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Resolution adopted by the Economic and Social Commission for Asia and the Pacific

71/7. Adoption of the Regional Cooperation Framework for the Facilitation of International Railway Transport

The Economic and Social Commission for Asia and the Pacific,

Encouraged by the successful regional cooperation that led to the entry into force of the Intergovernmental Agreement on the Trans-Asian Railway Network,¹

Noting the recent trends in member countries to expand their railway infrastructure, in particular through the upgrade of existing lines or construction of new ones to neighbouring countries,

Recognizing that the growing volume of intraregional and Eurasian transport can be further supported by facilitation of international railway transport through removal of non-physical barriers,

Recalling Commission resolution 66/4 of 19 May 2010 on the implementation of the Bangkok Declaration on Transport Development in Asia and resolution 68/4 of 23 May 2012 on the implementation of the Ministerial Declaration on Transport Development in Asia and the Pacific, including the Regional Action Programme for Transport Development in Asia and the Pacific, phase II (2012-2016), and the Regional Strategic Framework for the Facilitation of International Road Transport,

Recalling also the Vienna Programme of Action for Landlocked Developing Countries for the Decade 2014-2024,² which reaffirms the importance of railway transport for landlocked developing countries for their integration into regional and global markets,

Recognizing the crucial importance of railway transport in the development of an integrated intermodal transport system to strengthen regional connectivity and promote sustainable and inclusive economic and social development of countries in the Asia-Pacific region,

¹ United Nations, Treaty Series, vol. 2596, No. 46171.

² General Assembly resolution 69/137, annex II.

Noting with appreciation the regional initiatives aimed at developing transport connectivity in Asia and the Pacific, inter alia, the Joint Project on Developing Euro-Asian Transport Linkages, the Silk Road Economic Belt and the 21st Century Maritime Silk Road (Belt and Road Initiative) and the Partnership for Quality Infrastructure,

Noting that the distances separating the main points of departure and arrival, both domestically and internationally, are sufficiently great to justify the economic viability of railways,

Stressing the need to reduce the environmental impact of the transport sector and recognizing that railway transport is energy-efficient and causes limited emissions of greenhouse gases,

Reaffirming our commitment to the implementation of the Busan Declaration on Transport Development in Asia and the Pacific, and the Bangkok Declaration on Transport Development in Asia,

Noting the recommendation of the Committee on Transport at its fourth session held in Bangkok from 15 to 17 October 2014, that a draft resolution on a “regional cooperation framework for the facilitation of international railway transport” be submitted to the Commission for adoption at its seventy-first session in 2015,

1. *Adopts* the Regional Cooperation Framework for the Facilitation of International Railway Transport, as contained in the annex to the present resolution;

2. *Requests* the Executive Secretary:

(a) To accord priority to the implementation of the Regional Cooperation Framework by assisting members and associate members in their efforts to realize the vision of a sustainable integrated intermodal transport and logistics system;

(b) To ensure effective coordination with other United Nations and multilateral agencies, as well as with subregional organizations, in the implementation of the Regional Cooperation Framework;

(c) To ensure the secretariat’s cooperation with the relevant regional initiatives aimed at developing transport connectivity, inter alia, the Joint Project on Developing Euro-Asian Transport Linkages, the Belt and Road Initiative and the Partnership for Quality Infrastructure, as well as other regional corridors, with a view to contributing to the ongoing programmes of the secretariat on transport and prioritizing transport connectivity in the development agenda;

(d) To facilitate the sharing of experiences and good practices on the facilitation of international railway transport, including monitoring progress made in implementing the Regional Cooperation Framework;

(e) To urge member States that have not already done so to become parties to the Intergovernmental Agreement on the Trans-Asian Railway Network;

(f) To collaborate effectively with international and regional financing institutions, multilateral and bilateral donors and private sector investors and international organizations to mobilize further financial and technical support for the wider development and facilitation of railway transport along the Trans-Asian Railway Network;

3. *Also requests* the Executive Secretary to report to the Commission at its seventy-third session on the progress made in implementing the present resolution.

