Development of indicative TEN-T extension of Comprehensive and Core Network in Western Balkans

2023

TRANSPORT COMMUNITY

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October 2023

Glossary **of Terms**

A

AF	Alternative Fuels

E

EC	European Commission
EIP	Economic and Investment Plan
ERTMS	European Railway Traffic Management System
ETCS	European Train Control System
EU	European Union
EVCS	Electric Vehicles Charging Station

I

IFI	International Financial Institution
IRI	International Roughness Index
ITS	Intelligent Transport Systems

R

RIS	River Information System
Regional Partners	Albania, Bosnia and Herzegovina, North Macedonia, Kosovo*, Montenegro, Serbia

T

TC	Transport Community
TCT Secretariat	Transport Community Permanent Secretariat
TEN-T	Trans-European Networks Transport
TODIS	Transport Observatory Database/Information System

V

VTMIS	Vessel Traffic Monitoring and Information System
VTS	Vessel Traffic Services

W

WB	Western Balkans

** 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.*

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FOREWORD

Under the provisions of Article 8 of the Treaty establishing the Transport Community, the Regional Steering Committee reports annually to the Ministerial Council on the implementation of the indicative trans-European transport network (TEN-T) extension of comprehensive and core networks to the Western Balkans.

The third edition of the Transport Community's Annual Report and the first benefitting formally from the Transport Observatory Information System's (TODIS) inputs marks another pivotal achievement in the TEN-T network monitoring process.

The region continues to make significant strides towards its goal of enhancing connectivity alongside the TEN-T Network in a safe, clean and sustainable manner. Since the previous report, new projects have been delivered successfully for all transport modes, and the overall investment dynamic appears positive. Consequently, clear progress has been made towards compliance with specific TEN-T indicators. Nonetheless, this progress falls considerably short of the necessary pace for achieving full compliance within the timeframes set down in Regulation No 1315/2013 and exhibits an uneven distribution among distinct transport modes. In particular, the railway sector appears to be trailing despite concerted efforts to revitalise it.

Notwithstanding the substantial funding package committed by the European Union under the Economic and Investment Plan framework for the Western Balkans, the gap between investment needs and available funding remains high and will likely widen. Cost overruns are a significant concern, casting doubts on the region's overall capacity to secure the requisite funding for ongoing projects while advancing new investments. Prioritisation driven by a clear focus on strategic priorities is essential to optimise the use of the available resources and maximise the economic returns of the investment package.

In terms of methodology, TODIS is emerging as a game changer, not just due to its intrinsic features (which are set to become increasingly prominent in the years ahead) but also for its role in institutionalising the TEN-T data management process in the region. Although this year's report marks the third consecutive instalment, it also provides new and reliable data and a knowledge baseline for continued process monitoring and updates going forward.

For the Regional Steering Committee

Jasminka Kirkova
Chair

For the Transport Community Permanent Secretariat

Matej Zakonjšek
Director

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Executive Summary

1 Executive Summary

1. **The 2023 Annual Report establishes a fresh foundation for TEN-T data in the region, setting a new baseline for the monitoring exercise.** It is the first report to benefit from TODIS inputs, meaning not just from improved analytical tools but also from the comprehensive data collection and the review exercise that accompanied the development of the system and the institutionalisation of TEN-T data management in the region. While the improved data reliability is a positive development, it is also essential to note that this year's outcomes may not be entirely comparable with those of previous years. As a result, the report approaches conclusions regarding the annual changes in specific indicators with a degree of caution. Readers are likewise advised to exercise caution when interpreting raw data series.

2. **Progress towards compliance with specific key TEN-T indicators remained steady and, in some instances, even accelerated.** The Core Road Network compliance rate has increased by no less than 5.27%, from 46.86% (in 2021) to 52.07% (to date), exceeding the 50% symbolic threshold for the first time. No less than 1,828 km of high-quality roads on the region's Core Network now comply with the TEN-T profile and quality standards. The Comprehensive Road Network seems to have dramatically improved from last year's reported compliance rate of 48.95% to its current 69.66%. However, it is important to note that this increase is not solely attributed to remarkable on-the-ground improvements within a single year but is primarily due to updated data regarding the road surface quality in the region.

3. **Railway sector performance has been inconsistent.** An impressive surge has also been observed in the train length indicator, soaring from zero to nearly 3.44%. After dipping slightly between 2021 and 2022, operating speed compliance on the Core Network rose from 13.58% to 15.79%. There has also been a notable decrease in the railway axle load on the Comprehensive Network, dropping by 5% from 74.52% in 2022 to 69.96% in 2023, primarily due to maintenance. Meanwhile, other indicators have either stagnated or decreased slightly. Some of these developments may indicate shifts in baseline data or alterations in reporting methodologies, and additional annual data series may be required to establish a definitive trend in this regard.

4. **The waterborne and air transport sectors have exhibited remarkably consistent compliance rates, with no recorded changes over the years.** While the positive aspect of these figures is evident, a less encouraging observation is the apparent absence of systematic, coordinated efforts to address long-standing compliance gaps.

5. **Compliance rate evolution remains erratic between transport modes and key indicators.** As highlighted in previous reports, compliance rates vary significantly between various criteria. This has remained unchanged in 2023, and the unbalanced development will likely continue if compliance indicators are not addressed in a coordinated fashion. Investment policies should reflect equilibrium, coherence, and pragmatism more than ever.

6. **While the deterioration in road infrastructure conditions appears to have halted, the state of the railway network continues to deteriorate, emphasising the urgency of implementing improved practices and increased maintenance budgets.** Compared with large projects, maintenance tends to be more cost-effective in the long run. Regular maintenance and timely repairs can extend the lifespan of infrastructure, thus reducing the need for costly replacements or extensive upgrades. Secondly, well-maintained infrastructure typically operates more efficiently and reliably, minimising disruptions and ensuring consistent service delivery. Moreover, maintenance projects are often quicker to implement and have a smaller environmental footprint than large-scale construction, contributing to sustainability goals.

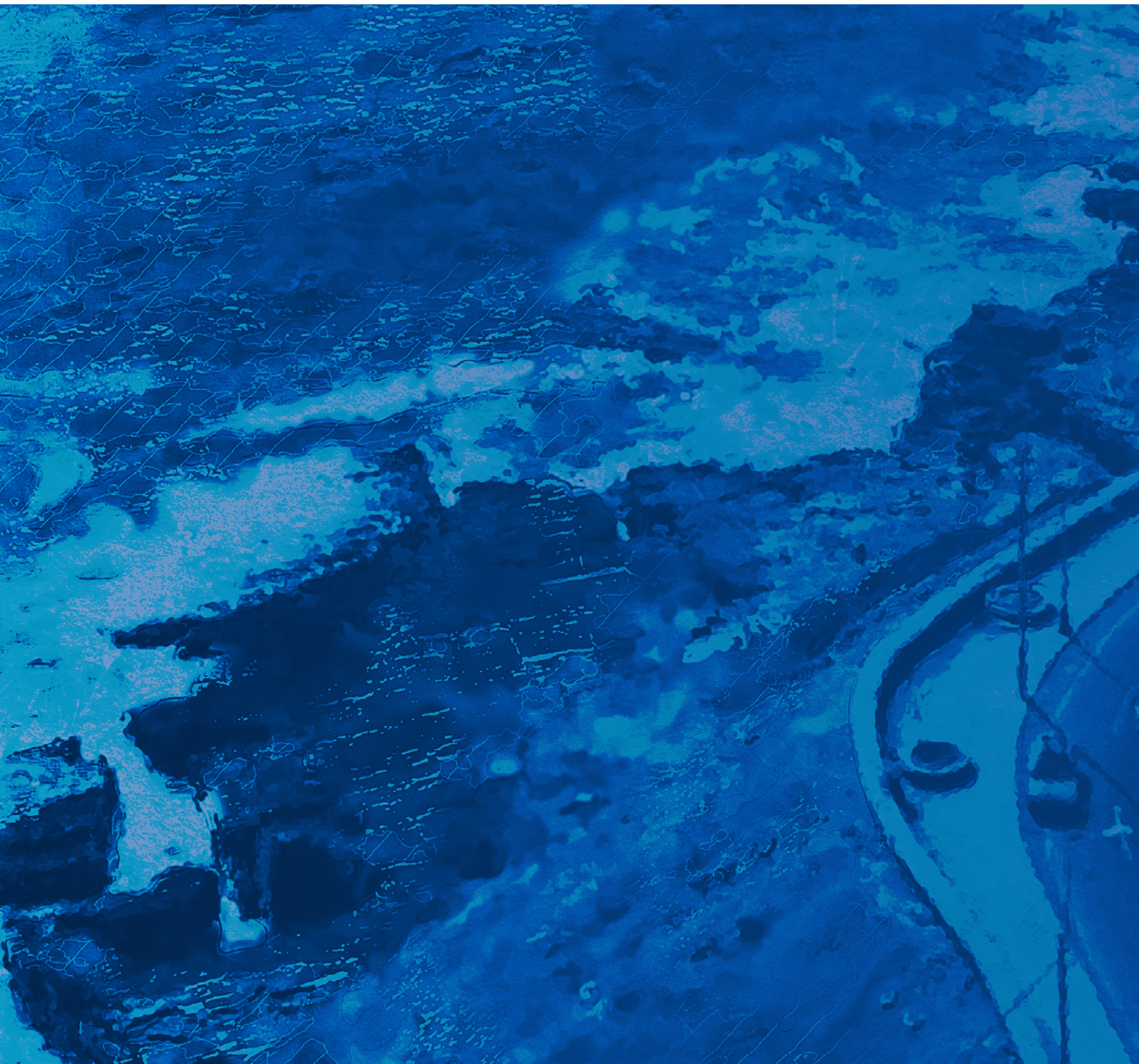
7. **The list of priority interventions continues to evolve, with last year's recommendations remaining entirely relevant.** Progress on priority projects appears to be stagnating while new interventions are being pushed forward. The road sector remains in the spotlight, both in terms of committed resources and public interest. Understandably, the degree of unpredictability remains the highest. This underscores the need for more focused, long-term planning in the region to ensure coherence and consistency in investment policies. Such progress can be effectively facilitated by aligning with the relevant strategic documents established at national, regional, or European levels, such as sectoral transport strategies, a 5-year rolling work plan, EUSAIR, EUSDR or Smart and Sustainable Mobility Strategy.

8. **Progress has been made in implementing the Economic and Investment Plan flagship projects, yet the pace of progress needs to improve.** Albania has made substantial headway on the Adriatic Ionian Corridor, while progress on Tirana bypass needs to accelerate. The implementation of Corridor Vc continues steadily, but certain key sections along this route are experiencing delays. While symbolic, the opening of the first section of the 'Peace Motorway' in Serbia has been overshadowed by significant delays and a lack of progress in other critical sectors on this route. The Sarajevo - Podgorica link and Podgorica bypass have made some strides in the preparatory stage but have yet to secure funding for the execution phase. Overall, the EIP has unlocked substantial investments, but there is room for improvement in the pace of on-ground implementation.

9. **Prospects for 2027 still look encouraging despite most projects being postponed again.** The progress forecast for TEN-T Network compliance rates has been refined and adjusted on foot of updated information and data on its current status and ongoing projects. However, the reliability of those forecasts is significantly constrained by the chosen methodological approach, data quality, infrastructure maintenance and pace of project implementation. Despite all efforts, the forecasting still cannot accurately capture changes in network conditions. Year-on-year changes driven exclusively by variations in this parameter are significant. In addition to the absence of data on most routine maintenance interventions, there is also the issue of timely and consistent data collection regarding road surface conditions, with some regional partners still lacking the necessary resources and institutional framework for this task.

10. **Progress has been made in TEN-T compliance criteria requiring policy reform and horizontal action (ITS, tolling interoperability, road safety), but tangible results on the ground have yet to materialise.** This has mainly been achieved within the framework of the dedicated Action Plans steered by the Transport Community. These once again proved to be essential tools for catalysing regional policy reforms. Nonetheless, a considerable amount of work lies ahead before that progress is translatable into quantifiable improvements on the TEN-T Network in the Western Balkans.

11. **Regional cooperation keeps improving, strengthening ties between regional partners and paving the way for the synchronised implementation of the TEN-T Network.** The regular meetings of the Technical Committees established under the Transport Community Treaty framework have been complemented by the region's inaugural sessions of the road and railway infrastructure managers. These initiatives represent vital strides toward the gradual harmonisation of investment policies among regional partners, thereby accelerating the delivery of projects having transboundary implications and impacts.



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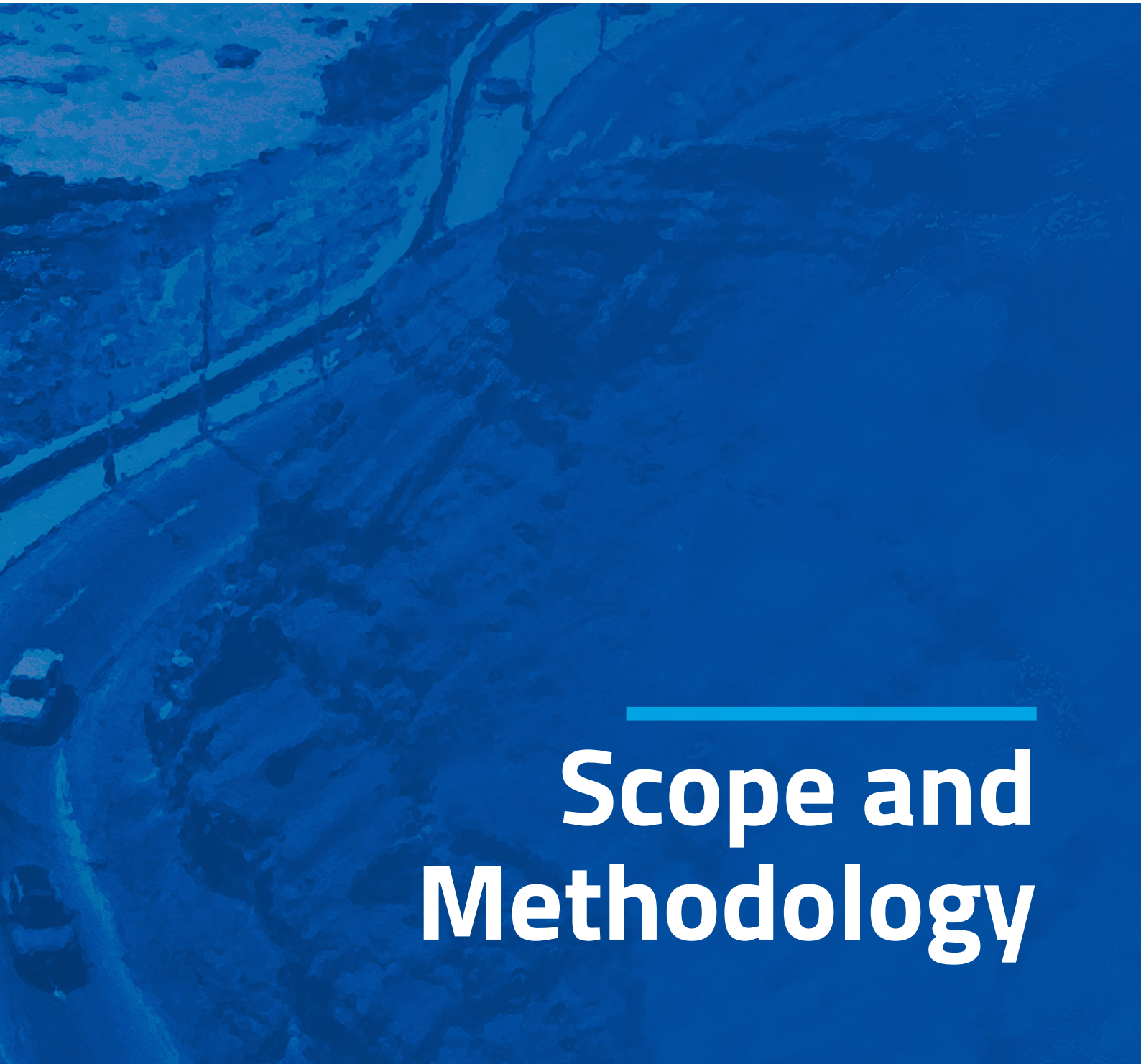


Scope and Methodology

2 Scope and Methodology

The progress made by the South-East European Parties in aligning their infrastructure with TEN-T standards is monitored through a tracking system established under Article 8 of Transport Community Treaty. This system mandates the Regional Steering Committee to produce dedicated annual reports for submission to the Ministerial Council. ([…] *"The Regional Steering Committee shall report every year to the Ministerial Council on the implementation of the TEN-T described in this Treaty. Technical Committees shall assist the Regional Steering Committee in drawing up the report."*).

The monitored compliance indicators are set down under Arts. 12, 15, 18, 22, 25 and 28 (for the Comprehensive Network) and Art. 39 (for the Core Network) of Regulation No 1315/2013. The list of indicators is the same as in the previous year (thus facilitating progress tracking) and aligned with the EC's TEN-T biannual reporting.

The indicative extension of the TEN-T Core and Comprehensive Networks in the Western Balkans as provided for by the Commission Delegated Regulation (EU) 2016/7581 and included in Annex I.1 to the Treaty establishing the Transport Community is given below.

Figure 1.

Indicative trans-European transport network (TEN-T) extension of Comprehensive and Core Networks to the Western Balkans

Comprehensive Network: Railways and airports

Core Network: Railways (passengers) and airports

Comprehensive and Core Networks: Roads, ports, rail-road terminals and airports

Comprehensive and Core Networks: Inland Waterways and Ports

Based on the latest developments and adjustments, the indicative extension of TEN-T in the Western Balkans currently includes:

- 5,205.12 km of TEN-T roads, of which 3,511 km on the Core Network;
- 4,007 km of TEN-T railways, of which 2,623 km on the Core Network;
- 1,345 km of TEN-T Core Network Inland Waterways;
- 3 seaports, 4 inland waterways ports, and 10 airports.

The network has been split into sections and nodes to facilitate performance monitoring. The third Trans-European Networks Transport (TEN-T) Annual Report relied almost entirely on TODIS logistics, collecting and confirming data through the network of appointed Regional Users. Consequently, some important modifications occurred as compared with the previous papers, namely:

- Adjustments in the network's layout resulting from the progress of projects on the ground (specifically for the road network), past modifications that have only now been captured properly and corrections of previous layout/reporting errors.
- Enhanced network granularity for the road and rail network, resulting in increased precision and heightened reporting accuracy.

Layout changes included limited alignment corrections for the road network. These are meant to facilitate network implementation tracking progress (opening of new road sections). Such updates have not been subject to a formal decision from the EC but were nevertheless made in agreement with regional partners, mirroring similar procedures used within the EU for regular network management and monitoring.

TEN-T policy is currently under revision in order to increase focus on network quality and align it with the major strategic orientations laid out in the European Green Deal and further transposed in the Sustainable and Smart Mobility Strategy. Such changes will be reflected in TEN-T annual reporting within the Transport Community framework, probably starting with next year's release. On adoption of the revised TEN-T Regulation, it is likely that future progress will also be fueled by the proposed Western Balkans Corridor, enhancing cooperation between Member States and Western Balkans Transport Community partners.

3

TEN-T Network Compliance Assessment

3 TEN-T Network Compliance Assessment

3.1. Railway transport

The legal foundation governing the establishment of the Indicative Extension of the TEN-T Core and Comprehensive Rail Network to the Western Balkans is established in Regulation No 1315/2013, last updated in 2019 (currently undergoing a significant revision).

This Regulation outlines a comprehensive, long-term strategy for the creation of a unified trans-European transport network (TEN-T), encompassing all modes of transportation infrastructure, with a particular focus on railways. It encompasses technical standards and the need for infrastructure interoperability while setting forth key TEN-T development priorities.

In terms of transportation infrastructure prerequisites, this Regulation specifically sets down requirements related to freight terminals, the deployment of the European Rail Traffic Management System (ERTMS), adherence to Technical Specifications for Interoperability (TSI) criteria, network electrification, and accessibility to freight terminals. Conditions that railway infrastructure should meet include:

- deploying ERTMS;
- migrating to 1,435 mm nominal track gauge;
- mitigating the impact of noise and vibration caused by rail transport, in particular through measures for rolling stock and infrastructure, including noise protection barriers;
- meeting infrastructure requirements and enhancing interoperability;
- improving the safety of level crossings;
- where appropriate, connecting railway transport infrastructure with inland waterway port infrastructure.

Railway Compliance indicators

Based on the above requirements, this report covers compliance with the specific indicators as follows:

a. Electrification - rail network to be electrified by 2030 (including sidings where necessary);
b. Axle load: freight lines 22.5 t axle load by 2030;
c. Line speed: Freight lines must allow 100 km/h by 2030 (no speed requirement for passenger lines);
d. Train length: freight lines to allow for 740 m trains by 2030;
e. Track gauge: nominal track gauge for new railway lines 1,435 mm;
f. ERTMS / signalling system: Core network to be equipped with ERTMS by 2030.

In addition to assessing compliance with TEN-T requirements, the report also provides an assessment of the state of railway infrastructure based on the ratio between the operational and the design speed.

Primary infrastructure characteristics and physical state

The TEN-T rail network consists of two layers: the Core and the Comprehensive Networks, respectively. The total length of the Railway Comprehensive Network is 4,007 km, of which 3,819 km are currently in operation. The Railway Core Network spans 2,623 km, with 2,570 km in operation. 188 km of the Comprehensive Network and 53 km of the Core Network have been temporarily closed for safety reasons (lack of maintenance) or ongoing construction works.

Figure 2.

Indicative extension of the TEN-T Core and Comprehensive Rail Network to the Western Balkans

TEN-T Core and Comprehensive Network Compliance

The extension of the TEN-T Core and Comprehensive Network to the Western Balkans was initiated in 2016 during the most recent revision of the Core Network. Over the past 17 years, the region has invested more than EUR 3.5 billion in rail projects. Despite these investments, there has been little improvement in conditions and service quality. Passenger rail services continue to operate at an average speed of around 50 km/h, making them less competitive compared to road transport. Similar challenges exist in freight transport, with a substantial amount of time spent on train preparation, loading/unloading, and waiting at borders. Consequently, rail has experienced a sharp decline in both passenger and freight traffic over the past decade. The total annual freight volume for the entire region remains stagnant at 20 million tonnes per year.

Two primary factors contribute to this situation: the lack of adequate infrastructure maintenance and the absence of policy reform. A 2018 study conducted by CONNECTA, an entity financed by the European Commission, estimated that the annual cost of routine maintenance would be around EUR 50,000 per km. However, none of the regional partners can allocate more than EUR 15,000 per km annually from their budgets for this purpose. Furthermore, a staffing shortage across all railway segments, from operations to management, has contributed to the deteriorating state of railway infrastructure.

The TEN-T Comprehensive and Core Railway Network still faces inadequate investment, with only 15% of overall investment earmarked for transport infrastructure. Current investments tend to focus on isolated sections rather than holistic network improvements. Failure to undertake essential repairs and necessary upgrades will not only escalate maintenance costs but also hinder business productivity, leading to further drop-offs in railway transport.

Accelerated railway reforms are imperative to fully harness the benefits of rail transport in the Western Balkans. A coordinated and integrated approach that combines infrastructure development with reforms can help overcome sector fragmentation, while an open market would boost performance along multimodal transport corridors. Although progress is being made in rail infrastructure development and reform, greater efforts are required to unlock the region's full potential.

With the 2030 deadline approaching for completing the Core Network and the 2050 target for the Comprehensive Network, all regional partners will encounter numerous challenges in their pursuit of these goals.

A. ELECTRIFICATION

Rail electrification compliance of the operational network is already 71.57% on the Core and 52.1% on the Comprehensive Network, based on 2023 data. Certain segments, mainly in Albania and North Macedonia (Corridor VIII), are still under construction and are not part of this analysis. There are no significant differences between electrification compliance rates in 2023 and 2022.

Note: The small decrease in electrification is a result of establishing TODIS and its improved analytical tools, as well as the comprehensive data collection and review exercise that accompanied the development of the system and the institutionalisation of TEN-T data management in the region.

Figure 3.

Percentages of electrified and non-electrified lines 2021/2022/2023

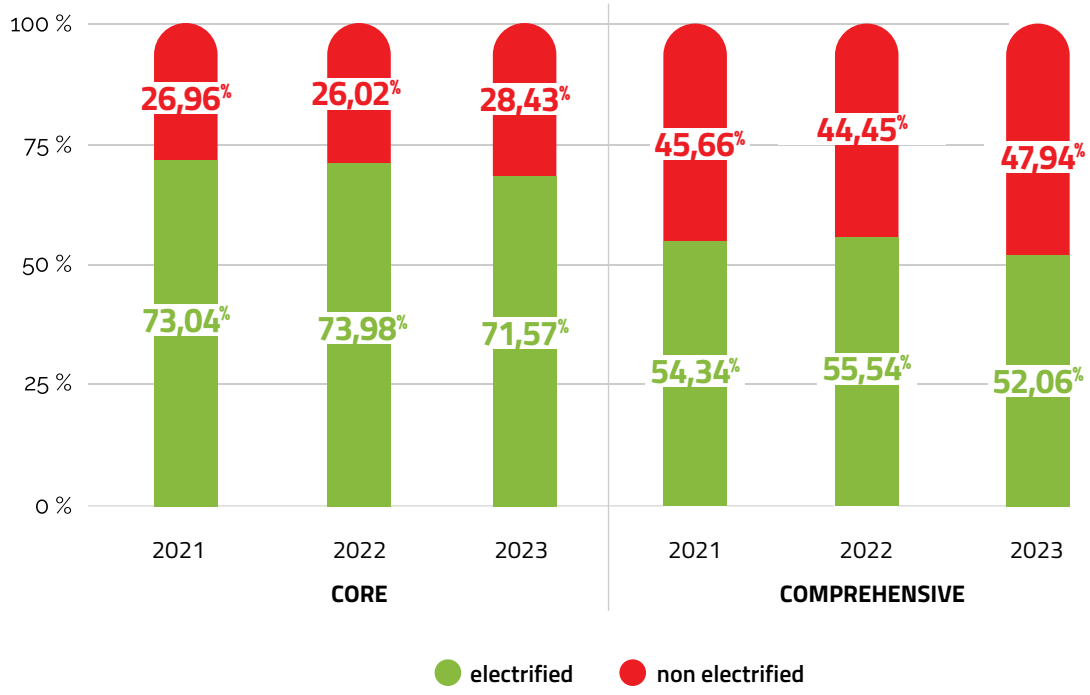
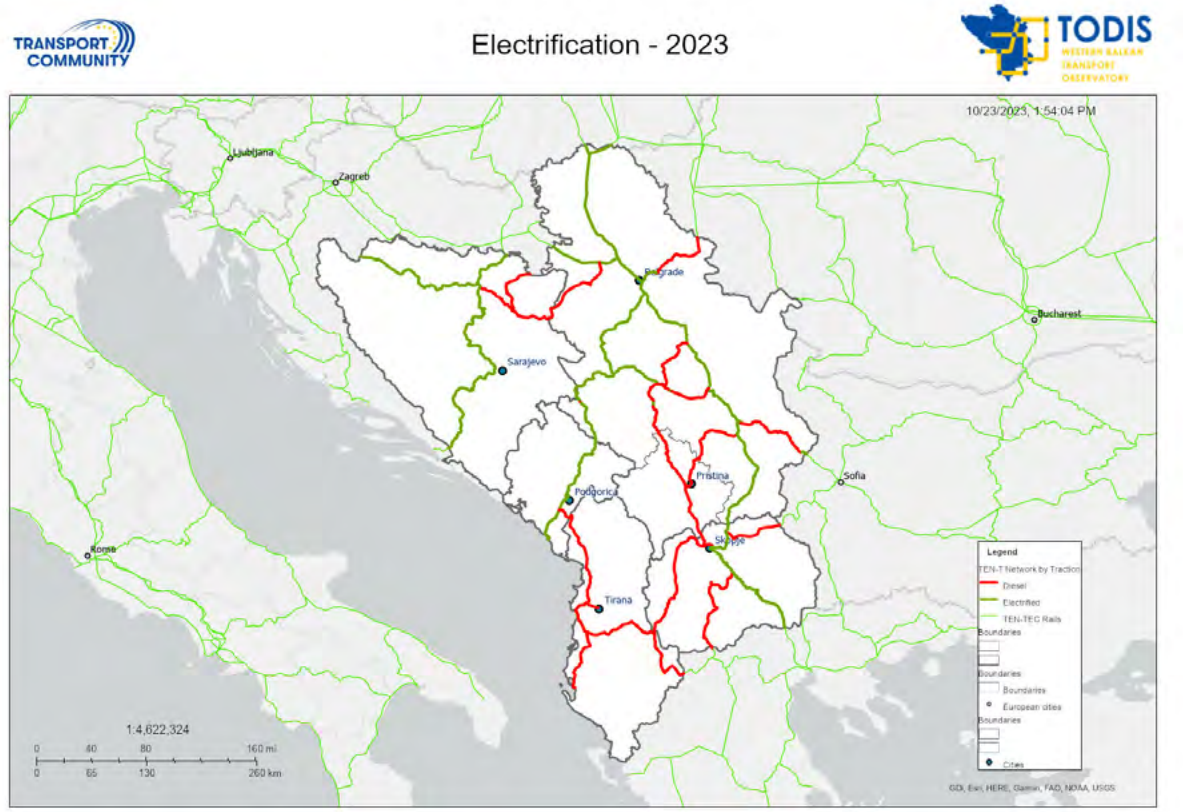


Figure 4.

Map of electrified lines



B. AXLE LOAD

For freight axle load, the compliance parameter of 22.5 t per axle dipped slightly by 0.44% on the Core and a significant 4.6% on the Comprehensive Network as per 2023 data. Deficiencies are mainly in Albania, Kosovo, and Bosnia and Herzegovina, and mostly result of maintenance.

Note: The small decrease of Axle Load Compliance on the Core Network is a result of establishing TODIS and its improved analytical tools, as well as the comprehensive data collection and review exercise that accompanied the development of the system and the institutionalisation of TEN-T data management in the region.

Figure 5.

Axle load in tonnes/axle on Core and Comprehensive Network 2021/2022/2023

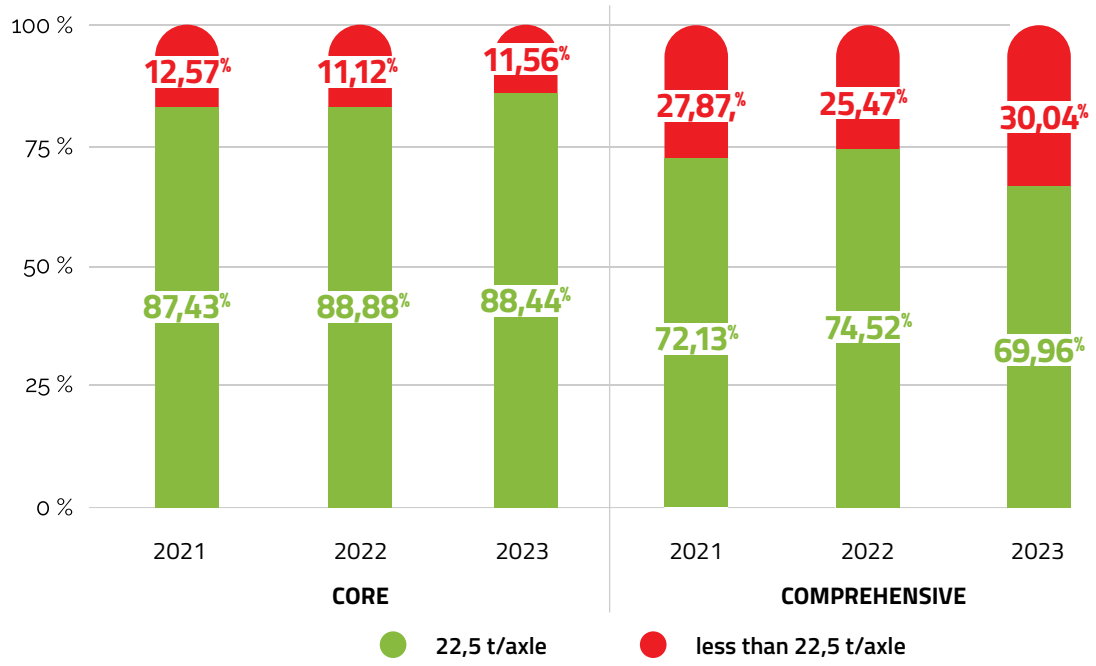
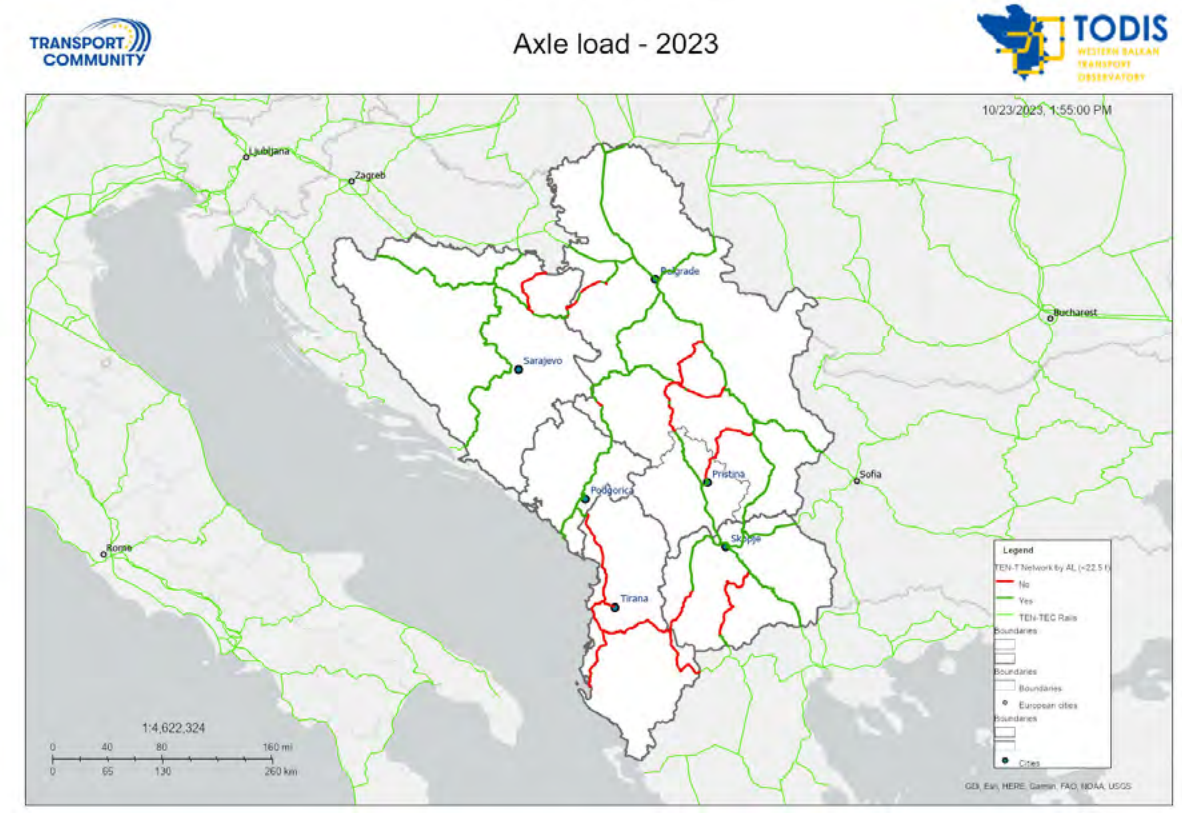


Figure 6.

