



Economic Commission for Europe**Inland Transport Committee****Eighty-fourth session**

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Item 9(g) of the provisional agenda

**Strategic questions of a horizontal and cross-sectoral
policy or regulatory nature:****Analytical work on transport****International contingency management as an instrument to
increase resilience of inland transport systems to external
shocks****Note by the secretariat* ******I. Mandate and scope**

1. At its eighty-second annual session (Geneva, 25-28 February 2020), the Inland Transport Committee (hereafter referred as the Committee) requested the secretariat, in close cooperation with the Bureau, with the support of interested governments and key stakeholders to conduct necessary research on provisions in existing legal frameworks and new areas of work needed to promote cooperation between transport authorities in the field of counteracting the effects of emergency situations of cross-country nature, including epidemics and pandemics, and present this information to the Working Party on Transport Trends and Economics (WP.5) for consideration of further steps and for inclusion in its programme of work.¹ In response to this mandate, four Informal Multidisciplinary Advisory Group (IMAG) Sessions on Transport Responses to COVID-19 have been held under WP.5 auspices (June and September 2020 / June and September 2021).

2. The deliberations of the first two meetings were incorporated into an official document entitled: "Taking stock of the resilience of the inland transport sector to pandemics

* The present document was submitted late due to resources constraints.

** The present document has been prepared by the secretariats of the Working Party on Transport Trends and Economics (WP.5), the Working Party on Intermodal Transport and Logistics (WP.24) and the Working Party on Inland Water Transport (SC.3). The document builds further on the findings of a United Nations Development Account project regarding the development of a set of Sustainable Inland Transport Connectivity Indicators (SITCIN) in the framework of which transport system pandemic resilience indicators have been prepared, available at: <https://unece.org/transport/documents/2021/08/informal-documents/sustainable-inland-transport-connectivity-indicators>. The secretariat would like to express its gratitude to Mr. F. Jost (external resource person) for inputs provided during the drafting process of this document.

¹ See also the reports and recommendations of IMAG responses to COVID-19, available at: <https://unece.org/transport/events/informal-multidisciplinary-advisory-group-transport-responses-covid-19-crisis>



and international emergency situations” submitted to the Committee at its eighty-third session in February 2021 (ECE/TRANS/2021/4). The Committee considered the document and decided “to prolong the work of IMAG for one more year until February 2022” and “to enhance cooperation between working parties, and between the Committee and other specialized agencies of the United Nations System, including IMO and ICAO contributing to a better coordinated delivery of programme of work and increased interoperability”.

3. It is with the above mandate in mind that a third virtual session of IMAG was organized in June 2021 with contributions by representatives of other major transport sectors including IMO and ICAO. Deliberations focused on the identification of commonalities and lessons learned in the way that the maritime, aviation and inland transport subsectors experienced the COVID-19 pandemic and how they handled the many challenges at hand. The third session of IMAG benefited from the participation of Chairs and Vice-Chairs of ECE transport mode specific Working Parties (including SC.1, SC.3, WP.24 and WP.30) and allowed for an extensive round of cross-sectoral exchanges, main recommendations of which have been incorporated in the present document.

4. At its third session, in June 2021, IMAG *inter alia* emphasized the potential role of existing ECE legal instruments in increasing transport system resilience to external shocks including during international emergencies and pandemics:²

- The ECE infrastructure agreements AGR,³ AGC,⁴ AGN⁵ which define and elaborate core road, rail, inter-modal, and inland waterway networks in the ECE region and beyond, could serve as the backbone for the identification of those critically important routes and nodes that need to remain operable under any circumstances.
- The International Convention on the Harmonization of Frontier Controls of Goods of 1982 aimed at facilitating border crossing could offer the framework under which criteria could be defined for land border crossings that need to stay open at any time to enable the international transport of essential cargo and supplies.

5. These and other key findings were presented to WP.5 at its thirty-fourth session (Geneva, 15-17 September 2021) which “requested the secretariat to prepare an official document including the recommendations developed thus far as well as a proposed action plan for their implementation and to develop a concept note for further information exchange and possible contingency planning for rail, road and inland waterways for the forthcoming Committee session”. The present document, which focuses exclusively on inland freight transport sector, builds further on these recommendations, and formulates a draft concept for international contingency management addressing both infrastructure and border crossing facilitation aspects. For ease of reference, external shocks will be used in this document to refer to emergency situations of cross-country nature, including epidemics, pandemics, natural disasters, major accidents, and other phenomena that have the potential to jeopardize international freight transport for an extended period.

6. The Committee is expected to consider the proposed action plan for follow-up actions by WP.5 in cooperation with the mode-specific Working Parties (see table 1) and to review this preliminary concept note for international contingency management in the rail, road, and inland waterway sectors. In this regard, the Committee is invited to provide concrete feedback and guidance as to how it would wish WP.5 and other Working Parties to further elaborate this concept for international contingency management in the inland transport sector.

² See: ECE, 2020-2021, full set of recommendations included in ECE/TRANS/WP.5/2020/10/Rev.1, available at: <https://unece.org/sites/default/files/2021-07/ECE-TRANS-WP5-2020-10r1e.pdf>.

³ European Agreement on Main International Traffic Arteries.

⁴ European Agreement on Main International Railway Lines.

⁵ European Agreement on Main Inland Waterways of International Importance.

II. Vulnerability of the international transport system to external shocks revealed

A. COVID-19 - A pandemic with unprecedented global supply chain impacts

1. Patchwork of uncoordinated actions

7. In an immediate reaction to the announcement on 11 March 2021 by World Health Organization (WHO) of the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) pandemic (hereafter referred to as COVID-19 pandemic), many governments around the world closed their borders to non-citizens and non-residents (e.g. through visa issuance bans or mandatory health cards / health certificates) or imposed on those entering extended periods of self-isolation to limit the spread of the virus while implementing lockdowns, strict social distancing, and contact tracing measures. In an initial reaction, many governments closed their land, air, and sea borders to non-essential traffic. In the inland road transport sector, these measures had as a result that tens of thousands of trucks got stuck at borders not only across the ECE region but across the entire globe which had a significant impact on the delivery of essential goods, such as foods, pharmaceuticals, medical supplies, and fuels, especially for the economically most vulnerable countries which often rely heavily on imports to cover their basic needs. Finally, the widely spread virus quickly forced countries to lock down cities and even entire regions or nations at a later stage. At the time of drafting this document, the COVID-19 Omicron variant was causing wide-spread concerns among countries in the ECE region, and beyond, which resulted in actions being taken that were in some cases similar to those initiated during the first wave of the pandemic in 2020.