Fifth plenary meeting
29 May 2015

Annex

Regional Cooperation Framework for the Facilitation of International Railway Transport

Growing intraregional trade, on the one hand, and increasing concerns about energy security and the adverse effects of transport on the environment, on the other, has made the countries of the Asia-Pacific region more appreciative of the role of railways as an efficient, safe and environmentally sound mode of transport. The entry into force of the Intergovernmental Agreement on the Trans-Asian Railway Network in 2009 signalled the readiness of member countries to cooperate on railway projects of international importance and work together on the development of efficient railway transport corridors to serve growing intraregional trade.

The outcome document of the United Nations Conference on Sustainable Development — “The future we want” — emphasized that sustainable transport is central to sustainable development and thus high on the agenda of global development. This has provided a renewed impetus to develop environmentally sound railway transport, which is efficient, competitive and complementary to other modes of transport.

Despite the region’s continued increase in containerized trade and the inherent advantages of railway transport to efficiently carry large volumes of goods over long distances, most railway operators in the region have failed to capitalize on the increase in international trade in all but a limited way. In particular, despite the launch of a number of international container block-train services, they are still struggling to establish themselves as an efficient alternative to either shipping or long-haul road transport in the eyes of many shippers.

A number of reasons explain this situation. Some are endemic to railways, while others are external and beyond their control. Internally, railway operators in the region are often not geared up for quick responses in identifying new opportunities and defining related intermodal services. Externally, international railway transport remains difficult both in the region and between Asia and Europe due to numerous non-physical barriers, particularly at border crossings, which cause excessive delays, high costs and uncertainties in the entire transport process.

Typical non-physical barriers include regulatory issues that relate to the control measures of various agencies, such as Customs, which take a significant amount of time for train operations. There are also legal issues that underlie the legal and contractual basis among countries and various stakeholders in railway transport. The different legal regimes need to be unified or at least harmonized. Technical and operational issues involving standards and specifications for rolling stock, signalling systems, data exchange, repair, maintenance and use of railway infrastructure, and break of gauge also need to be addressed to promote cross-border railway transport operations.

There will be a need to simplify, standardize and further harmonize technical and operational requirements among member countries; these will need action at government level.

Legal and technical issues were partly addressed by member countries of two important international railway organizations,^a but substantial differences on these issues still persist between these organizations. Also, there are many countries in Asia that are not a member of any international railway organization. In addition, regulatory issues require further streamlining so that they do not impede railway operations. Safe, secure, efficient and smooth railway transport needs common and coordinated facilitation measures among member countries in the region.

Simplification, standardization and harmonization take a significant time to accomplish. Early action is needed by member countries and their development partners under a common framework.

The Regional Cooperation Framework may be used by member States and their development partners in harmonizing requirements for international railway transport across the region, with the ultimate objective of having a regional agreement on the facilitation of international railway transport.

The Regional Cooperation Framework identifies four fundamental issues in the facilitation of international railway transport and 11 areas for cooperation among member countries and their development partners to further promote and support international railway transport in the region. Section C of the present Framework comprises a note to further elaborate the fundamental issues and areas for cooperation.

A. Fundamental issues for the facilitation of international railway transport

1. Standards for railway infrastructure, facilities and equipment

Description of the issue

Safe and efficient operation of cross-border railways requires a high level of standardization of railway infrastructure, facilities and equipment. Currently, they are not standardized among countries and this causes difficulties in cross-border railway transport. Apart from different track gauges, differences exist in braking systems, axle loads, signalling systems, coupling systems and electric power voltage. This prevents efficient and smooth cross-border train operations.

Target

Common, minimum technical standards for railway infrastructure, facilities and equipment in international railway transport to facilitate railway transport in the region.

Process

The Regional Network of Legal and Technical Experts on Transport Facilitation may be entrusted to study and recommend minimum technical standards for international railway transport for subsequent adoption by the member countries and phased implementation.

^a Two international organizations in rail transport are the Organisation for Co-operation between Railways and the Intergovernmental Organisation for International Carriage by Rail.

Furthermore, numerous railway research facilities exist in member countries. It is suggested that one such research facility in each subregion could be identified to take the lead in supporting the standardization of technical and operational requirements for cross-border railway transport in collaboration with the countries in the subregion and international organizations.

Member countries may also undertake studies and organize regional/subregional seminars and workshops, involving all stakeholders, to identify gaps between the existing railway systems and standards. Based on them, national plans may be formulated to incorporate the relevant standards in their railway systems in a phased manner.

