Assessment of the rail market in the Western Balkans in terms of capacities, policies, economic and technical level of development of freight and passenger transport segments

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

Content

The Annexes comprise the Project Deliverables and are attached as separate files:

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Abbreviations

Abbreviation	Description
AWB RFC	Alpine-Western Balkans Rail Freight Corridor (RFC 10)
BCA	Border crossing agreement
BILK	Budapesti Intermodális Logisztikai Központ (Budapest Intermodal Logistics Center)
btkm	Billion tonne-kilometres
CID	Corridor Information Document
EC	European Commission
ETC	European Transport Corridors
EU	European Union
EUR	Euro (European currency)
GHG	Greenhouse gas
IM	Infrastructure Manager
IT	Infrastructure Technology
MAIC	Multi-Annual Infrastructure Contract
NSA	National Safety Authority
pax-km	Passenger-kilometres
PSC	Public service contract as defined in Regulation (EC) 1370/2007
PSO	Public service obligation as defined in Regulation (EC) 1370/2007
RFC	Rail Freight Corridor as defined in Regulation (EU) 913/2010
SEEP	South-East European Parties (Albania, Bosnia and Hercegovina, Kosovo, Montenegro, North Macedonia, Serbia)
TCR	Temporary Capacity Restrictions
TCT	Transport Community Treaty
TEN-T	Trans-European Transport Network based on Regulation (EU) 1315/2013
tkm	Tonne-kilometres

Two-letter ISO country codes: AL Albania, BA Bosnia and Hercegovina, BG Bulgaria, GR Greece, HR Croatia, HU Hungary, ME Montenegro, MK North Macedonia, RO Romania, RS Serbia, XK Kosovo

One-page summary

- **Project title:** "Assessment of the rail market in the Western Balkans in terms of capacities, policies, economic and technical level of development of freight and passenger transport segments".

- **Project objectives:**

  - **Task 1**: Development of a structure, data collection form, and infographics for a Western Balkan Rail Market Monitoring according to the Regulation (EU) 2015/1100 with the year 2021 as baseline.

  - **Task 2:** Update of the Preliminary Implementation Plan, the Transport Market Study, the Inventory of Rail Freight Facilities, and the Appendices carried out in 2017 and based on Regulation (EC) 913/2010 concerning a European rail network for competitive freight).

- The Transport Community **financed** the Project**.**

- The Project was implemented between **October 2022** and **July 2023**.

- The Project contains the first **Rail Market Monitoring System** for the six Western Balkan participants. It is in full alignment with the Rail Market Monitoring System of the European Union.

- The ongoing legislative process in the European Union concerning the **amendment of the Rail Freight Corridor Regulation (EU) 913/2010** has been closely followed and duly taken into consideration.

- As part of the **Transport Market Study**, 43 interviews were carried out in the Region with **shippers**, **logistics operators, and railway undertakings/intermodal operators** that can be considered to finally decide whether goods shall be shifted from road to rail.

- A **Workshop** with interviewees and the TCT Secretariat took place on June 1st, 2023, to discuss the outcome of the interviews and submit further suggestions on how to shift goods from road to rail.

- **Main result** of the interviews: Without the **active participation of market decision-makers** in rail policymaking and investment policies, there might be a high portion of White Elephant projects and wasted money, based on overoptimistic forecasts.

- Two **forecast scenarios** on international train movements, a "business as usual" scenario and a market-oriented scenario, were developed for 2025 and 2030, respectively:

  - The "**business as usual**" scenario clearly indicates: If the historical evolution of international train numbers continues at the same speed as it has happened since 2008, rail freight will further decline.
  - The **market-oriented** scenario indicates a readiness of the decision-makers to operate new international train services. If such potential is realised, the declining trend can be stopped and slightly reversed.

- A set of 13 **recommendations** has been drafted from the results of the study. The recommendations are divided into:
  - Recommendations coming from the market.
  - Recommendations coming from the regulatory side.

  With each recommendation, information is given on the **time horizon and responsibility:**
  - Short-term: implementation should start in 2024 for a positive effect until 2026.
  - Medium-term: implementation should start in 2024 for a positive effect until 2028.
  - Responsible parties for the implementation.

- **Their implementation would contribute to stopping the continuing increase of road transport at the expense of rail transport.**

1. Introduction

The Study on the "Assessment of the rail market in the Western Balkans" comprises three deliverables:

- Task 1: Develop a structure, data collection form, and infographics for a Western Balkan Rail Market Monitoring according to the Regulation (EU) 2015/1100 with the year 2021 as baseline.

  It is the first Rail Market Monitoring System for the six Western Balkan participants that is in full alignment with the Rail Market Monitoring System of the EU.

- Task 2: Update the Preliminary Implementation Plan, the Transport Market Study, the Inventory of Rail Freight Facilities (Terminals) and the Appendices carried out in 2017.
  The update took into consideration the latest available information, statistical data and strategies in the Region. The legal framework of the updating is Regulation (EU) 913/2010 concerning a European rail network for competitive freight, which will facilitate inclusion of the Western Balkans area into the Rail Freight Corridor initiative of the EU.

- Final Report: Summary of the major findings (results, conclusions, and recommendations) of the above two Tasks to be disseminated to all interested parties in and outside the Region with the aim at contributing to the implementation of the Transport Community Treaty signed in 2017.

The Project was carried out between October 2022 and July 2023.

The Western Balkan Rail Market Monitoring System (Task 1) uses 2021 as base year.

In the Task 2 Report - the Transport Market Study -, 2022 and 2023 data were used whenever appropriate.

As part of the Transport Market Study, 43 interviews were carried out with logistics operators, shippers, and railway undertakings/intermodal operators in the region, that can be considered to finally decide whether goods may be shifted from road to rail.

The interviewees were invited to a workshop with TCTS on June 1st, 2023, to discuss the outcome and make further suggestions on how to shift goods from road to rail.

Furthermore, the results, conclusions, and recommendations of this Study were presented to the 16th Technical Committee on Railway of the Transport Community at Doboj on June 21st, 2023.

2. Rail Market Monitoring System for the Western Balkans

The Rail Market Monitoring System of the EU has had a positive effect on the general public in the European Union as well as on the active market participants in the rail sector since it gave an overview on the development, the successes and the challenges in the Single European Railway Area.