Map of axle load in tonnes/axle on Core and Comprehensive Network



C. FREIGHT LINE SPEED

In freight line design speed, almost 80% of the Core Network is compliant with the parameter of 100 or more km/h and 68% of the Comprehensive Network, as per the data for 2023. There is no significant difference between 2022 and 2023. In operational speed, there is a slight increase of almost 2% (from 13.58% in 2022 to 15.79%) where the operational speed is over 100 km/h. The main reason for the slight increase in operational speed is mainly due to some finalised projects for construction and maintenance.

Note: The small decrease in Design speed Compliance on the Core Network is a result of establishing TODIS and its improved analytical tools, as well as the comprehensive data collection and review exercise that accompanied the development of the system and the institutionalisation of TEN-T data management in the region.

Figure 7.

Design Speed 100 km/h and over 2021/2022/2023

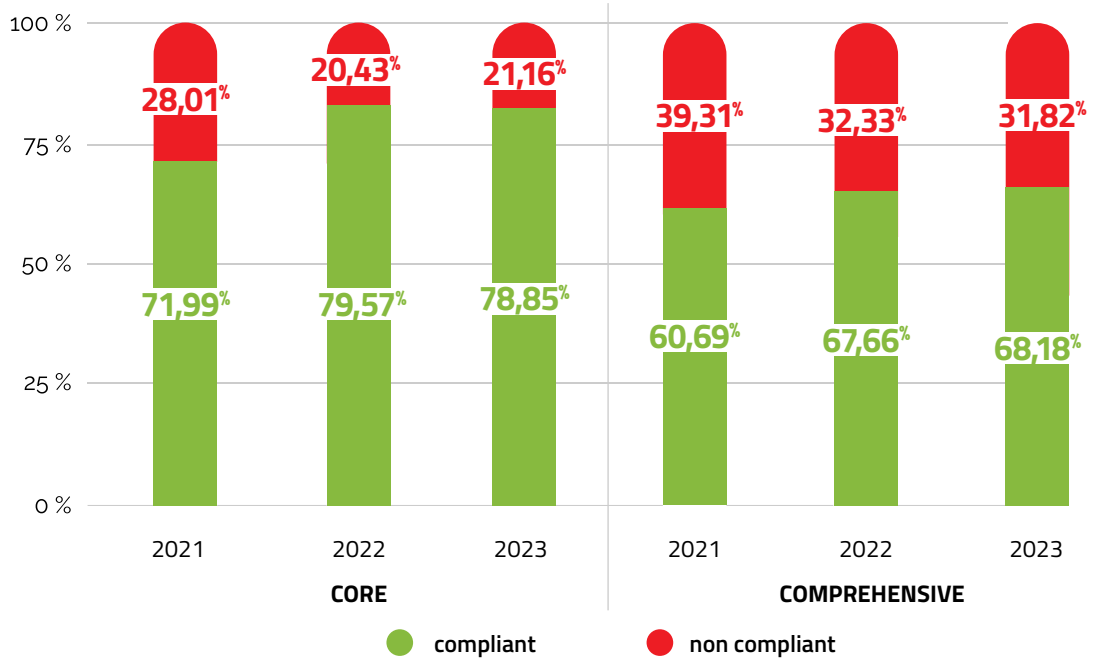
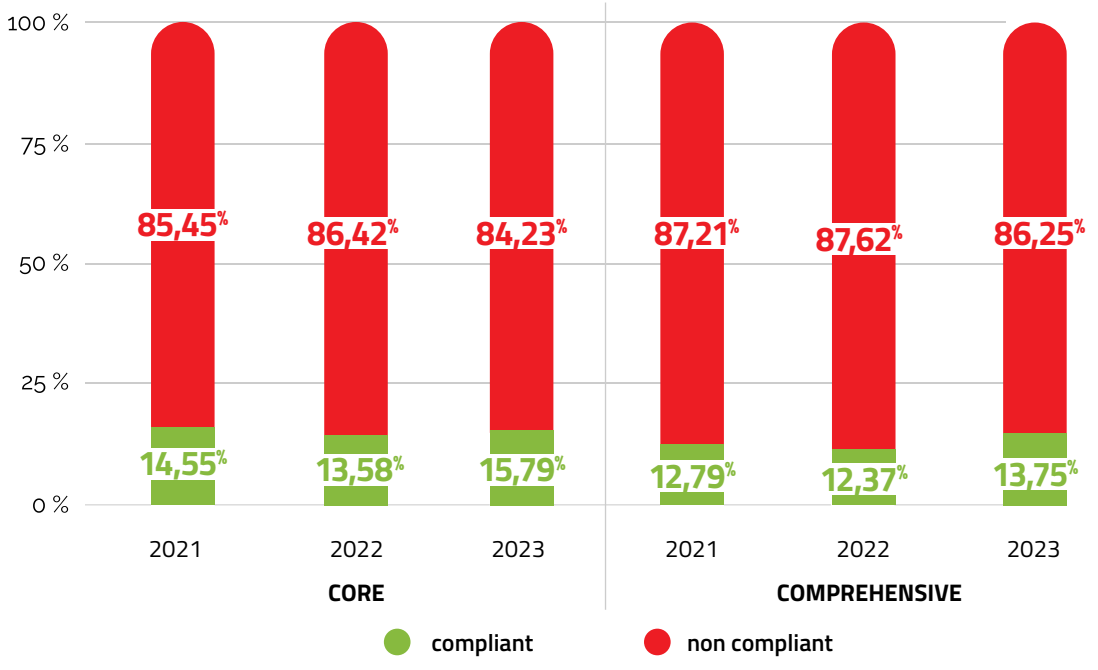


Figure 8.

Operating Speed 100 km/h and over for 2021/2022/2023

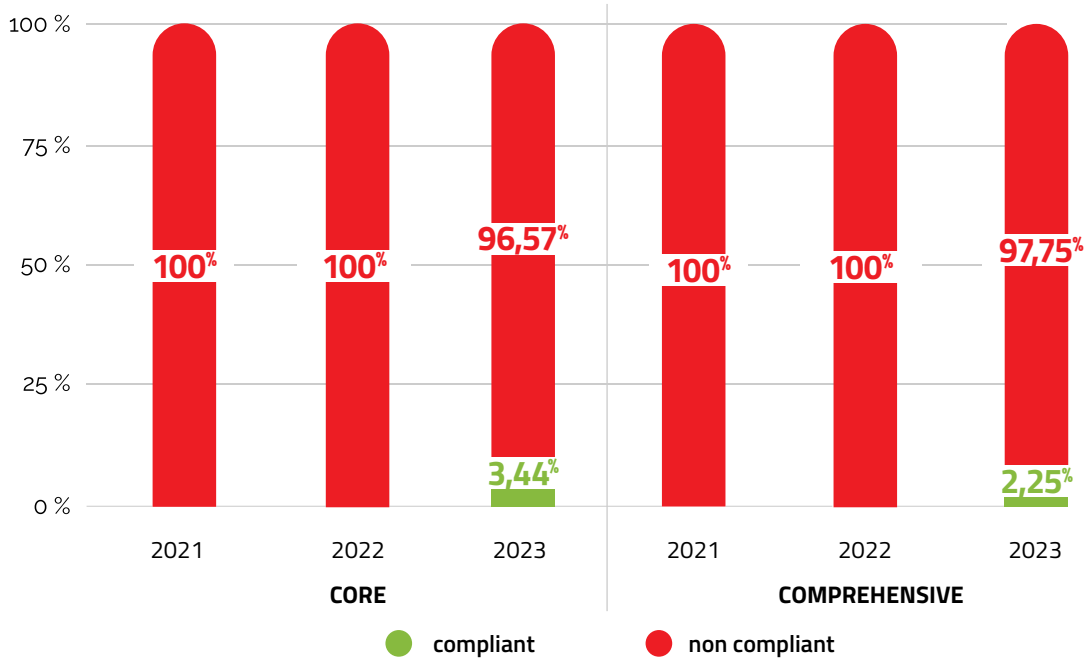


D. TRAIN LENGTH

Regarding the freight train length parameter, a notable shift has occurred, with 3.44% of the core networks now complying with the requirement for 740 meters or longer sidings to accommodate trains. This marks a substantial improvement on the previous year.

In general, the region, for the most part, meets the 500-meter parameter, with Albania being the exception. However, it is important to interpret these statistics while considering certain distinctions. Ongoing infrastructure upgrades and operational complexities mean that there may be disparities between nominal compliance and actual operational capabilities. For instance, a rail line might be technically suitable for 740-meter trains, but practical limitations, such as insufficient sidings, may hinder the realisation of this potential.

Figure 9.
Train length 2021/2022/2023



E. TRACK GAUGE

The rail track gauge has achieved full compliance, standing at 100% according to data from both 2022 and 2023. It is important to note that there is one exception, namely the Mokra Gora narrow gauge rail line in Serbia. However, this narrow gauge rail line falls outside the scope of the Core and Comprehensive Network and serves primarily for tourism purposes. This situation has remained unchanged for many years and does not impact interoperability across the broader rail network.

F. ERTMS

Finally, ERTMS system operations have been rolled out in the Western Balkans. For the first time in history, 2.63% of the Core and 1.72% of the Comprehensive Network is equipped with an ERTMS system due to the opening of the newly reconstructed Belgrade – Novi Sad line. Almost all regional partners have partly transposed the interoperability directive (third or fourth rail package). Considering ongoing and finance-backed projects, there are plans to implement ETCS level 1 or even 2 in Albania, Kosovo, Serbia and North Macedonia, which will see the ERTMS system reach 16% on the Core network after the completion of these projects by 2027.

ERTMS deployment is the greatest challenge in terms of TEN-T parameters, and progress is slower than anticipated. Plans are in place to address this.

However, all regional partners should make additional efforts to further transpose and implement the interoperability directive.

Note: The slight decrease in ERTMS Compliance is a result of establishing TODIS and its improved analytical tools, as well as the comprehensive data collection and review exercise that accompanied the development of the system and the institutionalisation of TEN-T data management in the region.

Figure 10.

ERTMS deployment 2021/2022/2023

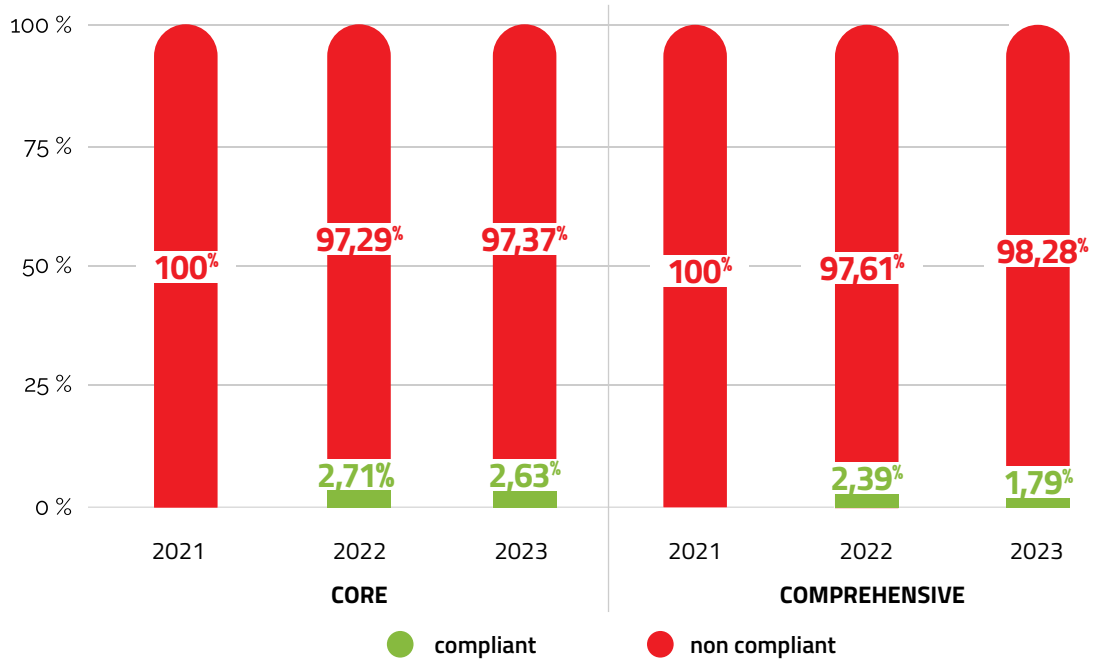
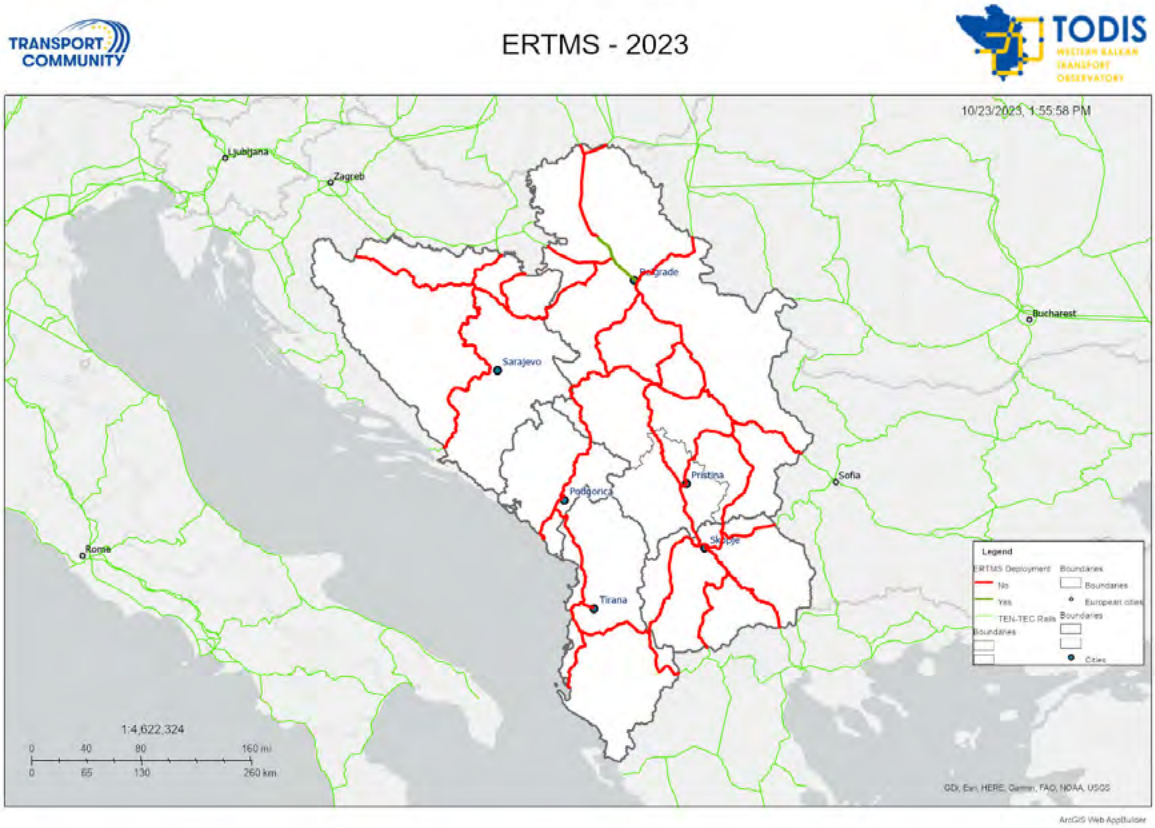


Figure 11.

Map ERTMS deployment



Overall compliance assessment

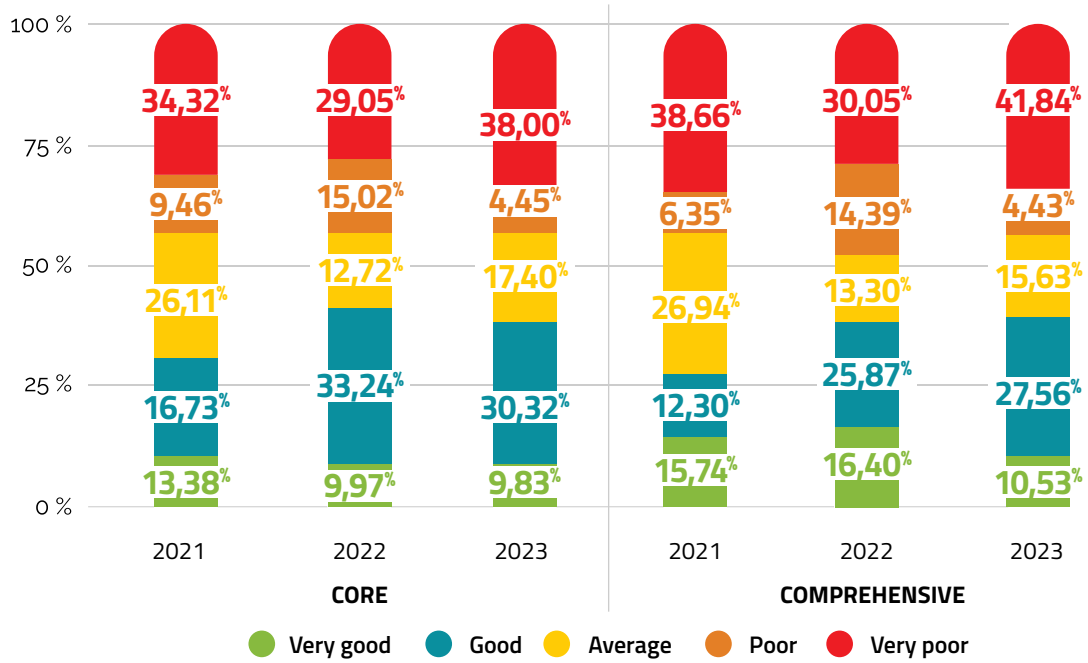
The present network status was evaluated by analysing data provided by regional partners regarding the state of play on their respective tracks. Track condition has been divided into five parts based on the ratio between the current maximum operational speed and maximum design speed on the network. This was done to provide a better description of current railway conditions.

In accordance with the criteria applied, an overview of the network is given in the figure below.

Figure 12.
Assessment Methodology Criteria

CONDITION OF RAILWAYS	OPERATIONAL/ DESIGN SPEED
VERY GOOD	0.86 – 1
GOOD	0.71 - 0.85
MEDIUM	0.61 - 0.70
POOR	0.51 - 0.60
VERY POOR	0 - 0.50

Figure 13.
Condition of the Rail Network 2021/2022/2023



In 2023, it was reported that 40% of the Core Rail Network and 38.1% of the Comprehensive Rail Network were in either very good or good condition, allowing for speeds between 70-100% of their design capabilities. However, it is worth noting that there was a slight decline of approximately 0.1% in the very good category and a more significant 2.9% decline in the good category. This decline can be attributed to the slower pace of improvement due to limited investment. Roughly 17.4% of the rail sections were categorised as having an average condition, with considerable variations in their maximum allowed speeds, marking an almost 5% increase.

Unfortunately, a significant portion of both the Core (42.45%) and Comprehensive Network (46.28%) was rated as being in poor or very poor condition, with their design speeds averaging only 50% and showing minimal improvement since 2022 on the Core Network. One critical concern is the reliability of the

assessment system, as some sections displayed substantial disparities between their reported condition, designed specifications, and maximum allowed speeds. Moreover, it appears that different assessment systems are in use across various regional partners.

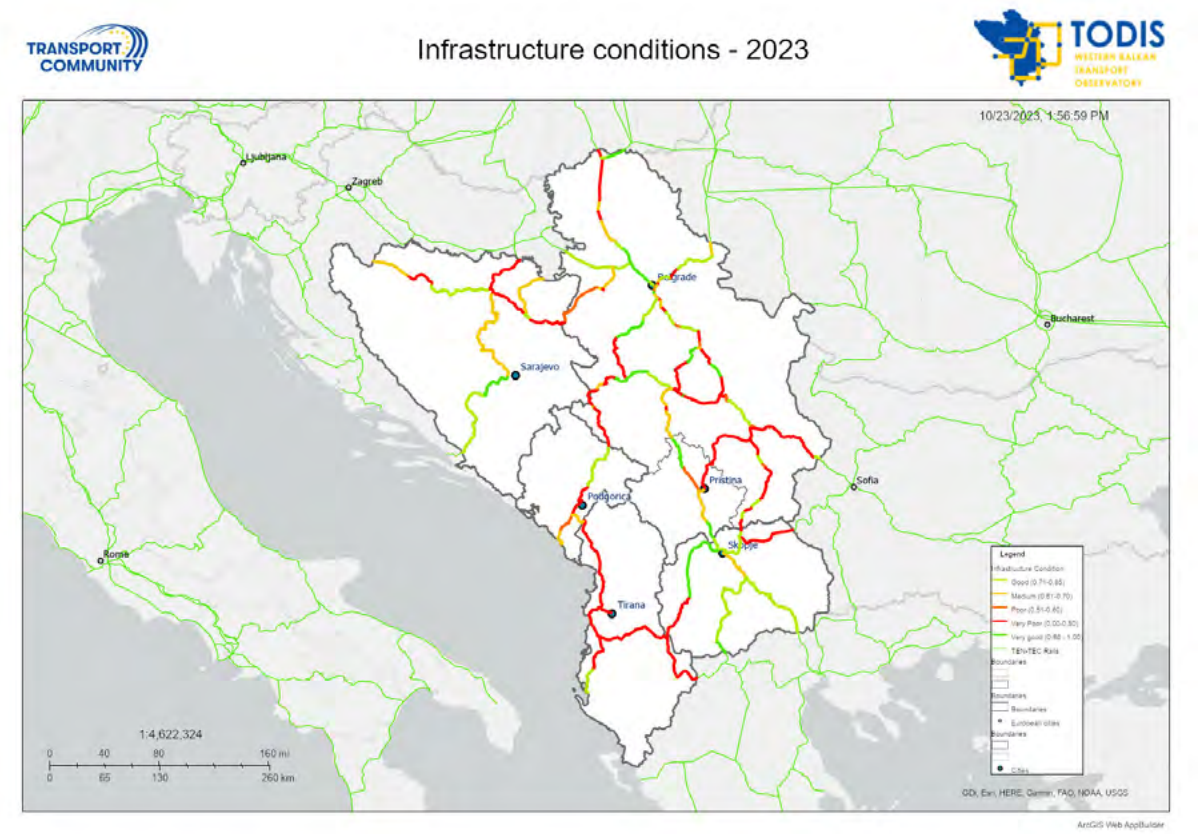
The principal cause of the widespread network deterioration can be attributed to the absence of routine maintenance and condition-based maintenance (CBM). This shortcoming stems from inadequate planning and funding shortages to meet basic maintenance needs in the past. Consequently, instead of merely needing routine maintenance, the rail network now requires substantial reconstruction efforts, which will inevitably lead to more severe disruptions in traffic in the future.

An optimal solution to address this issue is the implementation of routine condition-based maintenance through multi-annual contracts between the infrastructure manager and relevant authorities, complemented by timely and adequate funding. This approach is part of the Transport Community Rail Action Plan and is not only cost-effective but also more sustainable in the long run, as it prevents the detrimental impact of haphazard maintenance. These consequences include increased funding requirements for reconstruction, indirect losses due to underperformance, traffic disruptions, and safety concerns, which can sometimes multiply the costs associated with routine CBM. Additionally, adhering to EU Technical Specifications for Interoperability and TEN-T standards is vital.

Recognising that railway transport is one of the most environmentally friendly modes of transportation, the transportation industry's future appears to be on the right track. The EU Sustainable and Smart Mobility Strategy and the European Green Deal's primary focus is advancing the rail transport system. Therefore, the South East European Parties should not only follow but also pioneer the path toward a state-of-the-art, interoperable, sustainable, and environmentally friendly transport system by significantly developing their rail infrastructure.

Figure 14.

Railway infrastructure condition map



3.2. Road transport

Art. 17 of the TEN-T Regulation lays down road infrastructure components, while Art. 18 addressed compliance requirements. In short, the TEN-T road network is deemed to incorporate high-quality roads (motorways, express roads or conventional strategic roads) specially designed and built for motor traffic and ensuring adequate safety levels. Furthermore, it is essential to guarantee adherence to the provisions of EU Directives concerning road tunnels, tolling interoperability, and ITS. Besides the general conditions applicable to the Comprehensive Network, the Core Network must comply with the following additional requirements:

- A more rigorous adherence to road profile requirements, mandating that roads on the Core network must either be motorways or express roads. Exceptions to this rule must be explicitly justified and individually granted by the European Commission.
- The establishment of rest areas on motorways at approximately 100-kilometer intervals, enhancing travellers' convenience and safety.
- Availability of alternative fuels.

TEN-T Compliance Indicators

The Road compliance indicators are provided and explained in the table below.

Table 1.

Road compliance indicators

INDICATOR	TEN-T NETWORK	DETAILS
Motorway/express road	Core & Comprehensive	As per the provisions of points (a) and (b) of Art. 17(3) of Regulation No 1315/2013. For Core Network roads to be labelled compliant they should: Be either motorway or express roads (unless and until the EC grants a specific exemption under Art. 39(3) of Regulation No 1315/2013). Be properly maintained (IRI < 2.84). Ensure safe parking approx. every 100 km.
Conventional strategic high-quality roads	Comprehensive	For a TEN-T road that is neither a motorway nor an express road to be considered compliant, it should: Be on the Comprehensive Network. Play an important role in long-distance freight and passenger traffic, integrate main urban and economic centres, interconnect with other transport modes and link mountainous, remote, landlocked and peripheral NUTS 2 regions to central regions. Be adequately maintained to allow safe and secure traffic. Ideally, for a TEN-T road that is neither a motorway nor an express road to be considered compliant, it should have passed through: a feasibility assessment confirming that its current capacity is sufficient to accommodate demand. an upgrading process aimed at ensuring adequate safety-improvement measures and a proper pavement condition (IRI < 2.84).
Availability of alternative fuels	Core	Alternative fuel availability has been measured against the provisions of Directive 2014/94/EU and indicators currently used by the EC for assessing EU Member States' compliance in this regard.
ITS compliance	Core & Comprehensive	Under the provisions of Art. 18(e) of Regulation No 1315/2016, any intelligent transport systemdeployed by a public authority on road transport infrastructure should comply with Directive 2010/40/EU and be deployed in a manner consistent with delegated acts adopted under that Directive.
Tolling interoperability	Core & Comprehensive	Where applicable, the interoperability of toll collection systems should be ensured in accordance with Directive 2004/52/EC and Commission Decision No 2009/750/EC.
Safety compliance	Core & Comprehensive	The safety of TEN-T roads should be assured,monitored and, when necessary, improved in accordance with the procedure provided by Directive 2008/96/EC.
Road tunnelscompliance	Core & Comprehensive	Road tunnels over 500 m in length should comply with the provisions of Directive 2004/54/EC.

Primary infrastructure characteristics and layout

As per Regulation No 1315/2013 provisions, the TEN-T comprises a dual-layer structure consisting of the Comprehensive and Core Networks, the latter defined as being part of the Comprehensive Network.

Currently, the total length of the TEN-T road network in the Western Balkans is **5,205.12 km**, of which **3,511.32 km** are on the Core Network. Differences from last year's report stem mainly from minor alignment adjustments carried out further to the commissioning of certain TEN-T projects and reliance on consolidated TODIS data.

The network's current general layout is depicted below.

Figure 15.

Map of the TEN-T Extension of Core and Comprehensive Road Network to Western Balkans

TEN-T Core Network Compliance

The TEN-T Core Network incorporates those parts having the highest strategic importance for the Comprehensive Network. Its current length is **3,511.32 km**, of which:

- **1,643,24 km** are motorways;
- **241.15 km** are express roads;
- **1,626.92 km** are conventional roads.

The TEN-T Core Network compliance assessment is based on the above-listed criteria, namely the infrastructure profile and condition and the availability of alternative fuels.

Overall compliance with ITS, e-tolling and safety directives has not been quantified numerically, a pre-condition in this regard being the implementation of structural/institutional reforms mainly addressed under the dedicated Action Plans rolled out by the Transport Community Permanent Secretariat.

Details of Core network compliance against each relevant criterion are provided below.

A. INFRASTRUCTURE PROFILE AND CONDITION

Under the provisions of Art. 39(2)(c) of Regulation No 1315/2013, roads on the TEN-T Core Network should be either a motorway or an express road and include safe and secure parking areas approximately every 100 km.

Under certain conditions outlined exhaustively in Art. 39(3), and at the request of an interested party, the European Commission may grant exemptions from the motorway/express road criterion for conventional roads if they are deemed to meet appropriate safety standards. However, no such exemption has been requested or granted in the region. Therefore, the compliance assessment of the Core Network has been based solely on the motorway/express road criterion, labelling conventional road sections within the TEN-T Core as non-compliant.

A comprehensive evaluation of safe and secure parking facilities across the TEN-T Network in the region is yet to be conducted. The significance of this issue extends beyond a mere infrastructure compliance criterion and was raised by industry stakeholders during the second Transport Community Social Forum held in Sarajevo in May 2022. Consequently, in 2024, TCT will conduct a region-wide assessment of the existing inventory and demand needs to develop safe and secure parking facilities.

While acknowledging that the region lacks sufficient EU-standard safe and secure parking areas, this report assumes that all road sections built to motorway/express road profile meet this criterion. This assumption will be corrected in future, subject to additional data and a consistent ranking methodology becoming available.

In summary, within the framework of the current analysis, Core Network roads are considered compliant with the infrastructure profile and condition criteria if they satisfy the following cumulative conditions:

- Possess a motorway/express road profile.
- Undergo proper maintenance to maintain very good or good road surface condition status, ensuring smooth traffic flow and safety.

Road condition has been rated under 5 distinct categories, using the International Roughness Index (IRI), as follows:

- very good (IRI < 1.24);
- good (IRI 1.24 - 2.84);
- medium (IRI 2.84 - 5.09);
- poor (IRI 5.09 - 8.94);
- very poor (IRI > 8.94).

The same methodology was employed in the report's previous editions, allowing comparability of the outcomes despite the differences in base data resulting from the use of TODIS.

The outcomes of the compliance assessment exercise are given in the charts below, highlighting progress made since the start of the reporting exercise.

