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Item 3 (b) of the provisional agenda

Development of transport networks and/or links

Trans-European Motorway and Trans-European Railway projects

Submitted by the TEM and TER Project Managers

Introduction

This informal document has been compiled by the managers of the TEM (Trans-European North-South Motorway) and TER (Trans-European Railway) projects to inform the Working Party about their activities implemented since its previous session.

Annex I

Information on the Trans-European North-South Motorway project development

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

1. The following tasks were included in the TEM programme of work for 2021:
 - (a) Strengthening capacities of TEM p member countries by attending the workshops and exchanging of knowledge and best practices in the following areas:
 - Network development and funding strategies;
 - Operational proficiency of road sub-sector within TEM member countries
 - 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 countries.
 - (c) Increase effectiveness and efficiency of TEM Project, both for TEM participating 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:

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TEM Strategy area and topic	<p>B.1.: Functioning and financing of the national road infrastructure management</p> <p>B.3.: Conditions for creating an efficient Public Private Partnership (PPP) in the area of development and maintenance of roads</p>
Title	Business model for 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 selected 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 (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 a road authority is able to realize its value creation process.</p> <p>Moreover, the report presents relations between particular tools and aligns them with the value creation process, in other words, the aim of road authorities to provide to customers (e.g.: taxpayers and road users) the required and expected service levels.</p> <p>Based on the previous workshops concerning road asset management practices in the TEM member countries, the report also presents a high-level assessment of the TEM region's maturity in implementing road asset management, which allows to define recommendations for further works of the member countries to ensure continual improvement of service delivery on the TEM backbone network.</p>
Status as for 31/12/2021	Published (unece.org/info/publications/pub/356467)

Operational Proficiency

TEM Strategy area and topic	D.2. Building Information Modelling (BIM) approach 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 their 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, logistics 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 value for their customers.</p> <p>To achieve these goals, road authorities have to adopt an appropriate value delivery system based on:</p> <ul style="list-style-type: none"> • Fact-based project selection;

Operational Proficiency

- Streamlined project delivery;
- Making the most of existing roads;
- Improving capabilities;
- Accurate funding and finance.

Status as for 31/12/2021 Published (unece.org/info/publications/pub/356919)

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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 puts forward a number of recommendations in this regard.</p> <p>It discusses:</p> <ul style="list-style-type: none"> • Which 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 work zones safety standards. <p>On that basis the report provides:</p> <ul style="list-style-type: none"> • A literature review of the most relevant road work zone guidelines, standards, studies and projects; • TEM guidelines on work zones safety.
Status as for 30/06/2022	Published (unece.org/sites/default/files/2022-02/reduced_2118906E_web.pdf)

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 currently facing 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 operators is becoming</p>

Operational Proficiency

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 the main mission of road operators. One solution that could help to face challenges in the near future is the adoption of a Big data approach.

The report presents:

- International state of the art in terms of implementation of data management in road infrastructure operations;
- International best practices examples;
- Identification and review of the current situation in TEM member countries;
- A comprehensive glossary.

The report thus provides recommendations for a more efficient TEM Backbone Network management and the achievement of the Project's objectives.

Status as for
31/12/2021

Sent for publication

(b) Contribution to the UNECE Working Parties

During the 116th session of the Working Party on Road Transport (SC.1), the TEM Project Manager (Mr. A. Maciejewski) gave a presentation on substantive progress of the TEM project since the last session. This included information on the TEM reports published as ECE 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".

The TEM Project Manager 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 documents for the next session.

This proposal has been endorsed by the TEM Steering Committee in November 2021.

3. Moreover, the Government of Türkiye with special engagement of Mr. M. Arman (TEM) National Coordinator from Türkiye) and TEM Project Manager (Mr. A. Maciejewski) participated in the work of the Group of Experts on benchmarking of transport infrastructure construction costs (GE.4) under WP.5 auspices.

II. TEM plans for 2022

4. TEM Project is currently working on its new Strategic Plan for the period 2022–2026. As agreed during the last TEM Steering Committee meeting and taking into consideration current experiences of the TEM Project gained during implementation of the Strategic Plan 2017-2021 (concentrated on operational excellence of road sector organisations) as well as the multiannual legacy of the Project in the planning and monitoring of the TEM backbone network development, it was decided to continue this dual focus of the project.