The new Rail Market Monitoring System for the Western Balkans uses the same type of questionnaire which must be filled in annually by the EU Member States for the purpose of monitoring the technical and economic conditions and market developments.

Thus, the new Rail Market Monitoring System for the Western Balkans ensures consistency and comparability between the data submitted by the EU Member States and the South-East European Parties (SEEP)[1].

Such an initiative will further foster a close alignment of the Region with the EU and is a further step towards its integration into the Single European Railway Area.

[1] See Recitals (3) to (5) of Commission Implementing Regulation (EU) 2015/1100 of 7 July 2015 on the reporting obligations of the Member States in the framework of rail market monitoring

2.1. Main findings

The report on railway market monitoring in the Western Balkans was compiled for the base year 2021.

Its main findings are the following:

1. The modal share of rail accounts for approximately 19% of freight land transport (tonne-km) and 7% of passenger land transport (pax-km). Modal share of rail in the EU is 16% for freight and 6% for passenger transport according to 2020 data.
2. Concerning the ecological impact of the rail sector measured in Greenhouse Gas (GHG) and carbon dioxide emissions, only Serbia has so far produced statistics. The share of rail transport represented 0.51% of the GHG emissions of the transport sector or 0.47% of CO_2 emissions, i.e., rail transport consumes a mere 2.6% of the sector's total energy consumption.
3. The total length of the SEEP railway lines is around 6.072 kilometres. Serbia has the largest network (55%), and Montenegro has the smallest network (4%).
4. In the SEE Region, about 41% of the total network is electrified.
5. In 2021, there were no high-speed lines in operation in the SEEP area. Since 2022, a new high-speed line has been in operation in Serbia from Belgrade to Novi Sad.
6. Average propensity to travel by rail in the SEE Region, measured as annual passenger kilometres (pax-km) per inhabitant, was 18.34 pax-km/inhabitant. It is considerably lower than the EU average of 909 pax-km/inhabitant, even compared to Greece which is the Member State with the lowest propensity with 108 pax-km/inhabitant.
7. Track access charges for suburban and regional passenger trains in the SEE Region averaged 1.04 EUR-train-km, for freight trains 2.56 EUR/train-km (1,000 tonnes) and 2.73 EUR/train-km (1,600 tonnes). In the EU, the respective values are EUR 1.74 for suburban and regional passenger trains, EUR 1.94 for 1,000 tonnes freight trains, and EUR 2.66 for 1,600 tonnes freight trains.
   Track access charges for passenger trains are lower than in the EU, whereas for freight trains they are higher than in the EU.
8. There were no congested lines on the SEEP network in 2021.
9. A total of 68 fatalities, 127 serious injuries and 15 significant accidents occurred in the SEE region. Still, rail remains one of the safest modes of transport, travelling by car being more than 50 times riskier than travelling by train.
10. 95% of total domestic railway pax-km was contracted under public service obligation (PSO). All passenger service contracts (PSC) were directly awarded.
11. In 2021, there were 37 railway undertakings with active licences. The railway market in Bosnia and Hercegovina and North Macedonia had not been opened yet. In Montenegro, the market was liberalised in 2021. In North Macedonia, the procedure for market opening has started in 2023.
12. The average market share of new railway undertakings versus state-owned railways was:
    - 24 % of rail freight market in Serbia and 88% in Albania.
    - 0% of passenger markets.
13. At the end of 2021, over 20,900 people were employed in the rail sector, about 10,000 of them by railway undertakings (both, incumbents, and new entrants) and 10,900 by Infrastructure Managers.
14. The rail workforce in the SEEP is predominantly male. On the average, only 16% of employees are women (in the EU 21.4%).
15. In incumbent railway undertaking, employees over 50 years dominate (54.8% on average). The share of younger employees (below 30 years) is on the average 7.2%, which is less than the EU average (2018 10.6%). In comparison with the EU, the railway staff is overaged.

2.2. Conclusions

Rail and sustainability

- Regional rail market shares with 19% for freight and 7% for passenger mirror the low preference of customers/passengers for the rail transport mode.
- SEEP should gather and publish GHG and CO_2 emission data according to EU standards to facilitate the tracking and assessment of the environmental performance of their rail systems.

Rail network

- The level of public spending on rail infrastructure per inhabitant is 6 times lower than in the EU.
- Public funds for infrastructure maintenance in SEEP are significantly lower than the EU27 average (3,7 times less per line-km and 4,5 times less per inhabitant).
- The density of the rail network is much higher than in the European Union.
  However, maintaining a larger network with fewer funds, that carries less traffic, is a situation that cannot be considered sustainable.
  Therefore, it is up to the authorities, and not up to the Infrastructure Managers (IM), to decide on phasing out lines that do not have economic perspective in the medium term.
  The legal obligation of a medium-term financial equilibrium for the IM will require the pruning of unprofitable regional lines.
- The EU legislation requires multi-annual infrastructure contracts (MAIC) between the EU Member State and the national railway IMs.
  This legal instrument sets out the performance obligations of the IM with respect to reconstruction and maintenance of the infrastructure in return for financial compensation, separately from funds for enhancing or upgrading the infrastructure through respective projects.
  The MAIC also introduces incentives necessary to implement the measures according to the agreed timelines and quality. With the existence of such MAICs, it will be easier for financing institutions to allocate the respective funds to the measures since this will increase the reliability that the funds are used for the measures intended and the measures will be carried out in the timeframe concluded.
- Infrastructure maintenance is focused on the main corridors or on alternative routes to the main corridors with a view to continue the service. Significantly fewer funds were invested in the maintenance of regional and local railway infrastructure.
  Insufficient funds for infrastructure maintenance affect regular maintenance, which causes further deterioration of the infrastructure and leads to lower operating speeds. This also reduces traffic safety.

Rail services and revenues

- The SEEP face the same service challenges as the EU27.
- With market-oriented rail services, they might increase the propensity to travel by rail or use the railways for freight transport.