2. Break-of-gauge

Description of issue

The main railway lines in the Trans-Asian Railway network incorporate five different track gauges, namely 1,676 mm, 1,520 mm, 1,435 mm, 1,067 mm and 1,000 mm. Different track gauges prevent the smooth movement of rolling stock across borders. It is often considered as a physical obstacle to the smooth flow of traffic. In fact, it is also an issue of transport facilitation. Long delays for passengers and freight transport have been observed at border crossings with break-of-gauge. In part, delays are caused by the trans-loading of goods or a bogie change at border crossings and partly by inordinate delays in the organization of trans-shipments.

Target

A significant reduction in the time spent on overcoming a break-of-gauge at a border interchange station by developing, inter alia, streamlined operating procedures.

Process

A number of technical solutions exist to deal with break-of-gauge. These solutions include trans-shipment, bogie changing, use of wagons with variable-gauge bogies, provision of dual gauge and conversion of different track gauges to a single gauge standard:

(a) Trans-shipment/transfer is the transfer of freight by manual or mechanical means from wagons of one gauge to wagons of another directly or indirectly through platform, yard, storage or warehouse; the transfer of passengers from one train to another train;

(b) Bogie changing is the operation by which wagons are lifted on a set of jacks, bogies of one gauge rolled out and bogies of the other gauge rolled in;

(c) Use of wagons with variable-gauge bogies enables wagons to be pulled along a special transition track at reduced speed. During the process, the distance between wheels is adjusted from one track gauge to another;

(d) Provision of two different track gauges is made on a single-track foundation through the insertion of a third rail (or sometimes a fourth rail to obtain the so-called “composite gauge”);

(e) Conversion of tracks of different gauges to a single-gauge standard is to build or rebuild tracks in the same standard.

The use of the solutions (a), (d) and (e) is foreseen for both passenger and freight transport. The solutions (b) and (c) are mainly used for passenger transport.

While continuity of gauge along all the routes of the Trans-Asian Railway network would be ideal, a break-of-gauge does not constitute an impassable barrier to efficient services. In fact, it has been observed that the time for passenger passport control is longer than the time taken for bogie change at some border crossings.

With a few exceptions, break-of-gauge occurs mostly at border crossings where trains are required to stop for a range of operational motives, such as a change of locomotives, change of crew, a technical inspection for the acceptance of wagons, a safety inspection for dangerous goods, and the requirements of certain control agencies, such as Customs, immigration and security checks and sanitary inspection. Well-designed facilities and well-organized procedures can allow for trans-shipment to take place within the time allocated for these other operations. A streamlined operating procedure may be developed for the border interchange stations detailing the expected time for each mandated operation and indicating operations that can be carried out in parallel so that the overall time to complete border-crossing formalities and deal with break-of-gauge is minimized.

The streamlined operating procedure can be in two parts: one that is general and applicable to all border interchange stations and one that can be tailored to the requirements of individual border crossings. In addition, it is suggested that member countries keep themselves abreast of the latest developments to make trans-shipments more efficient.

3. Different legal regimes for railway transport contracts

Description of the issue

Unlike air or maritime transport,^b there is no single intergovernmental organization for railway transport. Two major international organizations for railway transport, the Organisation for Co-operation between Railways and the Intergovernmental Organisation for International Carriage by Rail, developed different sets of legal documents for railway transport. A consignment note is an essential legal document for railway transport. The two main railway consignment notes are: SMGS for members of the Organisation for Co-operation between Railways and CIM for the members of the Intergovernmental Organisation for International Carriage by Rail.

Railway transport among countries that have the same legal arrangements does not present so many obstacles as when it is between countries with different legal regimes. To overcome the challenges of re-consignment a common CIM/SMGS consignment note was introduced in 2006. The common CIM/SMGS consignment note is building a bridge between the different legal regimes of CIM and SMGS that intends to remove this obstacle. Behind each CIM/SMGS consignment note, there is a contractual link between those involved in the CIM or SMGS regions between the consignor of the goods, the carrier and the consignee. In this way, the common CIM/SMGS consignment note provides greater legal certainty.

^b In the same way as the International Civil Aviation Organization and the International Maritime Organization regulate for air and maritime transport, respectively.