2. International transport sector hit hard

8. For over one year after the outbreak, the pandemic led to a reduced availability of logistics sector and transport workers (e.g. truck drivers in the road transport sector), many of which are leaving or have already left the road haulage sector. Uncertain about border crossing and travel conditions upon their return, hauliers would not undertake the outbound carriage. In the road transport sector, drivers left the country of their business because they feared that their return could be delayed or, as foreigners, they would enjoy a lower priority for medical treatment than the citizens of that country. The pandemic has hit shipping companies' operations along the entire supply chain and across the various transport subsectors. Labour shortages have been worsened by workers forced to isolate. In the maritime sector, shortages of skilled transport workers in combination with increased demands for consumer products leave shipping costs currently at around \$15,000 per feu (40-foot equivalent unit) for operations between the United States of America and China, at levels that are ten times those of the pre-pandemic era. Maritime ports, unused to such volumes of traffic, face long queues of ships waiting weeks to disembark. In a system already stretched to the limit by lack of truck drivers and warehouse space, up to 15 per cent of the global container fleet is currently sitting at anchor outside the world's ports.⁶ Sufficient and qualified staff are essential factors for international economic recover. At the same time, authorities should continue to ensure that rules (e.g. in relation to driving times and rest periods, dangerous goods transport, transshipment of goods, safety provisions, etc.) are respected in accordance with social and labour rights applicable for workers along the entire logistics chain.⁷

9. In addition to staffing shortages, the public health crisis has created extraordinary circumstances making it difficult for transport operators and competent authorities across the various transport subsectors to complete the necessary formalities or procedures to comply with certain legal provisions relating to the renewal or extension of certificates, licenses, or authorizations or to complete administrative steps needed to maintain their validity.

⁶ Source: The Economist, December 2021.

⁷ Source: (IRU, June 2021), available at www.iru.org/resources/iru-library/covid-19-impacts-road-transport-industry-executive-summary-update-june-2021.

Alongside the COVID-19 outbreak, an ‘infodemic’, as WHO describes it, has been spreading. The overabundance of information about COVID-19, its origin and effects, as well as about the action of authorities to tackle the pandemic, makes it difficult for transport operators and their staff to find reliable sources and guidance they need to resume their operations.

B. Major accidents and their impact: example from the rail sector

10. External shocks or major disruptions to transport systems can also take the form of accidents that can have, be it at a smaller scale and more localized level, equally significant and long-term economic, operational, and financial impacts. From August to October 2017 for instance, one of the most important European rail freight corridors, the “North-Sea Mediterranean Rail Freight Corridor” was disrupted due to an accident near the city of Rastatt (Germany) where during the construction of the Rastatt tunnel its eastern bore collapsed. The Rastatt incident paralyzed rail freight traffic during a seven-week interruption of railway operations on the Karlsruhe-Basel line of the Rhine-Alpine Corridor. According to a study of the European Rail Freight Association (ERFA), the European Rail Network (NEE) and the International Union for Combined Rail-Road Transport (UIRR) this incident has resulted in economic damage of more than two billion euro for the industry. Several factors attributed to the economic losses. For trains that could not depart, additional overheads had to be arranged, as well as alternative logistics solutions along the rail-based supply chain, downtimes in terminals and extra services for freight forwarding. Trains that did depart were bound to detour routes; this required extra work for personnel, traction and rolling stock. Railway operators suffered general penalties in the supply chain for delayed and non-driven trains, and infrastructure operators were tasked with additional planning and scheduling tasks. Shippers and manufacturing companies connected with rail logistics were also burdened with extra work, all adding up to the loss of added value. Moreover, in response to this disruption, a significant portion of freight volumes were shifted to road transport putting the economic viability of railway undertakings at risk.⁸

11. These economic losses were further aggravated by the fact that infrastructure managers have the leverage to refuse compensating railway undertakings in the case of a disruption.⁹ However, shippers and forwarders may claim damages from railway undertakings for delayed or cancelled carriage¹⁰ even when beyond their control. These damages may also threaten the viability of the railway undertaking. Railway undertakings affected were also at risk of traffic being shifted to road not coming back to rail. A rerouting was not available at that time due to interoperability problems. Recognizing these challenges, the European Commission, the International Union of Railways (UIC) and sector associations Rail Freight Forward and Railnet Europe (RNE) consulted and issued guidelines for contingency management aimed at avoiding an incident with the same magnitude to repeat itself in the future.

C. Addressing external shocks - importance of international legal instruments

12. Beyond and above these recent developments, disruptions due to external shocks have reinforced the need to move on with the development and implementation of international legal instruments to: (a) keep core international infrastructure networks running even during

⁸ Source: derived from a study by the European Rail Freight Association (ERFA), European Rail Network (NEE), International Union for Combined Rail-Road Transport (UIRR), April 2018. Available at: www.railfreight.com/corridors/2018/04/22/economic-damage-of-rastatt-incident-2-2-billion-euros/.

⁹ See: article 8 of the Uniform Rules concerning the Contract of use of Infrastructure in International Rail Traffic stipulating a legal liability of the rail infrastructure manager. Even where COTIF signatory States did not decide to derogate from that provision, liability claims based on article 8 were not successful in the cases tackled in the present note.

¹⁰ Such damages may be due to contract liability or legal liability. Claims on the latter in the context of international freight traffic by rail may be based on Uniform Rules Concerning the Contract of International Carriage of Goods by Rail or the SMGS.

emergency situations and (b) keep border crossing points open for international freight flows. The present document considers four of such instruments administered by ECE and referred to above under paragraph 4 (AGR, AGTC, AGN and Harmonization Convention).

