



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

Geneva, 20-23 February 2024

Item 10 (g) of the provisional agenda

**Strategic questions of a horizontal and
cross-sectoral policy or regulatory nature:
Analytical work on transport****Analytical work of the Sustainable Transport Division****Note by the secretariat***Summary*

This note summarizes the work undertaken in the framework of the Working Party on Transport Trends and Economics (WP.5), which serves as the transport think tank for the Inland Transport Committee (ITC). The note also provides a brief overview of the analytical work assumed in 2023 by the United Nations Economic Commission for Europe (ECE) Sustainable Transport Division. This work comprised preparation of publications on specific transport issues, analytical work conducted by specific Groups of Experts and Multidisciplinary Task Forces, analytical papers to support activities related to the United Nations transport conventions, capacity-building workshops, as well as the ongoing work of a transport corridor coordination management committee.

The Committee is invited to consider the information provided in this document. The Committee may also provide guidance as to the future directions for the analytical work in the field of transport.



I. Analytical work undertaken by the Working Party on Transport Trends and Economics



Source: Depositphotos 2022

1. WP.5 provides an inter-regional forum for the exchange of experiences and ideas, in particular, on challenges relating to the development of sustainable inland transport systems. Its mandate allows it to assume the unique role of a transport “think tank” in the framework of the Inland Transport Committee (ITC).
2. Following the request of the ITC at its eighty-first session inviting its subsidiary bodies to take follow-up actions to align their work with the ITC Strategy until 2030 (ECE/TRANS/288, paras. 15 (a) and (c)) the WP.5 mandate and programme of work have been fully aligned with the priority actions of the Strategy included under the ITC’s fourth role as a “United Nations Platform for promoting sustainable regional and interregional inland transport connectivity and mobility”.
3. In view of its past activities, and considering the ITC Strategy until 2030, WP.5 at its thirty-second session in 2019 agreed on six key clusters of work and long-term (2020–2030) programme of work on the basis of which the present document has been structured:
 - (a) Development of transport networks and/ or links;
 - (b) Transport and climate change;
 - (c) Sustainable urban mobility;
 - (d) Transport infrastructure data;
 - (e) Review and monitoring of emerging issues and Sustainable Development Goals; and
 - (f) Inland transport security.
4. At its thirty-sixth annual session, WP.5 adopted an evaluation report covering the period 2020–2023 as well as a new biennial 2024–2025 and up-dated long-term programme of work as contained in document ECE/TRANS/WP.5/2023/10. WP.5 also adopted its revised terms of reference and rules of procedure which have now been aligned with the those of the Inland Transport Committee (ITC) as contained in Annexes 1 and 2 of document ECE/TRANS/WP.5/74.

II. Overview of the Working Party on Transport Trends and Economics` activities per cluster

A. Development of transport networks and/ or links

1. Coordination Committee on the Trans-Caspian and Almaty-Tehran-Istanbul Corridors



5. At the occasion of the 36th annual session of WP.5, the WP.5 Chair and Vice-Chair together with the secretariat and the Corridor Coordinators (Georgia and Uzbekistan) appointed in the framework of the Economic Commission for Europe (ECE)-Economic Cooperation Organization (ECO)-Coordination Committee on the Trans-Caspian and Almaty-Tehran-Istanbul Corridors, provided a progress update on operationalization efforts made in the framework of the Committee since its last annual session. The outcomes from the first three sessions of the Coordination Committee (held in Geneva, December 2022; Istanbul/ Türkiye, June 2023 and Baku, July 2023) as well as the Committee’s endorsed Terms of Reference and a 2023–2025 biennial programme of work were presented, as contained in document ECE/TRANS/WP.5/2023/1.

6. The Working Party was informed that the biennial work plan of the Coordination Committee, which currently consists of representatives from ministries of transport, railway agencies and customs authorities from Azerbaijan, Georgia, Iran (Islamic Republic of), Türkiye, Kazakhstan, Kyrgyzstan, and Uzbekistan focuses on five agreed thematic clusters of work, aimed at:

(a) Evaluation and prioritization of transport infrastructure construction and renewal requirements including for rolling stock and pool containers as well as missing infrastructure links.

(b) Digitalization, harmonization, and standardization of transport documents in use on the corridors (cover both uni- and multi-modal documentation).

(c) Assessment of the availability of reliable corridor-wide agreed timetables and tariffs.

(d) Evaluation of en-route border crossing efficiency on both corridors as well as identification, prioritization, and implementation of border crossing facilitation initiatives.

(e) Strengthening of the economic viability and resilience as well as environmental performance of the corridors.

7. The representative of ECO expressed support for the continuation of the work of the Coordination Committee and reported that the United Nations General Assembly at its seventy-seventh session (August 2023) had adopted by consensus a resolution titled “Cooperation between the United Nations and the Economic Cooperation Organization” (A/77/L.102) which inter alia “Takes note of the joint initiative to establish an ECE-ECO Coordination Committee on the Trans-Caspian and Almaty-Tehran-Istanbul Corridors, with a view to contributing to increasing the East-West and North-South transit potential through policy coordination, infrastructure development, logistics improvement and technical and financial support”.

8. The Working Party welcomed the progress report provided on the work of the ECE-ECO Coordination Committee on the Trans-Caspian and Almaty-Tehran-Istanbul Corridors

convening as an informal group of friends of the Chair of WP.5. It appreciated the fact that the Coordination Committee currently consisting of seven Governments (Azerbaijan, Georgia, Iran (Islamic Republic of), Türkiye, Kazakhstan, Kyrgyzstan, and Uzbekistan) had adopted its Terms of Reference and a detailed 2023–2025 programme of work and encouraged the countries to implement it effectively.

9. The Working Party also welcomed the appointment for an initial one-year period of the two Corridor Coordinators (Georgia and Uzbekistan). The Working Party thanked the representatives and noted the importance of continuing the work on evaluating current actions, the importance of monitoring and the work on tariffs and time schedules as crucial elements in further operationalizing both corridors.