Infrastructure charging

- There is a need for an infrastructure charging system based on direct costs, as stipulated in the EU with Commission Implementing Regulation (EU) 2015/909.
- Mark-ups to recover full costs of maintaining the infrastructure should only be levied to the extent that no potential market segment (such as container trains, regional trains, international passenger trains, etc) is excluded from the use, and public funds are needed to meet the obligations of maintenance under the MAIC.
- The strategic questions will have to be solved at a political level whether the SEEP rail infrastructure shall be predominantly used by passenger services, mostly under PSO rules, as it is the case in the EU27, or continue to be a predominantly freight rail sector, as it is presently the case in the SEEP.

Capacity allocation and infrastructure limitations

- There does not seem to be a problem for passenger and freight railway undertakings to receive the train paths which they wish to have.

Quality of transport services

- Punctuality and reliability constitute a big problem in railway services in the SEEP.
- Infrastructure Managers must agree on financial incentives with the railway undertakings and between the railway undertakings.

Public Service Contracts (PSC)

- Railway undertakings concluded public service contracts with national authorities. So far, local and regional authorities have not been involved in PSC. The exception is the City of Belgrade with the city's "BG train" system.
- It would help to render rail passenger traffic more attractive if local competent authorities were given the right to conclude PSC.
- Existing fares and the volume of passenger transportation cannot ensure a profitable commercial rail passenger business for railway undertakings.
- The Regulation (EC) 1370/2007 on PSO has not yet been fully implemented in all SEEP.
- The existing public service contracts are exclusively with the existing state-owned railway undertakings, based on direct award. More competition in the PSO market shall contribute to an improvement of the service quality as has been seen in the EU27.
- Authorities competent for public service contracts must include incentives to reward good service quality in those contracts.

Licensing and degree of market opening

- Open access for new railway undertakings has a significant impact on the evolution of the modal share of railways, as new entrants generate new volumes due to the market-orientation of their services.
- The number of active safety certificates would shed further light on the degree of market opening.

Employment

- The overaging of the railway staff will require systematic measures to attract younger people and avoid in the future an increasing lack of specialised workforces because of retirement.
- Female employees should be attracted to the railway sector.

3. Rail Freight Corridors on the Western Balkans

The evolution of rail freight corridors connecting the Western Balkans region is characterised by:

- The present Rail Freight Corridor 10 “Alpine-Western Balkans”, of which Serbia is already an integrated and active member.
- The future Western Balkans Corridor – rail freight, which, after integrating the Alpine-Western Balkans RFC, will constitute a Rail Freight Corridor in the meaning of Regulation (EU) 913/2010.
- The feeder terminals rail-road, rail-inland waterways and rail-maritime.
- The European co-legislators will not designate feeder terminals in the West Balkans region, though they form part of rail freight corridors. The SEEP should therefore consider the Transport Market Study when developing and assigning feeder terminals to the future rail freight corridor.

3.1. Alpine-Western Balkans Rail Freight Corridor (RFC 10)

The Alpine-Western Balkans Corridor can be considered as a reference for the future extension of the RFC in the Western Balkans since Serbia is a member.

The corridor route is from Svilengrad in Bulgaria (on the border with Turkey) over Sofia – Belgrade – Zagreb to Zidani most in Slovenia, where the corridor is split into two routes: Maribor – Graz (Austria) – Wels (Austria) and Ljubljana – Villach (Austria) – Salzburg (Austria), see map below.

Figure 1 Alignment of the Alpine-Western Balkan Rail Freight Corridor
Source: Prometni Institut Ljubljana d.o.o.,Transport Market Study Alpine-Western Balkan Rail Freight Corridor 10 - Final Report. Ljubljana, June 2019, p. 16 with updates of the Consultant.

In Serbia, there are four major terminals located on AWB RFC:

- Sremska Mitrovica: Leget Sremska Mitrovica, with rail, road and river facilities
- Belgrade: Surcin Nelt Dobanovci with rail and road facilities
- Belgrade: Luka Beograd with rail, road, river facilities
- Belgrade: ŽIT Beograd, with rail and road facilities

According to the interviews, the four terminals are the most frequently used by the logistics operators and shippers, even those coming from other SEEP or from outside the Region.

3.2. The Western Balkans Corridor - rail freight

At present, details on the future West Balkans Corridor are subject to talks between the European Commission, the European Parliament, and the Council of Ministers. As a result, there might be, in the future, an extension of the Rail Freight Corridors in the Western Balkans which are illustrated in the following two maps.

The first map outlines the alignment of the West Balkan Corridor as proposed by the European Commission[2]. The Western Balkans Corridor is roughly oriented North – South. It includes the former Corridor Vc (Ploce to RFC 10 in Croatia via Sarajevo) and the connection of the Albanian railway network to Montenegro.

[2] Proposal for a Regulation of the European Parliament and of the Council on Union guidelines for the development of the trans-European transport network, amending Regulation (EU) 2021/1153 and Regulation (EU) No 913/2010 and repealing Regulation (EU) 1315/2013 (COM/2021/812 final), Annex III Alignment of the European Transport Corridors, 14.12.2021. https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=COM%3A2021%3A812%3AFIN

Figure 2 Tentative alignment of the Western Balkan Corridor - rail freight[3]
Source: European Commission, Proposal for a Regulation of the European Parliament and of the Council on Union guidelines for the development of the trans-European transport network, amending Regulation (EU) 2021/1153 and Regulation (EU) No 913/2010 and repealing Regulation (EU) 1315/2013.

The second map below illustrates the latest status in the Region as seen by the General Approach of the Council of Ministers[4] in the legislative procedure between the European Commission, the Council of Ministers, and the European Parliament.
It furthermore includes the former Corridor VIII from Port of Durres via North Macedonia (Skopje) to Sofia. The new corridor Durres-Sofia added by the Council of Ministers does not yet exist except for a small section between Durres and the Albanian industrial zone of Elbasan.
Furthermore, the map includes existing or future links not only to Thessaloniki, but also to Athens/Port of Piraeus, Patra, and Igoumenitsa.