13. Border crossings, even in the absence of an external shock present a bottleneck where precious time in transport is lost in procedural requirements, red tape, checks and controls. The loss of time for freight forwarders and the additional resources needed by the authorities can provide a lower bound for the costs. Losses of time and revenue in haulage on a single leg of a round trip also affect return trips and may lead to rescheduling and thus impact on different consignments and consignors. Furthermore, there are social costs for the transport workforce having to wait at border crossings in difficult conditions.¹¹

14. Transport and logistics workers at risk of spreading a pandemic in its initial phases should have access to appropriate health care, either in their country of arrival or of departure, and this should be coordinated between both. It is possible to impose health checks on anyone entering the national territory of a country without formal introduction of border controls. Countries should coordinate to carry out health screening on one side of the border only. Evidently, countries should facilitate transit of other citizens and residents that are returning home. However, they can take measures such as requiring a period of self-isolation if they impose the same requirements on their own nationals.

III. Recommendations considered so far by the Multidisciplinary Advisory Group and possible follow-up actions by the Working Parties

Table 1
Possible follow-up actions

<i>Possible follow-up actions by working parties</i>					
<i>Thematic areas</i>	<i>Working Party on Transport Trends and Economics (WP.5)</i>	<i>Working Party on Customs Questions Affecting Transport (WP.30)</i>	<i>Working Party on Road Transport (SC.1)</i>	<i>Working Party on Inland Water Transport (SC.3)</i>	<i>Working Party on Intermodal Transport (WP.24)</i>
International transport sector regulatory level	Development and piloting of an international contingency management (ICM) concept for rail, road, inland waterways, and intermodal transport in coordination with relevant Working Parties	For the ECE and adjacent regions, work towards a uniform, broadly accepted certificate (like annex 3 of the Green Lane Communication) that certifies that the driver is a transport worker and as such waived from border crossing restrictions Conduct stress-tests on the various ECE border crossing facilitation Conventions, TIR/eTIR,	Conduct stress-tests on the various ECE road transport Conventions, i.e. CMR/ eCMR Evaluate how temporary measures (extensions of validity of permits or temporary exemptions and facilitation measures can be turned into emergency protocols	Evaluate how temporary measures (extensions of validity of certificates or temporary exemptions and facilitation measures can be turned into emergency protocols	Discuss setting up appropriate targets for the market share of intermodal transport. Considers its role in supporting collaborative networks for flexible transport planning processes and integration of modes.

¹¹ Some shippers shift to domestic (or internal market) sourcing of goods previously procured abroad. Shippers also move from single sourcing to double sourcing. Within margins, they accept higher prices for semi-finished goods in return for a more resilient logistics chain.

Possible follow-up actions by working parties

<i>Thematic areas</i>	<i>Working Party on Transport Trends and Economics (WP.5)</i>	<i>Working Party on Customs Questions Affecting Transport (WP.30)</i>	<i>Working Party on Road Transport (SC.1)</i>	<i>Working Party on Inland Water Transport (SC.3)</i>	<i>Working Party on Intermodal Transport (WP.24)</i>
		Harmonization Convention to assess how those can become more external shock resilient Evaluate how temporary measures (extensions of validity of permits or temporary exemptions and facilitation measures can be turned into emergency protocols			
Existing legal instruments	Support mode specific Working Parties on their efforts as relevant and appropriate	Assess whether on the basis of the Harmonization Convention, criteria could be defined for land border crossings that need to stay operational during emergencies Related to health certification of transport crews assess whether an e-health certificate could be attached to existing e-transport documents such as eTIR (or eCMR)	Assess whether AGR could serve as backbone for identification of core road networks that are to stay open during international emergencies	Assess whether AGN could serve as backbone for identification of a core IWW network that is to stay open during international emergencies Assess international conventions and agreements within ECE and SC.3 resolutions in the field of inland water transport in terms of preparedness for pandemics and similar situations (ECE/TRANS/SC.3/213, para. 17)	Discusses the creation of a core network in AGTC and special procedures for the core network to be put in place for operation during emergency situations
Digitalization and automation	Support mode specific Working Parties on their efforts as relevant and appropriate	Further boost and accelerate eTIR across the ECE region and beyond	Further boost and accelerate eCMR across the ECE region and beyond	Continue activities aimed to promoting the development of automation in inland navigation, support developments in digitalization of transport documents and operations	Discusses its role for supporting transport document digitalization underpinned by data interoperability
Sectoral and intersectoral dialogue	Coordinated pandemic preparedness and	Have pandemic/ international emergency preparedness as a recurrent agenda item for the forthcoming sessions of mode-specific WPs.			

Possible follow-up actions by working parties

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resilience efforts in cooperation with mode specific Working Parties. Build further on the work done by IMAG and continue to explore specific measures that could be developed to increase the resilience of inland transport systems, in cooperation with IMO and ICAO and other stakeholders as relevant and appropriate					
Build further on and strengthen THE PEP initiative and its Task Force, in relation to pandemic preparedness of urban transport systems					
		Consider developing resource materials, databanks or pandemic preparedness good practice repositories gathering experiences from authorities in the ECE region. Consider consolidating such efforts at cross-sectoral level			

Source: ECE

IV. Towards international contingency management in the inland freight transport sector

15. Keeping core interregional infrastructure networks running also during emergency situations requires a good level of preparedness which can be achieved by putting in place International Contingency Management (ICM) plans to be developed separately for railway, road, and inland waterways. Sectoral ICM plans should have clear objectives and follow specific processes while setting up minimum requirements for application by relevant stakeholders. In doing so transport sectoral ICM plans can be powerful tools to make transport systems more resilient to external shocks.

A. International contingency management in cross-modal perspective

16. At the outset, ICM is to define external shocks to which it can be applied. Such external shocks may result e.g. from:

- (a) Natural hazards or climate change;
- (b) The unforeseen disruption of a main piece of transport or communication infrastructure (the collapse of a tunnel, bridge, ongoing construction works);
- (c) Security threats or terrorism;
- (d) An epidemic or a pandemic.

17. ICM consists of two phases:

(a) A preparatory phase during which involved stakeholders should prepare response plans and emergency protocols to be activated during contingency situations likely to occur; and

(b) A response phase during which involved stakeholders take the response action to an emergency event that has occurred.