It was reported that more than half of the international traffic necessitating re-issuance of documents under either SMGS or CIM was made using the common consignment note. So far, seven Parties to the Intergovernmental Agreement on the Trans-Asian Railway Network are using the common consignment note. In addition, China started trial use of it for transport of goods to Europe in 2012.

Target

Alignment of the different consignment notes currently being used in railway transport on a common consignment note so as to facilitate international railway transport.

Process

With the increase in Euro-Asian traffic, it is expected that the use of the common consignment note will increase among the member countries of the two international organizations. Other Parties to the Intergovernmental Agreement on the Trans-Asian Railway Network may not be using the common consignment note before joining either of the two organizations, or their railway lines are not connected with the member countries of the two organizations at present.

However, as can be seen from the trend in the development of international railway transport among countries not using the common consignment note, their railway lines will be linked to the entire regional network and international railway transport will increase in the short to medium term. These countries may consider gradually aligning their consignment notes on the common consignment note to improve documentation and avoid possible difficulties in the future.

4. Coordination of regulatory controls and inspections at border-interchange stations

Description of issue

Border crossing times can be substantially reduced if customs and other formalities required for train operations can be completed expeditiously. Normally, trains have to undergo Customs controls and inspections, security checks, immigration clearance and sanitary inspection at border crossings. In addition, a change of locomotive or crew, a technical inspection of wagons or, in the case of dangerous goods, a safety inspection is required at interchange stations.

These operations are potential sources of delays and if left uncoordinated could compound them. Therefore, there is a need for cooperation among the agencies at the interchange stations, including railway operators, on the necessary inspections and controls for the smooth cross-border operation of trains.

Target

A high degree of coordination among border agencies is encouraged so as to reduce delays.

Process

Standard times can be established for various operations at each border point where inspections take place and some of the operations can be carried out simultaneously. For example, at the interchange stations with no break-of-gauge and no change in consignment note, Customs controls should be undertaken within the time needed for other essential operations, such as a change of locomotive.

By standardizing and completing the required and unrelated operations in parallel, overall time for clearances at the border can be substantially reduced. This will increase predictability and reliability of freight train services, which is crucial for customers.

Furthermore, Customs authorities face challenges regarding the inspection of container trains. Here, X-ray machines or mobile scanners can be used for first-stage inspections and if physical examinations are required, such containers can be shifted to an examination area.

With the use of pre-arrival intimation, risk management systems and new technologies, such as electronic seals, it is possible for the control authorities to identify the containers/wagons they want to inspect in advance and therefore prevent inordinate delays at border crossings.

Normally, the Customs controls on goods may be undertaken either at the point of origin or destination; only exceptionally are they carried out on goods in transit and only then when there is reliable intelligence to do justify such action. For passenger trains, it is good practice to also undertake Customs checks on board trains.

B. Areas for cooperation among the member countries for the facilitation of international railway transport

1. Participation in international railway organizations

The two international railway organizations play a key role in coordination and organization of international railway transport among countries in Asia and Europe. As can be seen from the international railway traffic in the region, the member countries of the two organizations have significantly higher traffic volume than other countries. Both organizations coordinate railway laws, operating rules and key transport documents. Additionally, the Organisation for Co-operation between Railways also coordinates policy, transit tariff, wagon use, train timetables, and safety and technical standards for infrastructure and rolling stock.

With increasing regional integration and intraregional trade as well as environmental awareness, railways will be used more for international transport. When the entire regional railway network is complete, railways will be used on a large scale for international transport. However, operational systems for railways cannot be established in a short period of time. Countries need to gradually harmonize their technical standards, transport documents, operating rules, tariff structures and rules for wagon exchanges.

Among the 28 member countries of the Trans-Asian Railway network, 13^c are members of the Organisation for Co-operation between

^c Additionally, Afghanistan, an ESCAP member, recently joined the Organisation for Co-operation between Railways.

Railways and 6 members of the Intergovernmental Organisation for International Carriage by Rail, including 3 with dual membership. Twelve countries are not members of either organization. Non-members of the international railway organizations need to participate in the activities of such organizations as soon as possible and to capitalize on the experience of others in developing international railway transport and gradually to prepare themselves for future regional and interregional operations.

When the countries consider participation in the activities of the international railway organizations, a number of key factors may need to be considered, such as: demand for transport from countries that are members of these organizations; neighbouring countries' membership of these organizations; and the future potential for operations on the large regional network.

