Ref. No. 509/1-05-2025

Terms of reference for the engagement of

Locally contracted expert - Road Infrastructure Expert

on TCT Support in preparation of Terms of Reference for Road Asset Management System

1. Background

The Transport Community is an international organisation in the field of mobility and transport. It has 36 participants – the European Union Member States represented by the European Commission, the Southeast European Parties (the Republic of Albania, Bosnia and Herzegovina, Kosovo*, Montenegro, the Republic of North Macedonia, and the Republic of Serbia - hereinafter referred at collectively as "regional partners") and the three observing participants (Georgia, Republic of Moldova and Ukraine). Transport Community is working on integrating Western Balkans' transport markets into the EU by assisting the regional partners in adopting and implementing the EU legislation in the transport field and supporting projects connecting the region with the EU.

The organisation was founded with a Treaty[1] Establishing the Transport Community, signed on 9 October 2017 by all partners (Council Decision (EU) 2019/392).

The aim of the Treaty, therefore, is the creation of a Transport Community in the fields of road, rail, inland waterway, and maritime transport as well as the development of the transport network between the European Union and the Western Balkan Parties. The Transport Community shall be based on the progressive integration of transport markets of the South East European Parties into the European Union transport market based on the relevant acquis, including in the areas of technical standards, interoperability, safety, security, traffic management, social policy, public procurement and environment, for all modes of transport excluding air transport. For this purpose,

* This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence

[1] https://www.transport-community.org/wp-content/uploads/2022/10/treaty-en.pdf

this Treaty sets out the rules applicable between the Contracting Parties under the conditions set out hereinafter. These rules include the provisions laid down by the acts specified in Annex I[2].

As part of the broader EU integration agenda, the Western Balkans have committed to aligning their transport policies, systems, and infrastructure management practices with EU standards. A key aspect of this process involves improving the efficiency, transparency, and sustainability of road asset management through the establishment of modern, data-driven systems.

In the past, infrastructure development in the region, including in Kosovo, has often been pursued without a comprehensive framework for long-term asset management. However, recent years have seen growing recognition of the need to shift from reactive to proactive approaches in road maintenance and investment planning. This transition is critical to ensuring optimal use of limited public resources, preserving the value of existing road infrastructure, and improving safety and service quality for users.

To support this, several Regional Partners have started implementing or upgrading Road Asset Management Systems (RAMS), supported by national strategies, regional cooperation mechanisms, and external technical assistance. The Transport Community's **Next Generation Road Action Plan (2025–2027)** and the revised **TEN-T Regulation,** which now formally integrates Kosovo into the European core and comprehensive transport networks, reinforce the need for data-based decision-making and performance monitoring in road sector governance.

2. Description of the assignment

Kosovo, as a signatory of the Transport Community Treaty, has committed to modernising its road sector governance, including the development of a fully operational Road Asset Management System (RAMS). This system is intended to serve as a central tool for planning, budgeting, and prioritising road maintenance and investment based on objective, up-to-date data.

In this context, the assignment focuses on preparing the data set needed to be included in the Terms of Reference (ToR) for the future development and implementation of Kosovo's RAMS, in line with best European practices and Transport Community objectives.

The **overall objective** is to provide targeted technical assistance from a road infrastructure perspective to define the scope, asset coverage, data requirements, and functional specifications

[2] https://www.transport-community.org/wp-content/uploads/2024/07/annex-1.pdf

of a national Road Asset Management System (RAMS) for Kosovo, aligned with EU standards and regional strategic goals.