18. For the sake of transparency, effectiveness, and ownership of ICM plans, the following stakeholder groups or their representatives may be consulted in the course of the preparatory process:

- Authorities involved in border crossing operations, in particular customs, police, phytosanitary inspection agencies and other relevant actors.
- Providers of rest and service facilities including gas stations, accommodation, and secured car park facilities.
- Hauliers, shippers, and freight forwarders.
- Infrastructure managers, facility operators (including lock and bridge personnel for inland waterways), corridor managers.
- Port authorities and terminal operators.
- Professional transport associations including at sectoral level and in the field of dangerous goods transportation.

19. ICM objectives include, first and foremost, the assurance of service continuity followed by its role to help mitigate safety and security risks as well as assuring the short- and medium-term viability of service providers. Within the objective of service continuity, all stakeholders take the necessary action to minimize impact of major disruptions on international trade flows. They do so by effective organization of alternative carriage options through prepared and tested contingency plans. In doing so the rights and needs of various stakeholders are observed such as:

(a) Shippers and freight forwarders have the right to transparent information to timely re-arrange carriage (re-routing to other modes, rescheduling, etc.); and

(b) Priority rules for path trains, road network access quota and (multi-modal) platform and facility access in emergency situations have been agreed in contingency plans and are applied in a transparent manner.

20. Bilateral border crossing agreements between two countries are in most cases mode-specific, whereby they can cover individual border crossing points or all border crossings points of either rail, road or inland waterways (IWW) between the two adjacent States. Bilateral border crossing agreements (laying down detailed requirements for access and handling procedures) are not so much part of ICM but they are one of the prerequisites for efficient ICM. It is thus recommended that countries regularly update them in accordance with actual traffic volumes, the type and nature of the respective border crossing points (rail/road/IWW) and consider elaborating provisions applicable at times of contingency situations.

B. International contingency management for resilience of rail transport systems

1. Rail contingency plans

21. Contingency plans should identify by-pass lines and provide information and guidance on issues such as traction capacity of the by-pass lines and their technical requirements. Contingency plans should envisage means for supply of locos to serve the by-pass lines if the regular line locos cannot be used. They should address the issue for availability of drivers for by-pass lines if regular line drivers do not have the required training to drive trains on those lines. Safety comes into play for vehicle certificates and train driver licenses, when trains are re-routed through other networks under ICM on a temporary basis or under an international agreement, the safety authority acknowledges such documents on near-border stretches of rail.

22. Contingency plans should be supported by other rules so as to ensure viability of service providers. To this end, rules need to be put in place to prevent higher user charges on diversion routes compared to the charges on the regular route.

2. Rail contingency plan stakeholders

23. Defining stakeholder roles for ICM is of crucial importance. ICM cannot be effective without key stakeholders taking the right action. In particular, the following three stakeholders play key roles: (a) the infrastructure manager; (b) the railway undertaking; and (c) the rail regulatory body. These roles depend on the way a country has organized its rail sector. Stakeholders such as the infrastructure manager and railway undertaking can be just different departments of a single organization or assigned to different, possibly even independent, entities at state, private or public-private partnership level.

24. In most cases, the roles of these different stakeholders, in relation to ICM, are defined as follows:

Corridor managers:

- Coordinate the capacity allocation of the infrastructure structure managers, facility operators and/or the railway undertakings involved in transport operations on one or more corridors or segments thereof.
- Determine which infrastructure managers and railway undertakings will be affected and thus need to be involved in ICM.

Infrastructure managers:

- Set up and service their internal contingency management task force.
- Establish route compatibilities within its network.
- Plan for by-pass routes (considering the by-pass capacity) on the network in case of emergency situations.
- Set up principles for capacity allocation in collaboration with the regulatory body.
- Coordinate with other infrastructure managers and railway undertakings domestically and internationally, as necessary.
- Put in place contingency plans and test these contingency plans, through simulations involving railway undertakings and infrastructure managers, as appropriate, and update them as necessary.

Railway undertaking:¹²

- Sets up and maintains its internal contingency management task force.

¹² Source: (UIC, December 2020): "Railway Undertakings' Handbook for international contingency management", available at:

- Establishes transparent rules for train carriage service classification, working jointly with other railway undertakings and regulatory bodies, to help prioritize traffic in the case of emergency situations.
- Tests the re-routing scenarios and coordinates with other railway undertakings and infrastructure managers domestically and internationally as necessary, including on pooling arrangements.
- Tests through simulations with the involvement of infrastructure manager the re-routing plans and updates them as necessary.

Regulatory body and safety authority:

- Provides the regulatory framework and an oversight mechanism to prepare for contingency situations and an effective response to them. Oversight should aim to ensure non-discriminatory infrastructure access and the existence and regular updates of contingency plans.
- Ensures that remaining capacity, and re-routing capacity are allocated in a non-discriminatory manner among the different railway undertakings.
- Prevents higher charges to railway undertakings for use of by-pass routes and ensures that infrastructure managers provide timely and necessary information of the emergency situation, the scope of the disruption and its expected evolution.
- Overlooks line restoration efforts to prevent unnecessary delays or increased charges for railway undertakings.
- Works out and proposes or imposes solutions to prevent recurring emergency situations and investigates its causes.
- The safety authority will set language requirements for train drivers, including at near-border line sections. It also decides on the recognition of certificates and authorizations for vehicles and drivers between the border and the hand-over station of the international train service.

Financing authority and competition authority:

- Provides additional finance to cover short-term losses or shortfalls of liquidity resulting from contingency situations with a view to ensure the safety and the continuity of traffic with due regard to fair competition and financial viability of the stakeholders under B and C above.

3. Rail contingency plan processes

25. Effective ICM sets up processes for ensuring the required information flow and coordination activities between key ICM stakeholders. These processes are set up both for the preparatory phase as well as for the response phase.