Figure 16.
Core Network Road Profile 2021 - 2023

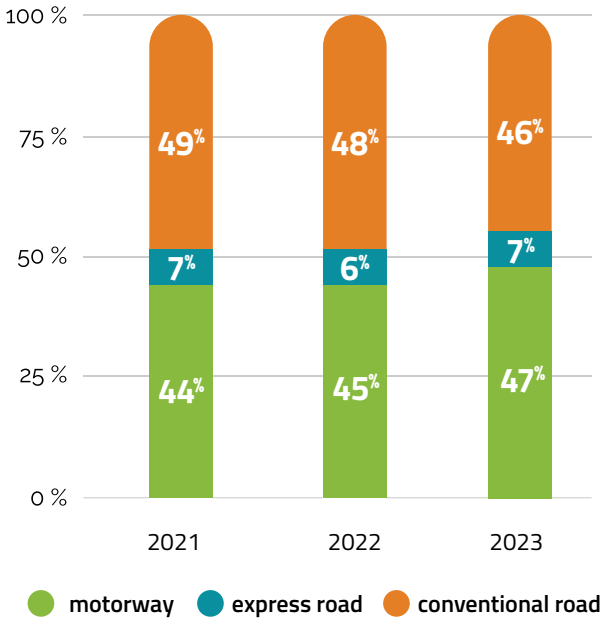


Figure 17.
Core Network Road Condition 2021 – 2023

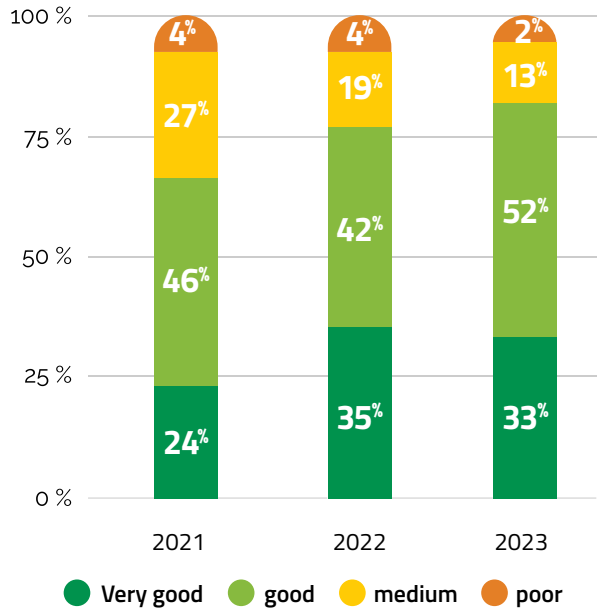


Figure 18.

Core Network Road conditions per each road category 2021 – 2023

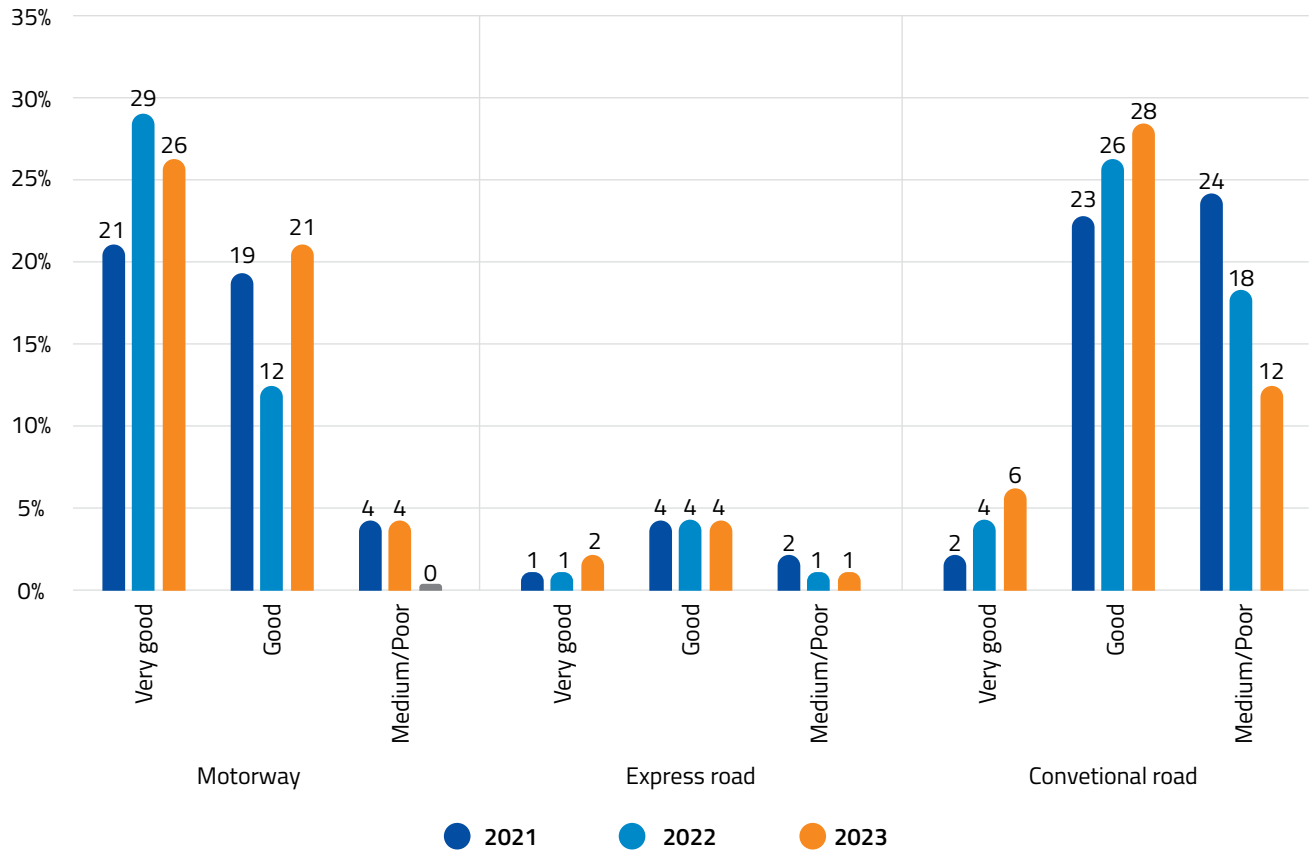
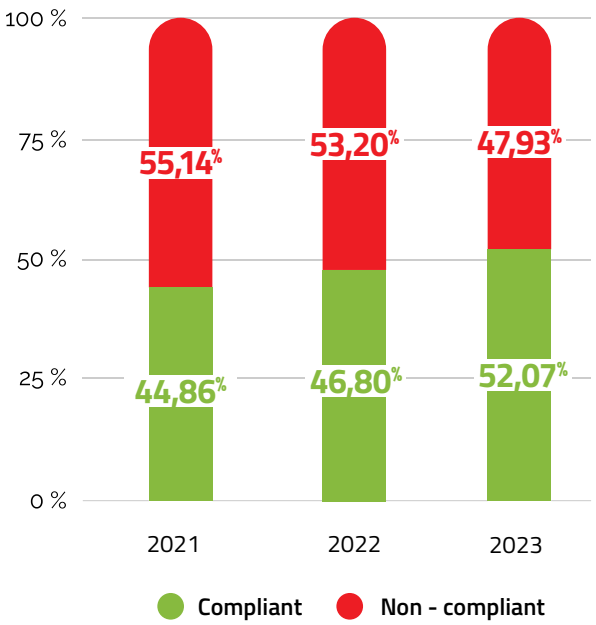


Figure 19.

Figure 19. Core Network Compliance rate 2021 - 2023



There has been progress across all key indicators compared to last year's report. The following differences are noteworthy:

- The share of motorways/express roads in the Core Network has continued to rise, increasing from 50.95% (2021) and 51.89% (2022) to its current level of 53.67%;
  This means that more than 30 km of new high-speed roads went into operation in one year (2 sections of Corridor Vc in Bosnia and Herzegovina and sections of motorway in Serbia, including Sector B of the Belgrade Bypass and the first section of the "Peace Motorway"), facilitating traffic flow and safer conditions in the region.

- The percentage of roads in very good and good condition has reached 85.21%, compared with 77.04% in 2022 and 69.48% in last year's report;
  Consequently, no less than 2,992 km of Core Network roads are now reported to be in satisfactory condition, compared to 2,753 km in 2022 and 2,460 km in the year before. This increase is only due in part to the finalisation of the projects list-

ed above but also reflects improvements in regular maintenance and significant adjustments/ corrections to the basic data reported by the regional partners in the TODIS framework;

- From 44.86% in 2021, the overall compliance rate has increased almost 6 points year-on-year from 46.80% in 2022 to no less than 52.07% in 2023. The total length of compliant road sections on the Core Network now stands at 1,828.19 km. In contrast to the previous year, most of the progress stems from improvements in the condition of existing motorway and express road sections. The gap between roads meeting the infrastructure profile criterion (1,884.39 km of motorways and express roads) and the currently compliant network (1,828.19 km, as mentioned above) was reduced by almost 200 km last year to less than 60 km in 2023.

B. ALTERNATIVE FUEL AVAILABILITY

Alternative fuel availability is explicitly required under Art. 39(2)(c) of Regulation No 1315/2013 as a condition for TEN-T Road Core Network compliance. Art. 3(w) further defines *"alternative clean fuels"* as *"electricity, hydrogen, biofuels (liquids), synthetic fuels, methane (natural gas (CNG and LNG) and biomethane) and liquefied petroleum gas (LPG) which serve, at least partly, as a substitute for fossil oil sources in the supply of energy to transport, contribute to its decarbonisation and enhance the environmental performance of the transport sector."*

Availability has been so far assessed against the provisions of Directive 2014/94/EU on the deployment of an alternative fuels infrastructure and the monitoring tools further developed by the EU in this regard. It is worth pointing out that none of the regional partners have adopted Directive 2014/94/EU. Whereas the Council has recently adopted the new Alternative Fuels Regulation, institutional progress going forward will be benchmarked against the milestones laid down therein. Following the entry into force of the new Regulation and the planned changes to the TCT reporting procedures and tools, the effective compliance rate of the TEN-T Core Road Network in the region shall be calculated starting with next year's report.

It is worth noting, however, that the alternative fuels network in the Western Balkans is in its infancy. The majority of existing refuelling stations have been established on the back of private initiatives. These stations are primarily situated in the region's major cities, reflecting current market demand. However, their presence on the TEN-T Network is minimal, primarily due to the region's limited adoption of alternative fuel vehicles.

Table 2.

Overview of the total number of stations available for each regional partner

REGIONAL PARTNER	NO. OF ALTERNATIVE FUEL STATIONS[1]			
	Electricity[2]	CNG	LNG	Hydrogen
Albania	60	-	-	-
Bosnia and Herzegovina	93	3	-	-
North Macedonia	59	6	-	-
Kosovo	13	-	-	-
Montenegro	49	-	-	-
Serbia	85	30	1	-
Western Balkans	359	39	1	-

1 *Home | EAFO, Open Charge Map - The global public registry of electric vehicle charging locations, NGVA Europe | Stations map - NGVA Europe, HRS Availability Map (h2-map.eu)*

2 *CONNECTA Final Report, August 2023: Strategic Framework for deployment of e-charging Infrastructure in the Western Balkans*

Among the facilities listed above, only a few are actually located on the TEN-T road network, with Electric Vehicle Charging Stations (EVCS) accounting for most and displaying the highest growth rate.

The rollout of EVCS on the TEN-T road network in the region remains sporadic among the regional partners, but encouraging progress has been made since last year's reporting. Serbia has taken the lead with 19 operational EVCS on its TEN-T motorways and has plans for further expansion. Bosnia and Herzegovina now has 5 EVCS on the TEN-T, Kosovo has 1, and North Macedonia has 2. No EVCS have yet been installed along the TEN-T road network in Albania and Montenegro, despite there have been progresses in EVCs deployment in urban areas as shown in the table above.

The density of Electric Vehicle Charging Stations (EVCS) relative to the overall length of paved roads (including TEN-T roads) varies among the Regional Partners. The range spans from 0.15 EVCS per 100 km in Kosovo to 0.69 EVCS per 100 km in Montenegro. It is worth noting that the reported density is relatively low compared to EU Member States, where the average is 6.5 EVCS per 100 km. However, it is crucial to take into account that the region currently has a very low penetration of Electric Vehicles (EV), therefore, there are no immediate concerns regarding EV charging infrastructure capacity.

Despite recent progress in this area, the region's overall compliance remains relatively low when considering the cumulative application of sufficiency requirements for all mandatory alternative fuels. With the forthcoming Regulation (part of the Fit for 55 initiative and package), which lays down heightened ambitions and more stringent requirements in this regard, the region's overall compliance rate vis-à-vis this criterion is anticipated to slide further. Consequently, it is imperative to roll out new policy initiatives and well-targeted interventions to align the region's Core Network more closely with the TEN-T requirements and standards.

TEN-T Comprehensive Network Compliance

The total length of the TEN-T Road Comprehensive network (outside the TEN-T Core) is **1,693.79 km**, of which:

- **115.76 km** of motorways;
- **115.52 km** of express roads;
- **1,462.51 km** of conventional roads.

The conformity assessment with the TEN-T Comprehensive Network primarily focused on the infrastructure profile and condition criterion. Compliance with Intelligent Transport Systems (ITS), tolling, and safety directives was evaluated through a horizontal approach. Further details are provided below.

A. INFRASTRUCTURE PROFILE AND CONDITIONS

As provided under Article 18 of Regulation No 1315/2013, TEN-T roads should be motorways, express roads, or conventional strategic roads. Conventional strategic roads are further defined under Art. 17(3)(c) as roads that are neither motorways nor express roads but still:

a. play an important role in long-distance freight and passenger traffic;
b. integrate the main urban and economic centers;
c. interconnect with other transport modes;
d. link mountainous, remote, landlocked and peripheral NUTS 2 regions to central regions of the Union.

Such roads should be *"adequately maintained to allow safe and secure traffic"*.

Compliance with TEN-T standards for motorways and express roads within the Comprehensive Network was evaluated based on the current state of the infrastructure, mirroring the approach used for the Core Network. A similar methodology was applied to assess Comprehensive Network conventional roads, recognizing that the region does not currently conduct systematic safety assessments in accordance with the provisions of Directive 2008/96/EC.

For the purposes of this report, it was assumed that a conventional road in very good or good condition automatically meets the safety requirements. However, it is acknowledged that this assumption does not always hold true. Progress in transposing road safety legislation by regional partners and systematic performance of road safety inspections on the TEN-T Network will likely provide sufficient input for a revised methodological approach in future reports.

The methodology employed for the 2023 report closely aligns with the approach used in previous years. While it is acknowledged that the transition to the new TODIS baseline data introduces inherent limitations in this regard, the consistent methodologic approach still facilitates meaningful comparisons between the findings of this report and those of its predecessors.

The results of this analysis are given in the charts below, highlighting the changes that have occurred since last year.

Figure 20.

Comprehensive Road Network Profile 2021 - 2023

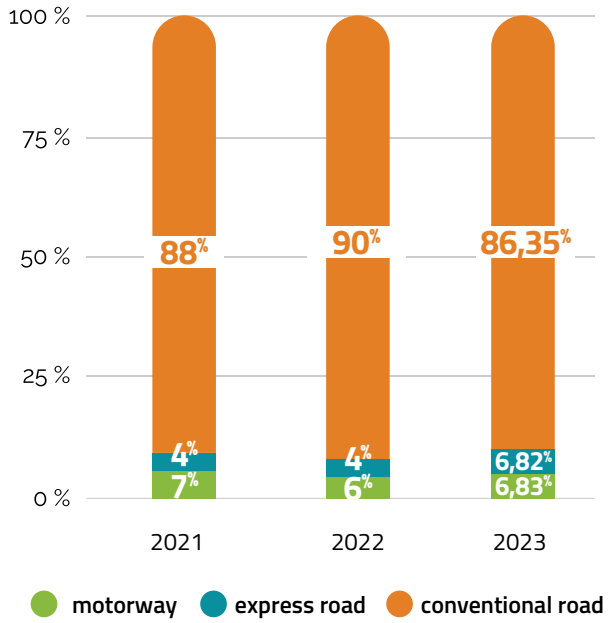


Figure 21.

Comprehensive Road Network Condition 2021 - 2023

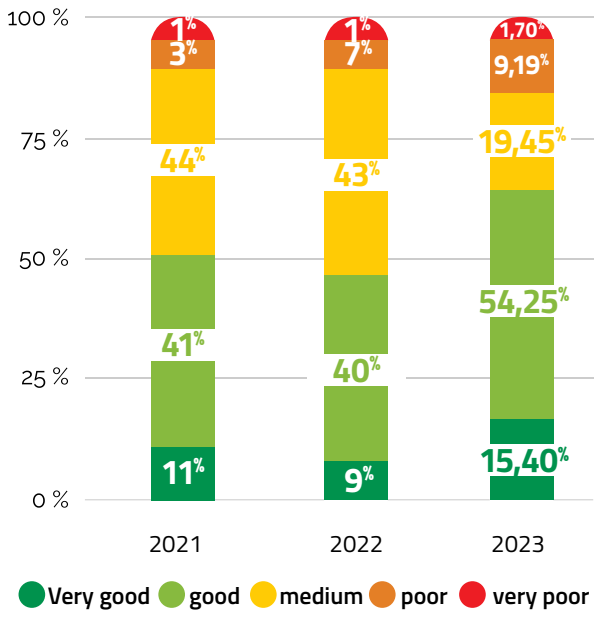


Figure 22.

Comprehensive Road Network conditions per each road category 2021 - 2023

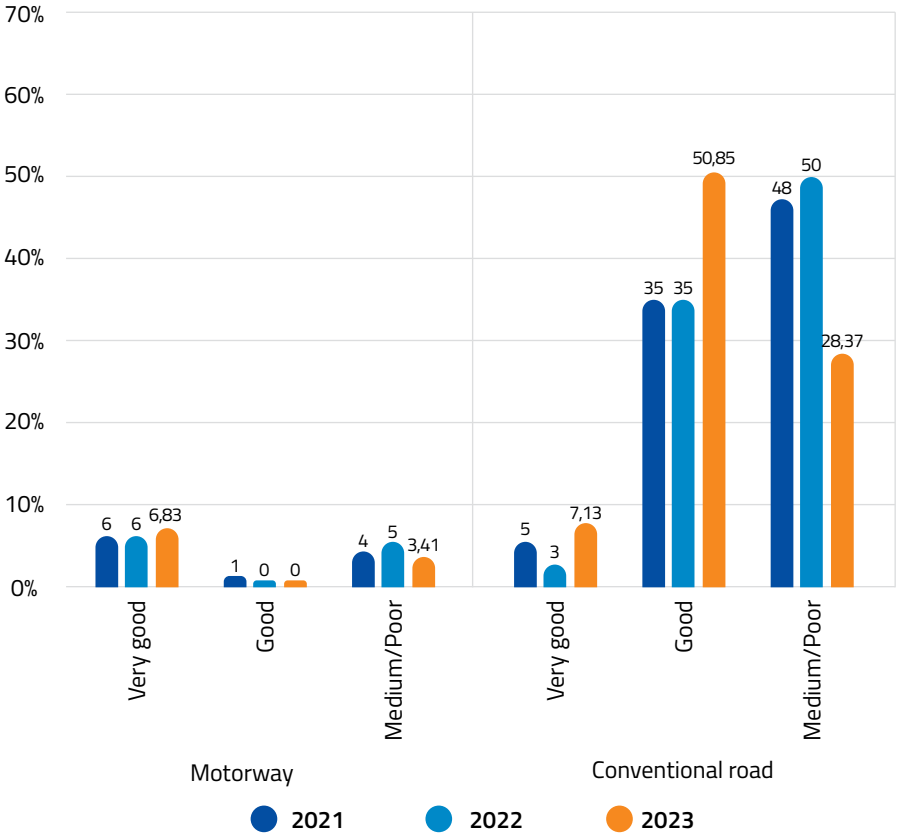
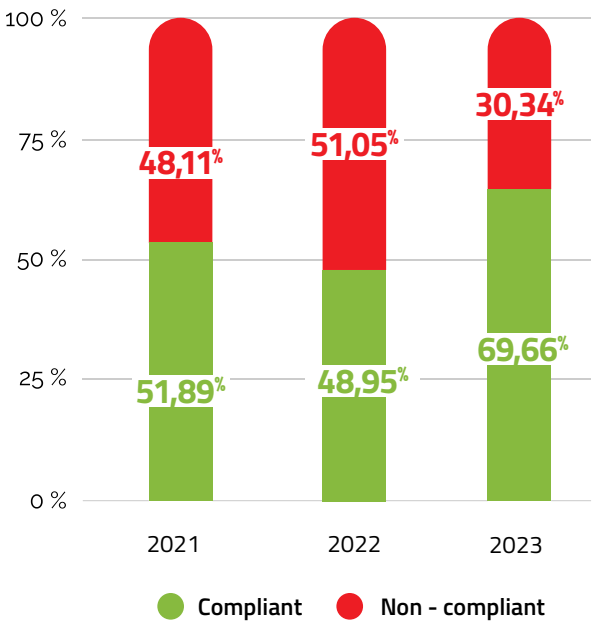


Figure 23.

Comprehensive Road Network Compliance (profile and condition) 2021 - 2023



The following differences from last year's report on the progress of road network development are noteworthy:

- there has been some progress in upgrading the Comprehensive Network to motorway/express road standards;
  The total length of motorways/express roads on the Comprehensive Network has reached 230 km, slightly surpassing last year's figure of 220 km. High-speed roads account for approximately 13.6% of the total network length of 1,693.79 km. The minor differences since last year can be attributed to upgrades of some short sections and the revised/updated data collected under the TODIS framework. While there are some ongoing projects on the Comprehensive Network to improve the infrastructure profile (such as Pojate – Preljina and Novi Sad – Ruma in Serbia, Banja Luka – Prijedor and Orsaje – Tuzla in Bosnia and Herzegovina), the focus remains on the Core Network, and, against that background, no significant improvements are expected in the near future.
- In contrast to last year's findings, the overall road surface quality appears to have significantly improved.
  The share of roads in very good condition increased from 9.35% to 15.40% in 2023, with 54.25% now reported to be in good condition, compared with 39.60% last year. Roads in poor condition now account for 9.19% of the network, up slightly from the 6.50% reported last year.
- Consequently, the overall compliance rate of the Comprehensive Network has risen from 48.95% to 69.66%, as illustrated in the above graph.
  Considering that, according to the current methodology, Comprehensive Network compliance primarily depends on road condition, the increase is a logical result of the reported improvements. Although the reversal in the trend appears significant, it is advisable to approach the figures with caution, as they most likely do not mirror extraordinary improvements on the ground but rather stem from the new baseline data collected within the TODIS framework.

B. ITS DEPLOYMENT

The rollout of the Road Action Plan has led to significant momentum in ITS-related measures, resulting in notable progress during the reporting period. All regional partners have now developed ITS strategies, with North Macedonia taking additional steps towards adoption at government adoption. Progress has also been made in deploying ITS on a project basis, along with establishing Traffic Control Centers in Albania, Serbia, and North Macedonia. It is worth noting that projects financed by International Financial Institutions (IFIs) ensure compliance with the ITS Directive during the design phase.

The number of Traffic Control Centres in the region is growing, with Bosnia and Herzegovina operating 3 centres and Montenegro 1 for tunnel only. Serbia is currently constructing 2 Traffic Management Centres (Belgrade and Niš) and Albania is progressing the deployment of ITS on 200 km of the Core Network and the Traffic Control Centre. In North Macedonia, the selection of the area for deploying a National Traffic Control Center is underway.

Deployment of ITS on the indicative extension of the Core and Comprehensive Road Network to the Western Balkans is as per the table below:

Table 3.

Deployment of ITS in Regional Partners

REGIONAL PARTNERS	ITS DEPLOYED	
	Length (km)	Traffic Control Center
Albania	200	Under development
Bosnia and Herzegovina	224.3	Yes
North Macedonia	-	Yes (motorway tunnels only)
Kosovo	-	No
Montenegro	40.8	Yes
Serbia	944.56	Under development

C. TOLLING INTEROPERABILITY

Tolling interoperability is only relevant for regional partners that have adopted this user charging method. This is the case in Bosnia and Herzegovina, North Macedonia and Serbia, where the entire motorway network is tolled. Montenegro and Albania introduced tolling on some sections, while Kosovo is still assessing toll introduction.

The toll systems already in place, whilst different, are all distance-based and potentially interoperable. Four regional partners have already introduced electronic distance-based tolling (see Table 5 below).

Table 4.

Overview of tolling systems operated by regional partners

REGIONAL PARTNERS	TOLLING SYSTEM CHARACTERISTICS		
	Length (km)	Tolling system in place	Managing Authority
Albania	120	Distance-based/DSRC 5.8 GHz Toll plazas, cash, card	Private 30-year concession contract
Bosnia and Herzegovina	217	Distance-based/DSRC 5.8 GHz Toll plazas, cash, card and e-tolling(ACC tag)	Autoceste BiH/Autoputevi RS
North Macedonia	242	Distance-based/DSRC 5.8 GHz Toll plazas, cash, card and e-tolling(ACC tag and smart card payment)	Public Enterprise for StateRoads (PESR)
Kosovo	-	-	-
Montenegro	Sozina tunnel (5km)	Tunnel toll Toll plaza, cash, card, e-tolling(smart card system)	Monteput.o.o (state-owned)
Serbia	830	Distance-based/DSRC 5.8 GHz Toll plazas, cash, card and e-tolling(ACC tag)	Public Enterprise Roads ofSerbia (PESR)

As of 1 July, electronic toll collection interoperability between Serbia and North Macedonia went live using a single tag device. Similarly, since 19 June, e-tolling interoperability between the two motorway operators has been successfully implemented in Bosnia and Herzegovina.

Transport Community's technical assistance project for the baseline and financial assessment and producing a roadmap for achieving tolling interoperability has been successfully concluded, paving the way for more tangible action and progress in the near future.

Overall compliance assessment

Conclusions on each compliance criterion are given below.

A. INFRASTRUCTURE PROFILE AND CONDITION

Overall information on the TEN-T Road Network infrastructure profile and condition is given in the following charts:

Figure 24.

TEN-T Road Network Infrastructure Condition 2021 - 2023

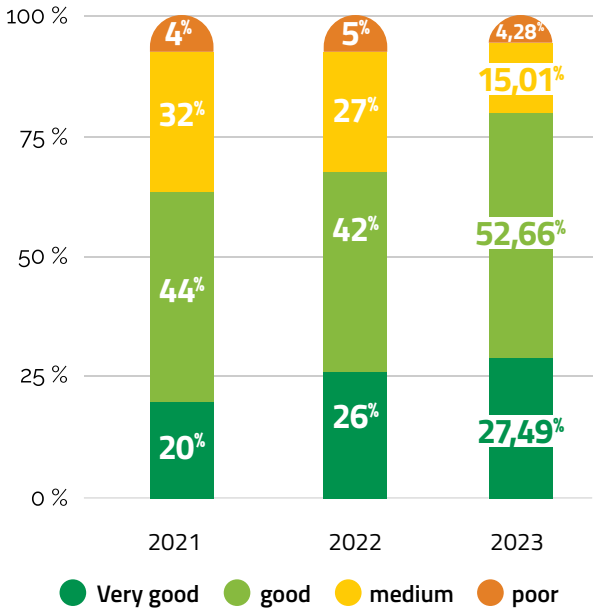


Figure 25.

Road network condition map

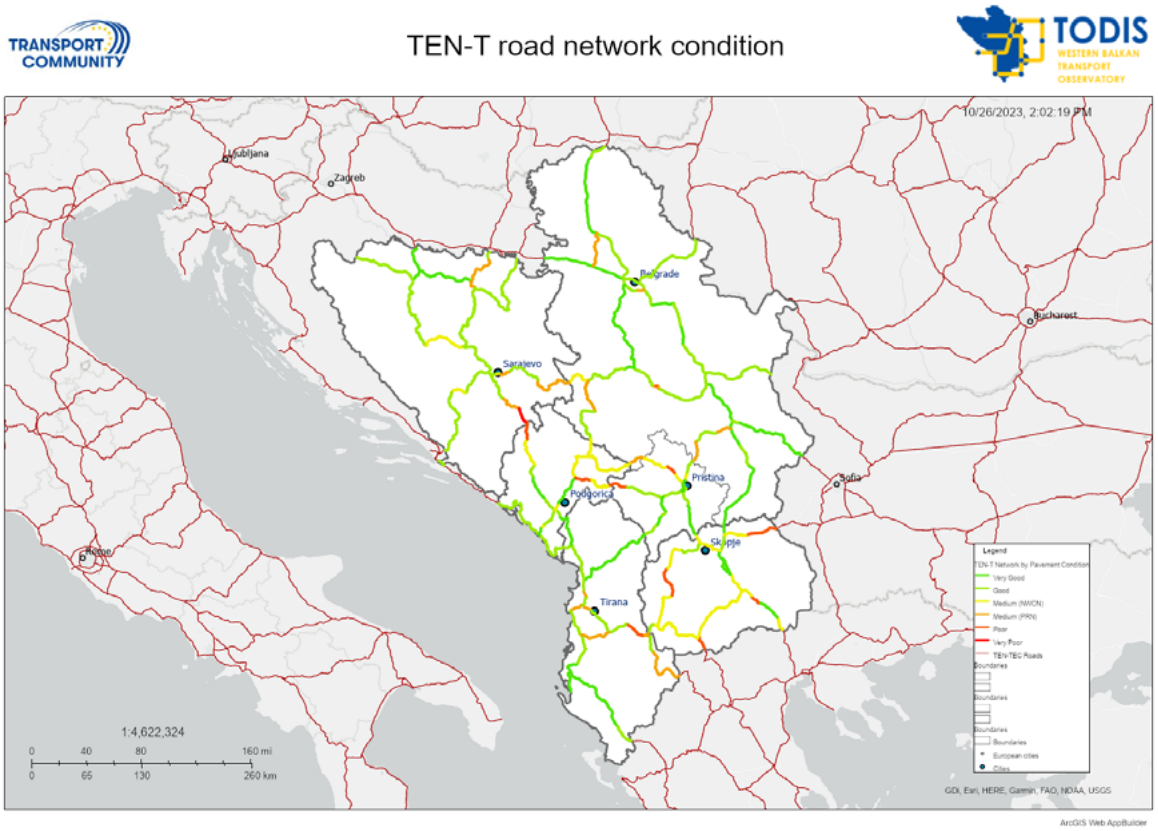


Figure 26.

TEN-T Road Network Infrastructure Profile 2022 – 2023

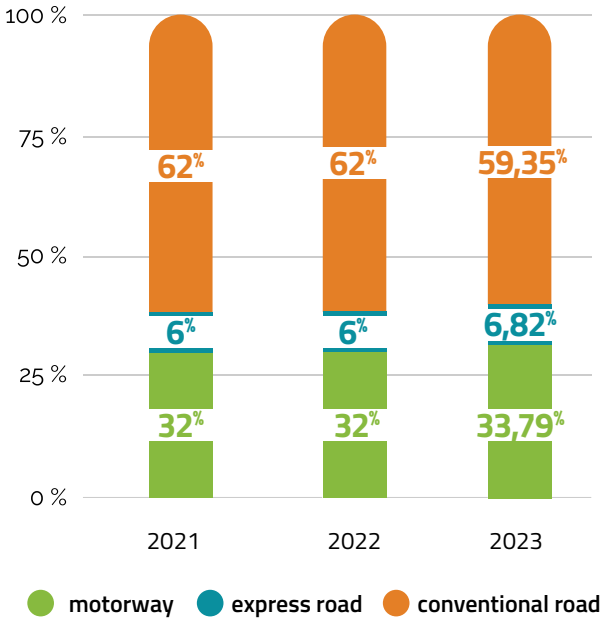


Figure 27.