Source: Depositphotos 2023

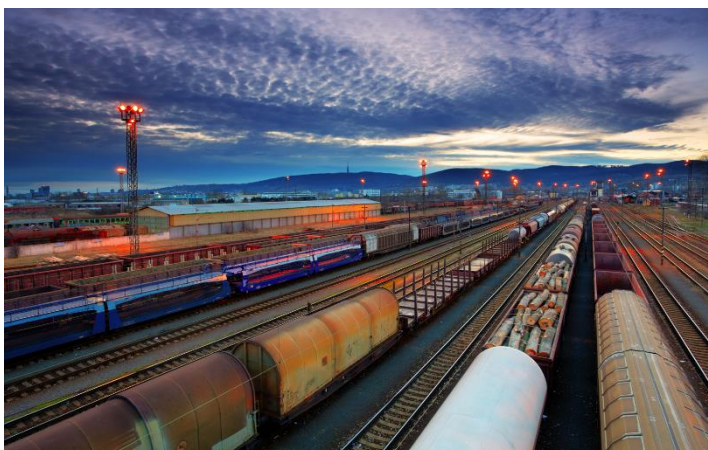
10. The Working Party welcomed the overview of ongoing and planned operationalization activities in support of the Trans-Caspian and Almaty-Tehran-Istanbul corridors as contained in document ECE/TRANS/WP.5/2023/2. It encouraged the Committee Members to continue updating this coordination table and include references to:

(a) National/ bilateral/ subregional initiatives and work streams being undertaken by individual governments (national railway undertakings, authorities in charge of transport and infrastructure and customs agencies) which are of relevance to the entire corridors.

(b) International/regional activities and/or regulatory work being undertaken, where appropriate, in the framework of relevant Working Parties under purview of the ECE ITC and the Economic Cooperation Organization (ECO) of direct relevance to the entire corridors.

11. The WP.5 Chair informed that the upcoming fourth session of the Coordination Committee was to take place in a hybrid format in the final quarter of 2023 with additional in-person sessions scheduled for 2024.

12. The Russian Federation proposed to establish a Coordination Committee on EATL railway route No. 1 as in the case of the already functioning committees on the Trans-Caspian routes. In this regard the Working Party invited the secretariat, pending availability of resources, to start work on the formation of the Coordination Committee on the EATL railway route No. 1 and to present a progress report at the forthcoming thirty-seventh session of the Working Party in September 2024. The Working Party indicated that in the case of demand from member States and permitting resources new Coordination Committees on different corridors could in the future be established in the framework of the Working Party.



Source: Depositphotos 2023

2. Inter-regional workshop on multimodal transport corridor management

13. On 4 September 2023, in conjunction with the thirty-sixth annual session of the Working Party on Transport trends and Economics an interregional workshop on multimodal transport corridor management was organized as part of the WP.5 cluster of work on "development of transport networks and/ or links". Considering the request by the ITC at its eighty-fifth session to hold consultations with the Organization for Cooperation of Railways (OSJD) and the Intergovernmental Organisation for International Carriage by Rail (OTIF) on the establishment of coordination mechanisms for the management of international transport corridors, OSJD and OTIF as well as other relevant international and regional regulatory stakeholders were invited to share their experience in this area.

14. The workshop, supported by the five United Nations regional commissions (ECE, ESCAP, ESCWA, ECA and ECLAC), offered a comprehensive platform for the exchange of valuable lessons learned in terms of corridor management approaches among policy makers and stakeholders in Europe, Asia, the Near and Middle East, Africa, and Latin America regions. It featured speakers from a varied group of countries, including Brazil, Türkiye and the Russian Federation and benefited from contributions by OTIF, OSJD, ESCWA, the Trans-Saharan Road Corridor Committee and the Islamic Development Bank (IsDB).

15. The OTIF representative provided a detailed overview on the 1999 Convention Concerning International Carriage by Rail (COTIF) and its appendices as well as its role in facilitating international rail freight transport in the region. The OSJD representative provided a comprehensive briefing on the organization's role in corridor management covering issues related to the comprehensive mapping of corridors through offering an inclusive platform for dialogue among national railway undertakings from across the region as well as through the development of technical characteristics and operational performance aspects.

16. The Working Party recognized the importance of putting in place a sound regulatory framework in addition to infrastructure development and the instigation of a whole of corridor approach recognizing that a transport corridor is only as strong as its weakest link. Following the various presentations, the Working Party noted the significant differences in corridor management approaches between countries and regions and the opportunities for harmonization and lessons learned. The Working Party therefore decided to continue to offer a platform for the exchange of views on latest trends, opportunities, and challenges in the field of multimodal transport corridor management with a focus on legal, institutional, and regulatory aspects, across regions.

17. The Working Party invited the secretariat to continue holding and facilitating on a biennial basis such consultations on targeted topics of inter-regional interest, in cooperation, if possible, with other United Nations regional commissions as well as other regional / interregional organizations and relevant projects. It requested the secretariat, in accordance

with its newly proposed 2024–2025 biennial and long-term programme of work, to hold the next one at its session in 2025.

18. Considering the WP.5 and OSJD existing competences in the field of the development of the international transport corridors, the Working Party noted the importance of a close coordination between those two bodies on these issues. The Working Party invited the secretariat jointly with the OSJD Committee to determine the possible forms of deepening such cooperation.

19. The proceedings of the workshop, presentations and all workshop materials are available on the website of the WP.5 thirty-sixth session available at: <https://unece.org/info/events/event/381119>.