26. In the preparatory phase the information flow and the coordination activities are focused on developing and regularly running simulations of the available contingency plan. Information regarding on route compatibilities¹³ and by-pass routes and their capacities to serve re-routing of services from main routes are shared between infrastructure managers and railway undertakings. Both parties also agree on principles for capacity allocation in emergency situations

27. In a subsequent phase, both parties get together to simulate traffic on the by-pass routes and elaborate re-routing scenarios for the contingency plan. In this exercise the following aspects need to be considered: (a) working conditions of train crews and language abilities of train drivers and dispatchers, involvement of pilots for driver assistance; (b) route compatibilities (route capacity and its technical features including electrification, gradient,

https://uic.org/IMG/pdf/railway_undertaking_s_handbook_for_international_contingency_management_1.0.pdf.

¹³ The railway undertaking verifies the compatibility of its rail vehicles with a specific route, or rather, it verifies alternative routes to the one usually used.

signalling systems, speed limits, maximum train length/mass of train, axle loads); (c) availability of rolling stock (traction capacity where relevant considering the pooling of resources of railway undertakings on a contractual basis).

28. After this exercise, the task force of the infrastructure manager works with regulatory bodies to plan for response actions requiring involvement of state emergency bodies. Allocation of capacity on by-pass routes is also reviewed by the regulatory body to ensure that non-discriminatory rules¹⁴ are applied. The contingency management task force of the infrastructure manager then publishes the contingency plan and makes it available to all parties involved, including railway undertakings and the regulatory bodies.¹⁵

29. Upon adoption and publication of the contingency plan, the infrastructure manager and railway undertaking gather at regular intervals to simulate the re-routing scenarios and update the contingency plans as necessary.

30. In the response phase, upon the occurrence of an actual incident, the contingency management task force of the infrastructure manager informs the railway undertaking task force about a disruption¹⁶ and its projected evolution and impact on the traffic flow. Both respective task forces then agree on the implementation of a re-routing plan. Subsequently, the task forces work closely with shippers and freight forwarders to re-arrange carriage as necessary, in particular in case the by-pass routes do not have sufficient capacity to absorb all traffic.

4. Normal railway operations versus railway operations in contingency situations

31. Normal operation and operation in contingency situations are quite distinct and require a different approach. Management of contingency situations aimed at continuity of service may require that at least temporarily, less stringent operational and border crossing requirements are applied to facilitate re-routing. This may be especially the case when by-passes for international contingencies may concern different networks and language zones. Requirements could be relaxed as regards language proficiency of drivers (knowledge of a route) and the admission of a second or third language. Furthermore, one could consider relaxing requirements on rolling stock (vehicle authorizations) combined with speed reductions on near border sections of railway lines. In such cases key stakeholders are expected to work together to ensure that lifting specific requirements would not compromise safety and security during re-routing activities.

32. Border crossing procedures for international rail freight are an area that, if left uncoordinated, tend to create bottlenecks and delays, at times of normal operations but even more so at times of contingency situations.

33. As stipulated in annex 9 to the above referred to Harmonization Convention:

- Efforts need to be made to facilitate the crossing of borders for international rail transport workers (including train drivers and accompanying staff). This includes the facilitated issuance of visas, etc.
- Wherever possible, customs and other agencies that conduct controls at railway border crossings are to do so jointly and with the involvement of their peers on the other side. The railway border crossing facilities, including facilities for customs and

¹⁴ Source: Regulation (EU) 2016/995 of the European Parliament and council of 8 June 2015 on the technical specification for interoperability relating to the operation and traffic management of the rail system in the European Union.

¹⁵ European Union provides rules establishing route compatibility and providing information through the infrastructure register (RINF). The European Union Agency for Railways (2019) provides and continuously updates further details by way of a "Guide on application of the TSI OPE", available at: www.era.europa.eu/sites/default/files/activities/docs/guide_on_application_of_ope_tsi_2019_en.pdf.

¹⁶ Source: Railnet Europe (RNE) (2018): "European Rail Infrastructure Managers` Handbook for International Contingency Management" available at: https://webgate.ec.europa.eu/multisite/primeinfrastructure/sites/default/files/events/annex_to_point_9_a_contingency_handbook.pdf. This covers areas including related to re-routing, capacity allocation principles, communication processes. Freight trains on international rail freight corridors, disruption management, roles of infrastructure managers, railway undertakings, communication of incidents.

phytosanitary inspection need to be equipped to facilitate a speedy processing of trains and their carriage.

- A mechanism for reciprocal recognition of all forms of control of rolling stock, containers, semi-trailers and goods is to be established.
- Customs controls need to be f risk evaluation and management based. Competent authorities carry out simplified controls at border (interchange) stations and shall, as far as possible, move certain forms of controls to the stations of departure and destination. These provisions could be reflected in the international contingency plan.

34. When developing international contingency measures, the provisions stipulated in annex 9 of the Harmonization Convention are to be considered and wherever possible included in the contingency plans.

35. More than 30 European railway undertakings have supported the approach for pooling (that is to share on a contractual basis) resources in the case of traffic disruptions and the necessary regulatory mitigation measures laid down in the Rail Freight Forward coalition (RFF) “Vision Paper 30 by 2030”¹⁷. Pooling of resources of railway undertakings to mitigate contingencies can take four different forms:

- The pooling of the loco, whereby one railway undertaking asks another one to include its wagons in the train of the first one, which also holds the train path;
- The pooling of the loco with the train path, whereby the “other” railway undertaking includes its wagons in the train of the first one and, in addition, provides the train path;
- The pooling of the loco and the train driver, whereby the owner of the loco provides it together with the train driver; and
- The pooling of the loco and a path initially allocated to the third party, whereby the third party is a third railway undertaking or entity that was allocated a path to pass it on to a railway undertaking once designated.

36. Although pooling is decided by railway undertakings, it may need facilitating by adaptation of safety rules, as is illustrated for different aspects in table 2.

Table 2

Safety rules relevant for pooling of rail vehicles

<i>Aspect</i>	<i>Reduction of requisite (target)</i>	<i>Possible mitigation measure (examples)</i>
Vehicle authorization	Temporary authorization for vehicles to enter the neighbouring country up to the technical border without the necessity of a full vehicle authorization	Publication of a list of relevant infrastructural parameters for which the IM commits to keep them compatible with the neighbouring country`s vehicles (“similar network characteristics” as defined in TSI OPE)
Safety certificates	Simplified emission of a safety certificate for a limited section of the neighbouring country`s networks	
Route knowledge	Permission to run on lines without route knowledge	Emission of leaflets with instructions for drivers` correct behaviour along the route Speed reduction
Language	Permission to run on the neighbouring country`s network	Language knowledge requirement reduced to a minimum set of predefined terms and messages

¹⁷ Source: (Rail Freight Forward Coalition, 2019), “What is the Contingency Management handbook by RFF about? - We'll explain”, available at: <https://www.railfreightforward.eu/blog/what-contingency-management-handbook-rff-about-well-explain>.