[3] Rail Freight Corridors shall be merged with TEN-T Core Network Corridors into so-called “European Transport Corridors”.
[4] Council of the European Union, Annex to the Proposal for a Regulation of the European Parliament and of the Council on Union guidelines for the development of the trans-European transport network, amending Regulation (EU) 2021/1153 and Regulation (EU) No 913/2010 and repealing Regulation (EU) 1315/2013 – General Approach. 2021/0420(COD), Brussels, 1 December 2022, Annex III: Alignment of the European Transport Corridors

Figure 3 Tentative alignment of the Western Balkans Corridor - rail freight according to the Council of the European Union

Source: Council of the European Union, Annex to the Proposal for a Regulation of the European Parliament and of the Council on Union guidelines for the development of the trans-European transport network, amending Regulation (EU) 2021/1153 and Regulation (EU) No 913/2010 and repealing Regulation (EU) 1315/2013 – General Approach

The TCT Secretariat explicitly supports the Council proposal in a communication from 05.12.2022, illustrating the proposed corridor network in its connection to the neighbouring European corridor network. TCT Secretariat points out that the Proposal would connect several European Union member states (Austria, Bulgaria, Croatia, Greece, Hungary, Italy, and Slovenia) with the Western Balkans[5].

The Transport and Tourism (TRAN) Committee of the European Parliament adopted its Compromise Amendments[6] to the Commission Proposal for a new TEN-T Regulation on 15 April 2023. With regards to the maps, the Parliament requests mainly three points:

1. Adding the following to the map of European Transport corridors: Prolong the Western Balkans Corridor from Durres (Albania) across the Adriatic Sea to Bari (Italy) and connect, via Tirana (Albania), to Skopje (North Macedonia) and Sofia (Bulgaria). (Amendment 3 of Annex III to the new TEN-T Regulation)
2. Adding the following to the corridor Western Balkans: - Sofia - Skopje - Durres - Igoumenitsa (road, rail freight and rail passengers, for the entire section) - Port of Durres
3. Upgrading the Port of Ploce from the comprehensive to the core transport network.

[5] https://www.transport-community.org/news/first-ever-western-balkans-transport-corridor-to-become-reality/

[6] Compromiseamendments-TEN-T_final_EN.pdf (europa.eu), COMPROMISE AMENDMENTS on Proposal for a regulation of the European Parliament and of the Council Guidelines for the development of the trans-European transport network, amending Regulation (EU) 2021/1153 and Regulation (EU) No 913/2010 and repealing Regulation (EU) 1315/2013, 2021/0420(COD)

The map, like the one attached to the Commission proposal, does not include rail-road terminals, but only certain ports on the Eastern Adriatic.

As can be seen from the above maps, there are marked differences between the various proposed future WB Corridor alignments.

As long as there is no final decision with respect to the future alignment of RFCs in the SEEP, no final map of the Western Balkans corridor network can be presented.

4. Transport Market Study

The Transport Market Study gives a realistic view of the market as it is seen from the market participants that use the rail infrastructure, the rail service facilities (terminals) and the performances of the railway undertakings.

4.1. Main outcomes of the industry interviews

Interviews with those market participants that finally decide on which mode of transport to select is elementary for any investment decision in the rail sector since such decision-makers shall finally decide:

- Whether goods will be shifted to rail; and
- Whether the EU policy of “shift to rail” will be a success or a failure

Moreover, such interviews give good indications on the commercial feasibility of any rail project.

Without the active participation of decision-makers in rail policymaking and investment policies, there might be a high portion of White Elephant projects and wasted money, based on overoptimistic forecasts.

The following Chapter presents the views and opinions of 43 decision-makers in the market, the shippers, logistics operators, railway undertakings/intermodal operators that have been interviewed in the region between January and June 2023.

The interviews confirm the decisions parameters for the selection of rail services which are also the result of the same kind of interviews carried out in Greece, Central Europe, Romania, Moldova, and Ukraine.

4.1.1. Selection criteria for freight rail transport

Decision parameters for the selection of rail services

The opinion of logistic operators and shippers

- The choice of the mode of transport is basically triggered by the transport conditions and transport contracts defined by the shippers as final customers or the shipping companies.
- Wagon capacity and quality of wagon material, transport quality (reliability/punctuality) and transport price are the decisive factors for the shippers to select rail transport.
- Currently, a major criterion for the choice of route is the availability of empty containers, especially for export business. This availability is used by logistics operators and modern -mostly private- railway undertakings to bind shippers. Such situation is reported as very volatile.
- The all-inclusive price (door-to-door) plays an important role in the decision-making process. Before the Covid-19 crisis, price was the decisive factor. Since Covid-19, the Ukraine War, and the breakdown of intercontinental supply chains, reliability and real-time information have substituted the dominance of pricing.
- The type of commodity has only limited effect on the supply chain decisions (transport route and used port). Only in cases when special handling facilities for dangerous or perishable goods are needed, the commodity is a criterion.

- This trend towards more carriers' haulage[7] is of particular interest to shippers with high volumes. Smaller and medium-sized shippers, on the other hand, consider the service quality and the bundling possibilities of the logistics operators to be more important, and therefore opt for merchants' haulage.
- A shift to rail will require considerable reductions in the rail transport prices ranging from 20 to 30% per tonne, m³, or container.
  The market pricing is a factor often neglected in the "shift-to-rail" discussion, although the price is not the all-decisive factor.
- Often underestimated, the road does not give up easily its share and offers more and more "all-inclusive" packages to the logistics operators and shippers.

The opinion of railway undertakings / intermodal operators

- The quality of the rail connection is essential. This is the key factor both, from the shipper's/logistics operator's point of view (reliability and predictability), and from the point of view of costs (additional expenses such as the last meters/miles from the rail wagon to the point of delivery).
- Railway undertakings/intermodal operators are faced with qualitative and capacity challenges at the terminals (slots in the terminals, train paths, stabling capacities, additional shunting due to short tracks etc.).
- Currently, the quality of the rail infrastructure in all parts of the Region is an additional problem due to the construction works and/or lacking maintenance resulting in time-consuming low speed in comparison to road transport.
- The quality of infrastructure and operations in the Region is generally considered to be very poor.
- The general availability of train paths is not a major problem.
- The new entrant railway undertakings in the Region seem to be more flexible in dealing with the requirements of the shippers/logistics operators.

