

INTER-MODAL TRANSPORT IN THE AGE OF COVID-19

UNECE EFFORTS TO HELP BUILD PANDEMIC-RESILIENT TRANSPORT SYSTEMS

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I. THE ROLE OF TRANSPORT IN COVID-19 PANDEMIC DEVELOPMENT, SPREAD AND CONTAINMENT

Patchwork of uncoordinated actions

In an initial reaction to the outbreak of the pandemic, many Governments closed their land, air and sea 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.

The lessons learned from the immediate and short-term measures taken by Governments show that the transport sector was not prepared to operate in the conditions resulting from the pandemic. Implementing policies like stay@home, which created an increased need for consumption and a 360 degree turn towards e-business, cannot be accompanied by closing borders or imposing a series of restrictions to truck drivers. This combination created a disruption of international supply chains and therefore temporarily shortages in food, essential supplies and medicines.

Transport sector and broader economic impact

These often-excessive restrictions to cross-border and transit freight transport further aggravated the economic and social impacts of the pandemic shock to the global economy. According to WTO figures the global economy (GDP) is projected to contract in 2020 sharply by up to 8% and global trade will decrease by up to 32% in 2020 due to the COVID-19 pandemic. The Purchasing Managers' Index (PMI), an index of the prevailing direction of economic trends in the manufacturing and service sectors recorded in March 2020 a dramatic decline in the manufacturing sectors. While railway freight transportation which has a number of distinctive comparative advantages such use of less manpower over long distance, efficiency and environmental performance suffered less, at least in the UNECE region, the road freight transport sector on the contrary was hit hard. According to International Road Transport Union (IRU) data, revenue decreased by 40% during the confinement period (in comparison to 2019 figures). Many transport operations including transport of automotive parts, clothing, flowers and construction materials almost came to a complete stand still during confinement.

Vulnerabilities of international transport systems revealed

In less than no time the extreme vulnerability of international transport systems to outbreaks of communicable diseases became apparent. Also in the post-COVID-19 era however the world will likely remain extensively interconnected and will further rely on seamless and efficient transport and logistics systems. As communicable diseases have occurred repeatedly in the past two decades, like H1N1, H5N1, MERS, SARS, Ebola, and will likely continue to manifest themselves in the future, a global initiative is needed to enhance international cooperation and coordination among inland transport authorities and in doing so strengthen the preparedness and resilience of countries to possible future outbreaks.

II. UNECE SUSTAINABLE TRANSPORT DIVISION – IMMEDIATE RESPONSES

1. Border crossing facilitation initiatives

When countries around the world began closing borders and imposing lockdowns, the global supply chains were deeply affected. Perhaps you, yourself experienced a lack of basic goods at the supermarket or pharmacy. With customers buying in bulk out of fear, shops struggled to restock their shelves.

There are various UN Conventions, such as the *Customs Convention on the International Transport of Goods under Cover of TIR Carnets* (TIR Convention, 1975), the *Convention on the Contract for the International Carriage of Goods by Road*, (known as CMR and its additional protocol, e-CMR), the *International Convention on Harmonization of Frontier Controls of Goods* (or Harmonization Convention) that govern the transport of goods across borders, ensuring a smooth and efficient transit through customs. As countries implemented strict border measures, the usual, internationally agreed upon regulations and conditions, which apply to transport were set aside. This crisis not only led in some cases to shortages in food and other essential goods it also resulted in social impacts where transport professionals including truck drivers, customs and border officers often got stuck for days in a row at border clearance posts, exposed to possible COVID-19 contagion given the often precarious infrastructure and sanitary situation at many land border crossings across the region.

The [UNECE Sustainable Transport Division](#) took a number of initiatives to ensure that borders continued to let goods through:

- In February 2020, UNECE, in partnership with other UN Regional Commissions and partner organizations, established an [Observatory on border crossing status due to COVID 19](#). This online platform collects and illustrates, on a systematic basis, information about the status of inland freight border crossings, including policies and regulatory requirements in place. The main objective of the Observatory is to be an information-sharing platform for transport sector stakeholders, providing information on measures imposed by different Governments enabling transport companies to adapt their itineraries and transport solutions accordingly. The Observatory, as of October 2020, is a

platform that provides updated information on the current border crossing status in 174 UN Member States.

