways. Ad hoc platforms have also been created to address the issue of transport bottlenecks in several subregions relating in part

²⁰ ESCAP, "Strengthening transport connectivity from/to port for selected countries", April 2018.

²¹ ESCAP, Sustainable Port Development and Improving Port Productivity in ESCAP Member Countries (Bangkok, 2020).

to Asia-Europe connectivity, for example the United Nations Special Programme for the Economies of Central Asia and the Central Asia Regional Economic Cooperation Programme. Several initiatives at the national level are also aimed at binding the two regions together as one continent, including the Belt and Road Initiative of the Government of China, the Eurasia initiative of the Government of the Republic of Korea, the efforts of the Government of the Russian Federation to promote the Trans-Siberian Railway for cargo transport between Asia and Europe, and the Western Europe and Western China initiative proposed by the Government of Kazakhstan. The importance of improved connectivity between Asia and Europe for the accelerated implementation of the 2030 Agenda was recently emphasized at the 5th Asia-Europe Meeting Transport Ministers' Meeting, held in December 2019.

51. The pandemic has demonstrated that Asia and Europe remain key trade partners and underscored a high demand for interregional trade and, therefore, transportation of goods between the regions. During the pandemic, transportation of containers by railway between Asia and Europe has been relatively stable and even shown some signs of growth.²² This demonstrates that further enhancing sustainable transport connectivity between Asia and Europe in the wake of the pandemic will be an important element in rebuilding a better-designed and crisis-resilient international trade and transport system covering the Eurasian continent.

52. In December 2016, the Third Ministerial Conference on Transport adopted the Ministerial Declaration on Sustainable Transport Connectivity in Asia and the Pacific, in which it agreed to work towards the establishment of an interregional coordination committee on transport between Asia and Europe in collaboration with ECE. In that context, the secretariat is implementing a project on connecting transport infrastructure networks in Asia and Europe in support of interregional sustainable transport connectivity, aimed at supporting the establishment of the above-mentioned interregional committee by identifying priority areas for interregional cooperation on the elimination of legal, technological and infrastructural bottlenecks and the integration of existing transport networks in Asia and Europe (see ESCAP/CTR/2020/1).

53. The results of the study carried out as part of the project offer an overview of the existing initiatives on transport connectivity between Asia and Europe, a summary of recommendations and suggestions regarding institutional mechanisms to further support their implementation, including an interregional coordination committee. The ad hoc Interregional Expert Group Meeting on Transport Connectivity between Asia and Europe, held in Bangkok in January 2019, confirmed the strong interest among participating countries to further enhance transport connectivity between Asia and Europe and the necessity of a continuing interregional dialogue between the member States of the two United Nations regional commissions on related matters.

54. At the same time, the practicality of establishing the interregional coordination committee is conditioned by the scope of the mandates of both regional commissions. While ESCAP is fully mandated to work towards the establishment of the coordination committee by the above-mentioned Ministerial Declaration and by Commission resolution 73/4, the mandate provided to the Inland Transport Committee of ECE at its eighty-first session, in February 2019, was limited to the request to the ECE secretariat to continue to seek cooperation from the ESCAP secretariat to co-organize consultations in Geneva in the most cost-effective manner between ECE and ESCAP member States and open to all ECE and ESCAP member States on sustainable transport

²² Railway Gazette, "COVID-19 could push more Asia-Europe freight to rail", 9 April 2020.

connectivity, present the results to the Inland Transport Committee at its eighty-second session and formulate proposals for future cooperation.²³

55. A consultation was subsequently jointly organized by the ECE and the ESCAP secretariats and held in Geneva on 30 October 2019, providing a platform for the general exchange of information on efforts to strengthen interregional sustainable transport connectivity in the context of intermodal transport and logistics, including infrastructure connectivity and operational connectivity, as well as safety, security and environmental concerns regarding integrated intermodal transport and logistics. Upon reporting on the outcome of the regional forum at its eighty-second session, in February 2020, the Inland Transport Committee did not take any decisions on extending the mandate of the ECE secretariat.

56. In light of that fact, the Committee may wish to continue to periodically organize interregional forums on sustainable transport connectivity between Asia and Europe as an optimal modality, for the time being, for cooperation and the coordination of efforts, for the benefit of relevant policymakers and transport stakeholders in both regions.

C. Connecting countries with special needs to international supply chains

57. Despite improvements in transport infrastructure development and transport facilitation in recent years, landlocked developing countries and small island developing States in Asia and the Pacific continue to face challenges in accessing regional and global markets. Landlocked developing countries could benefit from better leveraging the use of new technologies in transit operations and scaling up cooperation along international railway corridors. Small island developing States need to combine national reforms with regional collaborative schemes to increase their maritime connectivity.