4.1.2. Terminals in the Western Balkans

Drivers of the supply chain

- In most of the cases the entry port and the hinterland connection used are decided by the consignee[8] who pays for the transportation of goods.
  In many cases the consignee is responsible for the transportation of goods, the route that will be followed is decided by the logistics operator based on cost and quality of service.
- The most important drivers of supply chain routing design are as follows, in order of priority:
  a) Reliability/real-time information,
  b) Total transport time,
  c) Price,
  d) Accessibility of the port by rail and quality of hinterland connection.
- A serious problem concerns the number of available trains per day which negatively affects their decision-making in selecting terminals.
  One to two trains per day to the next terminal with further international connections seems to be the minimum requirement for logistics operators to select a terminal and shift to rail. Two trains per day render the terminal competitive.

[7] Carriers Haulage - the shipping company is the central service provider for transport handling, including hinterland transport, vis-à-vis the shipper.
Merchants Haulage - A logistics company is the service provider for the complete transport chain vis-à-vis the shipper.
[8] Receiver of the goods

Importance of terminal-side value-added services

- The key value-added services which are important in a terminal of origin are, in order of priority:
  a) **Customs**,
  b) Handling of freight papers,
  c) Wagon repair
  d) Parking tracks
  e) Shunting services,
- The key value-added services which are important in a terminal of destination are, in order of priority:
  a) Customs,
  b) Handling of freight papers,
  c) Shunting services,
  d) Parking tracks
  e) Wagon repair

- Functioning structures for **inland customs clearance** and all necessary administrative activities, including their **digitalisation**, are essential to avoid time losses at border-crossings.
- For some export shippers and logistics operators, the **availability of stuffing services** (packing) and **wagon repair** in the terminals are essential, in addition with the **availability of empty containers**. This is especially the case when there is a lack of capacity in their own area of operation (e.g., in their own production facility).
- For logistics operators, the **reefer services**, but above all, the availability of reefer containers (including return options) are important. For shippers, this is only important if the corresponding goods are being transported and return load is available.
- Logistics services such as finishing of products in terminals play a subordinate role in the Region. However, there is potential for value-added services for terminals as a new business.
- Overall, a broad spectrum of service providers for various logistics services in the terminal environment is seen as an advantage by logistic providers and shippers.

Conclusions

- Terminals are decisive. They are the gateways to the corridors. **They are like little streams that make a river – the corridor.**

- Therefore, the **last mile** to the terminals and the shippers' factories – the industrial track - are important.

- **Without a satisfactory last-mile infrastructure to the terminals, the best and most expensive investment in the corridors will be wasted money.**

- Terminal operators and shippers/logistics operators are ready to **co-finance** and provide the last miles.

4.1.3. Human resources

Some interviewed voiced their concern that a main deficiency is the lack of professionally trained logistics experts in:

- Transport logistics,
- Transport organisation,
- International cooperation and exchange.

A further concern lies in the quality of decision-making processes. As one interviewed formulated:

- *"Put key experts in key positions with key decision-making powers."*

4.2. Rail border crossings

Border crossing services comprise, on **both** sides of the border:

- **Technical dispatching**: Wagons and traction crossing the border from one Infrastructure Manager to another require a technical inspection. If the technical inspector of the receiving railway does not accept the wagon, such wagon must be taken out of a train and the goods have to be unloaded. Afterwards, they must be stored or reloaded on an acceptable wagon.

- **Operational dispatching**: The two railway undertakings must operationally agree that the train with a new traction can continue the voyage. This also implies a close cooperation between the two Infrastructure Managers to agree on a joint path, the so-called prearranged path. Operational dispatching is one of the major activities in the RFCs.

- **Commercial dispatching**: The conductor or the traction driver must hand over the commercial documentation such as freight documents, customs documents, and many other documents to the receiving personnel, once such commercial papers have gone through the hands of the two border crossing authorities.

- **Customs declaration**: According to the customs procedures, the customs authorities of each country check the customs declarations, even if all declarations have already been treated by the inland customs. With the application of agreed digital services, at least the customs documentation between inland customs authorities and border customs authorities can be paperless.

- **Immigration authorities**: They control the passports or special permits of the rail personnel from the other state.

- **Phytosanitary authorities**: According to the procedures, the phytosanitary authorities of each country check the phytosanitary documents, even if all documents have already been digitally treated by the inland phytosanitary authority.

- **Sanitary authorities**: According to the procedures, the sanitary authorities of each country check the sanitary documents, even if all documents have already been treated by the inland sanitary authority. IT applications are already used.

- **Radioactivity control**: In Serbia, radioactivity checks are also carried out.

These services are no value-added services but cost-generating and time-consuming services. From a market point of view, rail border stations are an obstacle that prevent seamless trading, cost money, time, and reliability. For these reasons, logistics operators and shippers prefer border crossing activities to be transferred to inland terminals as much as possible.

Furthermore, rail border crossings with long dwelling times are subject to theft and other criminal activities that cannot be neglected and render international freight train services less attractive than road services.

It is often forgotten that any damage or theft will have to be paid in a cost- and time-intensive chain of responsibilities by the railway undertaking, logistics operator, shipper, not to mention the difficulties which the sender will have with his client.

The interviews indicated that border dispatching of international trains, i.e., the technical, operational, and commercial dispatching, is considered third in rank of importance for railway undertakings and intermodal operators. Nevertheless, they are considered as time-consuming and cost-generating.

The interviews, compared with those carried out in 2008 and 2015, showed that:

- Rail border crossing operations have not been improved since 2008 and 2015.
- Although most of the SEEP have aligned their rail legislation with the EU legislation, they have not aligned their border crossing agreements except for the Albania – Montenegro Border Crossing Agreement. What is even more interesting is the fact that the neighbouring EU Member States have not shown any interest to align the border crossing agreements with the SEEP.

- International freight rail performance has significantly diminished since 2009, as will be seen in chapter 4.3.
- Interestingly, fewer trains have not led to shorter dispatching times at the borders since the rules and regulations have not changed. According to antiquated technology, normal freight despatching lasts between 90 and 180 minutes[9], but it can take longer, depending on various factors (outdated and fault-prone equipment, no coordination on traction on both sides of the border) or when delays in long-distance international rail transport have disrupted the flow of transport and the reserved paths are no longer allocated.
- The "IT revolution", with electronic interchange of data among railways and among railways and between the railways and the customs authorities, has not yet fully reached the railways in the Region.