The countries for accession to the conventions can be guided by their economic interests in developing international railway transport. Countries may undertake a study in order to make a decision on accession to these organizations. They may also consider joining both organizations if such a study so indicates. Some ESCAP member States are already members of both the organizations.

2. Formulation of subregional and bilateral agreements on the facilitation of railway transport

While participation in international organizations/conventions is desirable for promoting railway transport, the role of bilateral and subregional agreements in furthering international railway transport is equally important. These agreements can be stepping stones for countries to expand their railway transport from national to subregional and regional levels depending on the development of trade and transport. A number of such agreements are already in existence. For example, in South Asia and South-East Asia where most countries are not members of any major international railway organization, the institutional arrangements for cross-border railway transport are mostly formalized by means of bilateral agreements.

However, the contents and issues covered in bilateral agreements vary widely. To ensure consistency, a model bilateral/subregional agreement covering essential requirements to facilitate railway transport can be developed by ESCAP and shared with member countries on the basis of which they can plan, develop and implement such agreements to support railway transport in the region.

3. Cooperation to standardize cross-border railway operations

Due to stringent technical specifications for railway operations, such as for gauge, axle load, rolling stock and related rules of operation, the essential features of railway transport are not amenable to flexibility. This calls for a high degree of coordination and cooperation among countries for efficient cross-border railway transport. International experience also suggests that cross-border railway transport demands a high degree of standardization for various aspects of railway operations.

Most countries in the region have developed their railway systems independently and consequently acquired a motley collection of rolling stock and varied operational systems. This makes the task of interoperability even more challenging.

Developing railway systems in line with international standards is the best way forward for cross-border railway operations. In this way, member countries can gain immensely from their involvement in the activities of international organizations working to develop international railway transport.

The essential specifications/standards for cross-border railway transport can be formalized by way of memorandums of understanding and/or bilateral or multilateral agreements. Member countries may also consider forming a network of experts in railway transport for Asia and the Pacific to share knowledge, learn from good practices, and discuss common challenges in the standardization of railway operations in the region.

4. Use of advance passenger/cargo information system(s)

Train delays at border crossings are mostly caused by the significant amount of time required by control authorities, such as Customs, immigration and quarantine, to process and clear documents and inspect goods. According to a survey carried out by the Organisation for Co-operation between Railways, 34.5 per cent of time at border crossings was spent on formalities and 11 per cent correcting badly translated documents. Such unnecessary delays can be substantially reduced with the use of advance passenger/cargo information systems.

Advance passenger/cargo information systems have been employed in international air and maritime transport for years. However, use of such systems is limited in international railway transport. Their use can be an important step for railways in developing efficient international transport in order to compete with other modes of transport.

Adoption of common standards for sharing information is crucially important in applying advance passenger/cargo information systems in countries. International organizations, together with member countries, may assist in developing such standards and testing their application in some countries. The compatibility of standards with those for maritime transport should also be considered in order to facilitate maritime-railway intermodal transport and utilize fully the advantages of both modes of transport.

5. Arrangements for the exchange of wagons

One of the potential ways of increasing international railway transport in the region is to have an arrangement for the exchange of wagons among railway operators. The contents of various bilateral agreements on railway cooperation in existence reveal that provisions on the exchange of wagons are an integral part of these agreements. The issues covered include detention charges, wagon deficiencies, liabilities in the case of accident, and the operation of wagons.

With this in mind, a common contract on the use of wagons in national and international transport can serve as a basis for the standardization of various conditions that can make wagons interoperable on different networks. Such a contract could cover the requirements for technical admission and maintenance of wagons, the obligations and rights of accepting railways, including the right of refusal, the procedure for ascertainment and handling of damage to wagons while in the custody of an accepting railway and provisions for liability for damage or loss to wagons.

Such a multilateral contractual framework can obviate the need for parties to negotiate numerous bilateral agreements for the exchange of wagons, while providing for interoperability.

Moreover, this will increase the availability of wagons for international freight movements as well as encourage private wagon manufacturers to augment the supply of wagons. Already some countries in the region have arrangements to encourage private players through schemes, such as wagon leasing schemes, which are designed to develop the wagon leasing market by encouraging third-party leasing of wagons.

