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Item 9 (t) of the provisional agenda

Strategic questions of a horizontal and cross-sectoral policy or regulatory nature:

Project related activities: Trans-European North-South Motorway and Trans-European Railway Projects

Trans-European North-South Motorway (TEM) and Trans-European Railway (TER) projects

Submitted by the TEM Project Manager and TER Project Manager

I. Information on the Trans-European North-South Motorway (TEM) project development

A. Trans-European North-South Motorway project activities and achievements in 2021

1. The following tasks were included in TEM Programme of Work 2021:

(a) Strengthening capacities of TEM member states by attending the workshops and exchanging of knowledge and best practices in the following areas:

- Network development and funding strategies
- Operational proficiency of road sector within TEM member states
- Responsiveness to trends in transportation and economy

(b) Preparation of high-quality deliverables/reports based on organized workshops with topics closely related to the areas mentioned above, and with active involvement of representatives of TEM member states.

(c) Increase effectiveness and efficiency of TEM Project, both for TEM member states and other countries, through an active cooperation with European and American partners based on experience and best practice sharing and cooperation.

2. The main TEM Project activities and achievements in 2021 were:

- (a) Reports and publications

According to the TEM Strategic Plan and the decisions of TEM Steering Committee, following reports were prepared in 2021:

Operational Proficiency

TEM Strategy area and topic	B.1.: Functioning and financing of the national road infrastructure management B.3.: Conditions for creating an efficient PPP in the area of development and maintenance of roads
Title	Business model for the road sector/TEM Network: considerations and recommendations
Purpose and scope	<p>The report consists of a review of the legal and organizational solutions comprising the models of governance and financing of public roads applied in particular TEM member countries.</p> <p>In particular it covers the review of solutions and public revenue financing models applied in different member States to uphold the road infrastructure, review of practices and organizational solutions in the context of national road authorities in individual countries, with emphasis on organizational and legal forms, including special purpose vehicles for NRA, distribution of responsibilities on the ministerial and administrative levels, financing methods of NRA activities including PPP and conditions for efficient implementation of PPP projects, review of practices and organizational solutions applied in individual countries for the collection and settlement of toll charges for the use of the road network</p>
Status as for 31/12/2021	Published (https://unece.org/info/publications/pub/356466)

Operational Proficiency

TEM Strategy area and topic	C.2. Measurement, collection and management of data in the management of road infrastructure.
Title	Tools for asset management: TEM recommendations for road operators
Purpose and scope	<p>Report consists of definitions of asset management, asset management system and asset management tools adjusted for the road sector authorities. Asset management is defined as a process of value creation, whilst asset management system as a set of procedures, processes, competencies and systems (including IT tools) through which road authority is able to realize its value creation process.</p> <p>The report presents moreover relations between particular tools and aligns them with the value creation process, thus aim of road authorities to provide to customers (e.g.: tax payers, road users) required and expected goals and objectives (levels of service).</p> <p>Based on the previous workshops concerning road asset management practices in the TEM member countries, the report presents also high-level assessment of TEM region maturity within road asset management, which allows to define recommendations for further works of the participating Governments to ensure continual improvement of service delivery by the TEM backbone network.</p>
Status as for 31/12/2021	Published (https://unece.org/info/publications/pub/356467)

Operational Proficiency

TEM Strategy area and topic	D.2. BIM Approach (Building Information Modelling) in the context of the needs of the government road administration
Title	BIM for road infrastructure: TEM requirements and recommendations
Purpose and scope	<p>Public sector organizations are being increasingly subjected to both legislative and competitive pressures forcing them to reconsider their relationships with users and customers in order to develop a more overt customer orientation (as the primary driver of organizational performance). The creation of value supports the development of a customer orientation, and is a requirement, to which more public sector organizations nowadays adapt. This applies to all sectors of the economy, also to the road sub-sector.</p> <p>In modern society, road infrastructure has become an essential part of daily life. Individual road users, logistic companies or public transportation agencies expect reliable and safe road infrastructure to carry out their transportation or wider mobility operations, moving goods and people.</p> <p>Road authorities need to properly plan, build, maintain and operate the road infrastructure to create given above value for its customers.</p> <p>To achieve these goals, road authorities have to adopt appropriate value delivery system which will be based on:</p> <ul style="list-style-type: none"> • Fact-based project selection • Streamlined project delivery • Making the most of existing roads • Improving capabilities • Accurate funding and finance
Status as for 31/12/2021	Published (https://unece.org/info/publications/pub/356919)