<i>Aspect</i>	<i>Reduction of requisite (target)</i>	<i>Possible mitigation measure (examples)</i>
	without the full knowledge of the country's language	Use of glossaries and/ or translation tools
Drivers 'certification	Permission for drivers to access a limited portion of the neighbouring country's network without a full certification for that country's network	<p>Instruction of drivers limited to the specific equipment and behaviours expected on the neighbouring country's network segment.</p> <p>Instruction provided through the driver's home country's organization and certified by his employer's Safety Management System (SMS)</p>

Source: adapted from UIC, 2019¹⁸

5. Recommendations for international contingency management in the rail sector

37. Recommendations for authorities and regulatory bodies:

(a) Introduce legal obligations, if not done so yet, for contingency planning in the railway sector.

(b) Review bilateral border crossing agreements to ensure that they do not compromise management of disruptions in traffic due to emergency situations and limit to the extent possible the content of the revised border crossing agreement to what is necessary to be regulated bilaterally.

(c) Align border crossing agreements to more recent international instruments, in particular instruments of regional or global nature to which one or both signatory States adhere.¹⁹ Suspend application of outdated provisions, e.g. where joint border controls are not provided for, until the amended agreement can be applied.

(d) Where checks of consignments, travellers or freight at borders are still necessary, provide for joint controls at a single border crossing station in accordance with the Harmonization Convention and annex IV of AGTC. If practiced under normal conditions, joint border controls will increase flexibility of relocation of border control capacity to where the need arises in an emergency situation.

(e) Consider the temporary relaxation of restrictions, as appropriate, to re-route traffic and to enhance the opportunities for by-pass routes (see below the use of pilots to support the train driver in the cabin).

(f) Move checks away from near the border to the nearest major station, creating a 'zone' in accordance with article 4 of AGTC. Trains should be allowed to operate within that zone on the basis of accident cover and authorizations issued by the state from which they departed.

(g) Upgrade, together with the infrastructure managers, the network of important international combined transport lines in accordance with annex III to AGTC.

38. Recommendations for infrastructure managers and facility operators:

(a) Develop and issue contingency plans.

(b) Establish the required ICM processes.

(c) Simulate emergency situations on a regular basis on the main corridors. Simulations can help construct and assess different contingency scenarios. They enable to estimate if the rail system can cope with the situation at hand and what type and volume of

¹⁸ (UIC, 2019) "Railway Undertakings' Handbook for International Contingency Management", available at: https://uic.org/IMG/pdf/railway_undertaking_s_handbook_for_international_contingency_management_1.0.pdf

¹⁹ See article 14 of Directive 2012/34/EU on a Single European Railway Area.

traffic needs to be shifted to road or inland waterways. Simulations increase preparedness for and speed up and facilitate coordination in the case of an actual traffic disruption.

39. Recommendations for railway undertakings:

(a) Provide for pilots to join drivers in the cabin to provide route knowledge and ensure voice communication in the required language.

(b) Classify train services to request line and service facility capacity on the basis of the indications of the infrastructure managers and the needs of the shippers.

(c) Conclude contracts with other railway undertakings to pool resources in the case of an emergency.

(d) Take part in simulations to test and improve contingency plans. Railway undertakings should decide what data they would share with the infrastructure manager. The railway undertakings should use the outcome of the simulations to conclude and update pooling arrangements.

C. International contingency management for resilience of road transport systems

40. While road transport at times of contingencies is more flexible than rail transport, at least in terms of opportunities for re-routing and diversion of cargo flows, and involves less regulatory and oversight bodies, the operation of road transport systems relies on a much larger mobile workforce and range of private sector operators. It is therefore, in terms of economic and financial impact, quite vulnerable to international contingencies. At the same time, many time-critical supplies, including pharmaceuticals or semi-finished materials for just-in time production, are mostly carried by road which makes it all the more important that the sector remains operational at times of crisis.

1. Specificities of road transport sector contingencies – major accidents and their impact

41. The collapse of the Morandi Bridge in Genoa, Italy, in August 2018 during a rainstorm, did have an impact on the efficient operations along the major Rhine-Alpine Core Network Corridor situated in a region which counts as the most densely populated and economically strongest in Europe, including major European Union economic centres such as Brussels and Antwerp in Belgium, the Randstad region in the Netherlands, the German Rhine-Ruhr and Rhine-Neckar regions, the Basel and Zürich regions in Switzerland and the Milan and Genoa regions in Northern Italy. Annually more than one billion tonnes of freight are transported along the corridor representing 19 per cent of total GDP of the European Union.²⁰ While the economic and financial impact of the Genoa bridge accident was by no means comparable to the Rastatt case described above, in the immediate aftermath of the incident, freight transport at the port of Genoa decreased by 35 percent compared to the 2017 level.²¹ In addition to an interruption of a major road axes, part of the collapsed bridge fell on the Polcevera railway yard paralysing railway traffic from and to the port until debris was removed and the damaged infrastructure repaired.

42. While contingency planning in the road transport sector involves much fewer regulatory authorities, than is the case for the railway sector for instance, the following steps are equally relevant:

(a) Identification by the relevant corridor and infrastructure managers of potential by-pass road routes including technical requirements in terms of number of lanes of these by-pass routes and the border crossing points along them.

²⁰ Source, adapted from: CEF Support to Rhine Alpine Corridor (EC, May 2020), available at: https://ec.europa.eu/inea/sites/default/files/cefpub/cef_transport_2020-corridor-f-rhine-alpine_metadata.pdf.

²¹ Source, adapted/ reproduced from: “Genua railway line reopens after collapse Morandi bridge” (Rail Freight, October 2018): www.railfreight.com/railfreight/2018/10/03/genua-railway-lines-reopen-after-collapse-morandi-bridge/.