1. Operationalizing electronic transit transport systems

58. Electronic tracking of vehicles and automatic transit systems can significantly improve the transport connectivity of landlocked developing countries in Asia by streamlining border-crossing procedures.²⁴ They can also enhance national capacities to deal with the challenges of pandemics similar to COVID-19, by facilitating the introduction of regional corridors with facilitated freight flows, known as green lanes or corridors, and helping to monitor the conditions of vehicles and cargo and the health of drivers.

²³ See ECE/TRANS/288, para. 114.

²⁴ The conclusions and recommendations of the capacity-building workshop on the application of new technologies in transit facilitation for enhancing transport connectivity of landlocked developing countries in Central Asia, which was jointly organized by ESCAP and the Shanghai Cooperation Organization and held in Tashkent in November 2019, is available at www.unescap.org/events/capacity-building-workshop-application-new-technologies-transit-facilitation-enhancing.

59. Electronic cargo tracking systems are being increasingly used in transit transport facilitation in developing countries in other regions.²⁵ Increasing demand and evolving technologies have led to the development of many electronic tracking solutions. A variety of solutions for the electronic tracking of goods and vehicles are now available. Defining their minimum requirements will be a priority action to ensure maximum transit facilitation. The secretariat stands ready to provide necessary technical assistance in developing and operationalizing electronic transit transport system using tracking technologies.

2. Implementing rail corridor coordination mechanisms

60. Corridor coordination mechanisms can be very beneficial for promoting international rail transport in the landlocked developing countries in Asia. These mechanisms are instrumental in finding concrete solutions to physical and non-physical barriers to freight flows along corridors. They help to monitor corridor performance, identify existing challenges and possible new markets and engage all stakeholders, including the private sector and all border control agencies, in creating solutions for logistics inefficiencies.

61. Accordingly, the secretariat, with the financial support of the Islamic Development Bank and in partnership with the Economic Cooperation Organization, is implementing a study on the commercialization of the railway corridor connecting Kazakhstan, Turkmenistan and the Islamic Republic of Iran. The aim of the project is to develop a corridor coordination mechanism to enhance coordination among the railways and other stakeholders involved to support efficient operations along the corridor.

3. Enhancing maritime connectivity of the small island developing States

62. While the Asia-Pacific region enjoys a high degree of maritime connectivity overall, the small and remote islands in the Pacific continue to face structural difficulties due to interrelated geographic, economic, demographic and institutional factors that undermine their ability to close the connectivity gap. In addition, owing to the pandemic, shipping companies are reducing the number of calling ports, which is more likely to adversely impact small ports in the Pacific.

63. There are several policy measures that small island developing States can pursue to enhance their maritime connectivity, for example exploring small-scale efficiency, linking their transport operations to local and regional value chains and hub-and-spoke systems, and supporting energy-efficient and clean solutions. They can also take further advantage of benefits from emerging technologies, especially those linked to cleaner and more efficient energy use.

64. At the same time, the strategies of the shipping industry will remain a major factor as the shipping sector continues to become increasingly concentrated, a trend that is especially visible in the Pacific. To incentivize shipping companies, consideration should be given to supplementing and expanding regional shipping commission systems, as well as to specific financial measures to incentivize fleet renovation and diversification of shipping services.

²⁵ In East Africa, the use of electronic cargo tracking reduced the amount of time required to transport cargo from border entry points, from six days to one and a half days. See Trademark East Africa, “Regional electronic cargo tracking system unveiled” (n.d.). Available at www.trademarka.com/news/regional-electronic-cargo-tracking-system-unveiled (accessed on 15 July 2020).

65. These efforts must be complemented by strengthened regional cooperation. In that regard, the opportunity for South-South cooperation must be explored on the basis of the expertise and experience of several countries in Asia that have become established leaders in maritime connectivity or managed to achieve a qualitative leap in this area in the course of the past decade.²⁶

V. Building back better: investing in resilience and the shift to sustainable freight

66. The sustainability of freight transport is a long-standing concern. However, it has become particularly pressing owing to the transport sector's escalating negative externalities which are undermining the implementation of the 2030 Agenda. The pandemic has lent greater urgency to the issue of resilience and the shift to greater sustainability in line with the worldwide ambition to build back better from the crisis.