Road infrastructure profile map

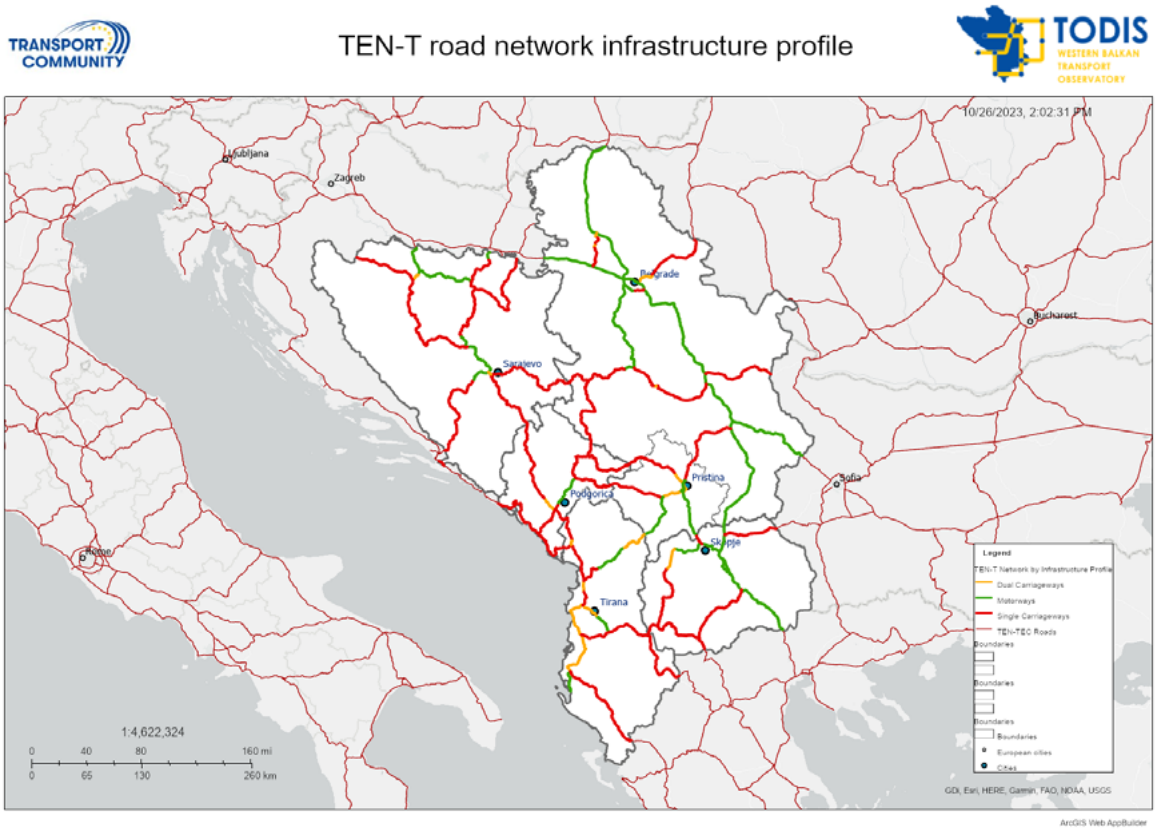


Figure 28.

TEN-T Road Network conditions per each road category 2022 vs 2023

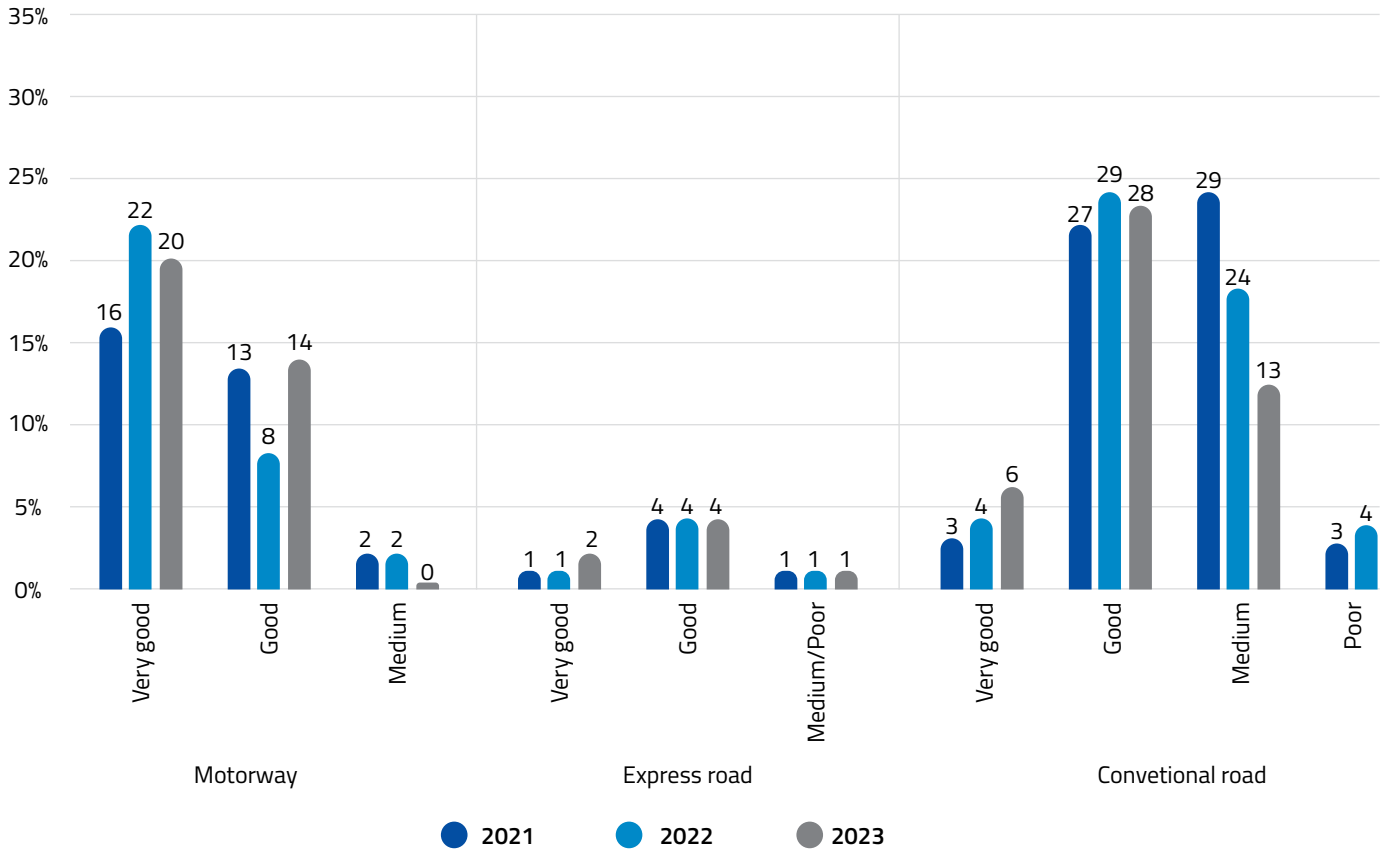


Figure 29.

Core and Comprehensive Compliance Rate (infrastructure and profile) 2021 - 2023

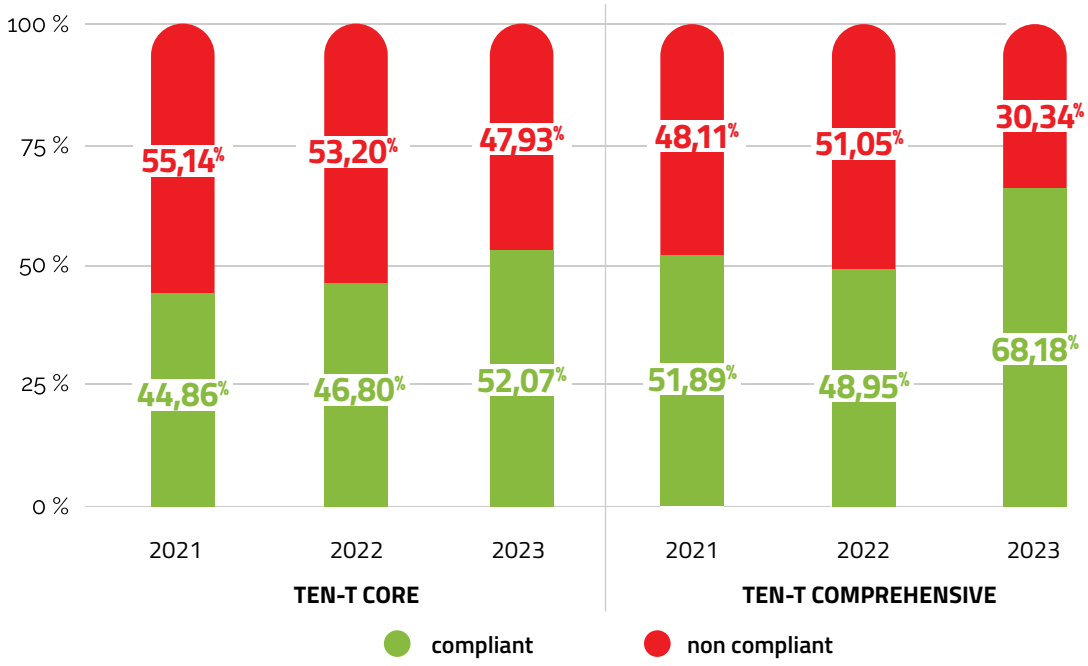
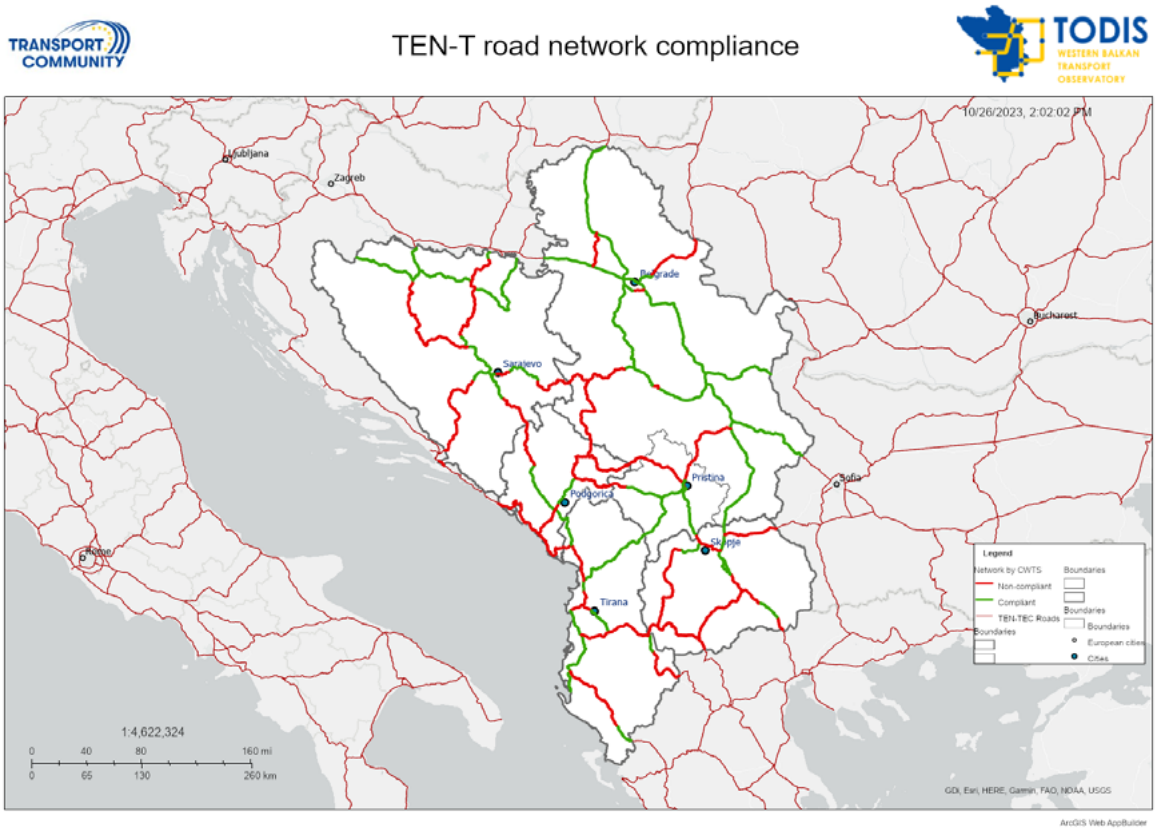


Figure 30.
Road network compliance map



TEN-T compliance in the road sector has increased substantially on both the Core and the Comprehensive Network. This might be reflecting, to some extent, improved maintenance practices, but such a conclusion should be taken with caution, whereas baseline data has been significantly revised in the TODIS framework. It should also be noted that not all regional partners conduct annual road surface quality surveys, meaning that annual TEN-T Reports might not provide real-time updates on changes on the ground.

B. ALTERNATIVE FUELS

Given that overall compliance is almost currently non-existant, significant efforts will be necessary to ensure the adequate deployment of alternative fuel infrastructure in the region. These efforts are outlined in the Road Action Plan, which sets clear deadlines and deliverables. Albania and Serbia have taken top-down initiatives to deploy EVCS on their networks, and the initial results are beginning to emerge (for the moment, in Serbia only). Additionally, action has been taken at a horizontal level through the CONNECTA Technical Assistance Programme, which aims to establish a strategic framework for deploying electric chargers in the Western Balkans.

Progress in this regard will continue to be monitored, and it is hoped that certain sections of the network will soon achieve compliance with alternative fuel-sufficiency requirements.

C. ITS, E-TOLLING, SAFETY AND TUNNELS COMPLIANCE

Regulation No 1315/2013 does not set specific targets for the deployment of Intelligent Transport Systems (ITS) and tolling on the TEN-T network but requires these systems, where available, to be interoperable and compatible with each other, as outlined in Directives 2010/40/EU and 2004/52/EC. ITS in the region is rolled out on a project-by-project basis, with compliance to the specifications of Directive 2010/40/EU addressed at that level. However, adopting ITS Strategies/Action Plans and fully transposing the relevant EU Directive will provide a more systematic approach and ensure long-term compliance with TEN-T standards.

Regarding road safety, overall compliance with Directive 2008/96/EC is mandated by Article 18(b) of Reg-

ulation No 1315/2013, a target that has yet to be met in the region. Achieving this compliance requires the complete transposition of the Directive and the establishment of the institutional framework it outlines. This ongoing, long-term process is currently being implemented through the Road Safety Action Plan overseen by the Transport Community Permanent Secretariat.

Compliance with Directive 2004/54/EC is mandatory for tunnels longer than 500 meters, as set down in Article 18(c) of Regulation No 1315/2013. For tunnels at various stages of design or preparation, compliance is addressed on a project-specific basis. In cases where tunnels are already in operation, the adoption of risk-reduction measures has been accepted as an alternative to implementing Directive requirements when structural solutions are not cost-effective. Hazard-reduction measures should be deployed as part of an institutional framework the region has yet to adopt. Achieving full compliance with TEN-T standards in this regard will necessitate long-term legislative and institutional measures under a different framework.

3.3 Waterborne transport

The legal framework for developing the Indicative Extension of the TEN-T Core and Comprehensive Network regarding inland waterways and ports is contained in Regulation (EU) No 1315/2013 in conjunction with Commission Delegated Regulation (EU) No 2016/758 amending Regulation (EU) No 1315/2013[3].

Inland waterway and Maritime Compliance indicators

The compliance indicators for inland waterways, inland and maritime ports are derived from TEN-T Regulation No 1315/2013 where they are listed as infrastructure requirements. The list of scrutinised indicators remains unchanged from the previous reports for the Comprehensive inland waterways network in the Western Balkans, namely:

- CEMT requirements for class IV including:
  - Minimum draft 2.5 m
  - Minimum height under bridges 5.25 m.
- Connection with the road infrastructure;
- Connection with the rail infrastructure;
- Availability of at least one freight terminal open to all operators in a non-discriminatory way and shall apply transparent charges.
- RIS availability/implementation.

Compliance indicators for Core inland waterway ports in the Western Balkans:

The infrastructure of the core Inland waterway network shall meet all the requirements set out for a comprehensive inland waterways network. In addition, the following requirements shall be met by the infrastructure of the core network:

- Availability of alternative clean fuels.

Compliance indicators for Core and Comprehensive maritime ports:

- Connection with railway lines or roads and, where possible with inland waterways,
- Availability of at least one freight terminal open to all operators in a non- discriminatory way and application of transparent charges.
- Provide Port Reception Facilities for ship-generated wastes and cargo residues
- Uses of telematic applications (VTMIS and e-Maritime services)

The core maritime transport infrastructure shall meet all the requirements set out for comprehensive maritime transport. In addition, the following requirements shall be met by the infrastructure of the core network:

- Availability of alternative clean fuels.

Primary infrastructure characteristics of ports

As per the Indicative Extension to the Western Balkans Region, the Core Network includes stretches of the Danube and Sava rivers in Serbia and stretches of the River Sava in Bosnia and Herzegovina. Additionally, a portion of the River Tisa in Serbia is considered part of the Core inland waterway. In the Western Balkans, Core inland waterway ports are situated in Novi Sad and Belgrade in Serbia, as well as in Brčko and Bosanski Samac in Bosnia and Herzegovina.

Regarding maritime transport, the extended TEN-T Network encompasses the ports of Bar in Montenegro and Durres in Albania, both categorised as Core Network ports. The sole comprehensive maritime port within the extended TEN-T Network is located in Vlore, in the southern region of Albania.

3 *COMMISSION DELEGATED REGULATION (EU) 2016/758 of 4 February 2016 amending Regulation (EU) No 1315/2013 of the European Parliament and of the Council as regards adapting Annex III thereto*

Figure 31.

Indicative extension of the TEN-T Comprehensive and Core Inland Waterways and Ports to the Western Balkan Region

TEN-T Core Network Compliance

Compliance assessment for each indicator:

Table 5.

Compliance assessment for Core inland ports – status in 2023

PORT NAME	Rail connection	Road connection	CEMT Requirements	Clean fuels availability	Terminal availability
Belgrade	YES	YES	YES	NO	YES
Novi Sad	YES	YES	YES	NO	YES
Brčko	YES	YES	YES	NO	YES
Bosanski Samac	YES	YES	YES	NO	YES

Source: Transport Community Permanent Secretariat, based on direct inquiry to regional partners and ports

Based on data received from regional partners, as of 2023, the Core inland waterway ports within the extended TEN-T network in the Western Balkans continue to meet all requirements except for clean fuel availability. There have been no changes since the 2021 and 2022 conclusions.

Serbia is currently contemplating rolling out small-scale pilot projects for alternative fuels in inland waterways. These projects are based on the results of studies but are not directly connected to the Core Network Ports of Belgrade and Novi Sad. Progress with these initiatives will be monitored in forthcoming reports.

Several ports located along the Danube and Sava rivers in Serbia show promising potential to attain Core or Comprehensive port status within the ongoing TEN-T revision process, as the traffic data is above the minimum thresholds imposed by the Regulation. Specifically, the Port of Pancevo situated on the River Danube fulfils the criteria for inclusion in the Core Network, while the Port of Smederevo, Prahovo on the River Danube, and the Port of Sremska Mitrovica on the River Sava are candidates for inclusion in the Comprehensive TEN-T extension Network.

All ports have maintained compliance with the requirements related to terminal availability, as well as rail, road, and CEMT connections.

In October 2023, the Transport Community Permanent Secretariat hosted a workshop on "Enhancing Infrastructure and Exploring Prospects for Enhancing Navigation along the Sava and Danube Rivers". The workshop garnered significant attention and participation from international and regional organisations specializing in inland waterways, International Financial Institutions (IFI), and the largest ports along the Danube and Sava rivers. This initiative facilitated a comprehensive assessment of the existing state of inland waterway infrastructure in the region, fostering engaging dialogue with stakeholders regarding potential investments to enhance navigation along the Sava and Danube rivers and extend the network.

Table 6.

Compliance assessment for inland waterways - status in 2023

River	Network section	Western Balkans regional partner code	TEN-T (Core/Comprehensive) Network	Section length	CEMT Class IV	Draught > 2.5m	Bridge height	RIS
Danube	km 1433.1-1295.0	Serbia Croatia -	Core	138.1 km	VIc	2.5 m	8.63 m - > 9.15	Y
Danube	km 1295.0-1075.0	Serbia	Core	220 km	VIc-VII	2.5-3.5 m	8.44 - > 9.15	Y
Danube	km 1075.0-845.5	Serbia- Romania	Core	229.5 km	VII	3.5 m	> 9.15	Y
Sava	km 210.8-178.0	Serbia- Bosnia and Herzego vina	Core	32.8 km	IV	< 2.5 m	6.46 - > 7.0	Y
Sava	km178.0-0.0	Serbia	Core	178 km	IV	2.5 m	6.46 - > 7.0	Y
Tisa	km 164.0-0.0	Serbia	Comprehensive	164.0 km	IV	2.5 m	> 7.60	N

Source: Transport Community Permanent Secretariat, based on direct inquiries to regional partners

As indicated in the table, in 2023, the inland ports of the extended TEN-T Network have successfully met most of the compliance indicators. This positive outcome bodes well for ensuring long-term compliance and achieving the 2030 deadline for completing the core network. However, two indicators remain unfulfilled:

- The draught on the River Sava at network section km 210.8 - 178.0, specifically at the Serbia-Bosnia and Herzegovina border, is less than the required 2.5 meters.
- Compliance with the River Information Services (RIS) on the River Tisa has not yet been achieved, as the RIS deployment has not been completed.

It should be mentioned that due to low precipitation especially during the summer, the 2.5 m draught was shallower on many sections of the Danube, some of which had to be dredged by the Serbian authorities to enable navigability.

Table 7.

Compliance assessment for Core Maritime Ports – status in 2023

Port name	Rail connection	Road connection	CEMT Connection	Facilities for ship-generated waste	Clean fuel availability	Terminal availability	VTMIS
Durres	Partially	YES	N/A	YES	NO	YES	NO
Bar	YES	YES	N/A	YES	NO	YES	YES

Source: Transport Community Permanent Secretariat, based on direct inquiries to regional partners

As illustrated in the table, the Core Maritime Ports of Bar and Durres have maintained a high level of compliance with most indicators in 2023.

At Durres Port, the non-compliance issue is primarily attributed to limited rail connectivity. Only the eastern port terminal is currently linked to the national rail network. However, it is worth noting that the port benefits from excellent road network connectivity, with direct access to the Tirana-Durres motorway and Corridor X.

In terms of telematic applications, Albania is in the final stages of the tendering procedure for the implementation of the Vessel Traffic Monitoring and Information System (VTMIS). The IBRD is funding the establishment of VTMIS in Albania under the "Western Balkans Trade and Transport Facilitation" project, with implementation planned for 2025. Additionally, the roll-out of the Maritime Single Window in Albania commenced in 2022. This system is designed to electronically manage reporting obligations for ships arriving at and departing from Albanian ports. Its primary aim is to facilitate the efficient exchange of information among declarants, relevant authorities, and port service providers operating at ports in the Republic of Albania.

The Port of Durres is yet to achieve compliance with the clean fuel availability criterion, and no specific projects are currently planned to address this issue. However, Durres Port is compliant in the areas of road connection, reception facilities for ship-generated waste, and terminal availability.

The Port of Bar has achieved compliance with several key indicators, including rail and road connections, reception facilities for ship-generated waste, terminal availability, and the roll-out of the Vessel Traffic Monitoring and Information System (VTMIS). Non-compliance at this port pertains to the availability of alternative clean fuel and the implementation of the Maritime Single Window.

Regarding the establishment of the Maritime National Single Window, Montenegro is in the final phase of setting up the system, with full operability planned for the first quarter of 2024. As regards clean fuel availability, the Port of Bar has conducted a study to explore the feasibility of implementing Onshore Power Supply (OPS) for ships staying at the port for more than two hours. On foot of the study, the Port of Bar is actively seeking financial support to implement the study's recommendations.

Notably, the Transport Community Secretariat is engaged in ongoing activities with Western Balkans Maritime Ports, including Bar and Durres. These activities focus on introducing new technologies and innovations to promote alternative fuels, enhance energy-efficient maritime transport, and modernise and expand the infrastructure capacity necessary for transport operations within the port areas. These efforts align with Regulation (EU) No 1315/2013 of the European Parliament and the Council of 11 December 2013, which outlines guidelines for developing the trans-European transport network.

TEN-T Comprehensive Network Compliance

The Port of Vlore in Albania is the only Comprehensive maritime port in the Western Balkans region. The compliance status of the Port of Vlore with the relevant indicators is provided in the table below.

Table 8.
Compliance for the port of Vlore in 2023

Port name	Rail connection	Road connection	CEMT connection	Clean fuels availability	Facilities for ship-generated waste	Terminal availability	VTMIS
Vlore	No	Yes	N/A	No	Yes	Yes	No

Source: Transport Community Permanent Secretariat, based on direct inquiries to regional partners

The Port of Vlore in 2023 has maintained compliance with several important indicators, including facilities for ship-generated waste, road connection, and terminal availability. However, there are also areas of non-compliance such as Rail Connection and the VTMIS.

The Albanian government has decided to transform the current Port of Vlore into a tourist-oriented port. The port's commercial operations will be relocated to the "Triporti" Vlore port, located approximately 10 kilometres north of the existing port. A contract is in place for the construction of the tourist port, and the passenger terminal will be transferred once the necessary facilities are in place to accommodate passenger operations at the "Triporti" port. This strategic shift in port operations reflects a forward-looking approach to meet the changing demands and purposes of the port infrastructure.

Overall compliance assessment

ALBANIA

Efforts are still required to complete the establishment of the Vessel Traffic Monitoring and Information System (VTMIS) and to set up the legislative framework for telematic applications (VTMIS and MNSW) in Albania. These initiatives remain a top priority for the country going forward.

The introduction of new technologies and innovations to promote alternative fuels and enhance energy-efficient maritime transport, including the use of LNG, along with modernising and expanding the capacity of infrastructure essential for transport operations within port areas, could be achieved by developing the green ports concept. Such an approach would significantly contribute to improving transport sustainability.

There are plans to relocate the Port of Durres to Porto Romano Durres and the Port of Vlora to "Triporti" Vlore once the necessary formalities and construction work are completed. Albania is committed to ensuring adherence to TEN-T requirements throughout these processes.

BOSNIA AND HERZEGOVINA

"Integrated development program of the Sava and Drina River corridor - demining of the right bank of the Sava river"

At the 23rd Meeting of the WBIF Management Board, held on December 15 and 16, 2020, application submitted by Bosnia and Herzegovina in the field of transport was approved, through the Investment Framework for the Western Balkans (WBIF) - Fifth call for co-financing of investments for the project "Integrated Development Program of the Sava and Drina River Corridor - demining of the right bank of the Sava River (grant amount EUR 8,160,000.00, including MFI fee). Notification of Grant award for WB-IG05-BIH-TRA-08 from 19.1.2021

The ports of Brčko and Bosanski Samac have no plans yet to address non-compliance with the alternative fuel availability indicators. Developing ideas and studies for an alternative clean fuel supply facility will be considered through the implementation of the Transport Community Action Plan for Waterborne Transport and Multimodality, valid until 2025. Any future decision on the location of LNG refuelling points at ports should be based on a cost-benefit analysis, including an examination of the environmental benefits and a realistic assessment of demand and the prospects for utilisation of LNG-powered vessels.

MONTENEGRO

The VTMIS is fully operational in Montenegro, reflecting a long-term commitment to efficient maritime traffic monitoring. Meanwhile, implementation of the Maritime National Single Window (MNSW) remains a top priority for the government, indicating its dedication to streamlining administrative processes in maritime trade.

Similar to the situation at the Port of Durres, addressing non-compliance with the availability of clean fuels at the Port of Bar can be considered by embracing the concept of green ports, with a focus on enhancing environmental sustainability. This endeavour will be facilitated by implementing the Action Plan for Waterborne Transport and Multimodality, which is poised to promote cleaner and more sustainable practices within the port and maritime industry.

SERBIA

The Serbian ports of Novi Sad and Belgrade continue to comply with all relevant indicators, except for clean fuel availability.

The deployment of the River Information System (RIS) on the Danube and Sava rivers is fully operational, aligning with the Republic of Serbia's Strategy on Waterborne Transport Development for the period 2015 to 2025.

Implementation of the Vessel Traffic Services (VTS) and Aids to Navigation (AtoNs) remains a high priority for the Government of Serbia. The VTS project commenced in May 2023 and is scheduled for a testing phase in November 2023. The application of AtoNs has also seen progress, with the second phase of the FAIRway works project for AtoNs in the River Sava commencing on July 25, 2023, with completion expected within eight months.

Regarding infrastructure improvements for inland waterway navigation, following the completion of the "Upgrade of Iron Gate I lock" project, which involved replacing mechanical and electrical equipment, the first phase of the "Upgrade of Iron Gate Block II" project began on July 18, 2023. This project aims to upgrade various mechanical, hydraulic, and electrical components and is set to take less than a year to complete.

In the same domain, the "FAIRway II works" project initiated in 2022 focuses on removing bottlenecks at the Serbia-Croatia border. Seventeen critical sectors were identified, and the necessary documentation is being prepared in collaboration with Croatian partners. The project is divided into two phases, with the modelling process set to commence in 2023 and is expected to take one year to complete.

Furthermore, the project focusing on preparing the Sava-Drina Confluence, initiated in 2019, is ongoing. The pre-feasibility study has been completed and will be followed shortly by applications for the necessary permits and licenses.

Lastly, in a bid to upgrade the classification of navigation to CEMT Class V on the River Tisa, there are plans to establish a new environmentally friendly lock. This project is currently in the early phases of document preparation.

3.4. Airports

As with the other transport modes, the legal framework for the development of the Indicative Extension of TEN-T Core and Comprehensive Network regarding airports is provided by Regulation (EU) No 1315/2013.

Airport Compliance indicators

The compliance indicators for airports are drawn from TEN-T Regulation No 1315/2013 where they are specified as infrastructure requirements. In this report, the following compliance indicators for airports in the Western Balkans have been assessed:

1. Rail connection;
2. Clean fuels - applicable only to Core Network Airports;
3. Terminal availability - at least one terminal is open to all operators in a non-discriminatory way and applies transparent, relevant and fair charges.

Primary infrastructure characteristics and equipment

Currently, ten airports (Tirana, Sarajevo, Banja Luka, Pristina, Podgorica, Skopje, Ohrid, Belgrade, Kraljevo, Niš) are part of the TEN-T Comprehensive in the Western Balkans, six of which are located on the Core Network (Tirana, Sarajevo, Podgorica, Skopje, Belgrade).

Figure 32.

Indicative extension of TEN-T Comprehensive and Core Airports to the Western Balkans Region

Overall compliance assessment

Conclusions for each compliance standard are provided below.

A. CONNECTION TO OTHER MODES

A key condition to ensure the interoperability of airports on the TEN-T Network is theirconnection to the railway network. Currently, no airports have a direct rail connection.

Table 9.

List of airports with road and rail connections

Road and rail connection status of Airports		Connection to Rail		Connection to Motorway/Express road	
		2022	2023	2022	2023
Albania	**Tirana**	No	No	Yes	Yes
Bosnia and Herzegovina	**Sarajevo**	No	No	Yes	Yes
	Banja Luka	No	No	Yes	Yes
North Macedonia	**Skopje**	No	No	Yes	Yes
	Ohrid	No	No	Yes	Yes
Kosovo	**Pristina**	No	No	Yes	Yes
Montenegro	**Podgorica**	No	No	Yes	Yes
Serbia	**Belgrade**	No	No	Yes	Yes
	Niš	No	No	Yes	Yes
	Kraljevo	No	No	Yes	Yes

Source: Transport Community Permanent Secretariat own assessment

B. AVAILABILITY OF ALTERNATIVE FUELS

Currently, no fixed storage tank facilities for aviation biofuel are reported to be in use at Sarajevo, Podgorica, Belgrade, Skopje, Ohrid, Niš, Kraljevo or Pristina. It should be pointed out that this criterion is to be applied according to market requirements and that airports need to be prepared to make alternative clean fuels available when the need arises, as cited in the regulation, '*for air transport infrastructure: capacity to make available alternative clean fuels*'.

Regarding the availability of alternative clean fuels for airport ground services (e-mobility, hydrogen, CNG, LPG), alternative fuels for airport ground services are available to some extent in Belgrade, Sarajevo, Skopje, Niš and Kraljevo airports.

Table 10.

List of availability of alternative fuels in airports

REGIONAL PARTNER	AIRPORT	AVAILABILITY OF ALTERNATIVE FUELS			
		tank facilities for aviation biofuel		availability of alternative fuels for airport ground services	
		2022	2023	2022	2023
Albania	**Tirana**	No	No		Yes
Bosnia and Herzegovina	**Sarajevo**	No	No	Yes	Yes
	Banja Luka	No	No		
North Macedonia	**Skopje**	No	No	Yes (partly)	Yes (partly)
	Ohrid	No	No	No	No
Kosovo	**Pristina**	No	No	No	No
Montenegro	**Podgorica**	No	No		
Serbia	**Belgrade**	No	No	Yes	Yes
	Niš	No	No	Yes	Yes
	Kraljevo	No	No	Yes	Yes

C. TERMINAL AVAILABILITY

All airports are open to international traffic, with foreign air-carriers operating in and out. Some airports such as Tirana, Podgorica, Sarajevo, and Niš reached or came close to reaching their capacity limit. With its ongoing modernisation project, Sarajevo Airport has managed to expand its capacity from 1 million to 1.5 million passengers. Nonetheless, due to the passenger traffic surge, it is approaching its operational capacity again.

Table 11.
List of terminal availability

REGIONAL PARTNER	AIRPORT	TERMINAL AVAILABILITY	
		Open to international traffic	Adequate terminal capacity[4]
Albania	**Tirana**	Yes	No
Bosnia and Herzegovina	**Sarajevo**	Yes	Yes
	Banja Luka	Yes	Yes
North Macedonia	**Skopje**	Yes	Yes
	Ohrid	Yes	Yes
Kosovo	**Pristina**	Yes	Yes
Montenegro	**Podgorica**	Yes	No
Serbia	**Belgrade**	Yes	Yes
	Niš	Yes	Yes
	Kraljevo	Yes	Yes

4 *Based on the 2022 passenger volume data*

4

TEN-T Projects

4 TEN-T PROJECTS

4.1. Methodological aspects

The TCT Secretariat tracks the development of the TEN-T network in the region, collecting and processing relevant information on all ongoing projects. The scope of this exercise is mainly to:

1. provide an outline of overall efforts currently undertaken by the regional partners to upgrade the TEN-T network and
2. estimate TEN-T future compliance rates based on scheduled project completion dates and their anticipated network impact.