(b) Contingency plans should be supported by other rules so as to ensure viability of transport operators and protect them from increased user charges. To this end, rules need to be put in place to prevent higher user charges on diversion routes compared to the charges on the regular route and requirements need to be put in place which require infrastructure managers for restoring normal conditions without unnecessary delays.

2. Road transport sector vulnerability to communicable diseases

43. In an initial reaction to the outbreak of the COVID-19 pandemic, many Governments closed their land borders to non-essential traffic. These measures had as a result that tens of thousands of trucks got stuck at borders not only across the ECE region but across the entire globe which had a significant impact on the delivery of essential goods, such as foods, pharmaceuticals, medical supplies and fuels, especially for the economically most vulnerable countries which often rely heavily on imports to cover their basic needs. Quite rapidly it became clear that closing border crossing points for road freight among countries comes with significant collateral damage and contributes little to contain outbreak or spread of an epidemic/pandemic. Diverging and frequently changing testing, health certification and vaccination requirements, unforeseen waiting times at borders or re-routing creates a situation where drivers cannot load or unload their cargo at all or not within the scheduled hours at one or several points of their journey.²² This exacerbates their anyway difficult working conditions, creating situations whereby they can no longer observe rules regarding driving time and rest periods. Free circulation of goods is crucial to maintain availability of goods. This is particularly true for essential goods such as food supplies including livestock, vital medical and protective equipment, and supplies all of which are typically carried by road vehicles.²³

44. At times of contingency situations, even more so than under normal circumstances, member States should consider implementing annex 8 of the Harmonization Conventions which covers the following aspects of road crossings:

- Facilitation of visa procedures for professional drivers (article 2).
- Operational measures to speed-up border crossing procedures for goods, particularly for urgent consignments, such as live animals and perishable goods (article 3).
- Harmonized technical provisions relating to faster controls of road vehicles (technical inspections) and equipment used for transport of goods under controlled temperatures.
- Standardized weighing operations and procedures to avoid, to the extent possible, repetitive weighing procedures at border crossings.
- Minimum infrastructure requirements for efficient border crossing points.

3. Road transport document digitalization efforts to counter contingencies

45. The use of paper-based transport documents increases the risk of contagion in the case of a pandemic, not only when papers change hands but also when the driver, physically present on the spot, has to provide information because it is not available in electronic form. Furthermore, the pandemic, due to the circumstances described above, requires more flexible, real-time, data-based routing, picking-up and delivery practices. In this regard, ongoing ECE efforts aimed at developing electronic documents that reduce the need for physical exchange of documents, providing dispatchers and shippers with real-time information on the status, origin, and nature of the consignment turned out quite a helpful mitigation tool. Therefore, and for various other benefits (including time and cost savings) provided to authorities and industries, ECE administers an electronic customs document and an electronic contract of

²² See IRU (2021), IRU communication, available at: www.iru.org/news-resources/newsroom/major-transport-organisations-warn-governments-knee-jerk-reaction-omicron-variant-puts-supply-chains-greater-risk

²³ See EC (2020), “Communication on the implementation of the Green Lanes under the Guidelines for border management measures to protect health and ensure the availability of goods and essential services”, available at: https://ec.europa.eu/info/live-work-travel-eu/coronavirus-response/transportation-during-pandemic_en

carriage/consignment note in the form of eTIR and eCMR. ICM for the road transport sector should build on this momentum and seek to accelerate the transition from paper based to digital transport documents.

D. Recommendations on principles for international contingency management in the road transport sector

(a) Introduce legal obligations or incentives, if not in place, for international contingency planning in the road transport sector. Such measures may include identification by the relevant corridor and/or road infrastructure managers of potential by-pass routes meeting the required technical parameters (e.g. number of carriageways/lanes, design speed, minimum overbridge height clearance, maximum axle load, road toll implementation, etc.) and the freight handling capacity of border crossing points along them. Options for temporarily shifting from road to rail or inland waterways in function of the volumes and type of cargo need to be mapped as well. Contingency plans should be supported by other rules so as to ensure viability of transport operators and protect them from increased user charges when using these by-pass routes or opting for a temporary modal shift.

(b) Countries should reinforce cooperation and exchange of information about the situation at road border crossing points. Typically, adjacent states share a large number of road border crossing points, a limited number of which tend to process significant traffic volumes. Therefore, ICM should focus on facilitating the most important border crossing points with each neighbouring State. AGR provides a network of main roads and border crossing points that connect all member States across the pan-European region. AGR thus may serve a blueprint for such priority border crossing points in the context of ICM. Similar to the European Union Green Lane initiative, targets for the maximum border crossing time covering all possible checks and procedures for trucks could be set.²⁴

(c) At times of international contingencies, if main border crossings are saturated, additional border crossings in the proximity of the main ones should be opened, focusing exclusively on processing of freight. The ‘green lane’ border crossings should be open to all freight vehicles, including heavy and light duty vehicles. Transit corridors should be defined and agreed bilaterally or at regional level.

(d) All freight vehicles and drivers should be treated in a non-discriminatory manner, irrespective of the origin, destination, or country of registration of the vehicle, or of the nationality of the driver. Countries should not distinguish between vehicles carrying goods for use in their territory and those merely transiting.

(e) At “green lane” border crossings, procedures should be minimized and streamlined to what is strictly necessary. At borders, drivers of freight vehicles should not be asked to produce any document other than their identification and driving license and, if necessary, a standard template letter from the employer. The electronic submission/display of documents should be deemed sufficient.

(f) Health screenings can be carried out before or after the border, depending on the available infrastructure. Countries should coordinate to carry out health screening on one side of the border only to avoid overlaps and waiting times. Checks and health screening should be undertaken in a way that minimizes delay without drivers having to leave their vehicles.