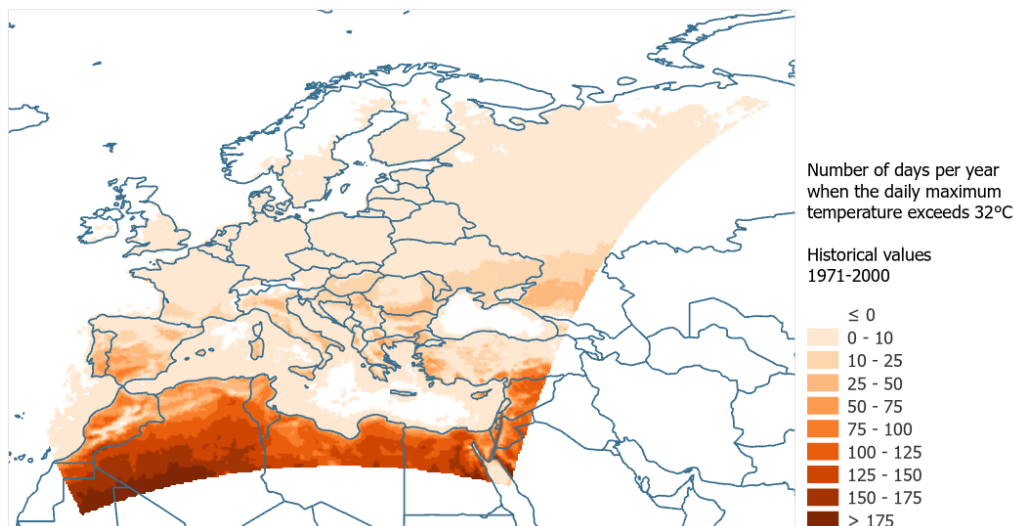
B. Transport and climate change

1. Climate change adaptation efforts in inland transport

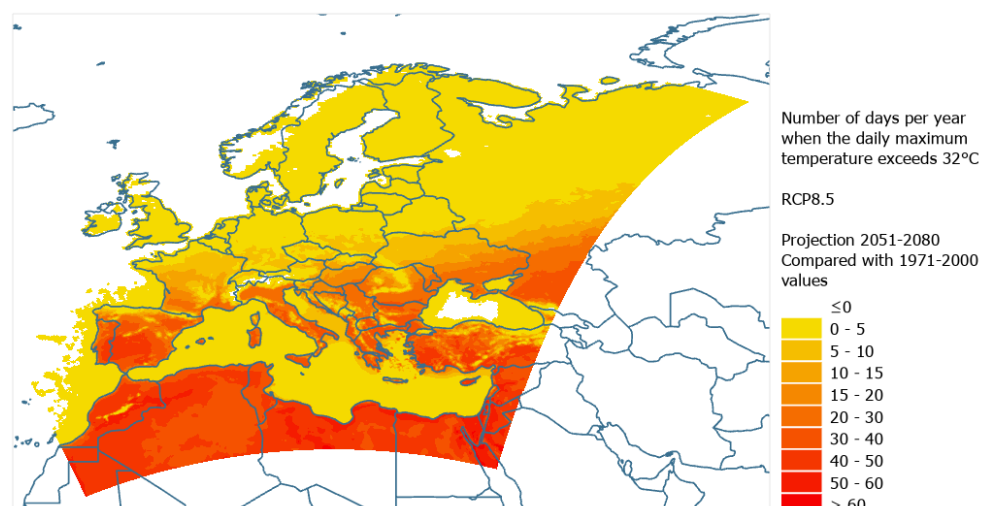
20. A Group of Experts on Assessment of Climate Change Impacts and Adaptation for Inland Transport (GE.3) operating under WP.5 auspices commenced its activities in 2020 focusing on: (a) raising awareness, building capacity and integrating knowledge from countries and scientific community on climate change impact assessment and adaptation for transport, and (b) further advancing the state of knowledge, the analysis of climate change impacts on inland transport and identification of suitable and costs-effective adaptation measures.

21. During 2023, GE.3 analysed projections for extreme weather events related to heatwaves and heavy precipitation. Projections were elaborated taking into account selected temperature and precipitation volume thresholds to estimate a number of days in the future at which events exceeding these thresholds would occur (number of additional days (map 2) compared to historical data (map 1)).

Map 1

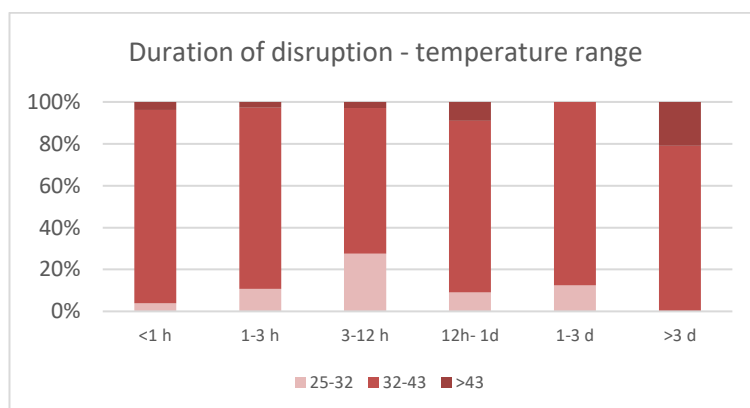


Map 2



22. These projections are further analysed against data collected on past incidents at the networks occurring during weather events with temperature or precipitation volumes exceeding the selected thresholds. For example, figure I below shows the duration of disruptions at rail networks based on data from some 200 recently reported incidents in ECE member States.

Figure I

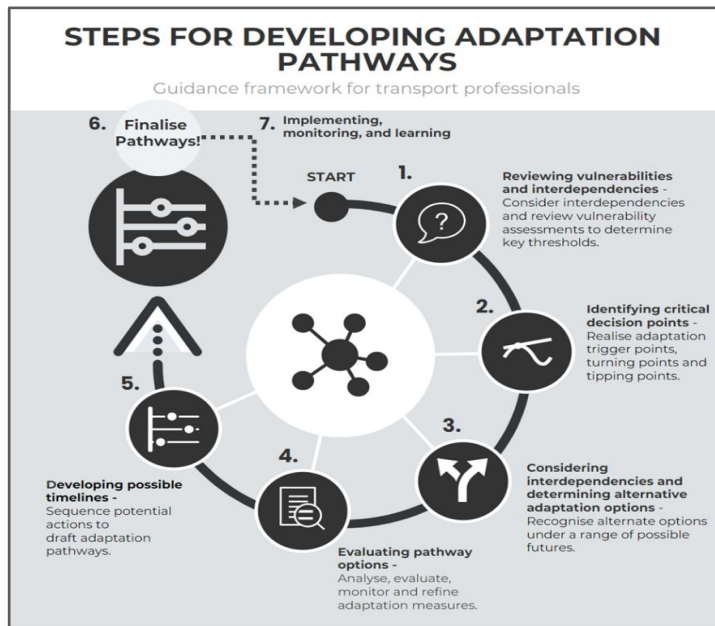


Source: ECE

23. The combined analysis of past incidents and projections for extreme events aims at presenting the potential for increasing disruption and related operational losses for transport in the case of inaction, i.e. lack of measures to adapt to the projected conditions.