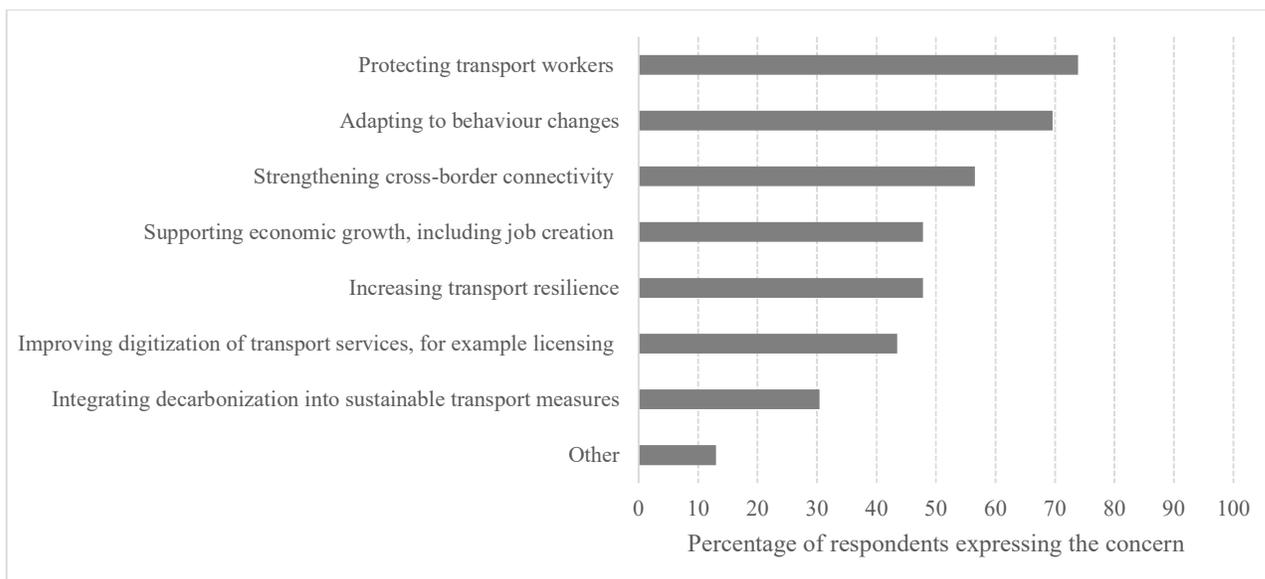
67. Increasingly, the transport-related response to the outbreak has a strong environmental component. This is the result of greater momentum gained by international rail and waterborne transport but also the use of smart transport and logistics practices, which tend to produce environmental benefits by optimizing transport and logistics operations. As the pandemic recedes, it will be important to retain, to the greatest extent possible, the use of numerous avoid-shift-improve techniques and new technologies and the greater use of more environmentally conscious modes of transport and avoid a return to the unsustainable status quo.

68. Resilience and sustainability are inextricably linked; greater resilience in transport connectivity should lead to higher levels of efficiency in the system, and efficiency is often positively correlated with sustainability. For example, efficiency improvements that reduce energy consumption will lead to lower emissions.

69. All elements of sustainable transport development, namely the economic, social and environmental elements, are especially relevant in the context of the pandemic and recovery as they relate to maintaining the movement of freight transport and system performance for continuous economic benefits, the health and safety of transport workers and the environmental impact of transport connectivity activities. The cause of greater sustainability and resilience is gaining ground in Asia and the Pacific but still comes second to more immediate practical and economic concerns (see figure II).

²⁶ *Changing Sails: Accelerating Regional Actions for Sustainable Oceans in Asia and the Pacific* (United Nations publication, Sales No. E.20.II.F.15).

Figure II
Major concerns of freight authorities in Asia and the Pacific in anticipating the coronavirus disease recovery



Source: Based on an ESCAP survey on freight transport policy responses to COVID-19, conducted in June and July 2020.

70. There is an imperative need to steer recovery efforts in Asia and the Pacific towards greater resilience and sustainability in the transport sector. But so far, substantial work on sustainable freight²⁷ has proved particularly complex.

71. Enhancing the sustainability and resilience of freight transport is fraught with multiple challenges, many of which emanate from fragmented layers of policymaking. As an example, transport infrastructure and services are regulated at numerous levels of government (national, subnational and local) and across transport modes, and each level of government has a role in planning, funding and managing some aspect of transport infrastructure and services. Layers of institutional complexity confound the creation of efficient transport networks and intermodal connections.