The **specific objective** is to determine **which road infrastructure elements (carriageways, shoulders, bridges, culverts, tunnels, signage, drainage systems, etc.)** are to be included in the system, and propose appropriate methods for **data collection, validation, and updating.**

3. Scope of work

The expert will work under the supervision of the **Ministry of Environment, Spatial Planning and Infrastructure of Kosovo** (the end beneficiary), in close coordination with other relevant institutions and stakeholders and the RAMS Infrastructure Expert in charge of preparation of Terms of Reference. The assignment will consist of the following tasks:

Task 1: Identification of Road Infrastructure Components and Current Practices (2 days)

- Review relevant national documentation, standards, and existing data sources related to road infrastructure in Kosovo;
- Develop a comprehensive list of asset types to be included in the RAMS, including carriageways, shoulders, bridges, culverts, tunnels, signage, drainage systems, safety barriers, lighting, ITS elements, and other relevant structures;
- Define clear inclusion criteria based on functional importance, maintenance needs, cost implications, and risk exposure;
- Conduct consultations with road authorities, inspection teams, and municipal stakeholders to assess current data collection practices, formats, and frequency;
- Identify existing data gaps, overlaps, and institutional responsibilities.

Task 2: Definition of Data Attributes per Asset Type (3 days)

- Propose standardised data fields and attributes for each identified infrastructure element (e.g. ID, location, dimensions, construction year, condition rating, material type, inspection records, maintenance history);
- Align proposed data structures with international RAMS standards and tools (e.g. HDM-4, PMS, GIS-based systems);

- Ensure compatibility with Kosovo's spatial planning systems and potential integration into a national GIS or transport database.

Task 3: Proposal of Data Collection Methods and Tools (3 days)

- Identify suitable data collection methods per asset type, including visual/manual inspections, mobile mapping, drones/UAV, LiDAR, smart sensors, and remote sensing;
- Assess the pros and cons of each method in terms of accuracy, cost-efficiency, technology availability, and required expertise;
- Recommend fit-for-purpose approaches for baseline data collection and periodic updates, taking into account Kosovo's technical and institutional capacities.

Task 4: Data Validation, Updating Protocols, and Institutional Responsibilities (2 day)

- Define quality control and data validation protocols to ensure the reliability of collected asset data;
- Propose update cycles for different asset categories and outline roles and responsibilities for data collection, validation, and system updating;
- Recommend practical steps for institutional coordination, capacity-building, and gradual scaling of data collection to full network coverage.

4. Deliverables

The expected deliverables are:

1) Infrastructure Asset Inclusion Report

- Content: List and description of road infrastructure components proposed for inclusion in Kosovo's RAMS, including carriageways, shoulders, bridges, culverts, tunnels, signage, drainage systems, barriers, lighting, and ITS equipment.
- Justification for inclusion based on functionality, maintenance relevance, cost, and safety considerations.
- Summary of current national and municipal practices regarding asset classification and monitoring.
- Purpose: To provide the RAMS Infrastructure Expert with a structured overview of asset classes to be reflected in the ToR.
- Length: Approx. 6 - 8 pages (excluding annexes).

2) **Data Attribute Catalogue by Asset Type**
   - Content: Definition of standard data fields per asset type (e.g. location, dimensions, construction date, condition score, inspection cycle, material type, maintenance history).
   - Data formats and alignment with international RAMS methodologies (HDM-4, PMS, GIS-compatible schemas).
   - Purpose: To guide the RAMS Infrastructure Expert in drafting the data requirements and system modules section of the ToR.
   - Length: Approx. 5 - 7 pages.

3) **Data Collection Methodology Note**
   - Content: Recommended data collection methods and technologies per asset type (e.g. LiDAR, drone mapping, visual inspection, sensors).
   - Assessment of feasibility, cost-effectiveness, accuracy, and applicability to Kosovo's network and institutional capacity.
   - Overview of frequency, prioritisation, and resource implications for initial and recurring data updates.
   - Purpose: To be incorporated into the ToR section on implementation and data acquisition strategy.
   - Length: Approx. 5 - 7 pages.

4) **Data Validation and Updating Protocol**
   - Content: Procedures and criteria for validating collected data across asset types.
   - Recommendations on update cycles and institutional responsibilities and suggestions for capacity-building and quality control.
   - Purpose: To inform the governance and maintenance section of the RAMS ToR.
   - Length: Approx. 3 - 4 pages.