24. GE.3 also elaborated a comprehensive framework for conducting stress tests and evaluating the resilience of transport systems. This framework is helpful for identifying vulnerabilities, assessing risks, and planning adaptation or risk reduction measures. It explains the subsequent steps to be undertaken in an effective test. It discusses the methods for the stress test from qualitative to quantitative ones. The former, based on expert opinion are practical, can be implemented within a reasonable timeframe, and provide infrastructure managers with a viable way to conduct stress tests. Even the relatively simple qualitative expert opinion-based stress tests could provide valuable insights into the resilience of the transport system of interest. The quantitative tests, such as those based on simulations have been found to offer a deeper, more thorough analysis of the system. They account for significant uncertainties in various system aspects, such as the occurrence of hazards, performance of assets and networks, and organizational factors. Should qualitative approaches not be sufficient, simulation-based approaches are essential for understanding the complex interplay between different variables in a road transport system and for making informed decisions about managing and mitigating risks associated with climate change. The framework is ready for publication and application by transport and infrastructure managers.

25. GE.3 has also worked and was finalizing a guide on adaptation pathways in transport. Adaptation pathways can be broadly described as a sequence of interlinked and flexible actions that can be progressively implemented, based on future dynamics and changes to risk, through early actions that do not compromise future actions and assist in providing overall adaptation to climatic changes. These sequences of options combine long-term adaptation plans for a range of climate scenarios with short-term objectives and actions. Therefore, the adaptation pathways approach must be central to the adaptation options generation and analysis. The guide explains the application of adaptation pathways in transport and discusses the steps for an effective implementation of adaptation pathways for transport networks and assets. It also explains challenges with this approach and advises how to avoid pitfalls.



Source: ECE

26. GE.3 also continued to raise awareness of the need for action in adapting transport to climate changes. To this end, it organized two events during 2023. The first of them was a Conference on adaptation of transport in the Mediterranean region to climate change which took place in Marseille on 15 and 16 May 2023. This conference focused on raising awareness on adaptation of transport infrastructure to climate change and on setting up an effective intervention programme. It was organized jointly with ESCWA, France (Directorate General of Infrastructure, Transport and Mobility and Région Provence-Alpes-Côte-d'Azur) and the Centre for Transportation Studies for the Western Mediterranean (CETMO). It was attended by 60 participants from 15 countries. It featured not only panel discussions and presentations but also hands-on work in break-out groups on climate projections and their meaning.



Participants attending the Marseille conference (Source: GE.3 Vice-chair)

27. The second of the events comprised a foresight session organized during the PIARC World Road Congress in Prague on 6 October 2023 on stress test as a tool to assess the resilience of road asset to climate change hazard. The session featured a panel which discussed issues such as what is road asset, what are the observed impacts from extreme weather events and how they affect service provision by roads, what is an economically optimal resilience level of road assets and what are the options to carry out the stress tests. The panel was followed by a simulation of a stress-test using a qualitative (expert opinion-based) method.

2. Climate change mitigation efforts in inland transport

28. On 6 September 2023, as part of the thirty-sixth annual WP.5 session a thematic discussion on the critical role of inland transport in accelerating climate change mitigation was held. Participants noted the request of the Inland Transport Committee at its eighty-fifth annual session (Geneva, February 2023) inviting the secretariat to develop an ambitious “Strategy for reducing Green House Gas (GHG) emissions from inland transport” (hereinafter referred to as “Strategy”), supported by a strong action plan with milestones, for consideration and possible adoption at its eighty-sixth plenary session (in 2024).

29. The purpose of the thematic discussion was to enable representatives of member States as well international organizations, non-governmental bodies, private sector associations and academia working on decarbonization of the inland transport sector, to learn more about the ongoing development of the strategy and to share their insights, proposals, and feedback on possible future actions for climate change mitigation in inland transport.

30. An introductory presentation was provided jointly by the secretary of the Inland Transport Committee and the secretary of the Working Party on Pollution and Energy (WP.29/GRPE) proposing the Avoid-Shift-Improve approach as a potentially useful framework to structure the strategy document as it allows to address the broad range of climate change mitigation measures being undertaken under purview of the ITC Working Parties.

31. Participants exchanged views on a broad variety of issues of which a non-exhaustive overview is provided below. Inter alia, participants, representing member States as well as non-governmental bodies and private sector associations:

- Stressed the need for the various Working Parties under ITC purview to join efforts and take a coordinated approach in their climate change mitigation efforts. The importance of cooperation between the ECE sustainable transport and energy sub-programmes as well as with specialized organizations such as the International Energy

Agency (IEA), the International Transport Forum (ITF) and the Partnership on Sustainable Low Carbon Transport (SLOCAT) was highlighted.