5. As part of the TEM backbone network dimension up-to-date information and perhaps also forecasts in respect to the traffic demand and infrastructure supply in the TEM region will be provided. This, in consequence, will contribute to the purpose of the Project's creation which is to provide support for transport network integration.
6. It is expected that the ongoing creation of recommendations and guidelines will continuously improve capacities and capabilities of participating countries to efficiently and effectively provide public services by their road sector organisations and institutions.
7. Each dimension has been divided into strategic initiatives, which eventually are divided into projects and activities, i.e. reports, workshops, conferences.
8. In detail it is planned to:
 - Prepare a working document for the TEM Steering Committee in respect to the TEM network and traffic data availability.
 - Prepare a contribution to the United Nations regulations based on the TEM member countries' experiences and international best practices in respect to the Road Safety Audits and Road Safety Inspections.
 - Prepare a report on the management of climate change risks in the road infrastructure sector together with the Group of Experts on Assessment of Climate Change Impacts and Adaptation for Inland Transport (WP.5/ GE.3).
 - Carry out a workshop with the TER Project on current practices in the field of road and rail 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.

III. Conclusions

9. The TEM Project addresses priority topics for participating countries which lead to a more rapid integration of the transport infrastructure networks within the North-South dimension. At the same time, TEM stipulates standardization of business processes in the road network management framework by improving those processes, and creating a common understanding of transportation trends and challenges for infrastructure operators. TEM enhances cooperation among the countries to ensure a higher quality of service on major motorway corridors.

Annex II

Information on the Trans-European Railway project development

I. Background

1. The main aim of the Trans-European Railway (TER) project is to improve the quality and efficiency of transport operations, to assist the integration process of European transport infrastructure systems and to develop a coherent and efficient international railway and combined transport system in accordance with the United Nations Economic Commission for Europe (ECE) Pan-European infrastructure agreements.
2. The main goals of the TER project are: the facilitation and development of coherent and efficient international railway and combined transport system among the Central and Eastern European countries (through the territories of the TER countries and between them and other European countries), contribution in absorbing of an important part of congestion in Central and Eastern Europe and reduction of environmental and safety problems on major international railways of those countries.

II. Reporting period – June 2021 – June 2022

3. In the reporting period three TER Steering Committee online sessions were held:
 - Fifty-second session on 2 June 2021;
 - Fifty-third session on 3 December 2021;
 - Fifty-fourth session on 21 June 2022.
4. The main subjects discussed during these sessions:
 - Host Country Agreement – Serbia has sent a letter for extension of the Host Country Agreement. After the procedure is completed, the agreement will be extended until the end of June 2024.
 - Project Management – the Ministry of Infrastructure of the Republic of Poland confirmed its decision in offering Ms. M. Kopczyńska as TER Project Manager for 2021–2023.
 - TER Strategy 2025 – the document has been adopted. It establishes four strategic goals:
 - to facilitate rail and multimodal transport development and integration of the TER region;
 - to serve as a bridge between United Nations member states and promote efficient performance of railway corridors;
 - to promote the sustainable development of the TER member states through facilitating improvements in the economic and environmental effects of rail projects;
 - to become an advisor and promoter of efficient and innovative railway solutions.
 - Phase 2 of the TER High Speed Rail Master Plan – the document has been published. This study is a continuation of the work undertaken in phase 1, and extends its analysis to technical, legislative, and socioeconomic aspects. In the document, there are the conditions for the establishment of national and international networks, as well as financial and planning elements of high-speed railway.

- Presenting TER data in a GIS format – the work is almost completed. The final adjustments are being made, including inserting the nodal infrastructure.
- A study on compliance of TER countries' infrastructure to technical parameters identified in international legal agreements – the document is being finalized.

5. Additionally, the Steering Committee is going to take the decision on the possible continuation, within TER and TEM, work launched by the Group of Experts on Benchmarking Transport Infrastructure Construction Costs. The work concentrated on construction, upgrade, and renewal; now, it is intended to shift the focus of the work to prepare an additional analysis of transport infrastructure maintenance and operations, including best practices and integrating the data and analytical findings into the ECE International Transport Infrastructure Observatory (ITIO).