- In parallel, UNECE put in place an **“Open the borders”** campaign to keep the borders open for transport of goods. On 16 April 2020, the Executive Secretary of UNECE and the Secretary General of IRU sent a joint letter to all Heads of Customs authorities calling on them to consider the application of specific measures and good practices to minimize the impact of COVID-19 on the international supply chains.
- **eTIR International System**: UNECE and IRU have been working on an electronic version of the TIR system allowing for a paperless and contactless operating environment while continuing to ensure the safe and secure transport of goods. In the midst of the COVID-19 crisis it was decided to accelerate the implementation of the eTIR international system contactless environment to assist in countering the spread of the virus. The United Nations (UN) Secretary-General’s report¹ entitled “Shared responsibility, global solidarity: Responding to the socioeconomic impacts of COVID-19”, mentions: *“Innovative tools such as UN eTIR/eCMR systems and other tools that allow the exchange electronic information without physical contact and facilitate the flow of goods across borders should be used”*. Furthermore, after the initial call to implement eTIR (7 April 2020), 17 Governments and the European Union (28 Member States) responded positively.
- Implementation of the **United Nations Development Account (UNDA) project on “Transport and trade connectivity in the age of pandemics: UN solutions for contactless, seamless and collaborative transport and trade”**. The project promotes the implementation of United Nations solutions, including standards, guidelines, metrics, tools and methodologies to immediately help Governments, including customs and other border agencies, port authorities, and the business community world-wide, to keep transport networks and borders operational, to facilitate the flow of goods and services, while at the same time containing the further spread of the COVID-19 virus.

2. Offering a platform for multi-stakeholder cooperation and coordination

Establishment of an Informal Multidisciplinary Advisory Group on Transport Responses to the COVID-19 Crisis

At its eighty-second annual session (Geneva, 25–28 February 2020), the **Inland Transport Committee (ITC)** “Requested the UNECE secretariat, in close cooperation with the Bureau, with the support of interested Governments and key stakeholders to conduct necessary research on provisions in existing frameworks and new needed areas of work 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

¹ <https://unsdg.un.org/sites/default/files/2020-03/SG-Report-Socio-Economic-Impact-of-Covid19.pdf>

present this information to the Working Party on Transport Trends and Economics (WP.5) for consideration of further steps and for inclusion to its programme of work.”

In response to this tasking, and as the pandemic further evolved, the secretariat established, under auspices of the Working Party on Transport Trends and Economics (WP.5) an Informal Multidisciplinary Advisory Group on Transport Responses to the COVID-19 Crisis which had its first virtual meeting on [9 June 2020](#) and its second on [8 September 2020](#) as part of the thirty-third session of WP.5. Based on inputs received from Governments and other stakeholders during these Multidisciplinary Advisory Group sessions and based on guidance received from WP.5 in September 2020 and the ITC Bureau at its session in November 2020, a working document has been prepared by the secretariat and submitted to Inland Transport Committee for consideration and possible endorsement of next steps. *Inter alia*, the report identifies a set of lessons learned for international inland transport and for the customs and border management sector.

Lessons learned for international inland transport include:

- The importance of immediate coordination in response to the outbreak and the effective ongoing coordination at regional, national and international levels.
- The importance of efficient supply chains and keeping goods moving.
- The need to collect and feed evidence and data into decision making.
- The digitalization of processes has made them contact-free and safer and more efficient.
- The need for clear communication to the public and to operators on changes to procedures and new rules.
- Engagement across sectors (e.g. health, transport, customs, business) has been crucial in using an evidence-based approach to decision making.

Lessons learned for customs / border management include:

- Need for enhanced preparedness – use of electronic services, risk management (selectivity and profiling before conducting physical checks), non-intrusive inspection (NII) equipment, availability of disaster response/mitigation plans and business continuity plans.
- Need for enhanced coordination – use of a whole of government approach, Coordinated Border Management (CBM), coordination with neighbouring countries and/or at regional levels, especially in case of pandemics.
- Streamlining and simplifying Customs procedures – green lanes for freight traffic.
- Transparency of documentary requirements – all necessary information should be publicly available.
- The report also identifies several possible recommendations for consideration and possible endorsement of the ITC at its 84th Session in February 2021.

The full report is available [here](#).

Discussions in the framework of the Working Party on Transport Trends and Economics (WP.24)

In order to understand the impact of COVID-19 on intermodal transport and logistics, the Chair and Vice-Chair of WP.24 with support of the WP.24 secretariat organised and held a [virtual Friends of Chair meeting](#) to discuss those impacts and the lessons learned in the industry.