The methodology and criteria for project definition and selection have remained unaltered, making the results of this exercise fully comparable between yearly data series.

4.2. Infrastructure projects

4.2.1. Railway projects

In terms of overall investment, the rail has been overshadowed by the road sector for the past 15 years. While approximately 80% went on roads, the railway sector only received around 12% of total investment.

The landscape has evolved, with a notable shift towards prioritising railway transport. Presently, the enhancement of rail systems stands as an integral component of recently published strategic documents by the European Commission. These documents emphasise the importance of greener and more efficient transportation methods, with a distinct focus on railways. The expectation is for the Transport Community to mirror this approach in its forthcoming strategies and concepts.

The EU has played a pivotal role in financing the construction and enhancement of transport corridors within its member states and neighbouring regional partners. The primary objectives have been to eliminate bottlenecks and facilitate the development of sustainable and interconnected transportation systems. This endeavour aligns with the overarching Trans-European Transport Network (TEN-T) policy, where the projects play a vital role in realising the Core Network, forging essential connections between the EU and the broader region. The EU directly supported the implementation of rail projects through the Economic and Investment Plan adopted in 2020. Comprehensive information about ongoing EIP rail projects can be found in Annex II of the current document.

Overall, the Transport Community Permanent Secretariat has identified twenty finance-secured or ongoing rail projects. The length of rail sections currently undergoing various upgrades is **691 km** (all on the Core Network). Priority has been given to the Core Network. The overall value of the projects is **EUR 3.017 billion**.

Nineteen identified rail transport projects in the region are scheduled for completion by 2027 and one by 2029. Upon completion, these projects are set to higher-quality railway infrastructure and services, significantly improving both passenger and freight operations.

Since the previous report, five railway projects have been finalised and put into operation.

The roster of TEN-T railway projects currently ongoing in the region is given in Table 12.

Annex II of this document provides a detailed overview of railway projects in all regional partners.

Figure 33.
Rail Projects Map

4.2.2. *Road projects*

The inventory of ongoing road projects within the region has undergone adjustments based on the latest information and data from regional partners. Compared with last year's report, the following types of modifications occurred:

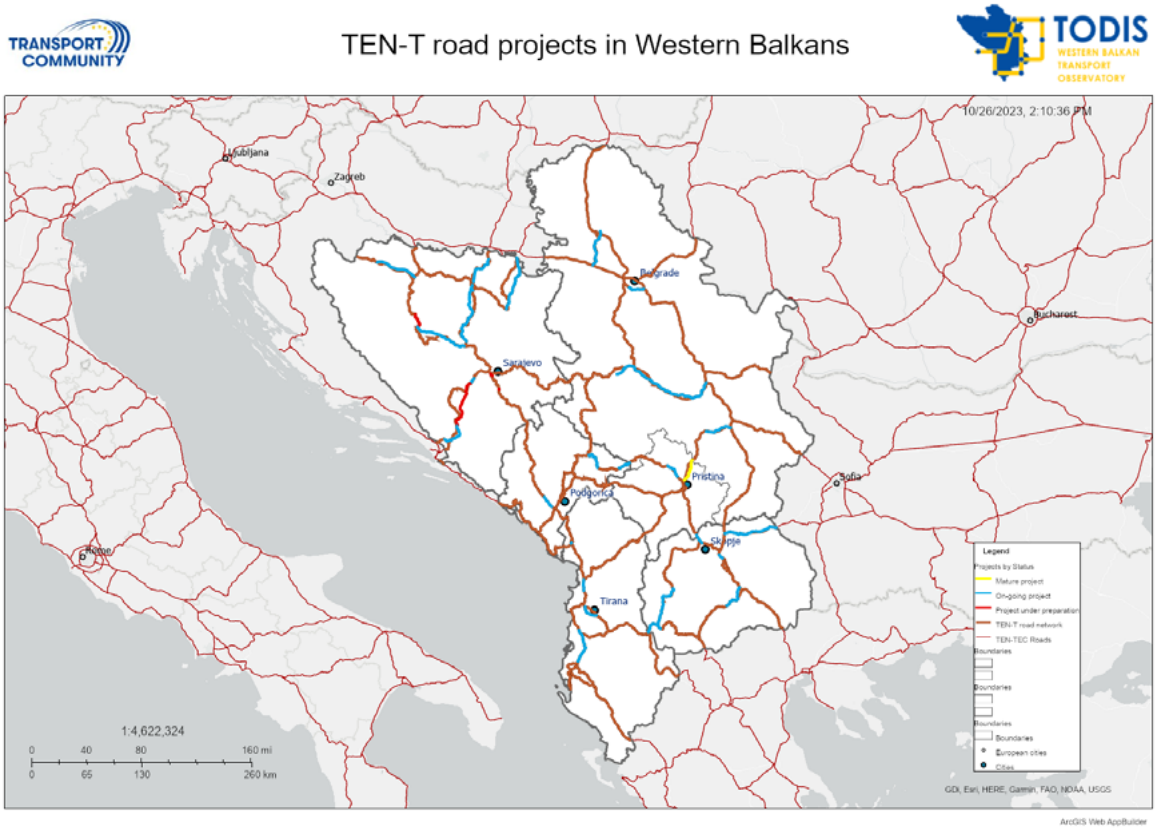
- Projects that have naturally exited the list upon successful completion and operationalisation;
- Projects de-listed having been downgraded in terms of priority and/or no longer meeting the "secured funding" criterion;
- New projects entered on the list by progressing in terms of maturity and having secured funding since the date of the latest report;
- New relevant interventions identified during the comprehensive data collection exercise performed under the framework of TODIS.

Besides the abovementioned changes, data updating also resulted in cost adjustments and/or changes to the completion deadline. For many projects, the estimated completion date was again postponed, which reflects both unrealistic planning and delays in implementation. Although this was not entirely surprising considering the region's track record, the ongoing postponement of completion deadlines from one year to the next remains a cause for concern.

As of 2023, the Transport Community Permanent Secretariat has identified 42 road projects ongoing in the region (33 on the Core Network and 9 on the Comprehensive Network). The combined length of road sections currently undergoing various upgrades is 1,060.79 km (671.21 km on the Core and 389.58 km on the Comprehensive Network). The priority given to the Core Network is also reflected in the overall value of projects (EUR 5,473.7 million for the entire network, of which EUR 3,676.27 million on the Core and EUR 1,797.2 million on the Comprehensive Network).

The list of individual interventions is provided in Table 12 below, while a more detailed overview of road projects could be found in Annex II of this document.

Figure 34.
Road Projects in the Western Balkans



4.2.3. *Waterborne projects*

INLAND WATERWAY PROJECTS

Several finance-secured or ongoing projects in the field of inland waterway transport have been identified, particularly in Serbia, and Bosnia and Herzegovina. Most of these projects are not directly targeting the identified TEN-T key compliance indicators, but they are worth mentioning in this report as:

they play a significant role in advancing the region's waterway infrastructure;

they are expected to contribute significantly to maintaining good navigation status.

A broad description of all identified interventions in the region's TEN-T inland waterway and maritime infrastructure is provided below, while Table 12 provides only the list of projects that directly address the TEN-T compliance indicators and those included within the EIP flagships.

The "Reconstruction and Modernisation of the River Port of Brčko, Phase 1" is part of the Flagship 1 "Connecting East to West" waterways project. It has a total value of EUR 10 million, with financing from the European Union (over EUR 3 million grant) and the European Bank for Reconstruction and Development (EUR 7 million loan). This project commenced in 2021 and is still in progress.

The Sava and Drina Rivers Corridors Integrated Development Program, aims to enhance transboundary waterway cooperation and bolster the navigability and flood protection within these vital regions. The program's first phase, employing a Multiphase Programmatic Approach, encompasses three loans:

Bosnia and Herzegovina: A loan of EUR 30 million is designated for Bosnia and Herzegovina. This fixed spread loan offers a final maturity period of 32 years, which includes a 7-year grace period. The " Sava and Drina Rivers Corridors Integrated Development Program" supported by a grant from the European Union (over EUR 8.33 million) and a loan from the World Bank (€30 million) is currently in the docu-

ment preparation phase and is expected to commence soon.

Montenegro: Montenegro receives a loan of EUR 15 million. This fixed spread loan comes with a final maturity of 24.5 years, featuring a grace period of 4.5 years.

Serbia: The Republic of Serbia benefits from a loan of EUR 78.2 million (equivalent to US$85 million). This fixed spread loan extends to a final maturity period of 12 years, including a 3-year grace period.

The Flagship 1 "Connecting East to West" waterways project for the "Removal of the WWII German sunken vessels from the Danube Prahovo Sector" with a total value of EUR 29.8 million, funded by the European Union (over EUR 16.6 million grant) and the European Investment Bank (EUR 13.2 million loan). The contract was signed in June 2023 and work on the project is to start soon. This project is planned to be completed within five years.

The implementation of Vessel Traffic Services (VTS) started in May 2023 and is scheduled to undergo a testing phase in December 2023.

The Aids to Navigation (AtoNs) project, aimed at covering the entire River Danube with buoys to provide updated information to navigating skippers is completed. On July 25, 2023, the second phase of the FAIRway works project for AtoNs in the River Sava was initiated, with an expected completion timeframe of under eight months.

The first phase of the "FAIRway works" project for the "Upgrade of Iron Gate Block II" was initiated in July 2023. This project focuses on replacing mechanical, hydraulic, and electrical components and is due to be completed within one year.

The project for removing bottlenecks in the border area between Serbia and Croatia, where 17 critical sectors were identified, is currently in the monitoring phase of all activities on the river. The modelling process is set to begin in 2023, with completion during 2024.

The project to remove bottlenecks in the River Tisa in order to upgrade the classification of navigation to CEMT Class V is in the early stage of document preparation and is therefore not labelled as ongoing under the adopted project classification methodology.

MARITIME PROJECTS

In terms of the prospects for the Core Port of Durres and the Comprehensive Port of Vlora, particularly with regard to their alignment with the TEN-T extension networks, it is essential to consider the Albanian government's strategy to relocate these existing ports to the Port of Romano and Triporti. The impact of this relocation on TEN-T compliance will be subject to close monitoring in the coming years.

Furthermore, Albania is currently in the final stages of the tendering process for the implementation of the Vessel Traffic Monitoring and Information System (VTMIS). The establishment of VTMIS in Albania is financially supported by the IBRD through the "Western Balkans Trade and Transport Facilitation" project, with implementation scheduled for 2025. Additionally, the rollout of the Maritime Single Window in Albania commenced in 2022. This system is designed to digitally manage reporting obligations for vessels arriving at and departing from Albanian ports, with its primary objective being the streamlined exchange of information among declarants, relevant authorities, and port service providers operating at ports in Albania.

4.2.4. *Airport projects*

Currently, there are several ongoing projects addressing the TEN-T compliance indicators for airports, such as: Sarajevo Airport Modernisation; Modernisation and Connection of the Airport to the Railway Network in Tirana, Albania; Terminal Building Expansion in Niš, and Modernisation of Belgrade Airport.

Numerous projects geared towards modernising Sarajevo Airport are in the pipeline, with the objective of expanding its capacity. Projects to extend the East apron, total value EUR 3.4 million EUR, and to construct a Business -Administration Building (total value EUR 3 million) were completed and commissioned in 2022. Works are currently underway on the Terminal B Extension and Modernisation, total value EUR 26.5 million, with a completion deadline at the end of 2023.

Design/Tender Dossier for DB are ongoing for projects of runway reconstruction (value EUR 29.45 million), new rapid exit taxiway (value EUR 3.69 million), new fuel depot (value EUR 2.62 million) and west apron

extension (EUR 4.09 million), while Design/Tender Dossier for DB under preparation for an airport rescue and firefighting centre.

Rehabilitation and construction of the 40.7 km Durres - Tirana line on the Core Network includes connecting Tirana airport to the railway line. The cost of the project is estimated at EUR 129 million without planned electrification. Projects Apron Extension, Airfield Code E Readiness and Passenger Terminal North Extension and rearrangement of Security Corridor (Phase I) have been finalised while Airfield Code E Readiness is under construction.

Niš airport's existing terminal building cannot meet future airport needs. It is planned to reconstruct the existing area of 2,115 m2 and build new facilities of 3,600 m2 with a total project value of EUR 11.1 million. A permit has been obtained and public procurement for construction work closed on January 20, 2022. The works completion deadline is end-2023.

At Morava airport (Kraljevo), a project to extend the apron and construct a technical service and firefighting facility is in the design phase, with an estimated total project value of EUR 20.8 million.

Work on modernising and expanding Belgrade's Nikola Tesla Airport began in early 2020. Most of this will be completed in the course of 2024. A newly inserted runway (BCIR), de/anti-icing pad, landside access and car parking in front of the Terminal have been completed. Currently, work is proceeding at several locations: existing runway reconstruction, terminal reconstruction, and extension (phases 1.3, 1.4, 2.2). While Design/Tender Dossier is under preparation for the Airport Rescue and Firefighting Center. Additionally, new technical planning documentation regarding the Railway Network is being prepared, which will address the railway connection compliance criteria.

The operator of Prishtina International Airport has requested permission from the PPP Committee and CAA to extend the north and south side remote gates in order to increase the boarding gate capacity of the terminal building from 8 to 12. The total value of the project is approximately EUR 3 million.

Table 12.

Projects overview

Corridor/ Route/Node	Regional Participant	Project name	EIP Flagship (Yes/No)	Core/ Comprehensive Network	Planned intervention	Total length (km)	Total Cost (M€)	Estimated completion deadline
ROAD PROJECTS								
Corridor VIII	Albania	Construction of Tirana bypass (Kashar - Vaqarr - Mullet)	Yes	Core	New infrastructure	21.5	213	2027
Route 2b	Albania	Skhodra bypass	No	Comprehensive	New infrastructure	4.83	16.6	2023
Route 2b	Albania	Construction of AIC Section 3: Milot – Thumane	Yes	Core	Reconstruction/ Rehabilitation	13.45	44.62	N/A
Route 2b	Albania	Construction of AIC Section 4: Thumane – Vore - Kashar	Yes	Core	New Infrastructure	21.04	224.32	2024
Corridor VIII	Albania	Construction of AIC section Lekaj-Konjat-Fier	Yes	Core	Reconstruction/ Rehabilitation	45.88	320	N/A
Corridor VIII	Albania	Construction of the Elbasan – Ura e Bushtrices road	No	Core	Reconstruction/ Rehabilitation	31	240	2027
Corridor Vc	Bosnia and Herzegovina	Construction of Vukoslavije – Johovac motorway section	Yes	Core	New infrastructure	36	470.3	2028
Corridor Vc	Bosnia and Herzegovina	Construction of Rudanka - Putnikovo Brdo motorway section	Yes	Core	New infrastructure	5.2	164.9	2024
Corridor Vc	Bosnia and Herzegovina	Construction of Putnikovo Brdo – Medakovo motorway section	Yes	Core	New infrastructure	6.23	173.1	2024
Corridor Vc	Bosnia and Herzegovina	Construction of Medakovo – Ozimica motorway section	Yes	Core	New infrastructure	21.29	383.3	2026
Corridor Vc	Bosnia and Herzegovina	Construction of Ozimica – Poprikuse motorway section	Yes	Core	New infrastructure	13.74	306	2026
Corridor Vc	Bosnia and Herzegovina	Construction of Poprikuse – Nemila motorway section	Yes	Core	New infrastructure	5.5	246.2	2025
Corridor Vc	Bosnia and Herzegovina	Construction of Nemila – Vranduk motorway section	Yes	Core	New infrastructure	5.7	34.6	2024
Corridor Vc	Bosnia and Herzegovina	Construction of Vranduk – Ponirak motorway section	Yes	Core	New infrastructure	5.3	65.5	2025
Corridor Vc	Bosnia and Herzegovina	Construction of Ponirak – Vraca motorway section	Yes	Core	New infrastructure	3.4	70.8	2025
Corridor Vc	Bosnia and Herzegovina	Construction of Vraca (Tunnel Zenica) - Donja Gračanica motorway section	Yes	Core	New infrastructure	3.9	57.6	2025
Corridor Vc	Bosnia and Herzegovina	Construction of Mostar South - Tunnel Kvanj motorway section	Yes	Core	New infrastructure	9.2	81.5	2026

Corridor/ Route/Node	Regional Participant	Project name	EIP Flagship (Yes/No)	Core/ Comprehensive Network	Planned intervention	Total length (km)	Total Cost (M€)	Estimated completion deadline
Corridor Vc	Bosnia and Herzegovina	Construction of Tunnel Kvanj – Buna motorway section	Yes	Core	New infrastructure	5.2	106.9	2025
Corridor Vc	Bosnia and Herzegovina	Construction of Buna – Počitelj moptorway section	Yes	Core	New infrastructure	7.2	37.2	2025
Corridor Vc	Bosnia and Herzegovina	Construction of Počitelj – Zvirovići motorway section	Yes	Core	New infrastructure	11.1	84.6	2023
Route 9a	Bosnia and Herzegovina	Construction of Banja Luka – Prijedor motorway	No	Comprehensive	New Infrastructure	40.7	297	2027
Route 2a	Bosnia and Herzegovina	Nević polje - Vitez section (part of Jajce - Lašva Express Road)	No	Core	New infrastructure	4.9	42.5	
Route 9a	Bosnia and Herzegovina	Construction of the motorway Orašje - Tuzla	No	Comprehensive	New infrastructure	67.68		
Route 6	Kosovo	Construction of Pristina – Mitrovica Motorway	Yes	Core	New infrastructure	19.4	42	2023
Route 6b	Kosovo	Widening of Kjeve-Dollc road section	No	Comprehensive	Reconstruction/ Rehabilitation	13.4	32	2024
Route 6	Montenegro	Rozaje - Spiljani rehabilitation	No	Comprehensive	Reconstruction/ Rehabilitation	18.6	19.1	2023
Route 6	Montenegro	Berane - Bijelo Polje - Mojkovac rehabilitation	No	Core/ Comprehensive	Reconstruction/ Rehabilitation	43	36	2026
Corridor VIII	North Macedonia	Construction of Kriva Palanka – Stracin Express road	No	Core	New infrastructure	25.5	104	2024
Corridor VIII	North Macedonia	Rehabilitation and upgrade of Kriva Palanka - Deve Bair road section	No	Core	Reconstruction/ rehabilitation	13.2	13.67	2023
Corridor VIII	North Macedonia	Construction of the Bukojcani – Kicevo Motorway section	No	Core	New infrastructure	10.5	123	2027
Corridor VIII	North Macedonia	Construction of the Kicevo - Ohrid Motorway	No	Core	New infrastructure	57.7	598	2023
Route 6	North Macedonia	Construction of Blace – Skopje (Stenkovec Interchange) MotorwaySection	No	Core	New infrastructure	12.5	230.41	2027
Corridor VIII	North Macedonia	Reconstruction of Podmolje -Struga	No	Core	Reconstruction/ rehabilitation	19.33	8.2	2023
Corridor X	North Macedonia	Rehabilitation with widening of Motorway A1, section Petrovec - Katlanovo (left and right carriageway)	No	Core	Reconstruction/ rehabilitation	5.5	5.9	2023

Corridor/ Route/Node	Regional Participant	Project name	EIP Flagship (Yes/No)	Core/ Comprehensive Network	Planned intervention	Total length (km)	Total Cost (M€)	Estimated completion deadline
Corridor Xd	North Macedonia	Construction of the Prilep-Bitola motorway	No	Comprehensive	New infrastructure	39.3		2028
Corridor VIII	North Macedonia	Construction of the Tetovo – Gostivar – Bukojcani Motorway	No	Core	New infrastructure	47.8	1.300	2028
Corridor VIII	North Macedonia	Construction of the Trebenista – Struga – Kjafasan Motorway section	No	Core	New infrastructure	21.7		2028
Route 7	Serbia	Construction of Niš – Plocnik motorway	Yes	Core	New Infrastructure	32.7	225.6	2027
Route 9a	Serbia	Construction of Novi Sad – Ruma express road	No	Comprehensive	New infrastructure	47.91	650	2027
Route 5	Serbia	Construction of Pojate – Preljina motorway	No	Comprehensive	New infrastructure	112.39	745	2025
Route 4	Serbia	Construction of Preljina – Pozega motorway	No	Core	New infrastructure	31	450	2024
Route 4	Serbia	Construction of Pozega – Duga Poljana motorway	No	Core	New infrastructure	76	1,700	2027
RAILWAY PROJECTS								
Corridor Vc	Bosnia and Herzegovina	Corridor Vc-Overhaul and modernization of the railway section Šamac – Doboj – Rječica	Yes	Core	Reconstruction/ rehabilitation	85	162.5	2025
Corridor VIII	Albania	Rehabilitation of the railway Durres-Tirana Public Transport Terminal PTTand construction of the new Tirana-Rinas branch line	Yes	Core	New infrastructure, Reconstruction/ rehabilitation	41	129	2024
Corridor VIII	North Macedonia	Rehabilitation of Eastern Part of RailCorridor VIII-PHASE I-Section Kumanovo-Beljakovce	Yes	Core	Reconstruction/ rehabilitation	30.35	48.9	2024
Corridor VIII	North Macedonia	Rail Corridor VIII-PHASE 2-SectionBeljakovce-Kriva Palanka	Yes	Core	New infrastructure	34	145	2025
Corridor VIII	North Macedonia	Rail Corridor VIII-PHASE 3-SectionKriva Palanka -Deve Bair, border with RB	Yes	Core	New infrastructure	23.4	560	2029
Corridor X	Serbia	Reconstruction and modernisation ofrail line Nis Brestovac – (Presevo- border with North Macedonia	Yes	Core	Reconstruction/ rehabilitation	23	60	2024
Route 2b	Albania	Rehabilitation of Vore - Han i Hotit Railway Line	Yes	Core	Reconstruction/ rehabilitation	120	340	2027
Corridor Xb	Serbia	Reconstruction and modernisation of rail line Novi Sad - Subotica – Kelebija - border with Hungary	No	Core	New infrastructure, Reconstruction/ rehabilitation	108	1021	2024

Corridor/ Route/Node	Regional Participant	Project name	EIP Flagship (Yes/No)	Core/ Comprehensive Network	Planned intervention	Total length (km)	Total Cost (M€)	Estimated completion deadline
Corridor Xc	Serbia	Reconstruction and modernisation of Nis-Dimitrovgrad railway line	Yes	Core	New infrastructure, Reconstruction/ rehabilitation	108	426	2027
Route 4	Montenegro	Modernization of the Railway Station Bijelo Polje	Yes	Core	Reconstruction/ rehabilitation		2	2023
Route 4	Montenegro	Track overhaul of the railway sections Railway line Lutovo – Bratonozici – Bioci:	Yes	Core	Reconstruction/ rehabilitation	20	20	2027
Route 4	Montenegro	Railway line Vrbnica - Bar : Rehabilitation of 13 steel bridges;	Yes	Core	Reconstruction/ rehabilitation	3	30	2027
Route 4	Montenegro	Railway line Vrbnica – Bar: Rehabilitation of 12 tunnels;	Yes	Core	Reconstruction/ rehabilitation	4	20	2027
Route 10	Kosovo	General Rehabilitation of Railway Route 10 -Phase 1	Yes	Core	Reconstruction/ rehabilitation	65.36	114.7	2024
Route 10	Kosovo	General Rehabilitation of Railway Route 10 -Phase2	Yes	Core	Reconstruction/ rehabilitation	34.44	64	2024
Route 10	Kosovo	General Rehabilitation of Railway Route 10 -Phase 3	yes	Core	Reconstruction/ rehabilitation	50	118.7	2027
Route 13	Serbia	Modernization and reconstruction of the existing railway line Subotica - Horgos - border with Hungary	No	Comprehensive	Reconstruction/ rehabilitation	27	93	2022
Corridor X	Serbia	Construction of a single operational centre for railway traffic management on the railway network of the Republic of Serbia	No	Core	Construction of a single operational centre	/	115	2026
Corridor X	Serbia	Construction works on the Main Railway station - phase 2 - stage 3	Yes	Core	Reconstruction	/	15	2023
Corridor X	Serbia	Construction of tunnel no. 4 on the Stalać-Đunis section within the Belgrade-Niš project	Yes	Core	Reconstruction/ rehabilitation	3.3	41.4	2027

Corridor/ Route/Node	Regional Participant	Project name	EIP Flagship (Yes/No)	Core/ Comprehensive Network	Planned intervention	Total length (km)	Total Cost (M€)	Estimated completion deadline
AIRPORT PROJECTS								
Tirana	Albania	Rail connection to airport (construction of new Tirana-Rinas branch line and rehabilitation Durres-Tirana)	No	Core	Reconstruction/ rehabilitation	40.7	129	2023
Sarajevo	Bosnia and Herzegovina	Sarajevo airport Terminal B extension and modernisation	No	Core	Reconstruction/ rehabilitation	/	26.7	2023
Belgrade	Serbia	Modernisation and expanding Belgrade's Nikola Tesla Airport	No	Core	Construction/ reconstruction	/	Na	2023
Niš	Serbia	Reconstruction of existing area and construction of new facilities	No	Comprehensive	Construction/ reconstruction	/	11.1	2023
INLAND WATERWAY PROJECTS								
Rhine Danube Corridor	Serbia	Removal of the WWII German sunken vessels from the Danube, Prahovo Sector	Yes	Core	Rehabilitation/maintenance	N/A	29.1	2027
Rhine Danube Corridor	Bosnia and Herzegovina	Demining the Right Bank of the River Sava in Bosnia and Herzegovina	Yes	Core Network	Rehabilitation/maintenance	40	38.9	2028
Rhine Danube Corridor	Bosnia and Herzegovina	Reconstruction and Modernisation of the River Port of Brčko Phase 1	Yes	Core Network	Rehabilitation/maintenance	/	9,7	2025
MARITIME PROJECTS								
	Albania	"Provision, Installation and Commissioning of Equipment for VTMIS Implementation and ITS"	Yes	Core	New infrastructure		5.6	2025
	Montenegro	Establishment of a National Maritime Single Window in Montenegro	Yes	Core	New infrastructure	/	0,75	2024

5

TEN-T Key Performance Indicators Progress Forecast

5 TEN-T Key Performance Indicators Progress Forecast

5.1. *Railway indicators*

Since the majority of financially supported and ongoing projects are scheduled for completion by 2027, the forthcoming projections for each TEN-T performance metric will apply to that timeframe. It is essential to bear in mind that sections of the rail network not subject to enhancements will, at the very least, maintain their current status. Moreover, the network's expansion due to these projects will curtail improvements in certain TEN-T criteria.

A. ELECTRIFICATION

Network electrification stands out as highly significant among the most critical performance indicators for railways within the TEN-T framework. It is associated with improved efficiency, reduced greenhouse gas emissions, and minimised operational and maintenance expenses, all contributing to its environmentally friendly attributes.

When we examine the projected advancements in electrification, it becomes evident that the electrified Core Network is poised for modest growth of approximately 12%, ultimately reaching 84.26%. This underscores the need to intensify plans for achieving complete electrification of the Core Network within the region.

Figure 35.

Western Balkans rail network electrification progress forecast for 2027

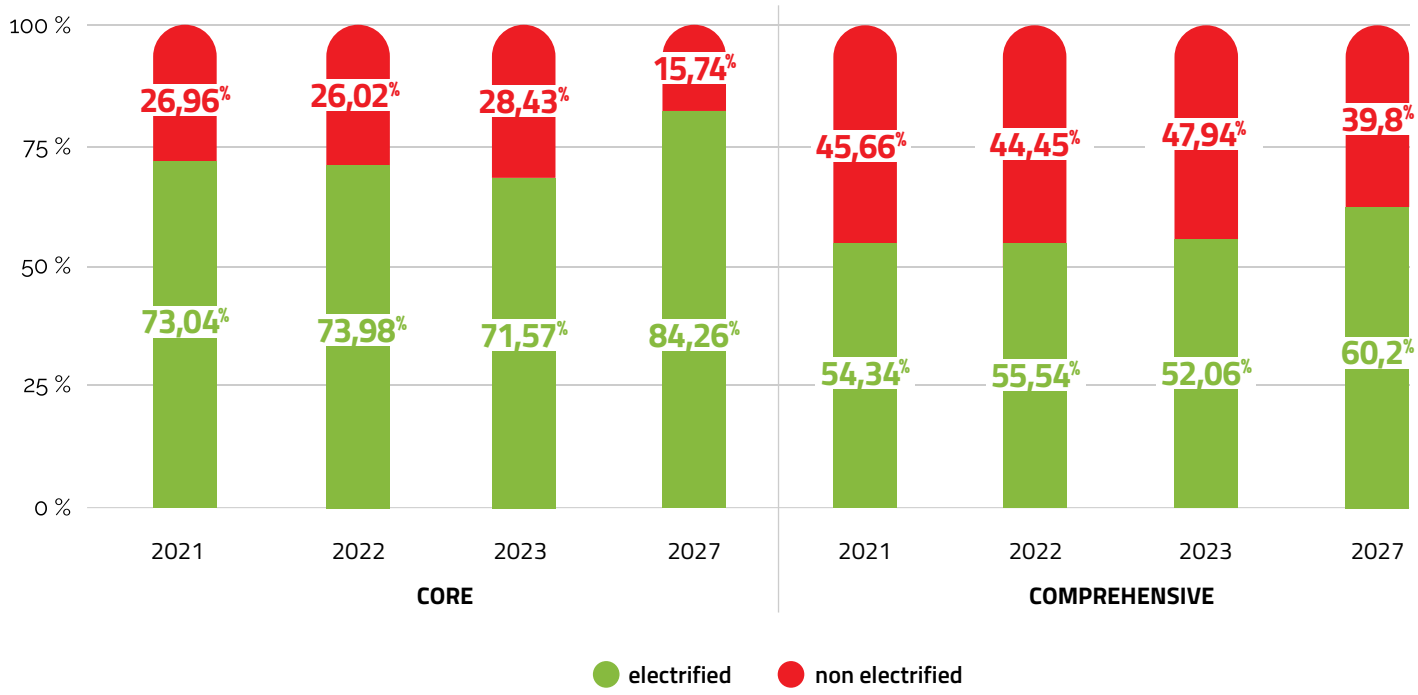
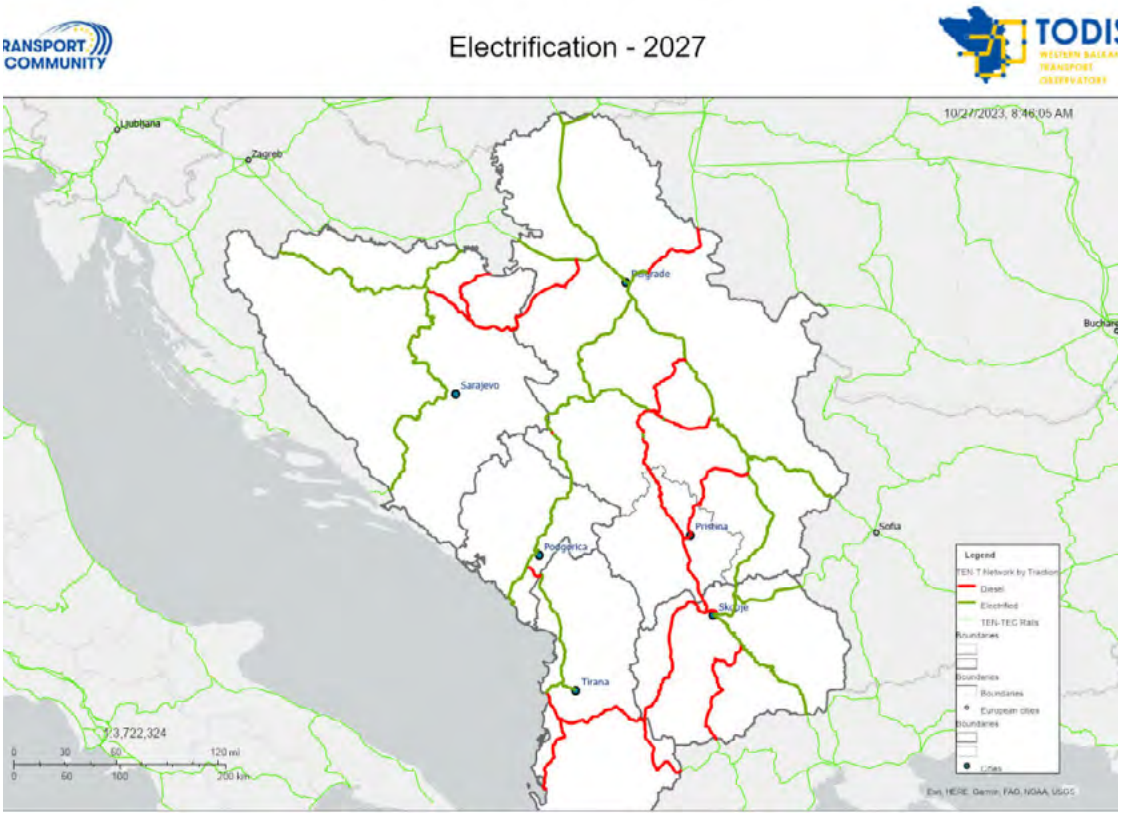


Figure 36.