6. Use of new technologies in train operations as well as in container tracking

International freight is growing rapidly and is estimated to quadruple by 2050.^d Handling such an increase in cargo, both effectively and efficiently, poses enormous challenges for railway transport operators and logistics service providers and makes it imperative for them to use new and extant technologies in such operations. Satellite positioning systems, radio frequency identification, cellular communication systems and other information and communications technologies (ICT) are already being used in various railway operations and need to be encouraged through innovative and cost-effective solutions for efficient cross-border railway operations.

Furthermore, the latest development in ICT, such as cloud computing, big data and analytics, software development and interoperable systems, and the declining cost of telecommunications have the potential to further increase the efficiency of railway freight transport.

As an example, the proper sequencing of wagons is essential for the effective delivery of cargo; the incorrect order could lead to coupling and decoupling operations wasting time and resources in order to correct the configuration of trains. It can also create problems for customers in tracking their cargo and is especially challenging for time-sensitive cargo.

To properly sequence the wagons during trans-shipment or at intermodal terminals, solutions have been developed whereby a radio frequency identification chip is embedded in the railway wagon so that it can transmit its location to a reader that supplies the information to a central database. This centralized information about the location of railway wagons provides real-time information and decision support to railway yard employees and managers. The automatic sequencing of wagons reduces costly transport mistakes and, in addition, once the wagon is tagged the railway manager can log the information in the system, confirm the train's route and provide a precise time for the arrival of the wagon.

This is one example in which the use of technology can reduce the time taken for train sequencing and increase the predictability of the supply chain. Similarly, tracing and tracking of containers by train operators helps them schedule container block trains, increase asset utilization, and reduce dwell time and overheads.

7. Developing human resources for cross-border railway operations

Visas for crews and drivers. The cross-border movement of trains also requires the railway employees of one country to travel to another country.

^d <http://internationaltransportforum.org/Press/PDFs/2015-01-27-Outlook2015.pdf>.

Establishing simplified visa procedures, especially for crews and drivers, will ensure certainty about their availability and help railway managers plan in order to guarantee the reliability of train schedules. One-year multiple entry visas on a reciprocal basis have been suggested as a possible solution, as provided for in many bilateral agreements.

Training for railway employees. A common system of training for drivers — with a common set of rules and regulations — could facilitate the interoperability of drivers. Mutually recognized authorization/certification may be issued by national railways and be acceptable to other railways in the region based on pre-agreed common training of drivers. This will ensure that the driver is aware of the operational route, including speed restrictions, signalling systems and emergency procedures.

Regulations on the conditions of service and facilities for railway employees serving on cross-border routes. These will include stipulating minimum working hours, minimum rest periods and the availability of crew rest rooms.

8. Establishment of logistics centres/dry ports and maintenance hubs at or near border interchange stations, particularly along railway freight corridors

When compared with road, in most cases railway transport has a high terminal cost, although it offers lower costs over longer distances. It also provides enhanced security in transit as containers transported by railway are less susceptible to theft.

Therefore, for development of international railway freight transport it has been suggested to develop logistics centres/dry ports near border interchange stations. Such centres can help consolidate less-than-container-load cargo and take full advantage of the low costs that railway transport provides. In addition, depending on the volume of traffic, the necessary arrangements for joint controls, including inspections, can be contemplated at these dry ports/logistics centres.

Development of maintenance hubs near border interchange stations can reduce delays due to the breakdown of rolling stock and the waiting times for spares or replacements. This will be especially useful in cases where there is a break-of-gauge at a border crossing.

Member countries may undertake feasibility studies in order to assess the potential of developing dry ports/logistics centres and maintenance hubs at border interchange stations.

9. Simplification of the intermodal interface of railways with maritime, air and road transport

The facilitation of international railway transport should not, and indeed cannot, be seen as successful in isolation of other modes of transport. Increasingly, railway transport will become integrated with other modes of transport and therefore there will be a requirement to simplify and further streamline intermodal interfaces at gateway ports.

This is of special importance to landlocked developing countries, as experience suggests that substantial time is spent on completing formalities at ports before trains can start their journey. At ports, the formalities for cargo carried by railways need to be streamlined and simplified so that the time

spent on them is minimized. It will help increase the reliability of train operations and optimum utilization of rolling stock. In addition, direct railway connections from gateway ports to the hinterlands are encouraged to reduce overall transport times.