- Noted the difference between GHG emissions reduction commitments under the United Nations Framework Convention on Climate Change (UNFCCC), where inland transport is included, and those made by the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO) as part of their decarbonization strategies.
- Recognized limitations for the forthcoming Strategy in terms of setting binding targets but expressed support for setting targets in the Strategy that are aligned with Nationally Determined Contributions (NDCs) to ensure global consistency. In this regard referred to a potential role for ITC in helping countries to develop inland transport national decarbonization strategies in line with the UNFCCC framework.
- Advocated for cost efficient mitigation measures and stressed the importance for the Strategy to address access to finance and technology.
- Discussed the need for harmonized CO₂ measurement methodologies and highlighted the potential for addressing other environmental impacts such as air pollution in the future.
- Emphasized the potential of emissions reduction through modal shift and considered how to address the historic imbalance in investment favouring road infrastructure over railways and inland waterways. Realizing that a successful modal shift will require significant investments in infrastructure.
- Supported using the Avoid-Shift-Improve framework to categorize efforts and measures to reduce GHG emissions from inland transport, expecting all pillars to contribute to the decarbonization of the inland transport sector by 2050.
- Emphasized the importance of a data driven Strategy with specific targets and key performance indicators combined with the regular conduct of a solid review mechanism.
- Stressed the need for a Strategy that extensively covers the freight sector recognizing the need for more ambitious regulations in heavy-duty and medium duty freight vehicle sectors.
- Dwelled extensively on issues related to electrification of mobility and the need to expand electric vehicles (EV) charging infrastructure prioritizing seamless interoperability of different charging systems through the development of global and open standards.
- Emphasized the essential role of batteries to lower the carbon footprint of electric vehicles, acknowledging that battery production can be emission intensive and make up a significant portion of the lifecycle emissions of vehicles.
- Discussed the potential for reducing emissions in multimodal transport corridors *inter alia* through electrification and the use of renewable energy in the railway sector and low carbon energy and fuels in the road freight sector.
- Recommended coordinating the Strategy development with existing initiatives such as the “Breakthrough Agenda”, “Accelerating to Net Zero” and “Race to Zero for Freight” thereby ensuring synergies.

32. WP.5 appreciated the opportunity to discuss and contribute to the draft strategy at this early stage of preparations. It appreciated the fact that for this discussion and in accordance with its role and mandate as a think tank on latest trends and developments in the field of transport it had been joint by a broad range of additional stakeholders including non-governmental bodies, international partner organizations and the private sector.

33. In terms of its own role, the Working Party noted the significant efforts it is already making through several of its thematic clusters and in support of the “avoid-shift-improve” and “adapt” approaches to climate change, including through:

(a) Its cluster 1 on “Development of transport networks and links” by promoting multimodal transport corridor management;

(b) Its cluster 2 on “Transport and climate change” (amongst others the ongoing work of the Group of Experts on Assessment of Climate Change Impacts and Adaptation for Inland Transport (GE.4) which inter alia is generating Geographical Information System (GIS) maps illustrating forecasts for impact of climate change on transport assets as part of the International Transport Infrastructure Observatory (ITIO) platform;

(c) Its cluster 3 on “Sustainable urban mobility, cycling and public transport” (amongst others the ongoing work of the Group of Experts on cycling infrastructure module (GE.5); and

(d) The stock taking efforts as part of its cluster 5 on “Review and monitoring of emerging issues” regarding electric vehicles and their charging infrastructure.

34. The Working Party also noted that tools developed under its realm such as the Sustainable Inland Transport Connectivity Indicators (SITCIN) platform which among its three assessment dimensions also offers a pillar on Environmental Sustainability which contains a set of indicators designed to help governments to understand and evaluate measures aimed at reduction of greenhouse gas emissions, air pollutants and noise emissions, in doing so they consider modal split, alternative fuel share, average age of fleet etc.

35. The Working Party further recommended that the aspect of adaptation and so its work on adaptation of transport to climate change is reflected in the strategy. It considered that this is important since inappropriate adaptation measures may negatively affect mitigation efforts. Mitigation objectives are on the other hand important to consider in adaptation work.

36. The Working Party recommended that in the list of priorities of the strategy its actions aimed at mitigation of climate change from transport are included and requested its chair together with the secretariat to communicate them to the ITC Chair and secretariat.

C. Sustainable urban mobility, cycling and public transport

Group of Experts on Cycling Infrastructure Module



37. In support of the implementation of THE PEP Pan-European Cycling Master Plan a Group of Experts on Cycling Infrastructure Module (GE.5) has been established under WP.5 auspices. The mandate of the Group is to serve as a platform to collect and analyse data on national cycling infrastructure, and to propose an ECE cycling network, based on existing national and EuroVelo cycling routes as well as other regional networks. A second GE.5 tasks involves the elaboration of common definitions for various types of cycling infrastructure as well as proposing new road signs, as appropriate, for signposting the cycling routes.

38. During 2023, GE.5 continued its work on the designation of ECE cycling network based on national cycling networks (see map 3). GE.5 agreed on three principles for devising the ECE network such as (i) Relevant EuroVelo route or routes can serve as a backbone for ECE routes on a territory of an ECE country if and as appropriate for the country, (ii) ECE

network routes should be long-distance routes, and (iii) ECE network routes should enable cross-border connectivity. GE.5 agreed on a density indicator for the network of 40-100 km of routes per 1000 km².