Electrification Forecast 2027 Map



B. AXLE LOAD

In the context of axle load performance on the rail network in 2027, it is clear that 94.24% of the Core Network and 73.75% of the Comprehensive Network will comply with the TEN-T criteria. Although this signifies a substantial improvement in track performance, the ideal scenario will only be achieved when the criterion is completely met across the entire Core and Comprehensive networks, achieving 100% compliance.

Figure 37.

Western Balkans Rail network axle load progress forecast for 2027

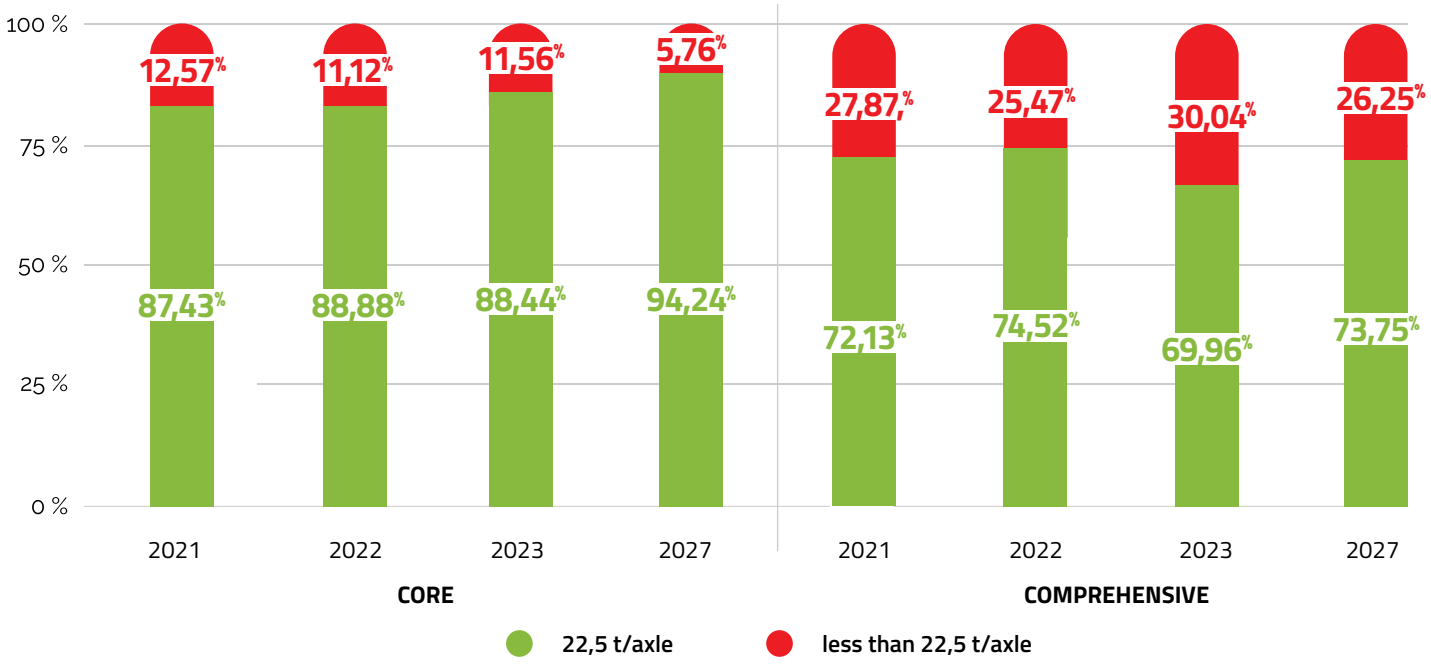
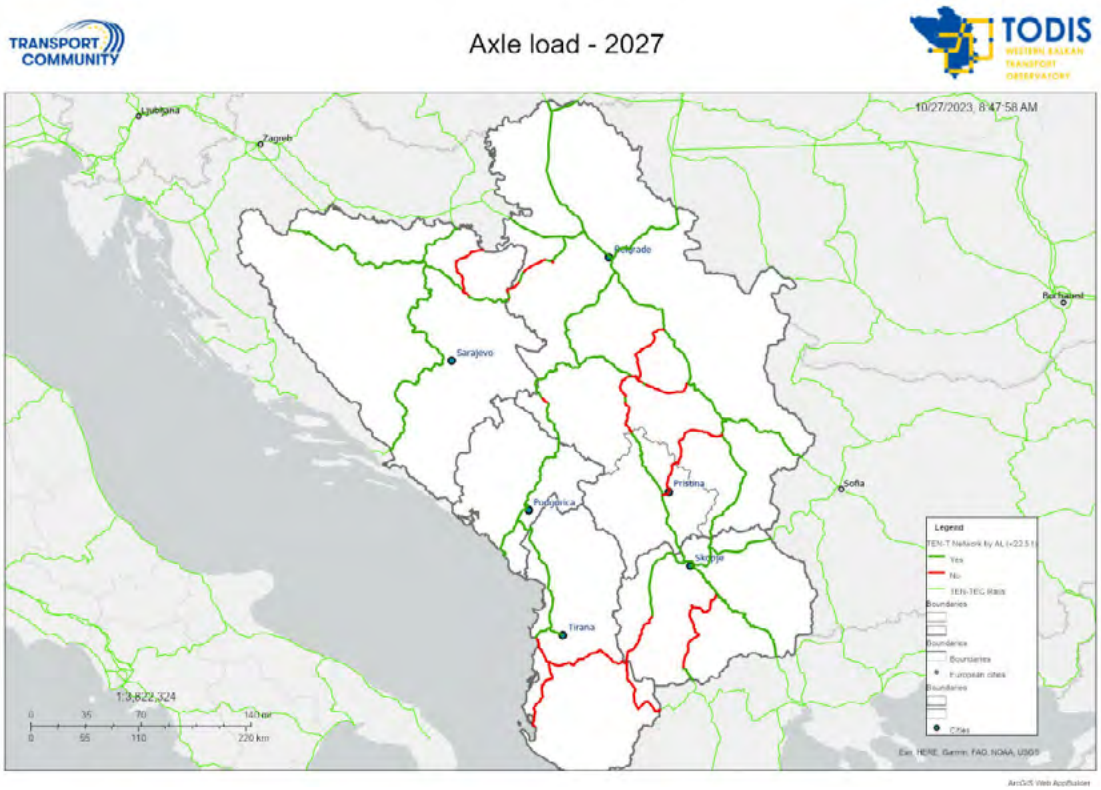


Figure 38.

Axle Load Forecast 2027 Map



C. TRAIN LENGTH

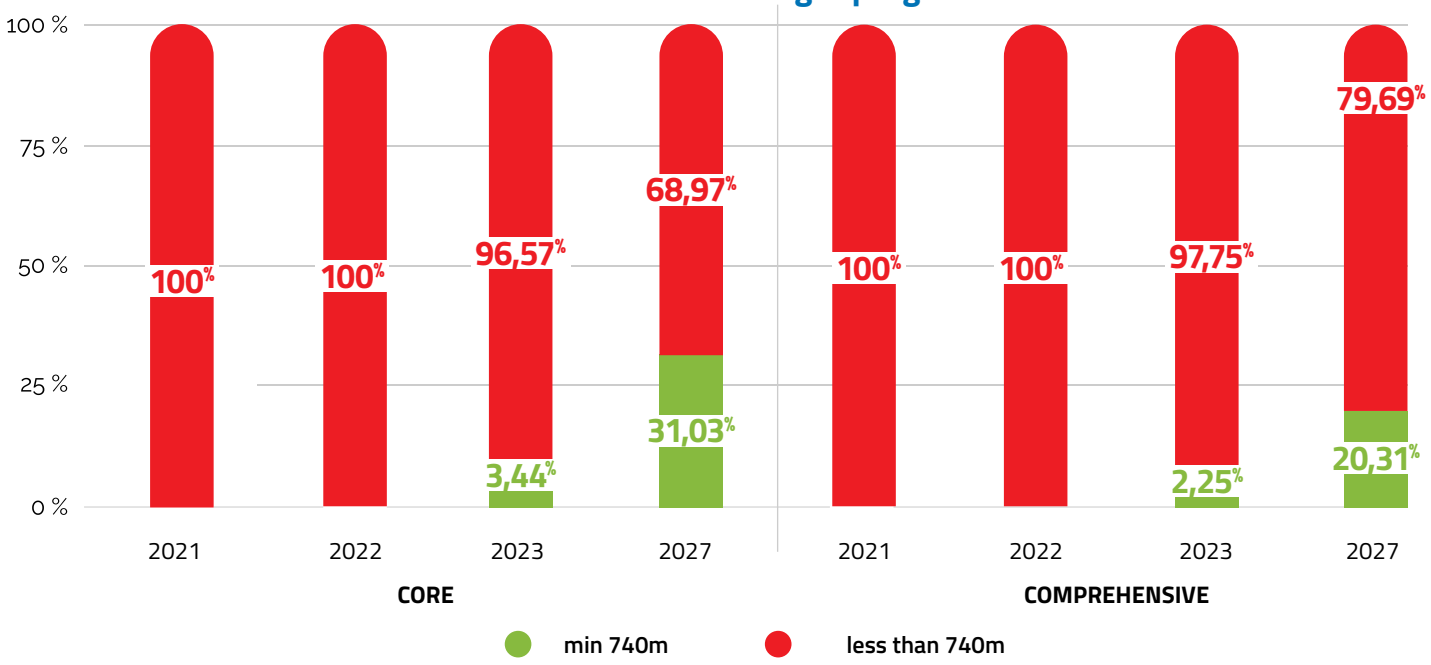
Train length, a critical performance indicator within the TEN-T framework, constitutes one of the most recent aspects that necessitates alignment on European and Western Balkans rail networks. Presently, the Western Balkans region falls short on this requirement.

While certain ongoing projects aim to address this criterion, it is important to note that the majority of these projects are slated for completion after 2027, falling outside the scope of this forecast. In essence, infrastructure managers in the region must confront and acknowledge this challenge as an integral TEN-T requirement. The freight transport sector further reinforces this demand, as longer trains are not only more efficient but also more cost-effective compared to shorter ones.

Over the next five years, there is potential to enhance traction efficiency on 31% of the Core Network and nearly 20% of the Comprehensive Network through operational adjustments. It is worth considering that there are stations with capacity to accommodate longer trains, but their numbers remain insufficient.

Figure 39.

Western Balkans Rail Network train length progress forecast for 2027

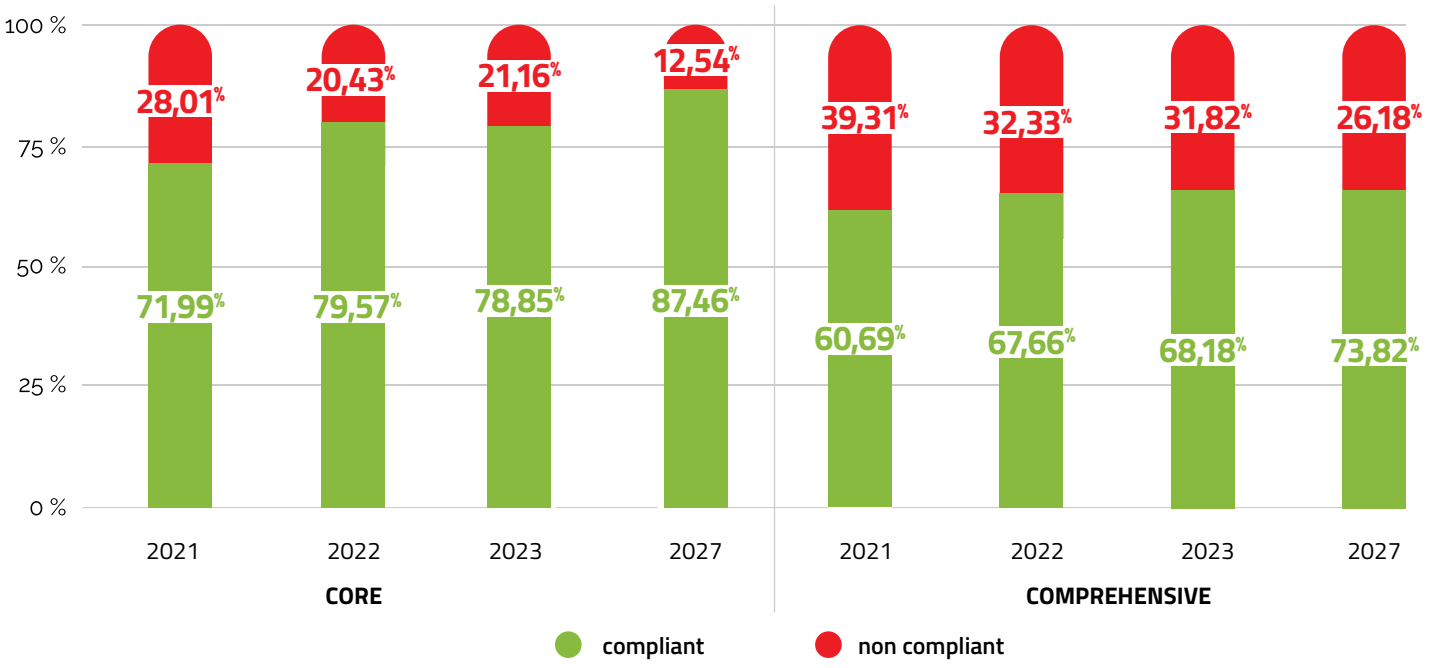


D. DESIGN SPEED

The figures show enhancements in both design and operational speeds. It is evident that with the full execution of the projects, anticipated by 2027, there will be a substantial 8.5% improvement in design speed, marking a significant accomplishment. Nevertheless, achieving a consistent design speed of 100 km/h across the entire network is the ultimate goal.

Figure 40.

Western Balkans Rail network –
Minimum design speed 100 km/h compliance progress forecast for 2027

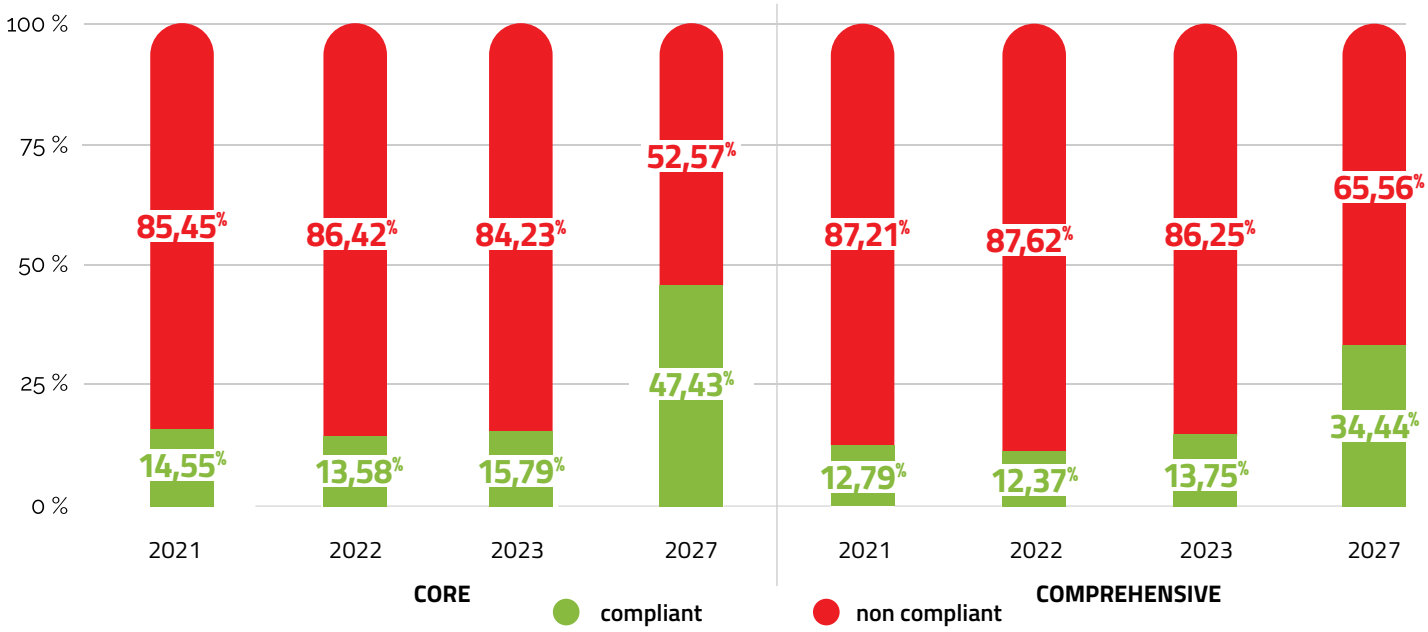


E. OPERATIONAL SPEED

Likewise, there are high expectations of significant improvements in the operational speed compliance indicator. Starting at 15.79% for the Core Network and 13.75% for the Comprehensive Network, the forecast for 2027 projects a considerable increase to 47.43% and 34.44%, respectively. This situation highlights the unsatisfactory state of the railways in the Western Balkans and underscores how the maintenance gap adversely affects rail competitiveness. However, it also underscores their determination to exert significant efforts to enhance the conditions within the railway infrastructure.

Figure 41.

Western Balkans Rail network – Minimum operating speed 100 km/h compliance progress forecast for 2027



F. ERTMS

While ERTMS track-side deployment is integrated into several ongoing projects, the progress expected by 2027 will be limited to 15.71% of the Core Network. It is notable that in 2023, operational ERTMS covers 2.62% of the Core Network owing to the recently reconstructed Belgrade – Novi Sad line. Nonetheless, substantial efforts are currently in progress to ensure that, at a minimum, the Core Network will be equipped with ERTMS in the future.

Figure 42.

Western Balkans Rail Network ERTMS compliance progress forecast for 2027

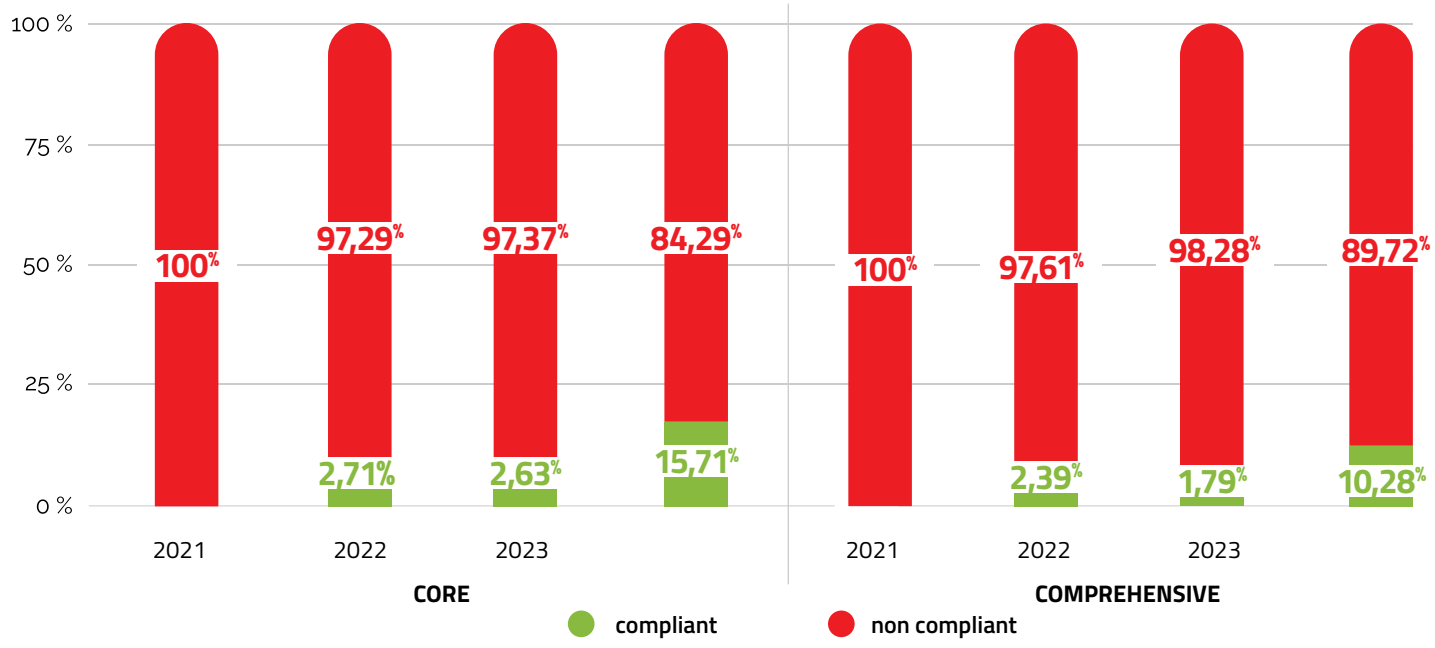
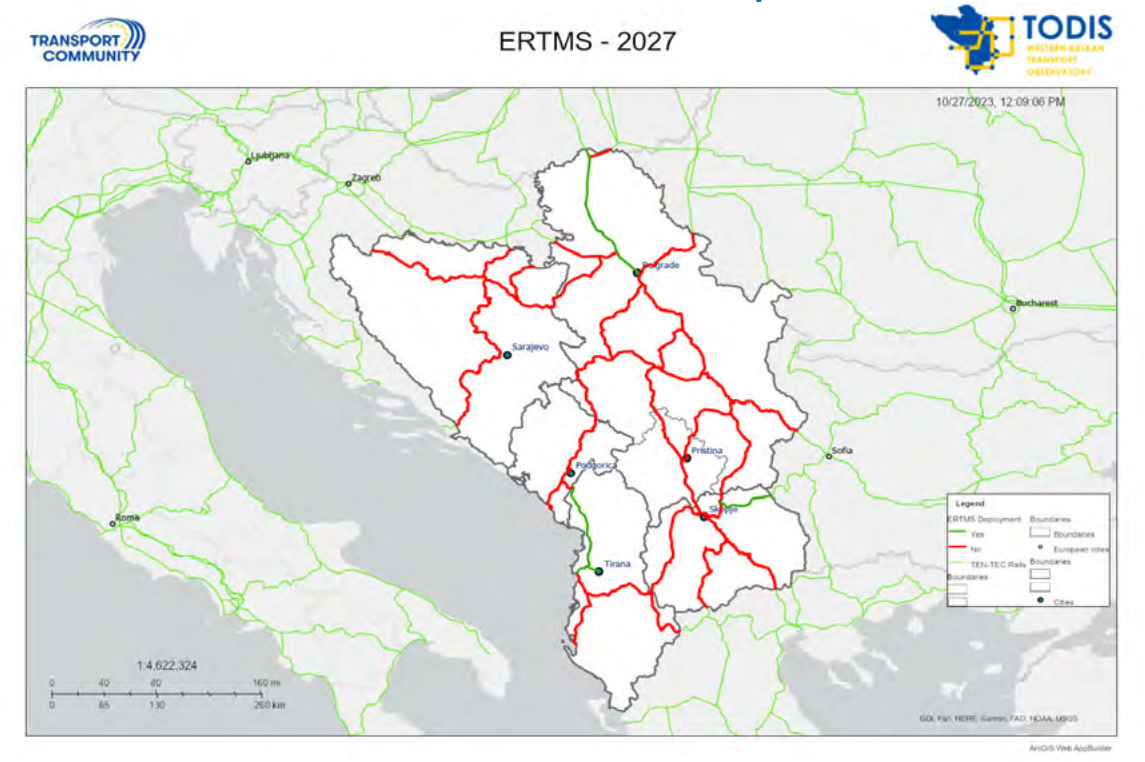


Figure 43.

ERTMS Forecast 2027 Map



G. INFRASTRUCTURE CONDITIONS – FORECAST

The infrastructure condition forecast below serves as an excellent bellwether of the future state of the rail network in the Western Balkans. Evidently, the planned and already executed projects will result in a substantial enhancement of infrastructure conditions. As a result, the proportion of the Core Network classified as "good" or "very good" will rise from the current 40% to 69%.

However, it is essential to emphasise that this does not imply that regional partners can afford to rest on their laurels. Maintaining the network is an ongoing, continuous responsibility. Failing in this regard would render all investments in improvement obsolete and lead to exponentially rising costs due to maintenance neglect.

Figure 44.

Western Balkans Rail Network Infrastructure condition forecast for 2027

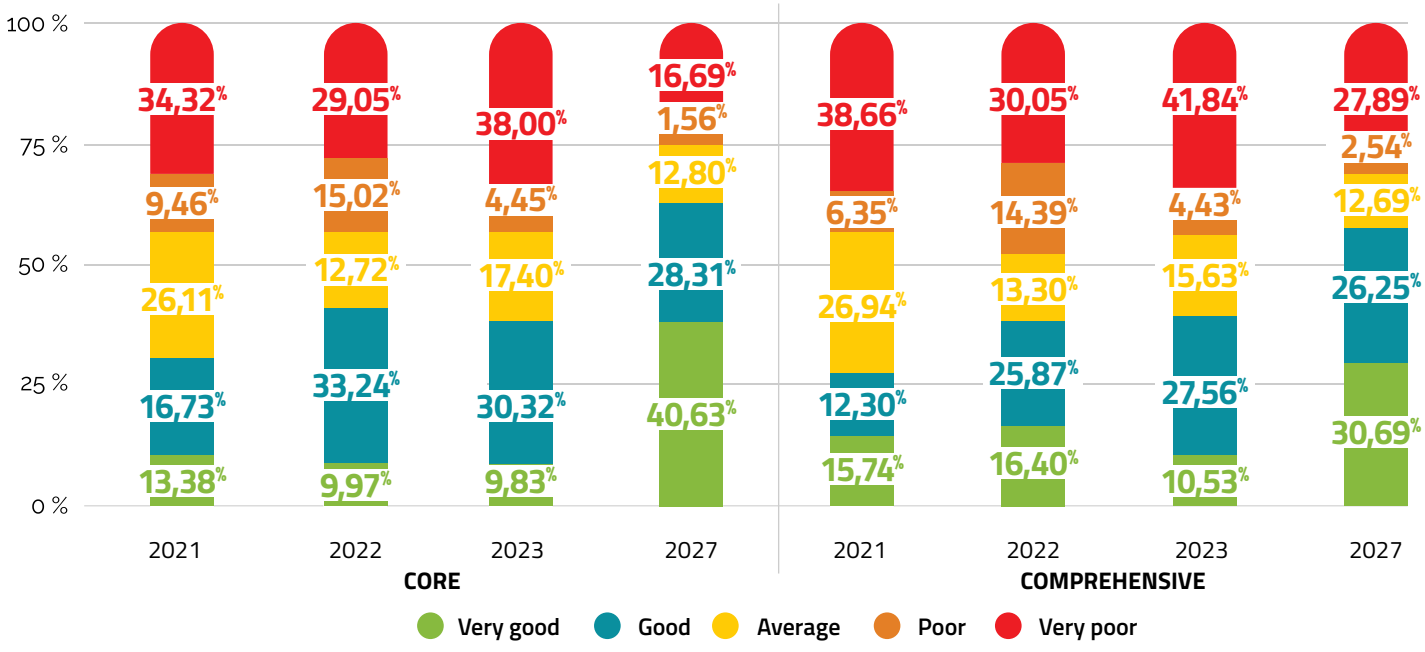
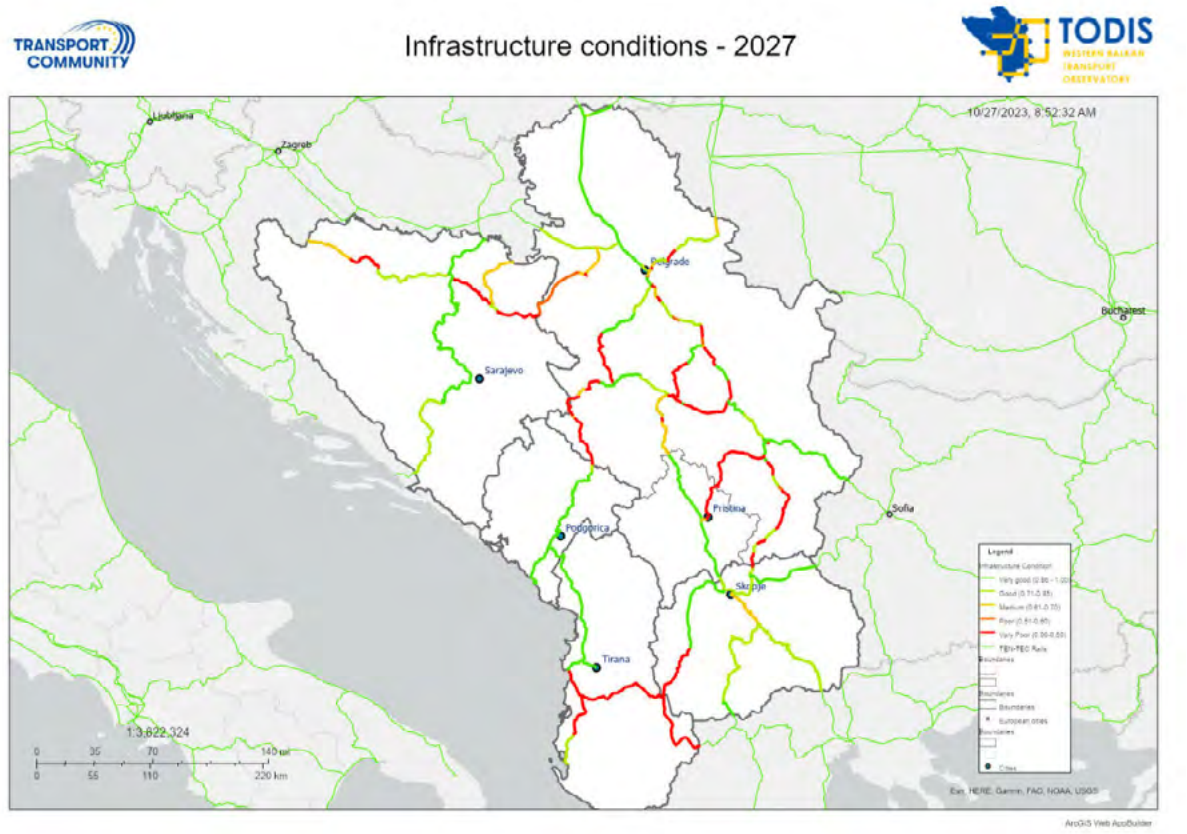


Figure 45.

Rail infrastructure conditions forecast 2027 Map



5.2. *Road indicators*

The TEN-T compliance forecast is based on the estimated completion date for the ongoing TEN-T projects listed under Section V above.

The compliance indicators previously assessed in Chapter 3.2.2 were updated under the following assumptions:

- projects shall be completed as per the currently estimated implementation deadline;
- compliance with TEN-T indicators shall be achieved as planned;
- there will be no compliance downgrading on any of the existing network sections (adequate maintenance of assets shall be ensured).

The results of this exercise are given below. As information on future alternative fuel-related projects that would ensure full compliance with the sufficiency requirements under the directive is still scarce, the compliance forecasting exercise refers solely to the infrastructure profile and condition criterion.

Figure 46.