It is suggested that member countries may undertake specific studies on the intermodal interfaces with volumes of high traffic to identify bottlenecks and recommend further measures that may be implemented to reduce unwarranted delays for railway transport.

10. Promotion of the corridor approach in the facilitation of international railway transport

Across the globe, most international railway transport occurs along specific railway corridors. Therefore, many organizations and their member States have developed railway corridors to promote international railway transport.

Since railway transport has stringent operational and technical requirements, more cooperation is required among the countries for successful cross-border operation of trains; the corridor approach can bring all stakeholders together to facilitate railway transport. This will increase the reliability of railway freight operations, which is a major determinant in freight customers' choice of mode of transport.

Based on the substantial work already done in this regard, member countries could identify priority corridors and set up the necessary institutions to operationalize them. Demonstration runs along the corridor(s) can help identify major non-physical barriers and accordingly action plans can be made to address the bottlenecks.

11. Work towards paperless railway freight transport

Paper documents pose costly and serious limitations for the development of railway freight transport. Given the fast-paced developments in ICT, railways cannot afford to lag behind. Development of cross-border paperless railway freight can increase the speed and reliability of railway transport by the rapid exchange of information and by avoiding duplication, repeated data entry and related errors. Some countries in the region have developed online freight operations systems, featuring a range of facilities.

Member countries could enhance their understanding of paperless systems for railway freight transport by sharing regional experiences. To further promote paperless railway freight transport, ESCAP, in collaboration with other organizations, can serve as a forum for sharing good practices and providing support to develop the necessary institutional arrangements for sharing information electronically.

C. Note on the fundamental issues and areas for cooperation in the Regional Cooperation Framework

This note contains information about the work being done by various organizations^e to support the common targets, processes and areas for cooperation indicated in the Regional Cooperation Framework.

^e The organizations indicated here are only indicative and not exhaustive.

1. Fundamental issues for the facilitation of international railway transport

a. Standards for railway infrastructure, facilities and equipment

The International Union of Railways plays an important role in railway standardization. Already, a number of Parties to the Trans-Asian Railway network are members of the International Union of Railways. The International Union of Railways established a standardization platform in 2010 with the aim of developing international railway standards for the “standardization clusters” dedicated to specific business cases. Participation in the activities of the International Union of Railways may assist member countries in moving towards standardization of railway infrastructure and rolling stock for cross-border railway operations.

The Organisation for Co-operation between Railways also plays an important role in railway standardization: its commission on infrastructure and rolling stock develops leaflets dealing with technical aspects of railways in the field of rolling stock, dimensions and gauges, track and engineering structures, power supplies and traction, etc. Activities are carried out by the Organisation for Co-operation between Railways/European Railway Agency contact group on a comparative analysis of the technical parameters of 1,520/1,524 mm and 1,435 mm railway systems, which allows interaction between member countries of the European Union and those of the Organisation for Co-operation between Railways. In addition, there are a number of leaflets developed in cooperation with the International Union of Railways. The Organisation for Co-operation between Railways and the International Union of Railways have established a joint group to develop voluntary international railway standards for the 1,520 mm railway cluster.

b. Break-of-gauge

Recently, the joint Organisation for Co-operation between Railways/International Union of Railways group on automatic gauge changeover systems has developed technical standards for such systems together with a cost-benefit analysis. The governing bodies of both organizations adopted these documents in 2014. Member countries may refer to these standards while finalizing their preferred options for dealing with break-of-gauge.

The ESCAP Efficient Cross-border Transport Models^f summarize a number of good practices in organizing efficient trans-shipment at border crossings with break-of-gauge. Based on the concepts of the models, countries may streamline their formalities and procedures for crossing borders.

Another ESCAP transport facilitation tool, the Model on Integrated Controls at Border Crossings,^g may help countries reduce control times through streamlined information flows and the combined use of new technologies, while enhancing the effectiveness of control measures.

c. Different legal regimes for railway transport contracts

Member countries may wish to become Parties to the International Convention on the Harmonization of Frontier Control of Goods (1982), annex 9 of which deals with the facilitation of border crossing procedures for international rail freight. Thirteen ESCAP member countries are already parties to the Convention.

^f www.unescap.org/resources/efficient-cross-border-transport-models.

^g www.unescap.org/resources/model-integrated-controls-border-crossings.