5) **Consolidated Input Package for RAMS ToR Drafting**
   - Content: Compilation of all deliverables above, structured and formatted as a reference package for the RAMS Infrastructure Expert.
   - Includes an executive summary and annotated guidance on how each section supports the drafting of the RAMS Terms of Reference.
   - Length: Approx. 2 pages (summary) + annexed documents.

5. Qualifications and exclusion criteria

a) A university degree (minimum 4 years) in Civil Engineering, Transport Infrastructure, Structural Engineering, or a closely related field is required.

b) Postgraduate education in Road Asset Management, Infrastructure Monitoring, or Data Collection Technologies will be considered an asset.

c) Any professional/civil servants working in the end-beneficiary institution are ineligible to apply.

6. Work experience

a) A minimum of **seven (7) years of professional experience** in one or more of the following areas:

- Road infrastructure planning, design, or maintenance;
- Condition monitoring and inspection of road assets (including pavements and structures);
- Road asset data collection and management.

b) At least **one relevant reference activity in the past five (5) years** related to:

- Development or enhancement of a Road Asset Management System (RAMS), or
- Design or supervision of road infrastructure condition surveys or data collection, or
- Preparation of technical specifications for infrastructure monitoring or inventory systems.

c) Proven understanding of data collection technologies and standards applicable to various asset types (e.g. LiDAR, drones, mobile mapping, visual/manual inspection, HDM-4 or PMS-based methods).

d) Experience in projects involving **network-level asset assessments** or database structuring for RAMS purposes will be considered an asset.

e) Prior experience working in the **Western Balkans** or neighbouring EU/EU pre-accession countries is considered an **asset**.

As proof of points a) and b), a reference letter confirming the criteria above shall be included.

7. Languages

- Proficiency in English, with knowledge of the Albanian language considered an asset.

- The Final Mission Report shall be submitted to the TCT Secretariat in English, while the Draft Terms of Reference for RAMS Development shall be submitted in both English and Albanian.

8. Timing and Location

The assignment foresees work from home/online or in person meetings in the **Ministry of Environment, Spatial Planning and Infrastructure of Kosovo** (the end beneficiary). The assignment is expected to start in September 2025.

9. Remunerations

The assignment foresees up to 80 working hours or 10 working days of engagement for the expert with a maximum value of EUR 2,500. The payment will be made in one instalment after completing all the tasks and submitting payment documents as stated in the contract.

The final outputs will be subject to the TCT Secretariat and the end beneficiary, with quality control and approval before payment is executed.

Note: No other costs will be covered besides the expert cost per day.

10. Financial Offer

The financial offer should be shown in a form showing the price per working day of 8 hours.

The offer with the lowest price will be scored with a maximum of 20 points.

11. Selection and Award criteria

Selection will be done based on work experience.

Work experience	Minimum score	Maximum score
Relevant professional experience (minimum 7 years) in road infrastructure planning, design, maintenance, condition monitoring, or data collection.	20 (for at least 7 years of relevant experience) Each additional year scores 2 points up to the maximum score.	30

Reference assignments in the past 5 years related to RAMS development, infrastructure asset inventory, or technical specifications for infrastructure data collection systems.	20 (for at least 1 relevant reference) Each additional reference scores 2 points up to the maximum score.	30
Demonstrated knowledge of RAMS methodologies (e.g. HDM-4, PMS, GIS-based tools, LiDAR or mobile mapping integration).	0	10
Experience in working in the Western Balkan environment or EU/ EU pre-accession environment	10	10
Total	50	80

The above-mentioned work experience will be scored based on the information provided in the CV and the reference letters as per point 6) of this ToR.

The total maximum score for the selection criteria is 80. The total maximum score for the financial offer is 20.

The offer with the highest score, combining work experience and offered price, will be proposed for the assignment, and the contract shall be signed.

No subcontracting is allowed for the assignment.