Operational Proficiency

TEM Strategy area and topic	E.2. Safety standards in work zones
Title	Guidelines on Work Zone Safety
Purpose and scope	<p>The report presents an overview of the legal and technical solutions applied by individual states in the context of work zones and creating recommendations in this regard.</p> <p>It discusses:</p> <ul style="list-style-type: none"> • What elements of the traffic management system and road infrastructure are used and/or required in different states in terms of work zones safety • Do the solutions used in different states differ from each other • What are the legal or operational tools used to ensure compliance with the requirements in the context of works zones safety standards <p>On that basis the report provides:</p> <ul style="list-style-type: none"> • Literature review of the most relevant road works zones guidelines, standards, studies and projects • TEM guidelines on work zones safety.
Status as for 31/12/2021	Finalized

Operational Proficiency

TEM Strategy area and topic	C.3. Development of a standard catalogue of public services and model architecture of information systems in the management of road infrastructure
Title	Data management in road transport infrastructure
Purpose and scope	<p>The report discusses how road infrastructure operators are facing currently major changes that are based on new technologies. All operations and systems like Road asset management, e-call, Intelligent transport system (ITS), connected and automated driving (CAD), cooperative ITS (C-ITS), Vehicle-to-Vehicle(V2V) and Vehicle to Infrastructure (V2I) communications, Electronic Toll Collection (ETC), Virtual Traffic Lights/Signs, incident management, road inspection, maintenance, traffic management, traffic information services, enforcement are strongly based on information technologies and accurate data. Accordingly, data management for road infrastructure operator is becoming more important than ever before. With development of CAD vehicles, internet of things (IoT) and 5G technologies data management will become even more important for road operators. Without quality and accurate data road safety and customer services cannot be provided, which is main mission of road operators. One of solution that is needed to face challenges in near future is Big-data approach.</p> <p>The report presents:</p> <ul style="list-style-type: none"> • International state of art in terms of implementation of data management in road infrastructure operations • International best practices examples • Identification and review of current situation within TEM Member Countries • Comprehensive glossary. <p>On that basis report provides with recommendations for TEM Backbone Network management and achieving of the Project’s objectives</p>
Status as for 31/12/2021	Sent for publication

(b) Contribution to the UNECE Working Parties

3. During 116th session of the Working Party on Road Transport (SC1) TEM Project Manager (Mr. Andrzej Maciejewski) gave a presentation on substantive progress of the TEM project since the last session. This included the TEM reports published as UNECE publications, i.e.: “Building Information Modelling (BIM) for road infrastructure: TEM requirements and recommendations”, “Business models for the road sector/TEM Network: considerations and recommendations”, “Tools for asset management: TEM recommendations for road operators”. He also shared strategic areas of the TEM project for 2022-2026. These included safe and sustainable mobility (including resilience), new technologies, transport policy (including multimodal planning, project delivery and financing), operations and performance management. Finally, he suggested possible areas of cooperation with SC.1, including the preparation of a paper on best practice in road safety audits and technical inspections. The Chair welcomed the suggestion and invited SC.1 members, with the assistance of the secretariat, to be involved in the preparation of the paper or other appropriate document for the next session. This proposal has been endorsed by the TEM Steering Committee in November 2021.

4. Moreover, Government of Turkey with special engagement of Mr. Muchait Arman (TEM) National Coordinator from Turkey) and TEM Project Manager (Mr. Andrzej

Maciejewski) participated in the work of the Group of Experts for benchmarking of construction costs of transport infrastructure under Working Party 5.

B. TEM plans for 2022

5. TEM Project is currently working on its new Strategic Plan for the years 2022-2026. As agreed during the last TEM SC meeting and taking into consideration both current experiences of the TEM Project gained during implementation of the Strategic Plan 2017-2021 (concentrated on operational excellence of road sector organisations) and multiannual legacy of the Project in the planning and monitoring of the TEM Backbone Network development it was decided to focus Project's works on both dimensions.

6. The TEM Backbone Network dimension will provide up-to-date information and perhaps also forecasts in respect to the traffic demand and infrastructure supply in the TEM region. This, in consequence, will contribute to the purpose of the Project's creation which is support for the transport network integration.

7. From another hand cooperation related to creating of recommendations and guidelines will continuously improve capacities and capabilities of TEM member states in increasing of effectiveness and efficiency of public services delivery by the road sector organisations and institutions.

8. Each dimension has been divided into strategic initiatives, which eventually are divided into particular projects and activities, i.e. reports, workshops, conferences. The work dimensions represent value and services the TEM Project provides to TEM member states (MS). The TEM MS participate in the Project to strengthen their economies by the regional cooperation and development of the road network in the north-south direction, therefore analyses envisaged under the Dimension I provide this value to the MS. Moreover, participation in the Project allows for the MSs to benchmark their current capacities and capabilities with the neighbouring countries. The TEM Project provides therefore this kind of services under the Dimension II. The Strategic Initiatives reflect detailed outputs of this particular Strategic Plan. Level of activities defines how outputs will be achieved.