For the rail border crossing procedures, the interviewees criticise the long waiting times ranging from *the* EU border between Serbia and Bulgaria at Dimitrovgrad with average waiting time around 250-300 minutes, and EU border between Greece and North Macedonia at Gevgelija/Idomeni with average waiting time around 200 minutes). The border crossing times inside the Western Balkans are considered to be *"satisfactory".*

Solutions given by the interviewed:

The general tenor is that *"integrated border crossing would reduce waiting times",* but "*border crossing is the least problematic part of rail transport*".

The interviewed proposed the following solutions:

- Joint border stations (integrated border crossing).
- General enhancement of border crossing procedures.
- More staff of the border authorities at border stations.
- Availability of necessary equipment.
- Improvement of rail infrastructure (telecommunication, signalling, electrification).
- Reduction of waiting times due to customs and border police controls.
- Realistic train schedules with transit times and frequency.
- Digitalisation.

Conclusions:

- Although there exist proposals and texts for EU aligned border crossing agreements, the participants have not managed or have not been willing to implement them in order to facilitate border crossing inside the region or with the EU.

- **Therefore, the only – and most important - recommendation is to use such model border crossing agreements at all rail border crossing points, thus being in full conformity with the EU legislation and ensure open access to the SEEP rail networks.**

4.3. International freight trains

The following table shows the daily number of freight trains that have crossed the SEEP borders since 2009 as a practical indicator of the importance of international train connections[10].

[9] Waiting times of trains normally are calculated between the entry into the station and the exit out of the station for each border station.

[10] In some cases, when only transport volumes had been received, the volume was divided by 500 net tonnes per train and by 365 days per year to arrive at daily train numbers.

Number of freight trains per day	AL/ ME	HR/ RS	RS/ MK	MK/ GR	HU/ RS	RS/ BG	RS/ ME	RS/ BA	HR/BA (Sa-mac)	HR/ BA (Ploce)	MK/ XK	RS/ RO
Number of trains/day (in 24h) in 2009 (source: TA SEETO 2008-2009)	0-1	24-32	10-15	20	29	15	8	n/a	14	10-15	6	n/a
Number of trains/day (in 24h) in 2014 (source: Missions Report)	0-1	14	6	6	6	8	6	n/a	4	6[11]	4	n/a
2016	0-1	n/a	6	n/a	12	6-7	4	5	14	14	1-2	1-2
2017	1-2	n/a	7	n/a	12	7	5	5-6	15-16	15-16	1	2
2018	0-1	6-7	7	7	12	6-7	4	5	17	17	1	2
2019	1	6-7	7	7	10	6	3	3-4	17	17	1	1-2
2020	0[12]	3	7	7	9	5-6	2-3	2	12-13	12-13	1	0-1
2021	0	3	7-8	8	9	5-6	3-4	2-3	n/a	n/a	1	0-1
2022	0	5	5	5	6-7	4-5	4	3	n/a	n/a	0	1

Table 1 Number of daily trains per border crossing point

Source: The Consultant, based on data from Serbia Cargo[13], Infrakos, MZ, ZFBosnia and Hercegovina, ZRS. If only transport performance or transport volumes are available, a train is estimated at 500 tonnes and 365 days per year.

The results are:

- International freight rail performance has significantly diminished since 2009, in some cases, up to 70% according to persons interviewed at the rail border crossing points.
- The important Alpine-Western Balkans Rail Freight Corridor has also witnessed a significant decline of 70-80%.
- The same tendency can be found on the Corridor X.
- Concerning Albania/Montenegro, the new border crossing agreement signed in 2015 gave the border crossing a boost from 1 to 3 daily train, mostly with the Port of Durres. However, the Earthquake of 2019 caused a standstill of international trains.
- Concerning North Macedonia/Kosovo, in 2022 no international trains ran, due to construction work on Route 10 (Kosovo).
- The only relatively stable numbers of trains can be reported on Corridor Vc, from Ploce to Central Europe (i.e., Budapest BILK Terminal). It seems that the investment in the Port of Ploce and the BILK Terminal has made this corridor more attractive.
- The decrease of the border crossing traffic between Montenegro and Serbia comes, among other factors, from the fact that the Fiat automotive factory in Serbia stopped its car production.

Conclusions:

The above table shows the dismal and critical situation on international train movements within the SEEP and with the neighbouring states.

For this reason, it is always surprising if, in a study, suddenly the trend is reversed to a substantial future growth, regardless of the assumptions underlining the growth.

4.4. Transport forecast

The forecast approach is based upon the following rationale: **All forecasts in the various studies have proved to be overoptimistic.** In order to avoid the so-called “hockey stick phenomenon”, i.e., even stagnant or declining tendencies start producing growth whenever a forecasting study is carried out, the forecast is based on:

- Historical trends in rail freight transport since 2008.

[11] The number of trains as counted on the BiH side. “Bosnian” trains can operate with a maximum of 1050 gross tonnes while “Croatian” train can operate more than 2000 gross-tonnes. In other words, “Croatian” trains are split up at the border. In “Croatian” terms, there are 2 -3 trains per day.
[12] Earthquake in Albania in November 2019
[13] Border crossing is carried out by Serbia Cargo.

- Market potential identified during the industry interviews.

4.4.1. Historical trends in rail freight transport

The following graph shows the development of **rail and road freight performance** in the SEEP since the Financial Crisis 2008 in billion tonne-kilometres (tkm).