(g) Moreover, at times of international contingencies or pandemic situations, countries should:

- Ensure the availability of adequate sanitary facilities and food supplies / catering for transport workers along major transport routes and in the case of contingencies

²⁴ Source: (EC, March 2020), “Guidelines for border management measures to protect health and ensure the availability of goods and essential services”, available at <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020XC0316%2803%29>

consider suspending the ban on transport workers spending rest periods in vehicle cabins.²⁵

- Foster the use of digital tools that already exist, including eTIR and e-CMR as outlined above, rendering transport operations more efficient while reducing the risk of contagion.²⁶
- Temporarily suspend all types of driving restrictions in place (weekend bans, night bans, sectoral bans, etc.) for freight transport.
- Deploy targeted financial support measures to ensure that road transport can play its role in the recovery from the pandemic/ international contingency.

(h) Vaccination or health certificates mutually recognized and forgery-proof, speed-up the time to check at border crossings, on the road side and on the loading ramp. Holders of a valid digital health certificate should in principle not be subject to testing or quarantine when travelling.

(i) Abandon regulations through which truck drivers are still subject to restrictions at some borders, resulting in the need for trailer swaps or transshipment which counteracts the fight against a pandemic or the handling of an international contingency situations it increases physical human contact rather than reduce it and slows down operations.²⁷

(j) During the COVID-19 pandemic, governments adopted measures to overcome problems relating to the renewal or extension of certificates, licenses, or authorizations or to complete other steps necessary to maintain their validity and to ensure both legal certainty and the proper functioning of the legal acts concerned. Such measures should be incorporated in emergency protocols that could become part of a comprehensive contingency management system for the road transport sector.

E. International contingency management for resilience of inland waterway transport (IWT) systems

46. The COVID-19 outbreak resulted in a severe economic impact including a drastic reduction of cargo volumes transported by inland water transport over the March–June 2020 period. Most affected were passenger traffic and the movement of vessel crews, including the replacement of crew members. The renewal of vessel certificates and certificates of crew members was significantly hindered.

47. On major European inland waterways of international importance, port and terminal services have remained operational throughout the pandemic, while adjusting their work modalities to reduce human contact during controls and transshipment operations. Due to the disruptions in supply chains, some ports and inland terminals faced a build-up of empty containers, which led to yard congestion and disruption of daily operations.

48. The impact of the COVID-19 outbreak on inland water transport was discussed by SC.3 at its sixty-fourth session in October 2020.²⁸

49. Identified critical issues were:²⁹

- The suspension of passenger traffic and river cruises.
- Reduced cargo volumes transported by inland waterways.

²⁵ Source: (EC, 2020), “Commission Guidelines concerning the exercise of the free movement of workers during COVID-19 outbreak”, available at [https://eur-lex.europa.eu/legal-content/GA/TXT/?uri=CELEX:52020XC0330\(03\)](https://eur-lex.europa.eu/legal-content/GA/TXT/?uri=CELEX:52020XC0330(03))

²⁶ Source: (EC, October 2020), “European Commission Communication on upgrading the Green Lanes”, available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52020DC0685>.

²⁷ Source: (IRU, 2021) available at: www.iru.org/resources/iru-library/covid-19-impacts-road-transport-industry-executive-summary-update-june-2021.

²⁸ ECE/TRANS/SC.3/213, para. 14.

²⁹ ECE/TRANS/SC.3/WP.3/114, paras. 9 and 10

- The impact on cargo operations in ports and the operation of bridges and locks.
 - The validity of vessels' documents, certificates and other documents of crews. The replacement of crew members on-board vessels.
50. Adaptation measures implemented by member States and river commissions included deploying:
- Temporary measures for the extension and renewal of ship certificates and certificates of crew members.
 - Special procedures to facilitate the replacement of crew members in foreign ports, including special certificates for crews of vessels engaged in international voyages.
 - ECE multilateral agreements to compensate for the cancellation of refresher training sessions for safety advisers and experts under the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN).
 - Procedures for urgent vessel repairs.
 - Individual protective measures for crews and other staff in the sector and urgent actions in case of infection among the crew members.

F. Recommendations for international contingency management in inland waterways

51. Based on the exceptional measures implemented by member States and river commissions during the COVID-19 outbreak, the following were recommended as possible elements of a contingency plan for inland waterways:

- (a) Ensuring safe and flexible functioning (24/7) of all IWW infrastructure objects to allow the operation of vessels and to avoid unnecessary waiting times and smooth operation of River Information Services (RIS).
- (b) Special safety and health protection measures for the waterway personnel and crews on inland navigation vessels.
- (c) Temporary measures for the extension of validity and renewal of certificates of crew members, certificates of special knowledge, certificates of approval and provisional certificates of approval according to ADN, service record books, logbooks, and vessels' documents.
- (d) For cases in which the time limit for undergoing medical examinations of boatmasters over a certain age would otherwise have expired, that time limit should be extended as necessary.
- (e) Facilitation of the mobility of crew members to enable them to make the direct journey from their place of residence to the port of embarkation and from the port of disembarkation to their place of residence and special procedures for the replacement of crew members.
- (f) Special procedures to facilitate the replacement of crew members in foreign ports, including special certificates for crews of vessels engaged in international voyages.
- (g) Special measures during cargo loading and unloading operations, the replenishment of fuel, water and food supplies and urgent vessel repairs.
- (h) Special protection measures for terminal and port operators to protect their workers and the continuity of terminal operations. Automation of operation and digital data exchange instead of paper documents should be supported, wherever possible.
- (i) Flexibility in customs procedures and other formalities in terms of for example extending deadlines to ease the flow of goods in ports, where possible and necessary.³⁰

³⁰ See annex I of ECE/TRANS/SC.3/WP.3/2022/7 (unece.org).

(j) Ensuring the possibility for IWW crews to continue their activity in their respective capacities until the end of the period of exceptional pandemic/ contingency-related restrictions, including the extension of job contracts, if crew replacements are not possible. Some crew members may find it impossible to undertake periodic medical examinations, therefore pragmatic solutions are recommended to allow their entry into or continuation in service on an exceptional basis when such possibility is provided under national law.³¹

³¹ See: Regulation 2020/698 (EU, 25 May 2020) laying down specific and temporary measures in view of the COVID-19 outbreak concerning the renewal or extension of certain certificates, licences and authorisations and the postponement of certain periodic checks and periodic training in certain areas of transport legislation, available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020R0698&from=EN>.