9. In detail in 2022 it is planned to:

- Prepare working document for the TEM Steering Committee in respect to the TEM Backbone Network and traffic data availability
- Prepare of contribution to the UN regulations based on the TEM member states and international best practice in respect to the Road Safety Audits and Road Safety Inspections
- Prepare report on the managing of the climate change risks in the road infrastructure sector together with Group of Experts on Climate Change Impact (WP.5/GE.3)
- Carry out workshop with the TER Project on current practice or road and rails network planning and experiences in multimodal corridor planning
- Prepare a TEM/TER report regarding the state of the art and challenges for the multimodal corridor planning and recommendations for further works by TEM and TER
- Continue cooperation with the American Highway Engineers Exchange Program and to commence cooperation with the Rosdornii, by organising of the workshop on Building Information Modelling

C. Conclusions

10. TEM Project addresses priority topics for member states which lead to a more rapid integration of the transport infrastructure networks within North-South dimension. At the same time, TEM stipulates standardization of business processes in the road network management framework by improving those processes, common understanding of trends in transportation and challenges for infrastructure operators in terms of mobility. TEM enhances

cooperation among the countries to ensure a higher quality of service along major motorway corridors.

II. Trans-European Railway (TER) Project

11. The Trans-European Railway (TER) Project represents specific platform for cooperation of member countries in the field of rail transport. At the intergovernmental level, the TER constitutes the only regional platform dealing with the topics of common interest for rail transport and assisting in achieving higher standards of rail networks in the member countries.

12. Thirteen countries of Central, Eastern and South-Eastern Europe and the Caucasus (Armenia, Austria, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Poland, Romania, Russian Federation, Serbia, Slovakia, Slovenia and Turkey) participate in the Project, with UNECE as its Executing Agency. The TER Cooperation Trust Fund Agreement, established in 1991 by UNECE, made the Project self-sustained, financed by direct contributions of the member countries and ensuring the implementation of its main objectives, namely:

- To ensure the coordinated upgrading of infrastructure of the TER network to the AGC and AGTC standards
- To coordinate the improvement of operational parameters and improve the situation at border crossings with a view to eliminate bottlenecks in international rail transport
- To develop cooperation among member countries in the preparation of technical studies
- To promote cooperation among member countries in the field of combined transport
- To organize workshops for experts of member countries.

13. To achieve these objectives, the Project organizes meetings of decision-makers, TER National Coordinators, railway operators and experts as well as workshops with the aim to facilitate the exchange of experience and best practices. The TER Project also works closely together with the OSCE, UIC, and BSEC organizations.

14. The TER Project Central Office (PCO) is hosted by the Serbian Government in Belgrade.

A. Project activities carried out during the reporting period

15. In the reporting period, due to the Covid-19 situation, the 52nd session of the TER Steering Committee in June and 53rd session in December were held online. The decisions and main conclusions taken and approved are listed in the reports of these sessions, available in the TER PCO and at the UNECE Sustainable Transport Division.

16. To follow the implementation of the revised TER Master Plan, the Final Report of which was launched in 2011, the special monitoring mechanism was set up. Based on the respective data provided by the member countries, the TER PCO prepared annual summary reports on the results of the Master Plan Revision monitoring for the TER Steering Committee. The 2021 report is expected in the second quarter of 2022.

17. Monitoring the status of the TER Backbone Network and its development, aimed inter alia at the progress in bringing this network up to the UNECE AGC standards, is going to be accomplished by preparation of 2021 TER Backbone Report. The draft report is going to be submitted in the second quarter of 2022.

18. Data provided by the TER project was successfully used by the Group of Experts on Benchmarking Transport Infrastructure Construction Costs (WP.5/GE.4) and the Group of Experts on International Railway Passenger Hubs (SC.2/HUBS).

19. The works on the TER High Speed Master Plan Phase 2 were finalized. The final report has been published at the UNECE website and a number of copies has been printed.

20. Three consultants continued their work in order to prepare (1) TER Strategy 2025; (2) TER Backbone Network and data in GIS format, (3) Study on the compliance of TER infrastructure to the technical parameters identified in international legal agreements.

21. During the 52nd session of the Steering Committee Ms. Małgorzata Kopczyńska was elected as a TER Project Manager.

B. Conclusions

22. All activities carried out during the reporting period were in line with the Programme of Work of the TER Project for 2021.

23. In the reporting period, the Project strengthened its co-operation with major international organizations dealing with rail transport issues, and with other UNECE working bodies, e.g. WP.5/GE.4, SC.2/HUBS.

24. The Project represents useful tool for implementing the AGC and AGTC standards in the region and for improving the railway and combined transport services.

25. One of the crucial tasks of the TER Project, started in the reporting period represents the implementation of activities defined by the TER Project Strategy until 2025.