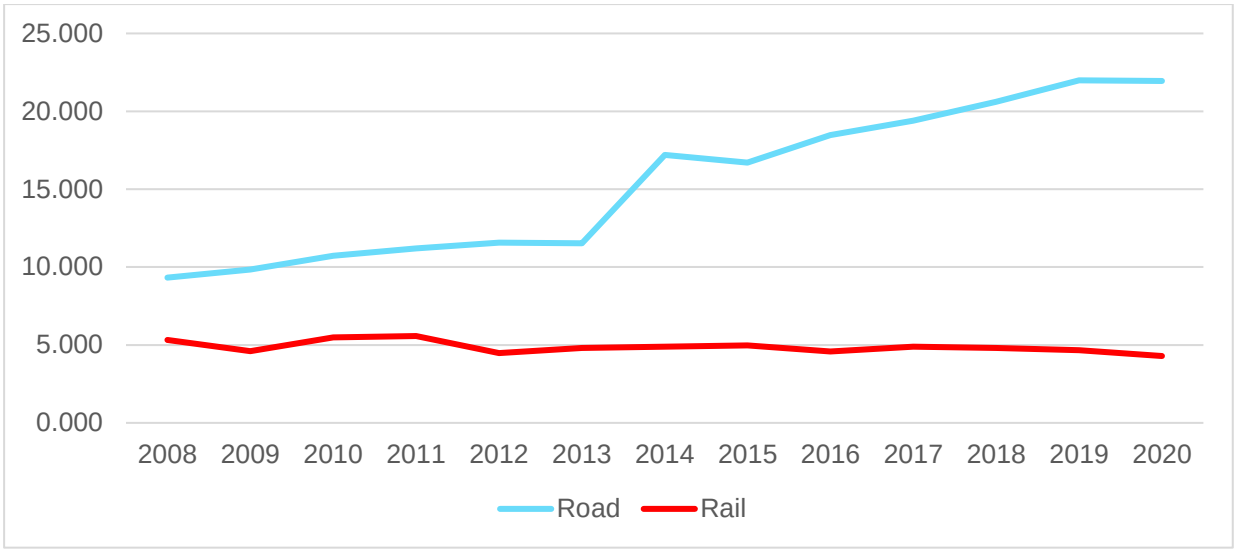

Figure 4 Road and rail freight transport performance in the SEEP (without BA and XK) 2008-2020 (btkm)
Source: MC Mobility Consultants

The graph clearly illustrates the success story of the road.

The road has fully benefitted from the industrial growth and the growing exchange of goods between the SEEP and the EU/overseas countries. On the average, road freight in the West Balkans grew by one billion tkm p.a. (1,000 million), reaching around 25 billion tkm by 2020[14]. During the same period, rail freight lost on the average 100 million tkm p.a.

Consequently, the cumulated rail freight modal share of the SEEP shows a permanent decline despite the market opening processes and investments in the rail infrastructure. It has arrived at the EU freight rail modal share which hovers around 16-18 %, despite multi-million investments in rail infrastructure.

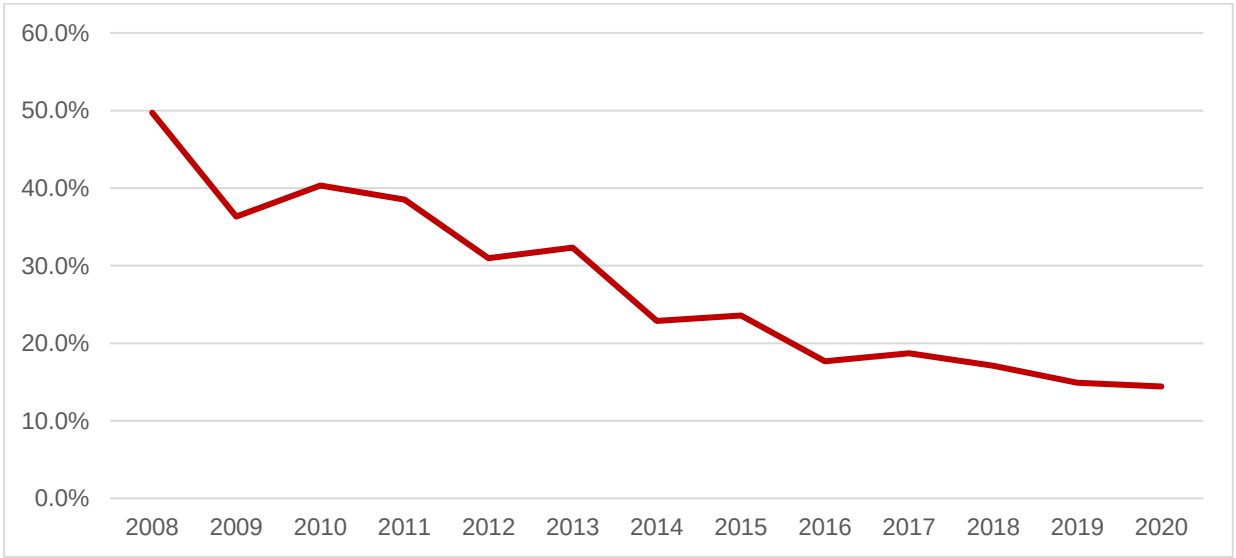

Figure 5 Cumulated rail freight modal share in the SEEP 2008-2020 (btkm)
Source: MC Mobility Consultants

[14] When estimated volumes for BiH and XK are added

4.4.2. Additional rail freight potential

The interviews have shown new additional market potential for rail freight in the Western Balkans in the years to come.

Serbia/Bosnia and Hercegovina:
2 trains/day (coal trains[15]). As of 2023, coal transport between the Port of Ploce and Serbian powerplants have started operating.
Risk: No risk scenario necessary due to decision of the Serbian Government. How long the transport will last is uncertain.

Bosnia and Hercegovina/Croatia:
2-4 container trains per day (1-2 container trains both directions) due to the increased call of feeder lines in the port of Ploce for transport follows between Ploce and Hungary (mostly BILK) for further distribution in Central Europe.
Risk: Logistics operators and shipping lines might transfer the container to other Adriatic ports, mainly Rijeka and Koper to avoid additional costs coming from feeder line services.

Albania/Montenegro:
4 trains/day. The already existing traffic, disrupted by earthquake, by the construction industry with its own railway undertaking (one train per day), general cargo between Port of Durres and Serbia operated by private railway undertaking (one container train per day both directions, i.e., 2 trains total), scrap and other metal material from Serbia to Elbasan, with one train per day.
Risks:

- Scrap metal is subject to volatile pricing.
- Container train is subject to competition between the ports of Durres and Bar.

Montenegro/Serbia:
1-2 trains/day as of 2024 when the Fiat production will start again in Serbia.
Risk: Highly unlikely that the alternative direct route via AWB RFC will be chosen due to lack of seamless transport to Italy. Difficult to forecast whether there will be an increase in train frequency.