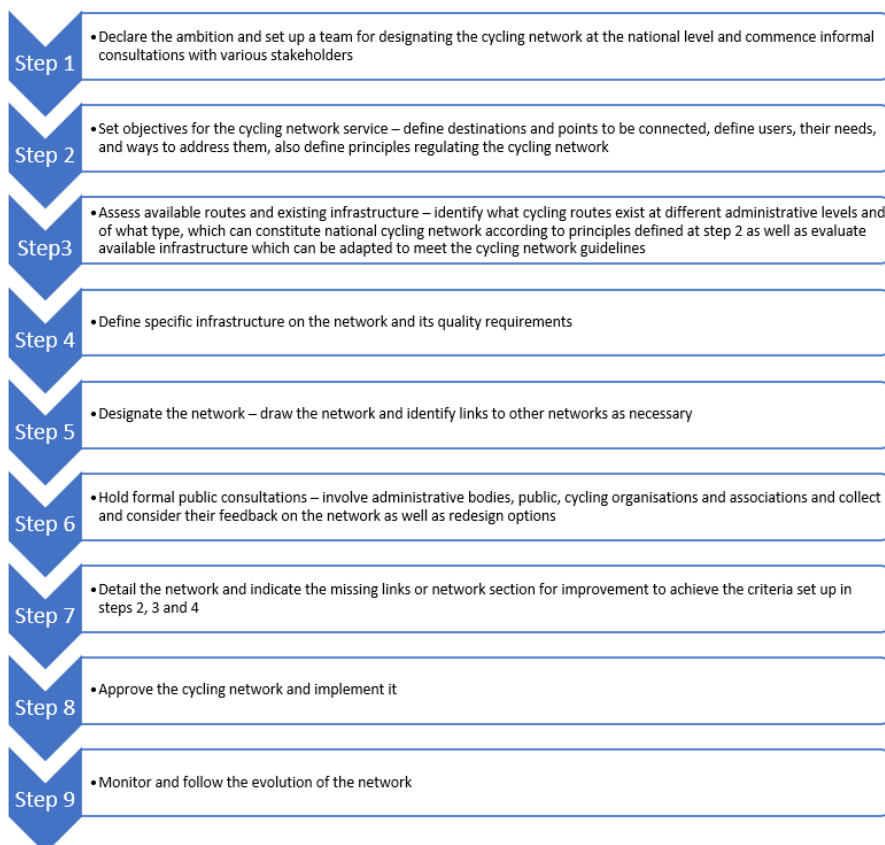
Map 3



Source: ECE

39. GE.5 further advanced its work on elaboration of a guide for designating national cycling network. This guide describes the sequential steps to be taken in the process of designation and implementation of a cycling network (see figure II). It discusses user and routes categories as well as routes parameters for linear infrastructure as well as concerning crossings, separation with pedestrians, inclination, or shade for establishing a safe, secure and comfortable network, which would be oriented on its users. Figure II presents these steps.

Figure II



40. GE.5 continued considering and discussing the cycle definition and how it should be possibly adjusted to take into account the developments in cycling, in particular electrification. GE.5 also worked on the aspects of width, length and weight of cycles from the point of view of what should be the maximum width, length or weight of a cycle for it to be allowed for use on a typical cycle infrastructure.

41. Last but not least, GE.5 continued its work on elaboration of common definitions for various types of cycling infrastructure as well as started assessing their impacts on the provisions of the 1968 Convention on Road Signs and Signals. To this end, GE.5 started to formulate recommendations for modifications to the Convention so that it can better address cycling. Among them, e.g. (a) inclusion of a road sign for a non-compulsory cycle track, (b) inclusion of a road sign for a cycle street, including formulation of special regulations that should be applied at those cycle streets, (c) introduction of a panel for traffic light exemption, or (d) insertion of road marking for advanced stop line for cyclists at intersections, etc.

D. Transport infrastructure data

International Transport Infrastructure Observatory



Source: IsDB/ECE promotion material

42. The International Transport Infrastructure Observatory (ITIO-GIS.org) is an initiative of ECE Sustainable Transport and IsDB. It is a multi-stakeholder, web-based GIS platform which hosts data on a large variety of transport infrastructure networks and nodes across different modes including road, rail, inland waterways, ports, airports, intermodal terminals, logistics centres and border crossing points.

43. At this stage, ITIO contains data from 79 United Nations Member States to be expanded with a further 27 United Nations Member States by 2024. It currently accommodates some 34 accredited national focal points from Government institutions, regional organisations, and multilateral development banks. An ITIO follow-up extrabudgetary project is under preparation to improve and expand ITIO functionalities and scope for geographical outreach.

E. Review and monitoring of emerging issues and sustainable development goals



1. Use of the Sustainable Inland Transport Connectivity Indicators

Figure III
SITCIN user platform available at <https://SITCIN.org>



44. The Sustainable Inland Transport Connectivity Indicators (SITCIN) offer a tool that enables countries to measure their degree of transport connectivity, both domestically and bilaterally/sub-regionally as well as in terms of soft and hard infrastructure. The connectivity indicators allow governments to evaluate and assess the following:

- The progress they are making towards achieving the transport-related sustainable development goals and their commitments under the Vienna Programme of Action for landlocked developing countries (LLDCs) for the decade from 2014 to 2024.
- The effectiveness and efficiency of the transport systems and the level of compliance of national administrative and legal frameworks with United Nations legal instruments relating to transport and border-crossing facilitation, providing a domestic and a cross-border perspective and improving competitiveness, safety, energy efficiency and security in the transport sector.
- Their efforts in implementing United Nations legal instruments relating to transport and their work towards harmonizing and standardizing rules and documentation, including through implementing international conventions on transport and transit and regional/bilateral agreements.

45. SITCIN.org has so far been used by seven United Nations Member States that have self-assessed the performance of their inland transport systems (or aspects thereof). In 2023 and 2024 measures are being taken to upgrade the SITCIN.org technical interface including through the deployment of French and Russian language versions thereby expanding the geographical outreach of the tool. Furthermore, additional tailored SITCIN.org functionalities are under development, e.g., enabling users to measure progress in a specific area: i.e., customs/ border management or for specific country profiles: i.e., landlocked developing countries (LLDCs).

2. Taking stock of new trends towards electric vehicle charging infrastructure



Source: Depositphotos 2023

46. WP.5, at its thirty-fifth session, had requested to designate its forthcoming Transport Trends and Economics publication on general trends and developments surrounding electric vehicles and their charging infrastructure. Following this request, the secretariat together with an external consultant had prepared a draft publication as contained in documents ECE/TRANS/WP.5/2023/4, ECE/TRANS/WP.5/2023/5, ECE/TRANS/WP.5/2023/6, ECE/TRANS/WP.5/2023/7, and ECE/TRANS/WP.5/2023/8. On 5 September 2023, in conjunction with the WP.5 annual session, a detailed presentation was provided by the consultant in charge of developing the publication, followed by a round of interventions and presentations delivered by ECE member States proposing national case studies and best practice examples for inclusion in the final version of the publication.

47. The Working Party appreciated the effort put by the secretariat and an external consultant in the development of a draft publication on general trends and developments surrounding electric vehicles and their charging infrastructure which upon completion was expected to be issued as the 2024 Transport Trends and Economics publication (both in digital and printed format in the three ECE working languages). WP.5 welcomed the inputs received on developments surrounding e-mobility and EV charging from across the ECE region, including from Azerbaijan, Tajikistan, Türkiye, United States of America, Netherlands (Kingdom of the) and Sweden. WP.5 requested the secretariat to include in the final text of the publication reference to these developments through case studies and national examples.