The ESCAP Model on Integrated Controls at Border Crossings provides a tool to enhance coordination and cooperation among control agencies using the concept of border-crossing management information systems. Deployment of such systems at border crossings would minimize the physical inspection of goods while maintaining a high degree of effective control.

2. Areas for cooperation among the member countries for the facilitation of international railway transport

a. Formulation of subregional and bilateral agreements on the facilitation of railway transport

Member countries of the Economic Cooperation Organization have entered in to the Transit Transport Framework Agreement. Annex III of the Agreement provides for the minimum technical characteristics of the railway transport to be used by the transit traffic.

Similarly, Protocol 6 on Railways Border and Interchange Stations to the Association of Southeast Asian Nations (ASEAN) Framework Agreement on the Facilitation of Goods in Transit provides for cooperation among the railways of ASEAN countries.

In South Asia, member countries of the South Asian Association for Regional Cooperation are in the process of finalizing a regional railway agreement with the main objective of strengthening regional connectivity over land, which will promote regional economic integration.

Coupled with membership of international organizations, these agreements provide a practical way for countries to expand cross-border railway transport.

b. Use of new technologies in train operations as well as in container tracking

The ESCAP Secure Cross-border Transport Model^h provides a standard conceptual design of electronic vehicle tracking systems for cross-border transport with satellite positioning systems, electronic seals and ICT platforms, as well as inter-country institutional arrangements. The concept can also be applied to international railway transport.

The railways of the Islamic Republic of Iran use satellite positioning systems to track containers to ensure their smooth movement.

c. Development of human resources for cross-border railway operations

Railway training institutes in the region. The International Union of Railways is developing the Asian Network of Rail Training Centres for the exchange of best practices and the benchmarking of activities. Currently, the Asian Institute of Transport Development provides capacity-building training, including for railway employees of various countries in the region.

^h www.unescap.org/resources/secure-cross-border-transport-model.

d. Simplification of the intermodal interface of railways with maritime, air and road transport

The International Rail Transport Committee plays an important role in issues of multimodal transportation. It has established a Multimodality Committee with the aim of simplifying transfer from one mode of transport to another in the logistics chain, in terms of both administrative and legal procedures.

e. Promotion of the corridor approach in the facilitation of international railway transport

For example, the Economic Cooperation Organization identified 5 railway corridors, the Organisation for Co-operation between Railways developed 13 and the European Commission also established numerous ones to increase the competitiveness of railway transport and encourage a modal shift.

Due to the immense economic potential of European-Asian transport corridors, the International Union of Railways has already started to develop international railway standards for rail freight corridors under its standardization platform. Moreover, its global team of experts is working on ways to operationalize international transport corridors. This document was adopted by the General Assembly of the International Union of Railways in December 2014. Experts from railway companies and different international organizations such as the Economic commission for Europe, the Organisation for Co-operation between Railways, the Intergovernmental Organisation for International Carriage by Rail, the International Rail Transport Committee, the Coordinating Council on Trans-Siberian Transportation, the International Federation of Freight Forwarders Associations and the International Union for Road-Rail Combined Transport took part in its development. The document could serve as a guide for member countries in the development and operation of railway corridors.

f. Work towards paperless railway freight transport

At the international level efforts are also being made to develop paperless rail freight transport.

A joint project by the International Union of Railways and the International Rail Transport Committee on eRail Freight has developed an electronic consignment note message where the latter organization has provided content definition and RAILDATA has provided the technical design. In order to ensure seamless and easy implementation of the new common consignment note, the International Rail Transport Committee and the Organisation for Co-operation between Railways have developed a “Manual for the CIM/SMGS Consignment Note”, which is regularly updated.

Recently, the International Rail Transport Committee, together with technical experts, prepared a new updated version of these legal functional and technical specifications for the e-consignment note CIM/SMGS, which was published in October 2013; it can be downloaded from www.cit-rail.org. The e-consignment note CIM/SMGS has been operationalized through technical, functional and legal specifications.

In addition, major European railway undertakings have developed a central information exchange system called the Open Railway Freight EDI

User System.ⁱ The railway undertaking enters data into the system and from there electronic consignment notes can be accessed by the stakeholders along the route. It is no longer required to collect consignment or wagon note information at the borders.

ⁱ www.raildata.coop/ORFEUS.htm.