WP.24 continued the discussion on COVID-19 and intermodal transport and logistics at its 63rd session held on 28-30 October 2020. The discussion focused on the developments and impacts from the evolving pandemic, response measures taken and their assessment as well as prospects for freight transport. WP.24 confirmed the lessons learned exchanged during the Friends of the Chair meeting. It confirmed and called for recovery measures which would create the necessary conditions to increase competitiveness of intermodal transport in particular versus road transport. It warned of unwarranted freight transport subsidies which may distort the transport market and slow down its transition to a more sustainable one. WP.24 recognized that the pandemic has pushed governments to increase the importance they give to the digitalisation of transport documents. WP.24 underscores that digitalisation should be an integral part of the very much needed transport optimization process in both operations and infrastructure. WP.24 endorsed, during its 63rd session, a Handbook for national master plans for freight transport and logistics which, among others, showcases these transport optimizations processes. The handbook will be published in the spring of 2021.

WP.24 also recognized that the pandemic may bring about more diversification and local sourcing for supply chains. Such a development may have a positive impact on freight transport in a medium term.

Bringing these considerations together, in order to support a further development of intermodal freight transport – a development very much needed to continue freight transport system transition to a more sustainable one, as well as one which would be more resilient to emergency situations such as pandemics – WP.24 approved a resolution on strengthening intermodal freight transport. The [resolution](#) proposed by WP.24 has been adopted at the 83rd Session of the Inland Transport Committee in February 2021.

3. Measuring the Transport Impacts of COVID-19

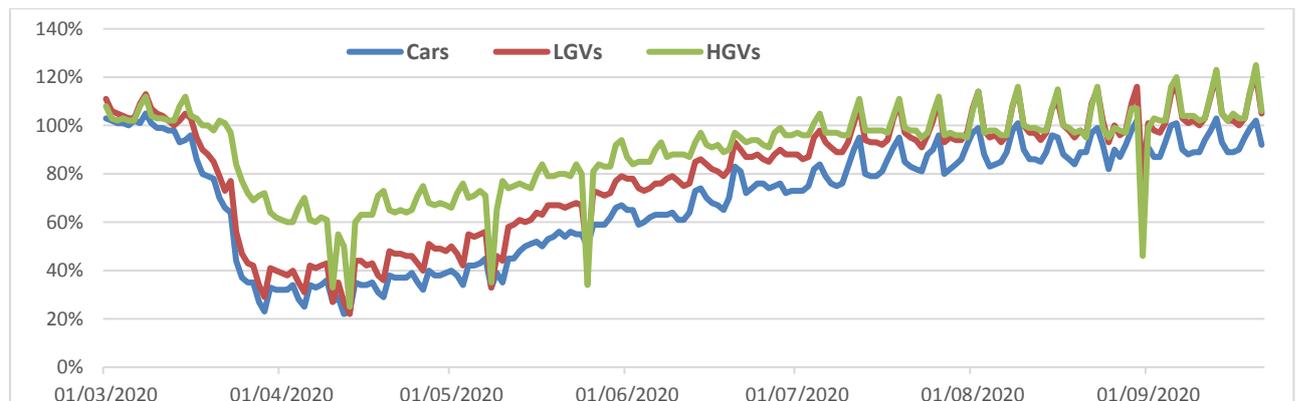
Official annual statistics remain a vital benchmark to track progress over time, but the COVID-19 crisis has also forced policy makers and statisticians alike to consider new types of data sources. With some traditional surveys, censuses and even some administrative data sources either hampered or completely unavailable, statisticians have been forced by events to try to measure transport and mobility in different ways. There has been an emergence of “flash” indicators, often based on either mobile network operator location data or tolling/vehicle measurement sources, to allow reasonably accurate data to be released on a monthly, weekly or even daily basis. These indicators

may not always have the label of official statistics, but when produced to a high degree of quality by official statisticians, they provide a useful, trusted source of data in a timely fashion. Since the crisis began, the ECE secretariat has been [monitoring transport impacts](#) through the production and maintenance of a wiki of short-term official statistics sources relevant to transport monitoring. At the time of writing, there are more than 150 sources linked to pages from almost every ECE member State. These data cover a wide range of transport topics.