72. To address these issues with due regard to resilience and sustainability challenges in the context of COVID-19, the secretariat is implementing a United Nations Development Account project on promoting a shift towards sustainable freight transport in the Asia-Pacific region. The project has two tracks. In the first track, national assessments of target countries are being conducted to develop national strategies for deepening sustainability in freight transport in the post-COVID-19 context for endorsement by the Governments concerned. In the second track, regional cooperation will be broadened on key issues in sustainable freight transport by developing consensus and possibly adopting a dedicated framework or other instruments within the overarching institutional framework

²⁷ Sustainable freight transport captures the linkages and intersections among the economic, environmental and social dimensions of sustainable development. Accordingly, sustainable freight transport can be broadly understood as transport that (a) is safe and accessible (social dimension), (b) is efficient, reliable and resilient (economic dimension), and (c) reduces greenhouse gas emissions, pollution and climate-related disruptions (environmental dimension). Adapted from United Nations Conference on Trade and Development (UNCTAD), *UNCTAD Framework for Sustainable Freight Transport* (Geneva, 2020).

provided by the Intergovernmental Agreements on the Asian Highway Network, the Trans-Asian Railway Network and Dry Ports .

73. The avoid-shift-improve approach can provide key directions to resolve the complex challenges in enhancing sustainability in freight transport.²⁸ However, it needs to be supplemented by complementary policies in several areas.

74. The first area requiring complementary policies is institutional capacity for sustainable freight transport. This would include fostering policies that accomplish the following: (a) integrate transport planning efforts, both vertically across levels of government and horizontally across modes, with balanced development of modes; (b) create supportive institutional, legal and regulatory frameworks for sustainable freight transport; (c) build the technical capacity of transport planners to mainstream sustainability in freight transport; (d) establish monitoring and evaluation frameworks for measuring progress towards sustainable freight transport; and (e) build capacity for gathering and analysing data.

75. The second area is financing for sustainable freight transport. This area would include furthering policies that accomplish the following: (a) promote diversified funding sources and coherent fiscal frameworks to advance sustainable freight transport initiatives; (b) encourage private sector investment; and (c) attract financing from international institutions including thematic funds such as climate funds.

76. The third area is transformative transport technologies for sustainable freight transport. This would include encouraging policies that promote emerging transport technologies to enhance the sustainability of freight transport.

77. In addition, coordinated action at the regional level could include initiatives such as shifting to more sustainable modes of transport and deepening the sustainability of rail, road and waterborne transport through a range of measures such as those related to fiscal and regulatory issues, technology and innovation, and land use regulation. In that regard, the secretariat is developing recommendations on regional cooperation that will be presented to the Working Groups on the Asian Highway, on the Trans-Asian Railway Network and on Dry Ports at their next meetings.

78. In addition, the secretariat is organizing a special policy segment, in conjunction with the sixth session of the Committee, on the lessons learned from COVID-19 and opportunities for a regional agenda for the digitization, resilience and decarbonization of freight transport, using the platform that ESCAP provides and leveraging global and regional partnerships.

VI. Issues for consideration by the Committee

79. The Committee may wish to discuss regional transport connectivity for supply chain efficiency and resilience in the context of lessons learned from the COVID-19 pandemic.

80. The Committee may also wish to continue to periodically organize interregional forums on sustainable transport connectivity between Asia and Europe as an optimal modality, for the time being, for cooperation and the coordination of efforts, for the benefit of relevant policymakers and transport stakeholders in both regions.

²⁸ United Nations, *Mobilizing Sustainable Transport for Development: Analysis and Policy Recommendations from the United Nations Secretary-General's High-level Advisory Group on Sustainable Transport* (New York, 2016).

81. The Committee may further wish to provide the secretariat with guidance on its future work for the following purposes:

(a) To assist members and associate members in further advancing regional land transport connectivity, notably along the Asian Highway network, the Trans-Asian Railway network and intermodal corridors involving dry ports, through the further harmonization of technical standards, improvement of legal frameworks, accelerated digitization and electronic information exchange and other relevant measures;

(b) To support members and associated members in enhancing their position in the global supply chains by promoting sustainable maritime connectivity, providing a platform for regular exchanges of information and identification of priority issues on transport connectivity between Asia and Europe, and addressing the needs of landlocked developing countries and small island developing States;

(c) To support concrete regional and subregional initiatives on resilient and sustainable freight transport connectivity, as they form an integral part of building back better from the pandemic and of the continued implementation of the 2030 Agenda.

82. In addition, the Committee may wish to invite the secretariat to ensure that the issues of transport connectivity for efficient and resilient supply chains and the challenges of sustainable freight policies are reflected in the preparation of the next phase of the Regional Action Programme for Sustainable Transport Connectivity in Asia and the Pacific, to be developed in 2021.