48. Furthermore, the Working Party recognized that to facilitate progress in electric mobility, a dedicated informal task force focused on driving and coordinating efforts related to electric vehicle developments and their charging infrastructure both within ECE (and across its different sub-programmes) and in collaboration with other institutions should be established. In this regard it requested the WP.5 secretariat together with the Chair to develop draft terms of reference for such a task force in close consultation with other relevant Working Parties and relevant intergovernmental groups in the ECE Sustainable Energy Division and submit this to ITC for discussion and possible adoption at its next annual session.

49. The concept note, programme and full set of presentations delivered during the thematic discussion on general trends and developments surrounding electric vehicles and their charging infrastructure are available at: <https://unece.org/info/events/event/381119>

F. Inland transport security



Source: Depositphotos 2023

50. On 5 September 2023, in conjunction with the thirty-sixth annual session of WP.5, a workshop on “Cyber threats to electric vehicles and their charging infrastructure” co-organized by the ECE Sustainable Transport and Sustainable Energy sub-programmes was held in the framework of the annual 2023 ECE Inland Transport Security Forum. The event featured keynote speakers from a variety of stakeholders including the secretary of the ECE Working Party on Automated/ Autonomous and Connected Vehicles (WP.29/GRVA), the secretary of the ECE Group of Experts on Cleaner Electricity Systems, the Institute for Security and Safety GmbH/ Mannheim University for Applied Sciences, the International Organization of Motor Vehicle Manufacturers (OICA), Continental Automotive Technologies GmbH as well as relevant cyber security authorities from the Netherlands and Türkiye.

51. The workshop provided a platform to:

- Raise awareness about the broad variety and complexity of cyber threats posed to electric vehicles (EVs) and their charging infrastructure as well as the systemic implications this may have for the broader electricity grid.
- Exchange views, ideas, and national experiences on how to better identify, prevent and manage such threats and vulnerabilities.
- Learn from good practices implemented by EV manufacturers, in line with globally harmonized vehicle requirements.
- Identify possible next steps and mitigation actions to be taken in this field by member States and other relevant stakeholders, with the support of the ECE sustainable transport and energy sub-programmes.

52. Panellists and participants took stock of the various cyber threats faced by EVs and EV charging infrastructure as well as in their interaction with the broader electricity grid and identified possible preventative actions that can be taken by governments and other relevant actors. Speakers shed light on how malicious actors may attempt to compromise EVs' critical components, such as the battery management system, vehicle control unit (braking system/ vehicle speed), or charging system, posing significant risks to driver safety, vehicle functionality, and passenger data security. The GRVA secretary provided an overview of actions being taken at regulatory level to prepare the automotive sector for such risks, including the conduct of assessments at product (vehicle) level and new data collection and reporting requirements being put in place to support forensics and the systematic mapping by authorities of attempted and successful attacks. It was noted that, EV charging infrastructure including charging stations, networks, and back-end systems that manage charging operations and user data are equally vulnerable to potential cyber threats as hackers could exploit weaknesses in authentication mechanisms and communication channels being

able to interfere with charging processes or gain unauthorized access to user data. Finally, reference was made to the fact that because of its close integration within the broader electricity grid, EV charging infrastructure can inadvertently provide avenues for cyberattacks on the grid's infrastructure with far reaching consequences including on power grid instability, disruptions, and potential blackouts.

53. In terms of possible cyber threat mitigation actions that could be taken by governments and other relevant stakeholders participants exchanged views on the possibility to introduce enhanced security measures and authentication protocols as well as conduct regular security audits. Emphasis was also put on the need for improved multi-stakeholder cooperation (including at the level of governments, regulators, automotive manufacturers, charging infrastructure providers and cyber security experts) and the development of real time monitoring systems and enhanced incident response capabilities.

54. The Working Party appreciated the workshop that was held on cyber security threats to electric vehicle charging stations (EVCS) and their charging infrastructure as well as the broader electricity grid. WP.5 further appreciated the multidisciplinary approach taken and the close cooperation between the Sustainable Transport and Sustainable Energy sub-programmes of the ECE and encouraged the secretariat to further explore cooperation in this field.

55. The Working Party welcomed the awareness-raising about the broad variety and complexity of cyber threats posed to EVs and their charging infrastructure as well as the systemic implications this may have for the broader electricity grid and the exchange of views, ideas, and national experiences on how to better identify, prevent and manage such threats and vulnerabilities.

56. The Working Party also underlined the need for governments to stay up to date with the latest trends and practices in this field and decided that inland transport security should continue to be addressed as part of the Working Party programme of work on a biennial basis, alternating with thematic discussions on urban mobility or topical inter-regional discussions.

57. The concept note, programme and full set of presentations delivered at the workshop are available at: <https://unece.org/info/events/event/381119>.

III. Analytical work: publications by the Economic Commission for Europe Sustainable Transport Division

A. Developing sustainable urban mobility policy on car sharing and carpooling initiatives (September 2023)



58. In the framework of a project on strengthening the capacity of Central Asian countries to develop sustainable urban mobility policies on car sharing and carpooling initiatives, a first series of studies was published by UNECE, focusing on the possible emergence and development of shared mobility services in Kazakhstan, Kyrgyzstan, and Tajikistan. The

studies provide guidelines considering best practices related to car sharing and carpooling in the public and private sectors. Each study presents the local context related to urban transport and sustainable mobility, but also the legal aspects to consider for the development of car sharing and carpooling services. Each study also provides a For Future Inland Transport Systems (ForFITS) assessment and gives recommendations on the setting up of car sharing and carpooling services in the respective countries ‘capitals, based on discussions held with local and national stakeholders. The publications are available in English and Russian at: <https://unece.org/publications/transport>.