Measuring changes in road traffic levels

The use of vehicle counters and, in some cases, toll data have substantially increased their prominence during 2020. The number of vehicles per day on key corridors can be a very pertinent proxy for overall traffic levels, and aggregating multiple points with other information can provide a useful index that can be comparable to vehicle-km. Data can also be obtained from tolling data on main highways, as is the case in Germany. Figure 1 shows an index of different traffic types on roads in Great Britain. The data are an index based upon an equivalent day in the first week of February 2020, for cars, Light Goods Vehicles (LGVs) and Heavy Goods Vehicles (HGVs). Data are not seasonally adjusted, and so public holidays are clearly visible as dips. The graph shows that car traffic was consistently lower than goods vehicles throughout the lockdown period.

Figure 1: Changes in road traffic levels in Great Britain for different vehicle types compared to 1st week of February 2020. Source: UK DfT



These traffic trends are also visible in data for other countries. For example, Germany's truck toll mileage index at its minimum on 30 April 2020 was 15.6 per cent lower than the baseline, whereas an index measuring total land mobility hit a low of 59 per cent below the baseline. Similarly, in the United States of America, the daily passenger Vehicle Miles Travelled index hit a low of 60% below the baseline on 12 April 2020.

Measuring changes in road safety

With record falls in road traffic levels in many countries, there has been great interest in the impact on road traffic accidents. The secretariat found relevant monthly data for twenty ECE member States, and in addition data for some sub-national entities such as New York City, Greater London and Northern Ireland. The impact on road traffic accident numbers has varied considerably by country, with some countries seeing record decreases in fatalities while others seeing insignificant changes from the baseline or even small increases. Comparisons across time are challenging as provisional data are typically collated on a different basis to finalized annual numbers. Therefore, data have only been

compared with previous years' provisional monthly data. Figure 2 shows the change in fatalities between April-June 2019 and April-June 2020 for all available countries with monthly data, with a negative number indicating a decrease. Users are strongly advised to consult country sites linked to on the online wiki prepared by UNECE in order to understand the limitations of these provisional numbers.

Figure II: Reductions in road traffic accident fatalities, April-June 2020 versus April-June 2019. Available countries only.