TEN-T Compliance progress forecast (infrastructure profile and condition)

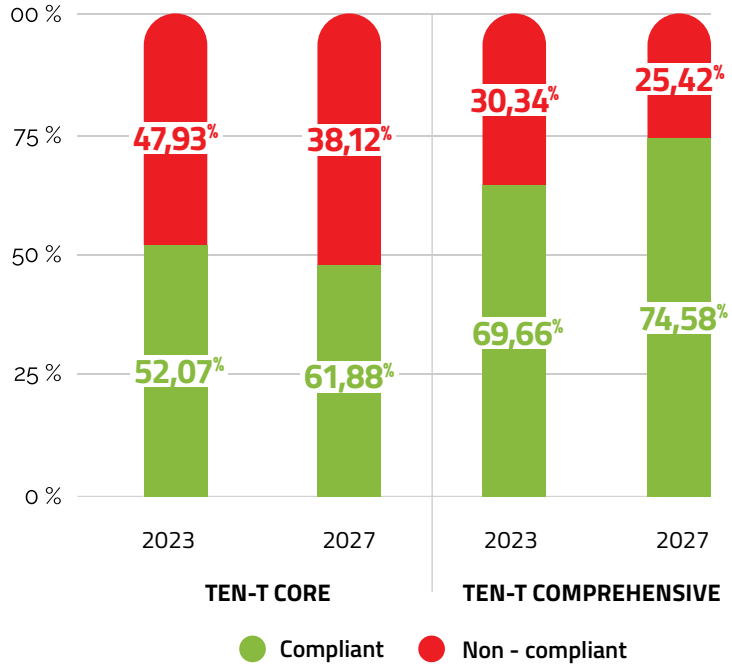
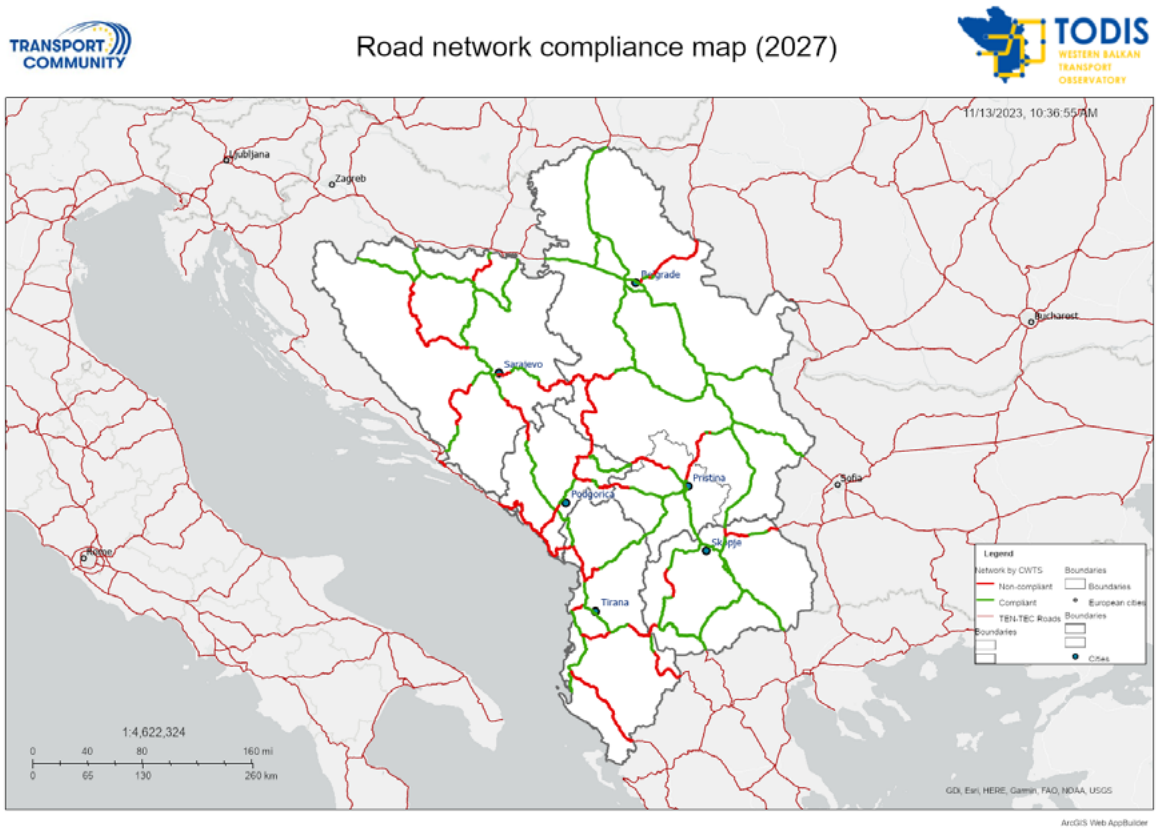


Figure 47.

TEN-T road network – 2027 compliance forecast (infrastructure profile and condition)



For the Core Network, differences are negligible and far less prominent than the significant changes in the project list and data would have suggested. However, this is because, despite much postponement, most projects are still scheduled for completion by 2027. The reliability of such predictions is nevertheless doubtful, considering the delays accumulated in just one year.

5.3. Waterborne transport indicators

INLAND WATERWAYS INDICATORS

As mentioned earlier, the only currently non-compliant indicator for inland waterway ports is the availability of alternative fuels. The Transport Community Permanent Secretariat will try to encourage relevant regional partners to develop concepts and studies to address this indicator through proper analysis and approach. This will be done by implementing the Action plan for Waterborne Transportand Multimodality. However, it is to be expected that none of the core inland ports will be compliant with this indicator before 2025.

The decision to enlarge the TEN-T extension Network with four Serbian inland waterway ports will enhance the importance of investments in ports and rivers to maintain the necessary TEN-T key performance indicators in Serbia.

As for non-compliance in achieving permissible draught on some stretches of the River Sava, this is likely to be resolved soon through dredging-related projects and infrastructure upgrades.

MARITIME INDICATORS

In Albania, VTMIS compliance is expected to be achieved in the medium term, as it is one of the foremost priorities of the Albanian government. In Montenegro, the establishment of the Maritime National Single Window is expected to be completed in 2024. As for non-compliance with clean fuel availability, the Transport Community Permanent Secretariat will encourage the Core Maritime ports of Bar in Montenegro and Durres in Albania to develop concepts and studies to address this indicator. An adequate analysis and a proper approach could result in investments that would ensure the availability of alternative fuels for ships. This will be done by implementing the Action plan for Waterborne Transport and Multimodality.

5.4. Airport indicators

With four ongoing projects, Tirana will become the first airport with a railway connection, in compliance with TEN-T criteria. The works are to be completed in 2024; however, this might not be the case if a contract extension is signed to include electrification of the railway line.

The completion of projects in Sarajevo, Niš and Belgrade will see improved capacity, and the airports will continue to have terminal availability (i.e. sufficient capacity) in the future.

6

Overall Conclusions and Recomendations

6 Overall Conclusions and Recomendations

Meeting TEN-T standards within the timeframe set down in Regulation No 1315/2013 remains a challenging endeavour, necessitating concerted efforts by all regional partners. While notable progress has been made over the past year, vulnerabilities in the status quo persist.

- **Progress towards achieving TEN-T compliance remains sporadic.** Setting a trendline based on the outcomes of past reports is not a straightforward exercise because of the methodological challenges highlighted above. Nonetheless, it is evident that significant compliance gaps persist, most notably in road and rail transport modes, demanding focused and calibrated investments going forward.
- **Disparities in compliance rates remain high between transport modes and individual criteri**a, and so does the progress achieved during the last year, suggesting that discrepancies will remain and even widen in the future.
- **Despite the substantial resources available for infrastructure improvements, they fall short of covering the identified needs**. This underscores the importance of a targeted investment policy that maximises returns and aligns demand with supply, given the increasingly challenging task of upgrading the entire TEN-T Core Network to the required standards by 2030.
- **The implementation pace of large projects remains sub-optimal**. Delays keep accumulating at each project stage, and progressing from the "under preparation" to the "ongoing" status remains challenging, primarily due to funding uncertainties.
- While the overall quality of the road network seems to have improved, rail infrastructure deterioration continues, and **maintenance remains paramount**. Sustainable progress is unattainable without proper care and maintenance of newly constructed assets.
- While significant progress has been made in this regard, **soft policy measures and small-scale projects** offering quick and substantial benefits in terms of TEN-T compliance with limited financial investment **have yet to materialise on the ground**.

As the identified problems are very much alike to those identified before, last year's recommendations remain, therefore, fully valid:

- Enhance the quality and reliability of mid- to long-term project planning and prioritisation.
- Set up a stable list of priorities, allowing efforts to focus on implementation and delivery.
- An assessment of what is realistically achievable by 2030 shall be conducted in the framework of the 5-year rolling work plan. On this basis, develop alternative upgrade scenarios for the non-prioritised sections to ensure an optimal balance between resources and outcomes.
- Prioritise maintenance improvements, encompassing policy planning and tools, in alignment with the Transport Community's Road Action Plan. This should be accompanied by genuine political commitment and the allocation of funds, working in tandem with large infrastructure investments to secure their intended benefits.
- Quick wins should be prioritised as a potential solution to increase TEN-T compliance rates due to the limited available resources.

The second edition of the 5-year rolling work plan (due for delivery in 2024) will draw upon the insight gleaned from the assessment, setting a new ground and framework for a coherent and coordinated TEN-T development policy in the region.

ANNEX I

Road projects overview

ANNEX I – Road projects overview

Albania

Albania is currently implementing a total of 6 TEN-T projects, of which 5 are on the Core Network. The combined length of road sections currently subject to upgrading is 137.71 km (132.88 km on the Core Network and 4.83 km on the Comprehensive Network). The value of the currently ongoing projects is EUR 1,058.54 million (1,041.94 on the Core Network).

An overview of the TEN-T projects currently under implementation in Albania is presented in thetable below:

Table 13.
List of TEN-T projects in Albania

PROJECT NAME	Core/ Comprehensive Network	Foreseen intervention	Length (km)	Cost (M€)	Estimated completion deadline	EIP
Construction of Tirana bypass (Kashar - Vaqarr - Mullet)	Core	New infrastructure	4.83	16.6	2027	Yes
Construction of Shkodra Bypass	Comprehensive	New infrastructure	13.45	44.62	2023	No
Construction of AIC Section 3: Milot – Thumane	Core	Reconstruction/ Rehabilitation	21.04	224.32	12 months after signing the contract	Yes
Construction of AIC Section 4: Thumane – Vore - Kashar	Core	New Infrastructure	45.88	320	2024	Yes
Construction of AIC section Lekaj-Konjat-Fier	Core	Reconstruction/ Rehabilitation	31	240	30 months after signing the contract	Yes
Construction of the Elbasan – Ura e Bushtrices road	Core	Reconstruction/ Rehabilitation	4.83	16.6	2027	No

Figure 48.
Map of TEN-T Projects in Albania

Since last year's reporting, 4 new projects advanced to "ongoing" status, 3 on the Adriatic Ionian Corridor and one on Corridor 8, as follows:

- Construction of AIC Section 3: Milot – Thumane;
- Construction of AIC Section 4: Thumane – Kashar;
- Construction of AIC section Lekaj – Konjat – Fier;
- Construction of the Elbasan – Perrenjas road;

The progress on the two key road axis in Albania (Adriatic Ionian Corridor and Corridor 8) emphasise the Albanian government's commitment to upgrading and enhancing the Core TEN-T Road Network.

Bosnia and Herzegovina

Bosnia and Herzegovina is currently implementing a total of 17 TEN-T projects, with a combined value of EUR 2,622 million (EUR 2,325 million on the Core Network).

The combined length of road sections currently undergoing various upgrades is 252.24 km, of which 143.86 km on the Core Network and 108.38 km on the Comprehensive Network.

An overview of the TEN-T projects currently under implementation in Bosnia and Herzegovina is presented in the table below:

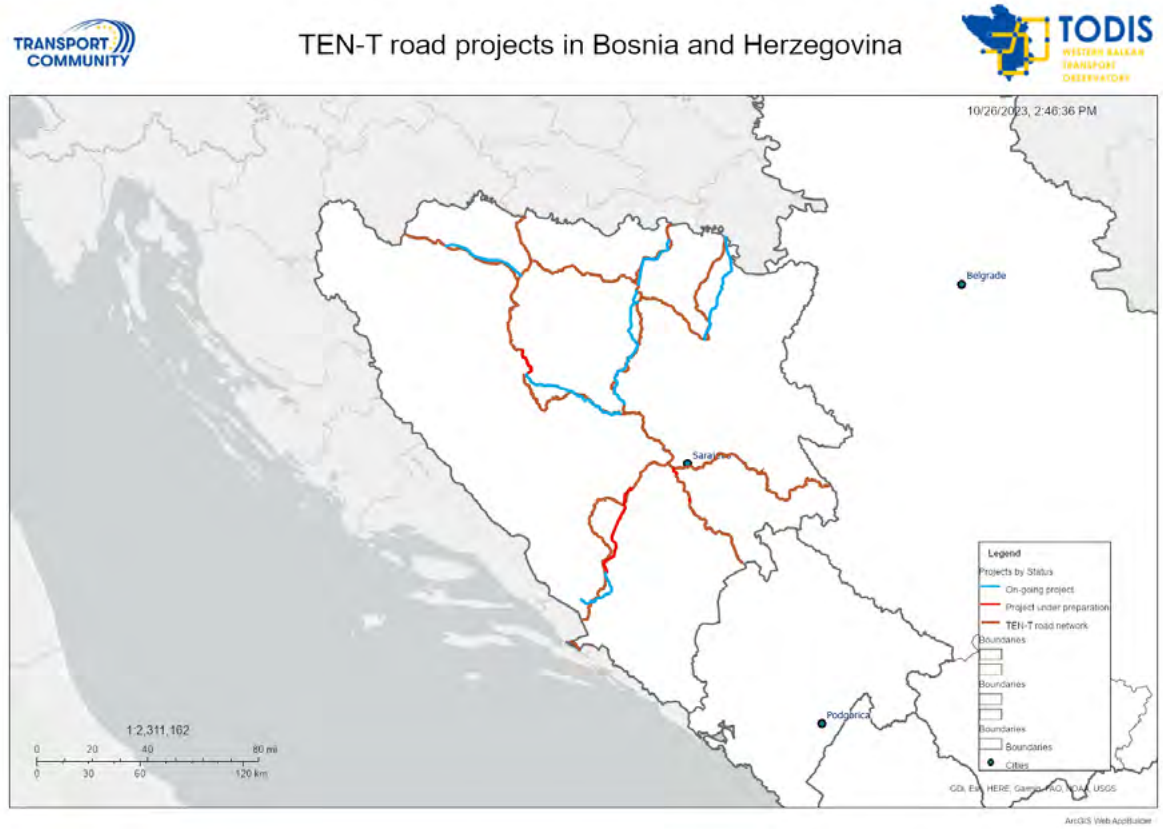
Table 14.

List of TEN-T projects in Bosnia and Herzegovina

PROJECT NAME	Core/ Comprehensive Network	Foreseen intervention	Length (km)	Cost (M€)	Estimated completion deadline	EIP
Construction of Vukoslavije – Johovac motorway	Core	New infrastructure	36	470.3	2028	Yes
Construction of Rudanka - Putnikovo Brdo motorway	Core	New infrastructure	5.2	164.9	2024	Yes
Construction of Putnikovo Brdo – Medakovo motorway	Core	New infrastructure	6.23	173.1	2024	Yes
Construction of Medakovo – Ozimica motorway	Core	New infrastructure	21.29	383.3	2026	Yes
Construction of Ozimica – Poprikuse motorway	Core	New infrastructure	13.74	306	2026	Yes
Construction of Poprikuse – Nemila motorway	Core	New infrastructure	5.5	246.2	2025	Yes
Construction of Nemila – Vranduk motorway	Core	New infrastructure	5.7	34.6	2024	Yes
Construction of Vranduk – Ponirak motorway	Core	New infrastructure	5.3	65.5	2025	Yes
Construction of Ponirak – Vraca motorway	Core	New infrastructure	3.4	70.8	2025	Yes
Construction of Vraca (Tunnel Zenica) - Donja Gračanica motorway	Core	New infrastructure	3.9	57.6	2025	Yes
Construction of Mostar South - Tunnel Kvanj motorway	Core	New infrastructure	9.2	81.5	2026	Yes
Construction of Tunnel Kvanj – Buna motorway	Core	New infrastructure	5.2	106.9	2025	Yes
Construction of Buna – Počitelj motorway	Core	New infrastructure	7.2	37.2	2025	Yes
Construction of Počitelj – Zvirovići motorway	Core	New infrastructure	11.1	84.6	2023	Yes
Construction of Banja Luka – Prijedor motorway	Comprehensive	New infrastructure	40.7	297	2027	No
Construction of Nević polje - Vitez express road	Core	New infrastructure	4.9	42.5	N/A	No
Construction of the Orašje – Tuzla motorway	Comprehensive	New infrastructure	67.68	N/A	N/A	No

Figure 49.

Map of TEN-T Projects in Bosnia



Compared to last year's report, the following significant modifications occurred:

- Motorway sections Johovac – Rudanka and Tarcin – Ivan were finalised and opened to traffic;
- The 64.2 km long Jajce - Lašva express road was replaced with the Nevic Polje – Vitez express road, as the latter is the only part of it that has effectively secured funding;
- Orašje - Tuzla motorway was added to the list, as having reportedly secured funding;
- The costs of 11 ongoing projects have undergone upward revision, while completion deadlines have been postponed for 9 projects.

Bosnia and Herzegovina upholds its unwavering commitment to complete Corridor Vc at motorway standards. However, the funding gap for the remaining sections from Ivan to Mostar South has yet to be closed. Furthermore, the substantial escalation in costs for ongoing projects puts additional strain on Bosnia and Herzegovina's limited funding capacity.

Kosovo

Kosovo is currently implementing a total of 2 TEN-T projects, with a combined value of EUR 74 million, one on the Core Network (EUR 42 million) and one on the Comprehensive Network (EUR 32 million). The combined project length is 32.8 km.

An overview of TEN-T projects currently under implementation in Kosovo is presented in the table below:

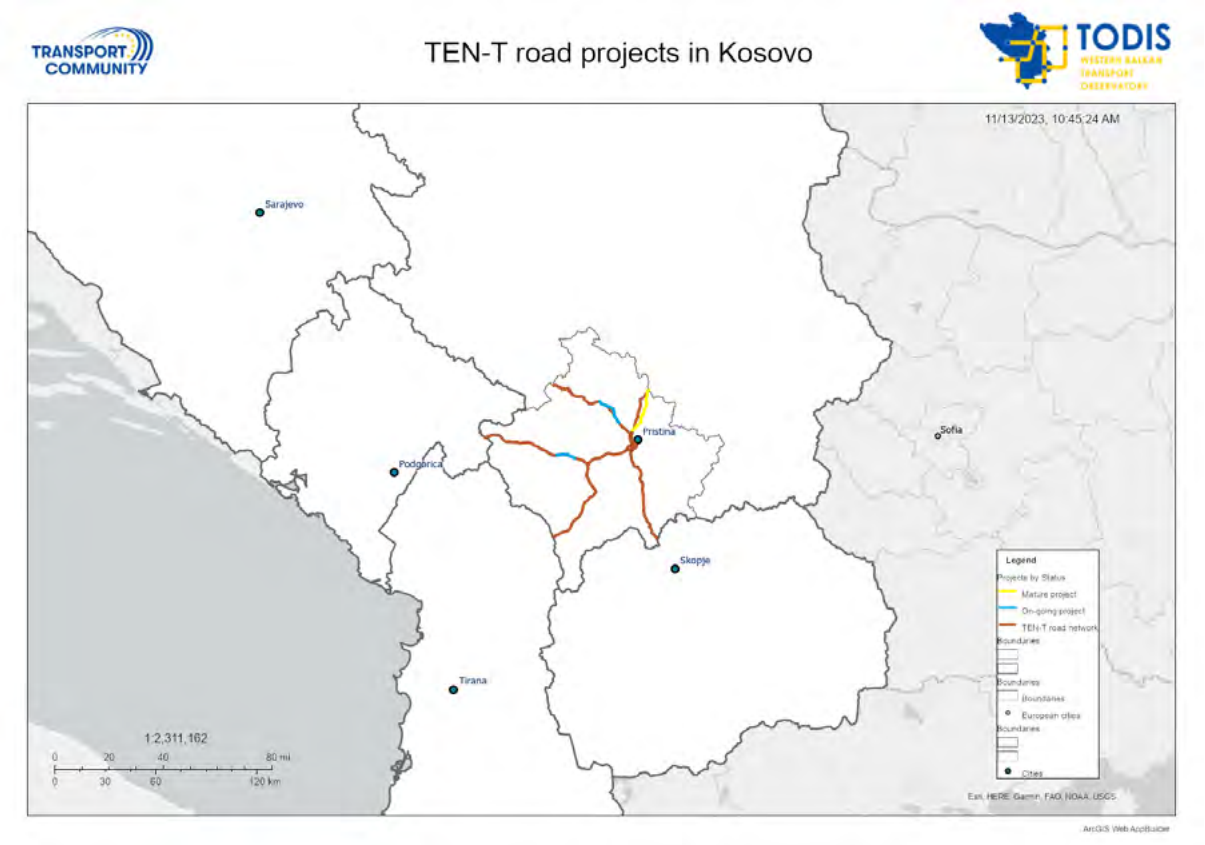
Table 15.

List of TEN-T projects in Kosovo

PROJECT NAME	Core/ Comprehensive Network	Foreseen intervention	Length (km)	Cost (M€)	Estimated completion deadline	EIP
Construction of Pristina - Mitrovica motorway	Core Network	New infrastructure	19.4	42	2023	No
Widening of Kjeve-Dollc road section	Comprehensive Network	Reconstruction/ Rehabilitation	13.4	32	2024	No

Figure 50.

Map of TEN-T Projects in Kosovo



As anticipated at the time of the previous report, the Pristina – Merdare Motorway is no longer labelled ongoing, having failed to secure loan co-financing 3 years after the approval of the EU grant. On the bright side, the first section of Kijeve – Zahaq has progressed and is consequently included in the list.

While Kosovo has already upgraded the majority of its Core Network to the required standards, the missing link between Pristina and Merdare (which is also one of the EIP Flagships) continues to fall short of the desired pace of progress.

Montenegro

Montenegro is currently implementing 2 TEN-T projects, with a combined value of EUR 55.1 million.

The combined length of road sections undergoing various upgrades is 61.6 km, mostly on the Comprehensive Network, as shown in the table below:

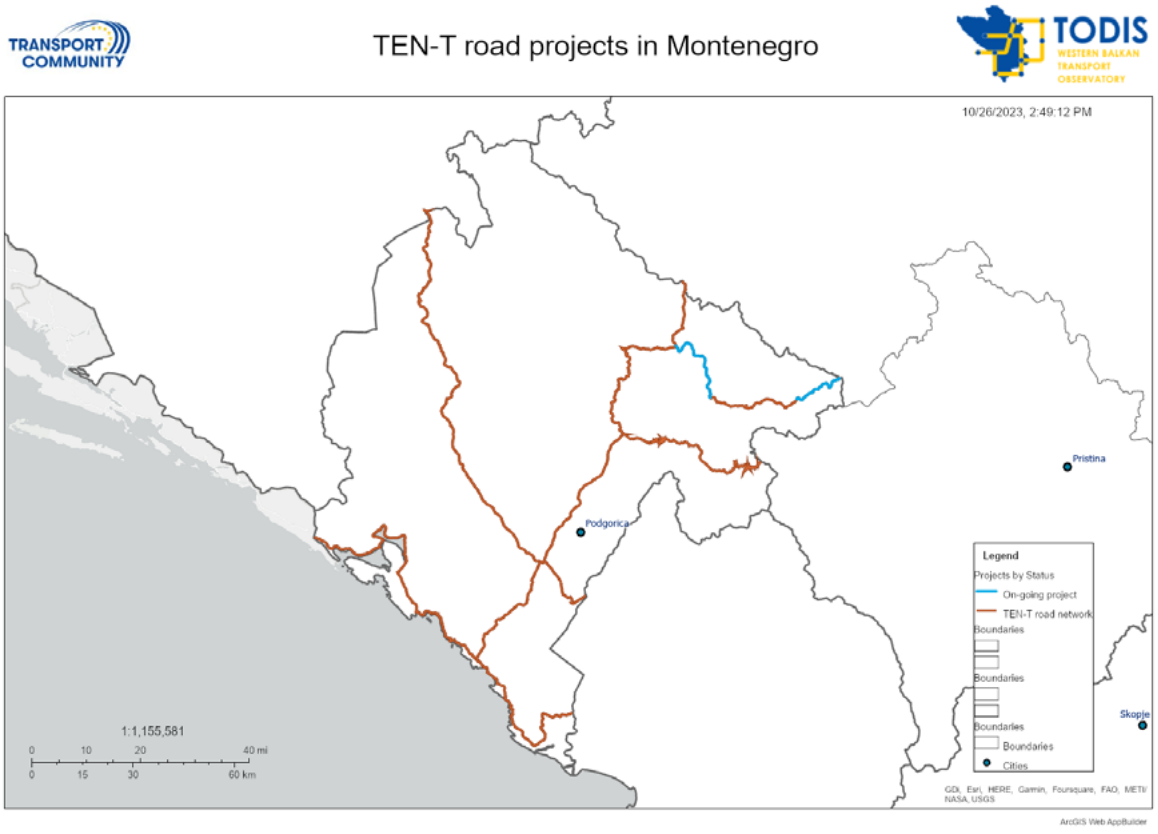
Table 16.

List of TEN-T projects in Montenegro

PROJECT NAME	Core/ Comprehensive Network	Foreseen intervention	Length (km)	Cost (M€)	Estimated completion deadline	EIP
Reconstruction and widening of road section M-2 Rozaje - Spiljani, including works on 5 bridges and 10 tunnels.	Comprehensive	Reconstruction/ rehabilitation	18.6	19.1	2023	No
Reconstruction and widening of road section M-2 Berane - Bijelo Polje - Mojkovac, length 43 km	Core/ Comprehensive network	Reconstruction/ rehabilitation	43	36	2026	No

Figure 51.

Map of TEN-T Projects in Montenegro



Compared with last year's report, the Podgorica – Danilovgrad road rehabilitation project has been finalised and opened to traffic. Completion deadlines for the 2 remaining projects have been postponed as progress on the ground is slow.

Following the completion of the initial segment of the Bar – Boljare motorway and the withdrawal of grant funding for the Budva bypass, Montenegro has yet to secure funding for any of its three EIP Flagship projects crossing its territory. As the list of ongoing projects in Montenegro shrinks each year, it is crucial to expedite the progress of projects currently under preparation to re-align with the evolving pace of TEN-T Network development in the region.

North Macedonia

North Macedonia is currently implementing a total of 10 TEN-T projects with a combined value of EUR 2,383.18 million. 9 of these projects are on the Core Network, while the 10th is located on the Comprehensive Network.

The combined length of road sections currently undergoing various upgrades is 253.03 km (213.73 km on the Core Network and 39.3 km on the Comprehensive Network).

An overview of the TEN-T projects currently under implementation in North Macedonia is presented in the table below:

Table 17.
List of TEN-T projects in North Macedonia

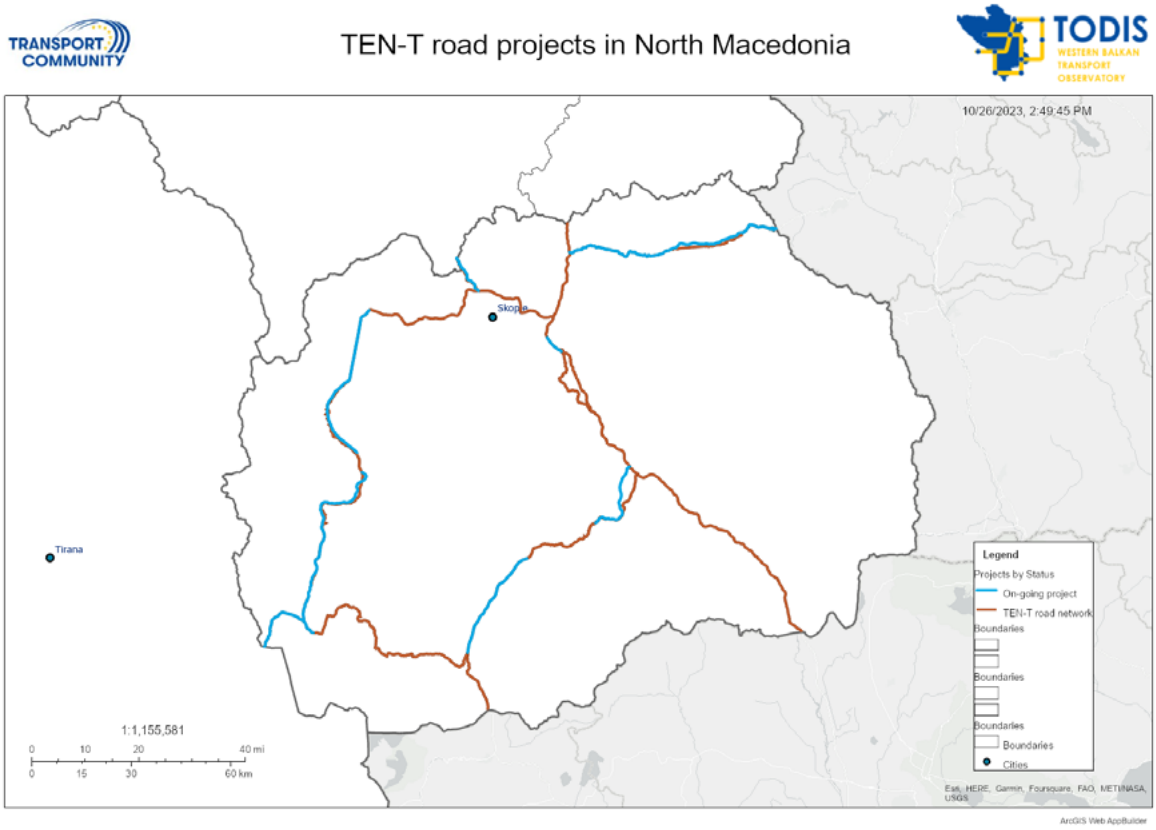
PROJECT NAME	Core/ Comprehensive Network	Foreseen intervention	Length (km)	Cost (M€)	Estimated completion deadline	EIP
Construction of Kriva Palanka – Stracin express road	Core	New infrastructure	25.5	104	2024	No
Rehabilitation and upgrade of Kriva Palanka - Deve Bair road section	Core	Reconstruction/ rehabilitation	13.2	13.67	2023	No
Construction of the Bukojcani –Kicevo motorway section	Core	New infrastructure	10.5	123	2027	No
Construction of the Kicevo - Ohrid motorway	Core	New infrastructure	57.7	598	2023	No
Construction of Blace – Skopje (Stenkovec Interchange) motorway Section	Core	New infrastructure	12.5	230.41	2027	No
Reconstruction of Podmolje -Struga	Core	Reconstruction/ rehabilitation	19.33	8.2	2023	No
Rehabilitation with widening of motorway A1, section Petrovec - Katlanovo (left and right carriageway)	Core	Reconstruction/ rehabilitation	5.5	5.9	2023	No
Construction of the Prilep-Bitola motorway	Comprehensive	New infrastructure	39.3		2028	No
Construction of the Tetovo – Gostivar – Bukojcani motorway	Core	New infrastructure	47.8	1,300	2028	No
Construction of the Trebenista – Struga – Kjafasan motorway section	Core	New infrastructure	21.7		2028	No

Compared with last year's report, one project was delisted following successful completion (Rehabilitation and upgrade of Kumanovo – Stracin), while 5 additional entries were included:

- 2 road rehabilitation projects identified during the TODIS data collection exercise;
- 3 motorway construction projects awarded in early 2023;

Additionally, the cost of one project was revised upwards (Construction of Kriva Palanka – Stracin express road), and completion deadlines were postponed for 4 projects. While no revised completion deadline was provided, the Kicevo – Ohrid motorway section continues to experience delays and is highly unlikely to be completed in 2023. Altogether, North Macedonia's commitment to the TEN-T Road Network development (particularly Corridor 8) has gained traction.

Figure 52.
Map of TEN-T Projects in North Macedonia



Serbia

Serbia is currently implementing a total of 5 TEN-T projects, with a combined value of EUR 3,770.6 million (EUR 2,375.6 million on the Core Network and EUR 1,395 million on the Comprehensive Network).

The combined length of road sections currently undergoing various upgrades is 300 km (139.7 km on the Core Network and 160.3 km on the Comprehensive Network).

An overview of the TEN-T projects currently under implementation in Serbia is presented in the table below:

Table 18.
List of TEN-T projects in Serbia

PROJECT NAME	Core/ Comprehensive Network	Foreseen intervention	Length (km)	Cost (M€)	Estimated completion deadline	EIP
Construction of Novi Sad - Ruma express road	Comprehensive network	New infrastructure	47.91	650	2027	No
Construction of Pojate - Preljina motorway	Comprehensive network	New infrastructure	112.39	745	2025	No
Construction of Niš (Merošina) - Merdare motorway (Beloljin - Plocnik)	Core Network	New infrastructure	32.7	225.6	2027	Yes
Construction of Preljina - Pozega motorway	Core Network	New infrastructure	30.96	450	2024	No
Construction of the Pozega – Duga Poljana motorway section	Core Network	New infrastructure	76	1,700	2027	Yes

Figure 53.

Map of TEN-T Projects in Serbia

Compared with last year's report, Section B of the Belgrade Bypass has been completed, therefore being removed from the project list, while a new motorway section from Pozgea to Duga Poljana was added. Some segments of three ongoing projects have been finalised and opened to traffic (Pojate – Preljina, Preljina - Pozega and Niš – Plocnik), but the projects are yet to come to completion. Completion deadlines for basically all projects in the list have been updated. Serbia is constantly upgrading its TEN-T Road Network, investing considerable amounts in this regard.

ANNEX II

Rail projects overview

ANNEX II – Rail projects overview

Albania

Reconstruction and modernisation of the Durres – Tirana section and construction of the new Tirana - Rinas Airport branch line is ongoing. Works are on schedule, with approximately 60% of the physical implementation completed. The Design & Build Contract commenced on March 2021, where the construction period started on November 2021. The project is receiving support from both the European Union, offering an investment grant of 35.5 million EUR under the Connectivity Agenda for the Western Balkans, and the European Bank for Reconstruction and Development (EBRD), providing a 36.9 million EUR loan. On the fourth quarter of 2023, Albania is requiring additional costs from the Loan Component (EBRD), to cover three additional components (1) Price Adjustment of the Contract of Works due to the market price increment (29 million EUR); (2) Construction of the new Railway Station Buildings along the existing segment (11,5 million EUR); (3) Railway infrastructure 4km Extension Project from Tirana PTT to Tirana City Centre Stop (16.1 million EUR). With these components, the existing Contract will be enriched and completed with all the missing components, except the electrification of the railway line as the last component to be determinate again through EBRD support, but in a separate request.