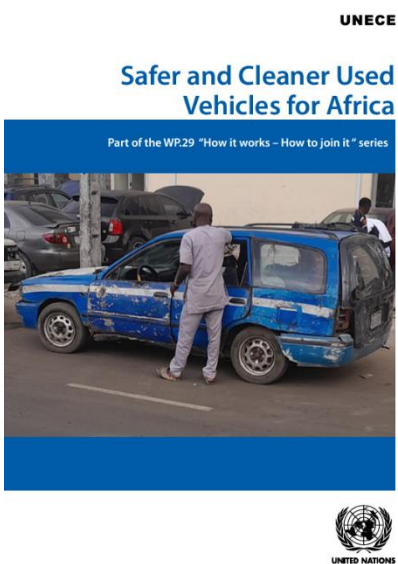
B. Model Rules on the Permanent Identification of Railway Rolling Stock and its Guidance Notes (June and August 2023)



59. The Model Rules on the Permanent Identification of Railway Rolling Stock (and its Guidance Notes) facilitate the financing and acquisition of railway rolling stock leasing to a reduced cost for those wishing to invest in the railways. The Model Rules lay down the methods and responsibilities for the affixing of the Unique Rail Vehicle Identification

System (URVIS) identifier to an item of railway rolling stock. These Guidance Notes provide non-binding guidance on the way parties may choose to implement the provisions in the Model Rules. The publication is available here: <https://unece.org/info/Transport/pub/382193>.

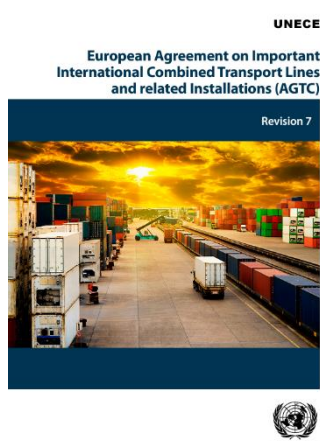
C. Safe and cleaner used vehicles for Africa (May 2023)



60. The Project of Safer and Cleaner Used Vehicles for Africa was established to support access for countries in Africa to safer and cleaner used vehicles. This report highlights some of the key research carried out and creates awareness of problems related to the importation of used vehicles. The report highlights some of the key elements of the three United Nations Agreements which are the United Nations Regulations for vehicle approval (1958 Agreement), Periodic Technical Inspection (1997 Agreement) and Global Technical Regulations for vehicle certification (1998 Agreement) which may be used to facilitate the project objectives. These three United Nations agreements are important technical work that may be applied in international vehicle regulations and is overseen by the World Forum for the Harmonization of vehicle Regulations (WP.29). The publication is available

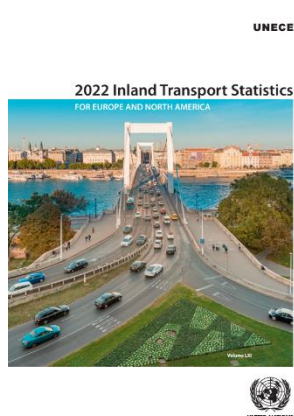
here: <https://unece.org/publications/transport>.

D. European Agreement on Important International Combined Transport Lines and related Installations (AGTC) - Revision 7 (February 2023)



61. European Agreement on Important International Combined Transport Lines and related Installations (AGTC) provides the technical and legal framework for the development of efficient international intermodal and combined road/rail transport infrastructure and services in Europe. The AGTC determines important European railway lines used for intermodal transport and identifies important terminals, border crossing points and ferry links. It also establishes international infrastructure standards for railway lines and terminals and prescribes international minimum performance standards for intermodal and combined transport services (benchmarks). The publication is available in the three ECE working languages here: <https://unece.org/publications/transport>.

E. 2022 Inland Transport Statistics for Europe and North America - Volume LXI (February 2023)



62. This publication (volume LXI) provides a series of transport statistics tables covering the 56 member States of ECE. The publication brings together statistical information on road, rail and inland waterways, and has been prepared by the Sustainable Transport Division of ECE with the cooperation of national statistical offices. A short summary at the beginning of each chapter provides some key figures on each sector, followed by detailed data on each of the statistics sub-categories. Harmonised data make cross-country comparisons possible and allow evidence-based policy making to achieve the transport-related Sustainable Development Goals. It is available in the three ECE working languages here: <https://unece.org/publications/transport>.

F. Glossary for Inland Water Transport (February 2023)



63. The Glossary for Inland Water Transport is a trilingual publication in English, French and Russian, which contains a comprehensive list of terms and definitions used in the various fields of inland water transport, including infrastructure, waterway signs and marking, transport of goods and passengers, navigation rules, vessel and equipment, River Information Services, statistics and other areas. The glossary comprises over 700 terms with synonyms and their definitions used in international conventions and agreements administered by the ECE Inland Transport Committee, resolutions of the Working Party on Inland Water Transport and ECE publications. It builds on the terminology used by the Working Party on Inland Water

Transport and other ECE Working Parties in the field of inland transport, trade facilitation and environment, by international organizations and river commissions. The publication is available here: <https://unece.org/publications/transport>.

V. Conclusions

64. Publications produced by the Division in 2023:

- Three studies on developing sustainable urban mobility policy on car sharing and carpooling initiatives in Kazakhstan, Kyrgyzstan and Tajikistan (September 2023)
 - Model Rules on the Permanent Identification of Railway Rolling Stock and its Guidance Notes (June and August 2023)
 - Safe and cleaner used vehicles for Africa (May 2023)
 - European Agreement on Important International Combined Transport Lines and related Installations (AGTC) - Revision 7 (February 2023)
 - Glossary for Inland Water Transport (February 2023)
 - 2022 Inland Transport Statistics for Europe and North America - Volume LXI (February 2023)
65. Important analytical outputs are under development in Groups of Experts operating under WP.5 auspices:
- Group of Experts on Assessment of Climate Change Impacts and Adaptation for Inland Transport (WP.5/GE.3)
 - Group of Experts on Cycling Infrastructure Module (WP.5/GE.5)
 - Coordination Committee on the Trans-Caspian and Almaty-Tehran-Istanbul Corridors/ Group of Friends of the Chair of the Working Party on Transport Trends and Economics (co-facilitated with ECO)
66. New, WP.5 coordinated work streams that require guidance by ITC:
- Draft publication on general trends and developments surrounding electric vehicles and their charging infrastructure as contained in ECE/TRANS/WP.5/2023/4, ECE/TRANS/WP.5/2023/5, ECE/TRANS/WP.5/2023/6, ECE/TRANS/WP.5/2023/7, and ECE/TRANS/WP.5/2023/8
67. ITC may provide guidance as to the future directions for the analytical work conducted by WP.5 in the field of transport.
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