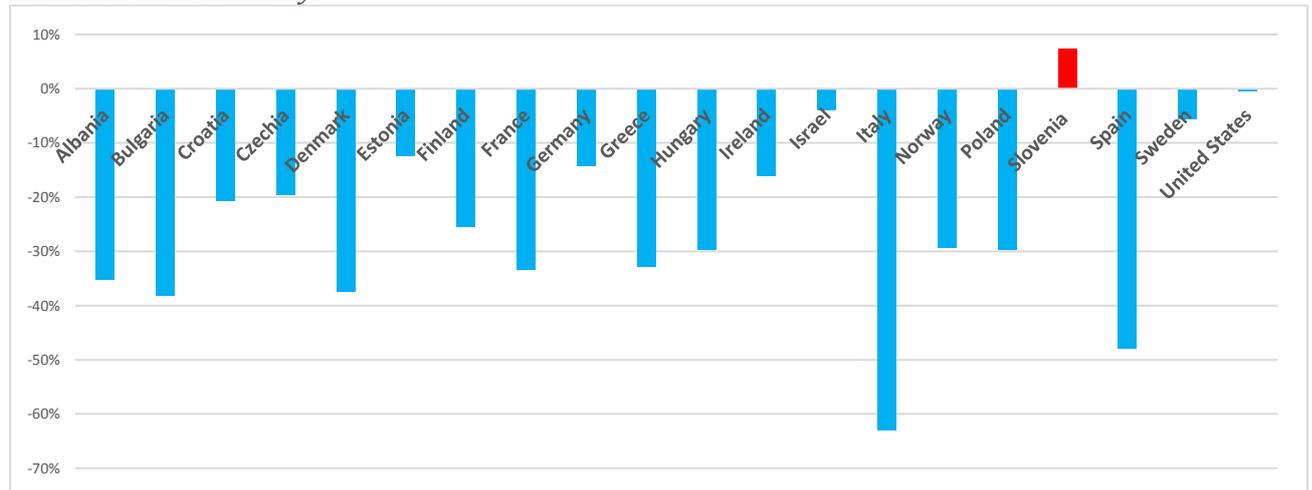
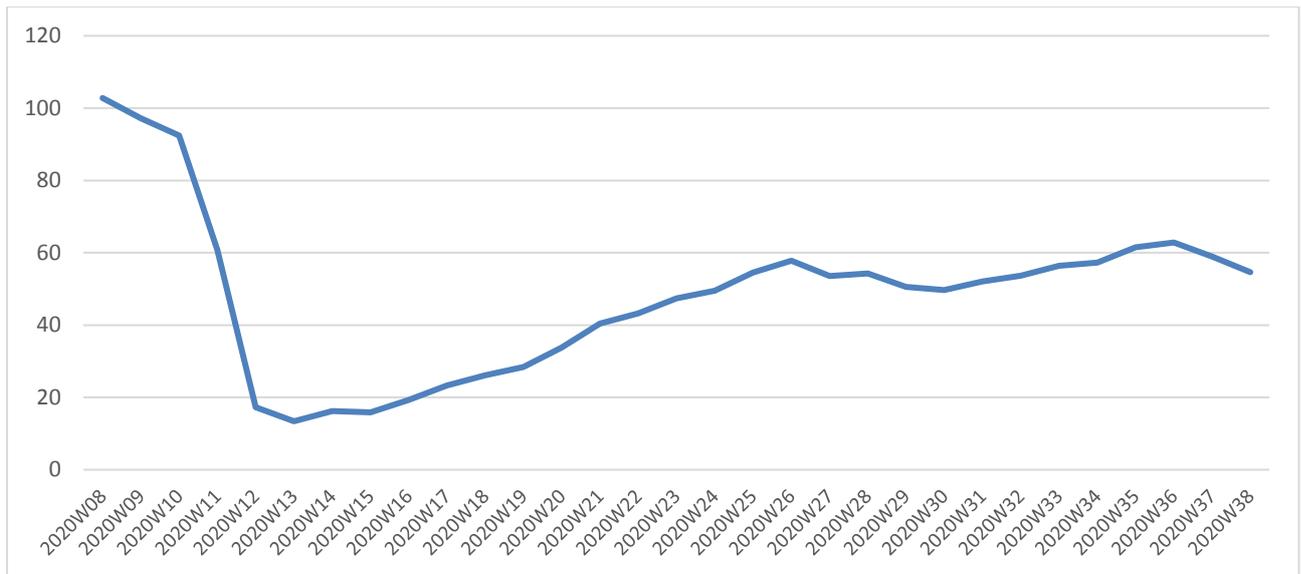


Figure 2 shows that most countries did see a year-on-year decrease in traffic fatalities in the second quarter of 2020, with many experiencing over a 30 per cent reduction. These falls in fatalities are undoubtedly good news, but also need to be considered in the context of record falls in traffic in many countries, which were typically much larger (as evidenced in the traffic data above).

Public transport

When public transport data are based on ticket or card swipes, or entry/exit sensors, it is often possible to publish weekly or even daily passenger figures with a short time lag. This is the case for countries including Denmark (Copenhagen), Portugal (Lisbon), the United Kingdom of Great Britain and Northern Ireland (London Underground) and United States of America (New York City subway). Figure 3 shows weekly passengers on the Copenhagen metro as an index compared to the average number of passengers on weekdays in the eighth and ninth weeks of 2020.

Figure III: Index of Copenhagen Metro usage on a weekly basis, 100=average traffic in eighth and ninth weeks of 2020. Source: Statistics Denmark



4. Intelligent Transport Systems

Intelligent Transport Systems (ITS) have the potential to revolutionize mobility, changing everything from the way we move and communicate to how we design transport legislation and regulate vehicles. ECE offers a unique platform for shaping the legal framework and ensuring the safe introduction of future technologies. Since 2004, the ECE Transport Division has led the discussion on ITS and in 2012 it formulated a Road Map for promoting ITS.

Practically all UNECE Inland Transport Committee (ITC) Working Parties have been and are dealing with [Intelligent Transport Systems](#). For example:

The Global Forum for Road Traffic Safety (WP.1) is establishing a formal group of experts to prepare a new convention on the use of automated vehicles in traffic.

The World Forum for Harmonization of Vehicle Regulations (WP.29) promotes ITS matters on-board of vehicles, such as Lane Departure Warnings Systems (LDWS), Advanced Emergency Braking Systems (AEBS) and on-board diagnostics (OBDS) to name just a few.

Intelligent and automated transport systems tend to reduce the frequency and duration of human-to-human contact (social distancing) while in transport and thus reduce the likeliness of contagion of communicable diseases.