As part of this contract, over 34,3 km of the existing railway track between Tirana PPT and the Port of Durres is being rehabilitated. Furthermore, a new 6.4 km-long track is being constructed to connect the city of Tirana with Tirana International Airport. This project has been identified as a flagship initiative of the Economic and Investment Plan for the Western Balkans, which the European Commission published in October 2020.

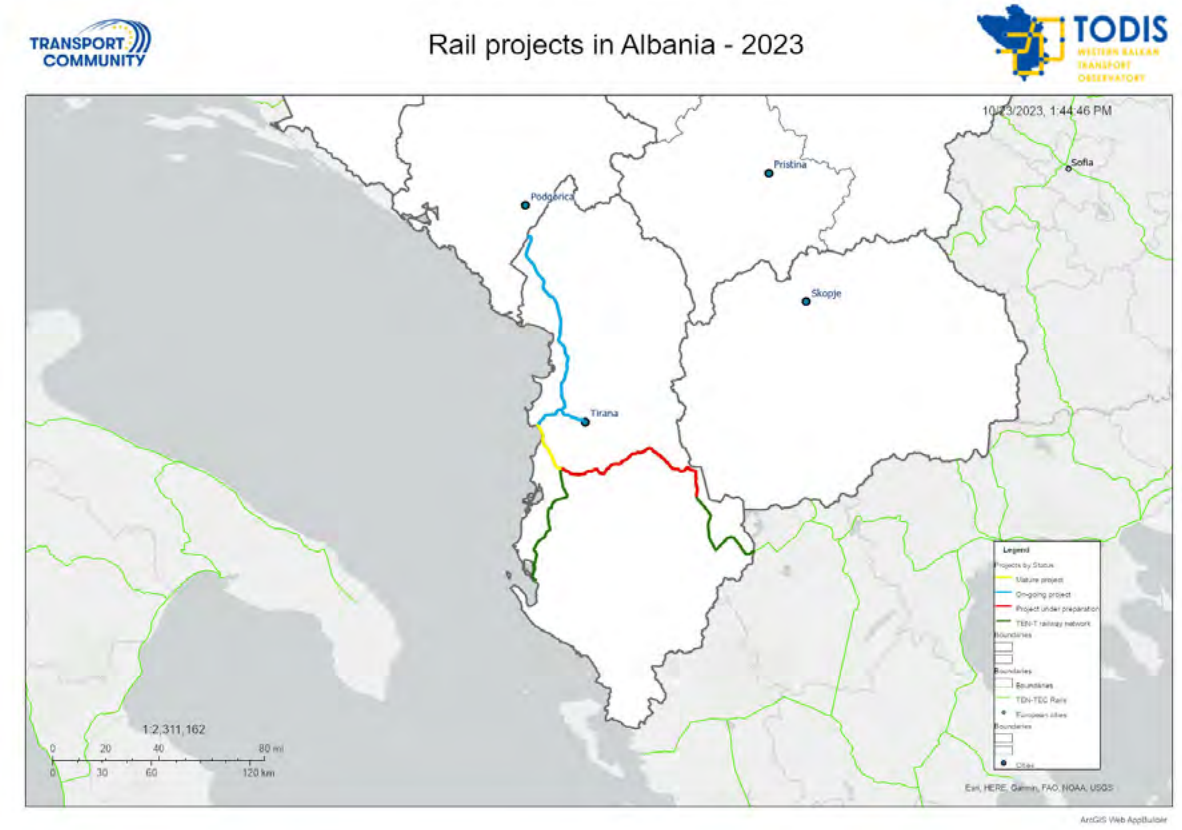
The rehabilitation and construction of this 40,7 km railway line on the Core Network are expected to be completed by 2024. It complies with all TEN-T compliance indicators, except for electrification, which is planned for the project's second phase. The estimated overall cost of the new line will reach 129 million EUR, without last component - electrification.

Another ongoing project concerns the reconstruction of the Vore – Hani i Hotit section. With funding secured, tender documentation is being prepared at present. The procurement of works is anticipated to commence no earlier than mid-2024. This project spans a total length of 120 km, with estimated costs reaching 340 million EUR, without the remaining last component - electrification.

Table 19.
List of TEN-T projects in Albania

PROJECT NAME	Core/ Comprehensive Network	Foreseen intervention	Length (km)	Cost (M€)	Estimated completion deadline	EIP
Rehabilitation of the railway Durres - Tirana Public Transport Terminal PTT and construction of the new Tirana- Rinas branch line	Core Network	Rehabilitation/ new infrastructure	40,7	129	2024	Yes
Rehabilitation of Vore - Han i Hotit Railway Line	Core Network	Rehabilitation/ Reconstruction	120	340	2027	Yes

Figure 54.
Railway projects in Albania



Bosnia and Herzegovina

CORRIDOR VC-OVERHAUL AND MODERNISATION OF THE SAMAC – DOBOJ – RJECICA RAILWAY SECTION

This project is part of the broader initiative to complete Corridor Vc, which connects the Port of Ploče on the Croatian Adriatic coast to Budapest. Over 325 km of Corridor Vc runs through Bosnia and Herzegovina.

Upon its completion, the railway line will be upgraded to a standard that aligns with the significance of this corridor. This enhancement in connectivity will not only benefit Bosnia and Herzegovina and its neighbouring Regional partners but will also strengthen the ties between South-East Europe and the European Union. The project has been designated as a Flagship 2 project under the Economic and Investment Plan for the Western Balkans.

The 85 km Samac – Doboj - Rjecica section is currently under evaluation under the WBIF mechanism. The estimated project cost is EUR 162.5 million, with an EUR 82 million grant. Construction is expected to finish by 2025. The project complies with all TEN-T compliance indicators, except for ERTMS and train length.

However, progress on this project has stalled since December 2021 due to challenges in securing financing. It is imperative that Bosnia and Herzegovina address all pending issues with the IFIs and initiate the tender procedure.

Additionally, there are plans for a track overhaul on the railway section Podlugovi-Sarajevo of Corridor Vc, as well as similar interventions on the Doboj-Maglaj and Jelina-Zenica sections of Corridor Vc. While the necessary documentation is complete, financing has not been secured yet.

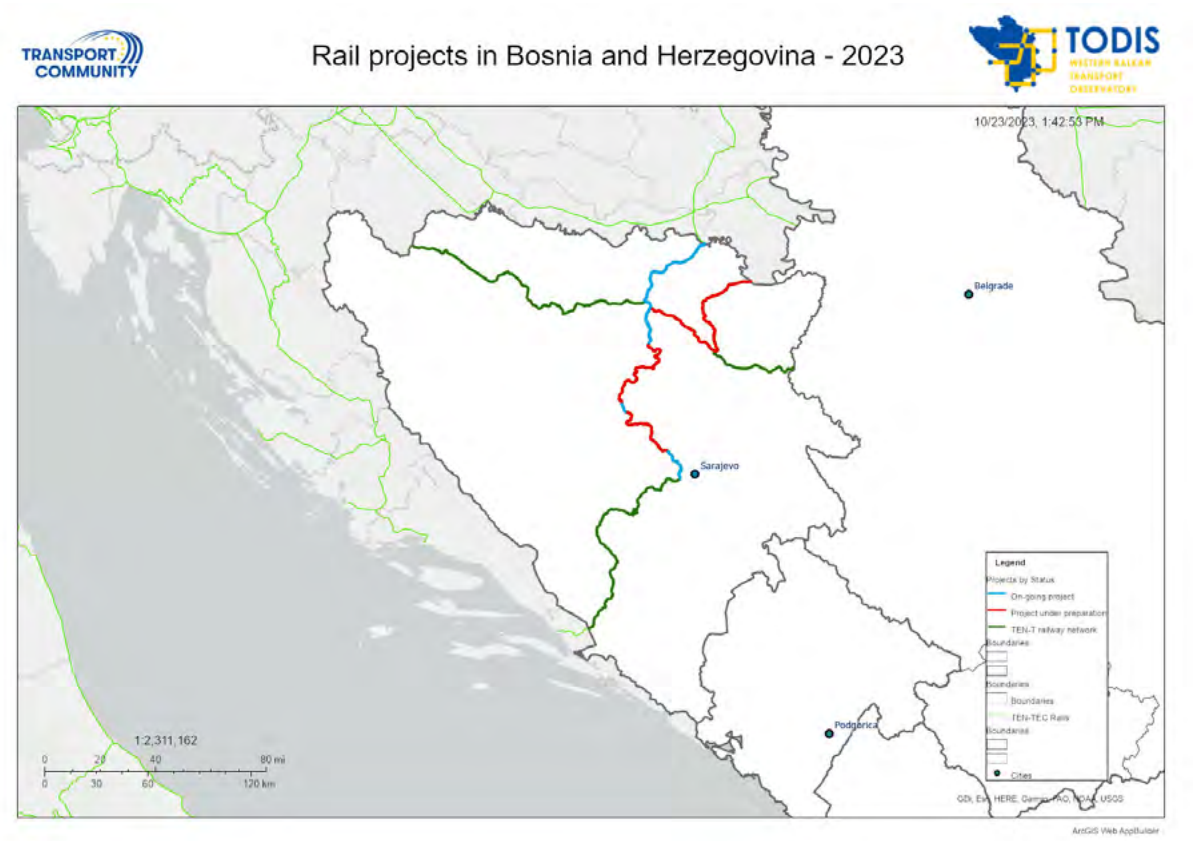
Table 20.

List of TEN-T projects in Bosnia and Herzegovina

PROJECT NAME	Core/ Comprehensive Network	Foreseen intervention	Length (km)	Cost (M€)	Estimated completion deadline	EIP
Corridor Vc-Overhaul and modernisation of the railway section Šamac – Doboj – Rječica	Core Network	Rehabilitation/ reconstruction	85	162	2027	Yes

Figure 55.

Railway projects in Bosnia and Herzegovina



Kosovo

REHABILITATION AND MODERNISATION OF ROUTE 10

Railway Route 10 in Kosovo spans 149 km, stretching from the common crossing point with Serbia in northern Kosovo (near Leshak station) to the border with North Macedonia (Hani i Elezit station). Rail Route 10 branches off from Corridor X at Lapovo (Serbia) and serves as an alternative route to Skopje: Belgrade – Lapovo – Kraljevo - Fushe Kosove – Skopje.

The project is one of regional significance, focusing on comprehensive rehabilitation and modernisation to meet EU standards in line with technical specifications for interoperability. However, this phase does not include electrification. Furthermore, it is an integral component of the Flagship 2 projects outlined in the Economic and Investment Plan for the Western Balkans.

The project's implementation will enhance regional connectivity, facilitating regional trade and passenger travel. It fosters regional cohesion and aids in developing seamless connections for passengers and freight in the Western Balkans. Importantly, this railway is the primary direct connection between Serbia, Kosovo, and North Macedonia.

The progress schedule for the general rehabilitation of railway Route 10 is as follows:

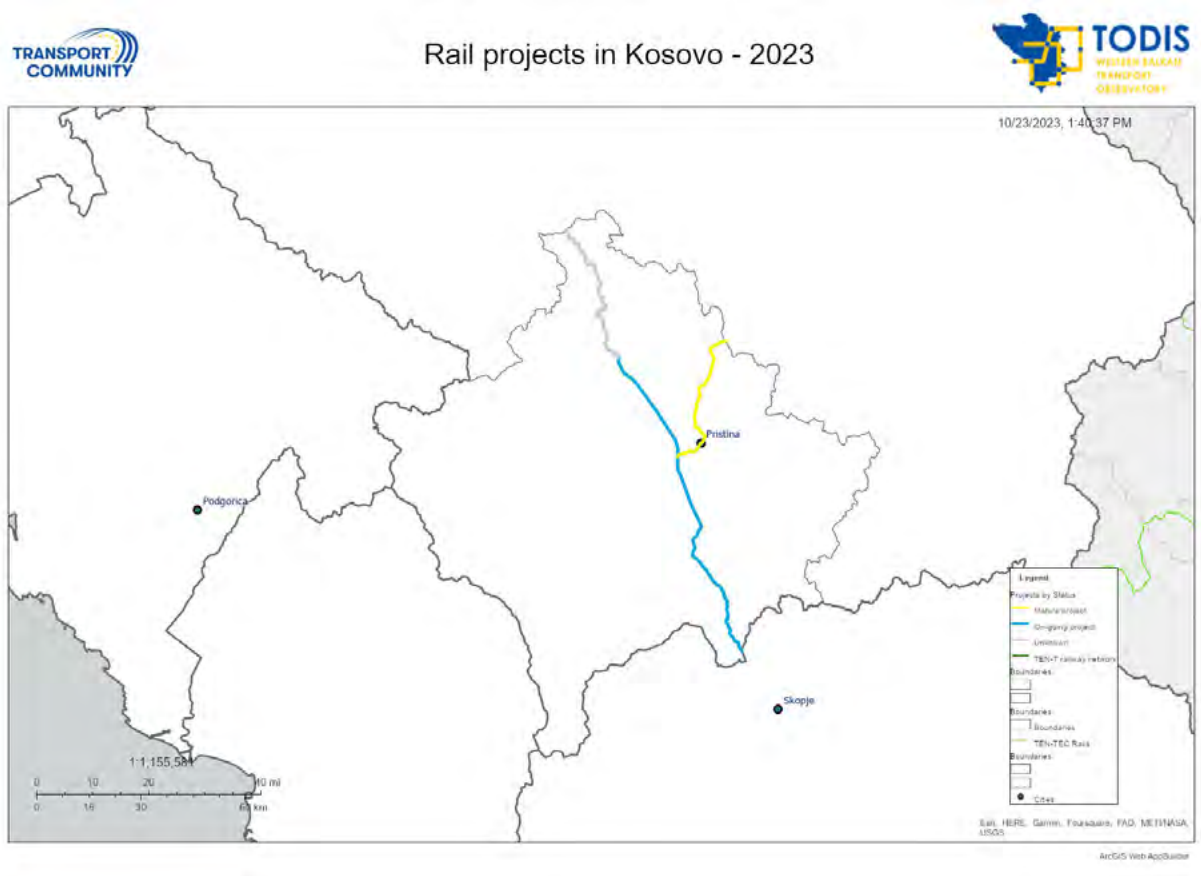
1. Phase one, encompassing general rehabilitation and modernisation, commenced in August 2019 and concluded in 2022 for civil engineering works. Works related to signalling and telecommunications are to be finalised by the end of 2024.
2. Construction on the Mitrovica-Fushe Kosove section (phase two) is underway, with an expected completion date in 2024.
3. Preliminary design work for the Mitrovica - Lesak section is ongoing under IPF 9.

The total estimated project cost is EUR 298 million, with an projected deadline of 2027. However, there is a delay in completing the first phase of the project due to a shortfall in funds for the signalling system and telecommunications. Nonetheless, addressing this issue is of the utmost priority and should be resolved as soon as possible.

Table 21.
List of TEN-T projects in Kosovo

PROJECT NAME	Core/ Comprehensive Network	Foreseen intervention	Length (km)	Cost (M€)	Estimated completion deadline	EIP
General Rehabilitation of Railway Route 10 -Phase 1	Core Network	Rehabilitation/ Reconstruction	65	114.7	2024	Yes
General Rehabilitation of Railway Route 10 -Phase 2	Core Network	Rehabilitation/ Reconstruction	34	64	2024	Yes
General Rehabilitation of Railway Route 10 -Phase 3	Core Network	Rehabilitation/ Reconstruction	50	118.7	2027	Yes

Figure 56.
Railway projects in Kosovo



Montenegro

Montenegro is implementing 6 TEN-T projects, with a total value of EUR 264 million (all on the Core Network).The length of sections currently undergoing various upgrades is 114 km.

An overview of the TEN-T projects currently under implementation in Montenegro is presented in the table below:

Table 22.
Overview of rail TEN-T projects in Montenegro

PROJECT NAME	Core/ Comprehensive Network	Foreseen intervention	Length (km)	Cost (M€)	Estimated completion deadline	EIP
Modernisation of the Bijelo Polje railway station	Core Network	New construction	N/A	2	2023	Yes
Track overhaul of the railway sections Railway line Lutovo – Bratonozici – Bioce	Core Network	Rehabilitation / reconstruction	20	20	2027	Yes
Railway line Vrbnica - Bar: Rehabilitation of 13 steel bridges;	Core Network	Rehabilitation	3	30	2027	Yes
Railway line Vrbnica – Bar: Rehabilitation of 12 tunnels;	Core Network	Rehabilitation	4	20	2027	Yes

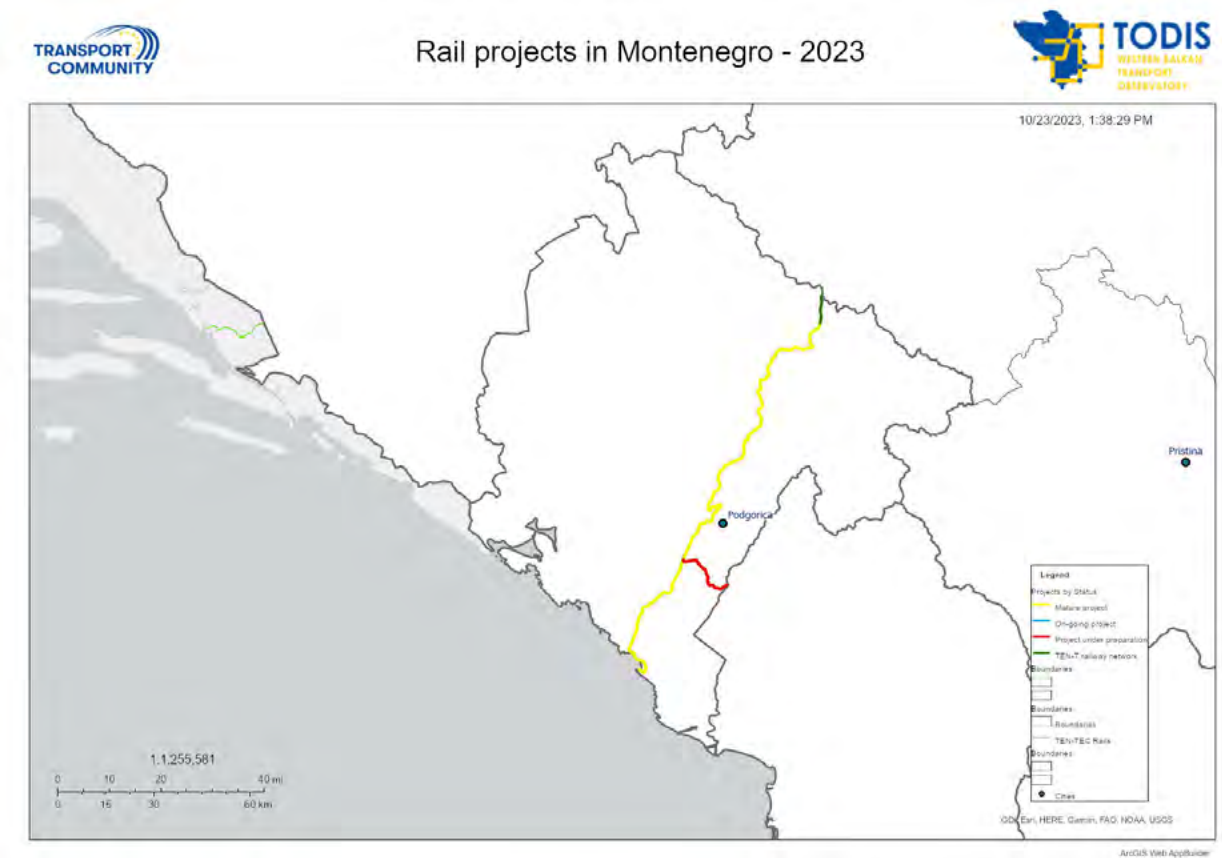
Montenegro has rehabilitated 13 concrete bridges and 4 tunnels along the Vrbnica–Bar railway line. The bridges and tunnels selected for reconstruction had not been refurbished for nearly four decades.

Following the project's completion, trains up to 500 meters in length will be able to operate on these lines at a design speed of 100 km/h, a substantial improvement on the previous speed of 50 km/h. While the Route 4 railway line will remain electrified, there are no plans for implementing ETCS, GSM-R, or the construction of dry port terminals at this time. Therefore, there is still room for improvement on this main Montenegrin railway route to achieve TEN-T compliance.

Furthermore, reconstruction efforts for thirteen critical steel bridges and twelve tunnels are poised for implementation, with anticipated completion dates in 2023 and 2024.

Construction at the joint border station in Bijelo Polje is nearing completion, and the commencement of joint border control operations between Montenegro and Serbia is expected in November 2023.

Figure 57.
Railway projects in Montenegro



North Macedonia

The Macedonian railway network is set to undergo significant improvements on the back of projects for new railway infrastructure in the eastern part of Corridor VIII and a rehabilitation project on Corridor X.North Macedonia is currently implementing four TEN-T projects, with a total value of EUR 775 million (all on THE Core Network)The length of rail sections undergoing various upgrades is 130 km (all on the Core Network).

An overview of the TEN-T projects is presented in the table below:

Table 23.
Overview of rail TEN-T projects in North Macedonia

PROJECT NAME	Core/ Comprehensive Network	Foreseen intervention	Length (km)	Cost (M€)	Estimated completion deadline	EIP
Rehabilitaton of Eastern Part of Rail Corridor VIII-PHASE I-Section Kumanovo-Beljakovce	Core Network	New infrastructure	30.35	48.9	2024	yes
Rail Corridor VIII-PHASE 2-Section Beljakovce-Kriva Palanka	Core Network	New infrastructure	34	145	2025	yes
Rail Corridor VIII-PHASE 3-Section Kriva Palanka -Deve Bair, border with the Republic of Bulgaria	Core Network	New infrastructure	23.4	560	2029	yes

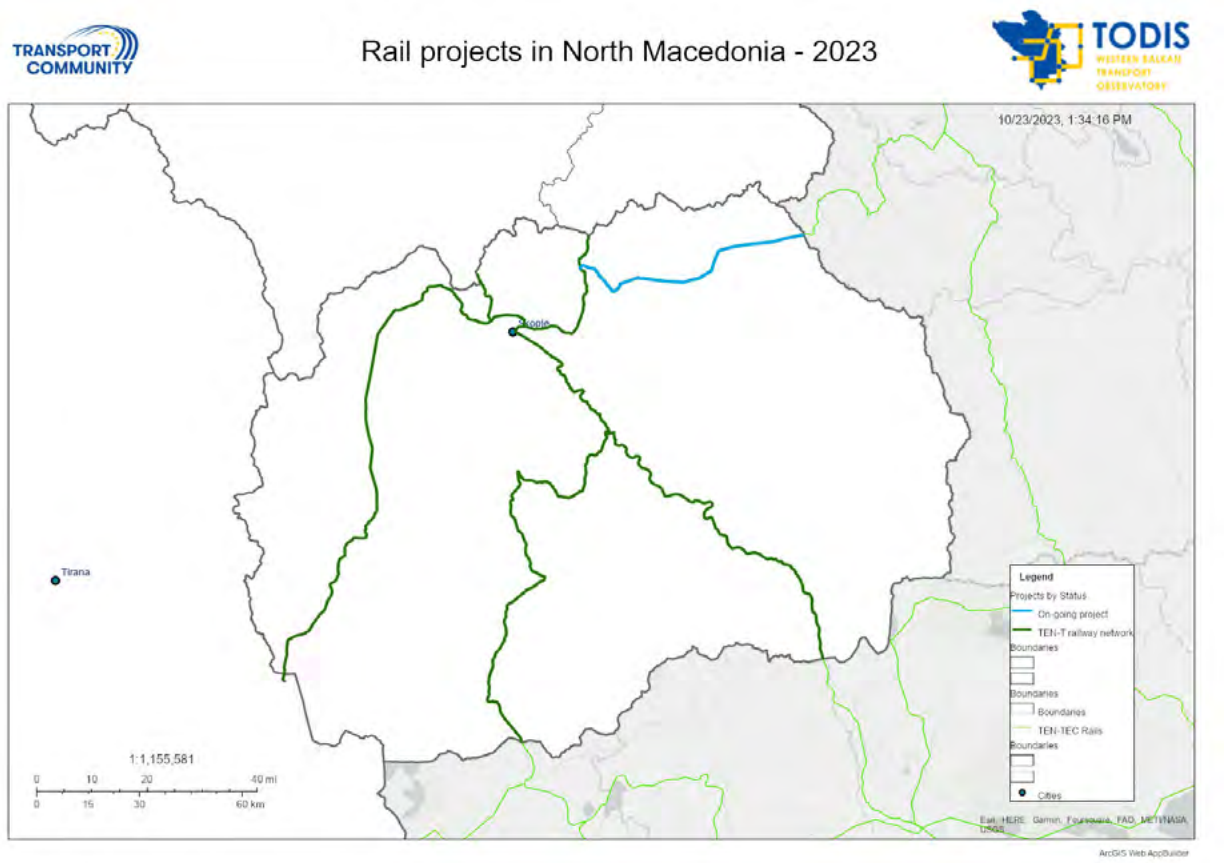
Renewal works on the Nogaevci-Negotino rail section were completed by 2023. This EUR 9.6 million project primarily involved basic activities in 2022 and 2023, with no additional improvements in terms of TEN-T compliance. The primary goal of this project, covering a 31 km electrified rail section with an allowable axle load of 22.5 t, was to maintain the operating speed at the same level as the design speed of 100 km/h.

North Macedonia commenced construction on phases 1 and 2 of a crucial rail project on Corridor VIII, connecting Kumanovo to the Bulgarian border, on October 19, 2022. These works are on schedule. The tender for the third phase, covering Kriva Palanka to the Bulgarian border, is set to be launched by the end of 2023.

Construction on the first two sections is in progress, with a completion deadline of 2025. The tender for the third section is in the preparation phase and has partially secured funding, with EUR 60.7 million secured by the EU from IPA funds, and the remaining funding secured through loans from the EBRD and the EIB.

The implementation of the eastern part of Rail Corridor VIII aims to make the corridor compliant with Directive 2008/57/EC on the interoperability of the rail system. The project encompasses electrification, a line speed of 100 km/h for freight, an axle load of 22.5 t, a track gauge of 1435 mm, and the implementation of ETCS. The only aspect of project planning that does not comply with TEN-T standards is the maximum train length of 740 m. Regarding GSM-R implementation, North Macedonia plans to roll it out as a separate project.

Figure 58.
Railway projects in North Macedonia



Serbia

Serbia is implementing 4 TEN-T projects, with a total value of EUR 1.409 billion. The length of sections currently undergoing various upgrades is 269 km.

An overview of the TEN-T projects currently under implementation in Serbia is presented in the table below:

Table 24.

Overview of TEN-T projects rail in Serbia

PROJECT NAME	Core/ Comprehensive Network	Foreseen intervention	Length (km)	Cost (M€)	Estimated completion deadline	EIP
Reconstruction and modernisation of rail line Novi Sad - Subotica – Kelebija - border with Hungary	Core Network	New infrastructure	108	1021	2024	No
Reconstruction and modernisation of Niš- Dimitrovgrad railway line	Core Network	Reconstruction / rehabilitation	108	426	2027	Yes
Modernisation and reconstruction of the existing railway line Subotica - Horgoš - border with Hungary	Core Network	Reconstruction / rehabilitation	27	93	2022	No
Construction of a single operational centre for railway traffic management on the railway network of the Republic of Serbia	Core Network	New infrastructure	/	115	2026	No
Construction works on the Main Railway station - phase 2 - stage 3	Core Network	New infrastructure	/	15	2023	No
Construction of tunnel no. 4 on the Stalać-Đunis section within the Belgrade-Niš project	Core Network	New infrastructure	3.3	41.4	2027	Yes

In 2022, Serbia successfully completed the first two sections of the railway line from Belgrade to the Hungarian border near Subotica, namely:

- Belgrade – Stara Pazova: This 34.5 km section cost EUR 307.5 million in total.
- Stara Pazova – Novi Sad: spanning 40.4 km, this section cost EUR 615.7 million in total.
- From April 2022 to October 2023, the refurbished line was used by approximately 4.7 million passengers.

Construction on the Novi Sad – Subotica section commenced in April 2022, and it is expected to be completed by 2024, complying with all TEN-T requirements. The entire line between Belgrade and Novi Sad is interoperable, featuring a maximum speed of 200 km/h and being covered by ETCS 2.

Serbia also finished work on the regional railway line between Subotica and Horgoš (on the Hungarian border). This electrified line has an operational speed of 120 km/h.

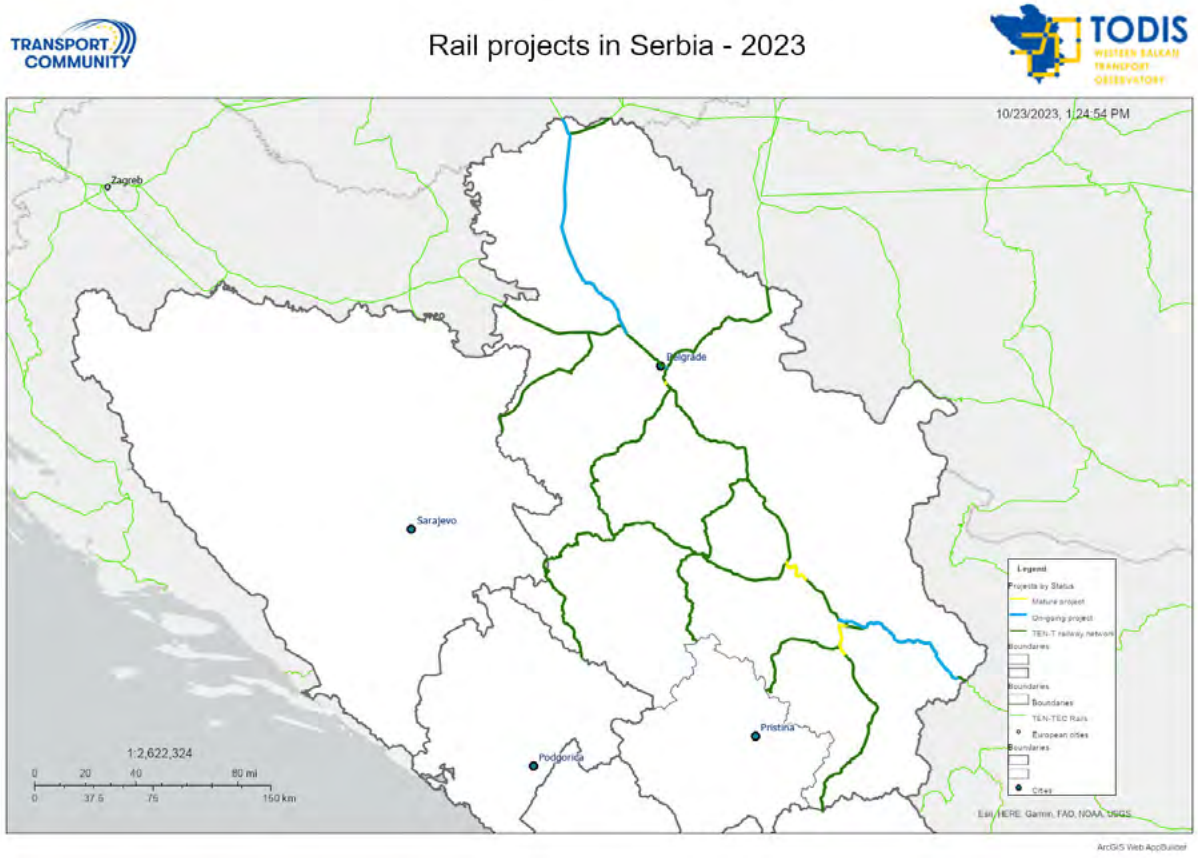
The tender for the Niš – Dimitrovgrad section was finalised, and construction is scheduled to start in November 2023. By 2024, 108 km of railway on the Core network will be improved in terms of all TEN-T compliance indicators, except for ETCS and GSM-R. The estimated cost of these improvements is EUR 426 million, with financing coming from a WBIF grant, an EIB loan, and the Serbian budget.

In 2023, Serbia secured financing for three additional projects:

- Construction of a single operational center for railway traffic management on the national railway network of Serbia.
- Construction works on the Main Railway station - phase 2.
- Construction of tunnel no. 4 on the Stalać-Đunis section as part of the Belgrade-Niš project.

Furthermore, in February 2022, Serbia signed a grant agreement with the European Commission for a major infrastructure project connecting Belgrade to Niš. The grant is expected to be worth approximately EUR 600 million, with an estimated total investment of EUR 2.7 billion.

Figure 59.
Railway projects in Serbia



Transport Community
Masarikova 5/8, Belgrade, Serbia
+381 11 3131 799, +381 11 3131 800
www.transport-community.org

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