III. Possible way forward in turning inland transport systems more pandemic resilient, ongoing UNECE activities

1. At regulatory level:

- As its [eighty-third session](#) in February 2021, the UNECE Inland Transport Committee mandated the continuation (under WP.5 auspices) of the work of the informal multidisciplinary advisory group on developing transport responses to the COVID-19 and similar international crises.
- In 2021, the Advisory Group will continue to build on the work done in 2020, in particular it will:
 - Continue to identify specific measures/ tools to be developed aimed at increasing the resilience of the inland transport system to future pandemics, including through the development of, e.g. Emergency plans/ protocols highlighting for instance which transport networks and border crossings should be kept operational when confinement measures need to be put in place;
 - Explore the development of a stress-test mechanism to evaluate the resilience of various ECE (and other) Conventions to identify where amendments can/should be made in order to turn these legal instruments more pandemic proof.
- As per its original mandate, in close coordination and cooperation with other UNECE Working Parties under ITC auspices, the Group will continue to explore whether a new international regulatory regime for the inland transport sector in case of epidemics, pandemics and other cross-border emergency issues is needed or whether making amendments to existing legal instruments administered by ECE and other stakeholders suffices.
- As per the recommendations of its 2020 report, it will explore whether efforts need to be undertaken towards the development of a uniform, broadly accepted certificate (similar to the one [in Annex 3 of the Green Lane Communication](#)) that certifies that the driver is a transport worker and, as such, waived from border crossing restrictions.

2. At the level of existing United Nations legal instruments / Conventions:

- Consider introducing e-health certificates for crew and/ or passengers, such as to the existing UN transport conventions and their electronic/ digital applications such as eTIR, eCMR etc.
- Consider developing rules for transiting and cooperation among transport authorities in case of pandemics/ cross-border emergencies, such as amendments to the Harmonization Convention, e.g. by means of an additional annex.
- As referred to above, conduct stress-tests on the various ECE Conventions to identify where amendments can/should be made in order to make them more “pandemic-resilient” (i.e. TIR/ eTIR, CMR/eCMR and the Harmonization Convention) to be undertaken by relevant Working Parties.

3. At the level of digitalization:

- Continued support for transport/ trade digitalisation: raise awareness globally and if possible, accelerate the digital implementation possibilities of various of the already existing transport legal instruments in the inland transport sector: TIR/eTIR, CMR/eCMR, the URL/ eURL consignment note for rail transport etc. A focus on digitalisation and automation could turn out effective pandemic mitigation tools as direct human contacts in clearance processes are no longer needed. Online training modules on the use of these digital instruments could be developed and deployed across the world with the support of the relevant ECE Working Parties (WP.30, SC.1, SC.2, WP.24 etc.). Here it should be noted that an eLearning module on deployment of the eTIR international system is being developed with the support of the Organization for Security and Co-operation in Europe (OSCE).

4. At the level of continuous regional and inter-regional/ inter-governmental dialogue/ information exchange:

- In accordance with the tasking of the UNECE ITC at its eighty-third session, continue the organization of multisectoral meetings as necessary (involving also the maritime and aviation sectors, including through the specialized agencies IMO and ICAO) to share experience, and regularly review and discuss cooperation across modes to prevent international spread of communicable diseases through transport in the future and enhance regional and inter-regional coordination to facilitate border-crossings. This could as well be an agenda item as part of existing ECE intergovernmental platforms.
- Build on and further strengthen the Transport, Health and Environment Pan-European Programme (THE PEP) initiative, jointly led by UNECE and WHO Europe which in the wake of the COVID-19 pandemic has established a Task Force composed of representatives of member States, international organizations, civil society, academia and other stakeholders. The initiative aims at developing principles for environmentally sound and healthy transport systems based on sustainability and resilience and will explore long-term and strategic changes for the sector.
- Following the recent publication of a UNECE publication on “Intermodal Transport in the Age of COVID-19 – Practices, Initiatives and Responses, Building Pandemic Resilient Transport Systems”, the development of further resource materials gathering experiences from transport authorities in the ECE region and beyond in responding to the COVID-19 crisis is being considered.

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Relevant UNECE web pages

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UNECE Inland Transport Committee, available at: <https://unece.org/transport/inland-transport-committee>

UNECE eTIR International System, available at: <https://unece.org/about-etir>

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