1 train/day grain transport from Ukraine to the Port of Bar. First offers and test trains exist. If reliability and timing with good maritime connections to North Africa is assured, could become regular service according to Ukrainian logistics providers. If successful, 2 trains per day are possible.
Risk: Result of war situation in Ukraine, port competition between Bar and Rijeka/Koper as well as the revitalisation of the Agreement between the United Nations, Russia, Turkey, and Ukraine on grain shipping through the Bosporus.

Serbia/North Macedonia:
Additional 2 container trains per day (1 train both directions) until 2025 and possible 2 container trains/day more for 2030 (1 additional train both directions) from Chinese container shipping line and operator of the container terminal of Piraeus COSCO via North Macedonia-Serbia-Croatia and Central Europe.
Risk: COSCO shall divert Central European traffic to Trieste/Rijeka due to investment in port operations.

Furthermore, full diversion of all COSCO trains destined to Central Europe from Piraeus to Hamburg as soon as COSCO has become port operator at the Port of Hamburg, which means the total loss of existing COSCO trains, too.

Additional 2 container trains per day (6-10 per week: 3+3 to 5+5 per week) as of 2025 between Nis MBox Terminal and the Port of Thessaloniki.
Risk: Port of Thessaloniki is involved in the Nis MBox Terminal, therefore no risk since it is its Serbian product. However, due to the relative lack of attractiveness of the port, container shipping lines might opt for Adriatic Ports. Major clients are CMA-CGA, Maersk, and others, in competition with COSCO trains from the Port of Piraeus.

[15] Empty returns are not counted.

Serbia/Hungary:
Additional 0.5 Trains per day (1-2 trains per week per direction, i.e., 2-4 trains) as of second half of 2023 from Nis MBox to BILK. Additional 2 container trains per day (6-10 per week: 3+3 to 5+5 per week) as of 2024 from Nis MBox to BILK or other Central European destinations.

Clients: Container shipping companies CMA-CGA, Maersk, and others, with transfer of containers from Port of Thessaloniki to Central European destinations, and BILK logistics operators grouping Central European goods for Nis and/or Port of Thessaloniki, in competition with COSCO from the Port of Piraeus.
Risk: Relatively high risk due to road and possibility of transfer to Adriatic ports, in particular Rijeka/Koper, which have far better rail connections than Thessaloniki. However, the Nis industrial region seems to be an attractive region.

Serbia/Bulgaria:
4 trains (2 container trains per direction) per day from Southern One Belt One Road coming from logistics centre Halkali (Turkey) with direction Munich (BMW)/Stuttgart (Mercedes) and others using AWB RFC. Growth potential possible but in competition with maritime route with highly-valued goods as part of an industrial supply chain.
Risk: Unsatisfactory performance on the Turkish rail side, competition with new multimodal services between Georgian Port of Poti and Constanta (Romania) using the RFC 7 “Orient-East-Med” Constanta-Central Europe or competition with corridor via Bulgaria/Romania.

Kosovo/Serbia:
3 trains per day: The opening of the Mitrovica – Lesak – Kraljevo section of Route 10 to international traffic would further boost rail freight. Unofficially, a potential of 500.000 to 1 million tonnes/year or the equivalent of 3 to 5 full trains per day (only beyond 2025**).**

Such potential trains could start operating earliest 2023, latest 2024 unless other dates are indicated.

For the future market-oriented scenario, such potential will be added to the realistic scenario with the result that the calculated decline shall be weakened.

The estimation of future rail transport volumes is not as easy as it seems at first sight, and must be interpreted with some caution due to several factors, including:

- Growing modal competition may cause modal shifts in both directions. Unfortunately, in the SEEP, the current trend is for increase in modal shift to road transport.
- Industries might move their geographical location.
- Industries might be closed down due to high energy prices.
- Important infrastructure works stop or hinder traffic for a limited period of time, as is the case for Route 10 in Kosovo and the Corridor X section between Serbia and Hungary.
- Natural catastrophes temporarily force the traffic to stop, as is the case in Albania.
- Since the outbreak of the Russian-Ukrainian War, major freight flows between Europe and Asia have been disrupted or relocated.

4.4.3. Forecast scenarios for 2025 and 2030

The Consultant applied two approaches for the forecast:

- The “**business as usual**” approach based on historical data starting in 2008, immediately after the Financial Crisis,
- The **market-oriented** approach which used the historical scenario but added the information on future international freight train movements collected through the interviews and from the Consultant’s own market knowledge.

The **“business as usual” scenario** clearly indicates:
- If the historical evolution of international train numbers continues at the same speed as it has happened since 2008 and especially since 2018, the international train movements inside the SEEP and with the neighbouring countries will further decline:
  - **2008**: **150** international trains per day at the SEEP borders.
  - **2018**: **90** trains per day.
  - **2022**: **55-60** trains per day.

- Forecast **2025**: **45-50** trains per day.
- Forecast **2030**: **30** trains per day.

- The proclaimed shift from road to rail will not happen; on the contrary, the shift from rail to road will intensify.

As could be seen from the evolution of trains and transport performance in the past 15 years, there has been a significant negative tendency which has been extrapolated till 2025 and 2030.

The major reason for such an assumption comes from the fact that, since 2008 until recently, no significant investment and other operational/commercial actions such as terminal infrastructure and terminal service improvement have been carried out in the SEEP to promote a shift from road to rail despite many announcements and studies.

In this way, the "business as usual" scenario will give a realistic picture of the future rail sector if no actions are taken that improve the commercial feasibility and attractiveness of the rail sector.

The **market-oriented scenario** clearly indicates:

- The interviews and the market observation have shown a certain readiness of the decision-makers to invest in terminals and to operate new international trains, mostly container trains, in particular shuttle trains with fixed departure and arrival times.
- If such potential is realised, the declining trend can be stopped for most border crossings and the present overall level can be maintained and slightly increased:
  - Forecast **2025**: **65-70** trains per day.
  - Forecast **2030**: **70-75** trains per day.

The market-oriented scenario shows that even under a status quo situation, new rail products and initiatives are in preparation, in particular container trains.

This tendency shall at least guarantee a certain stability for the future.

The following graphs illustrate the two scenarios for 2025 and 2030, respectively.

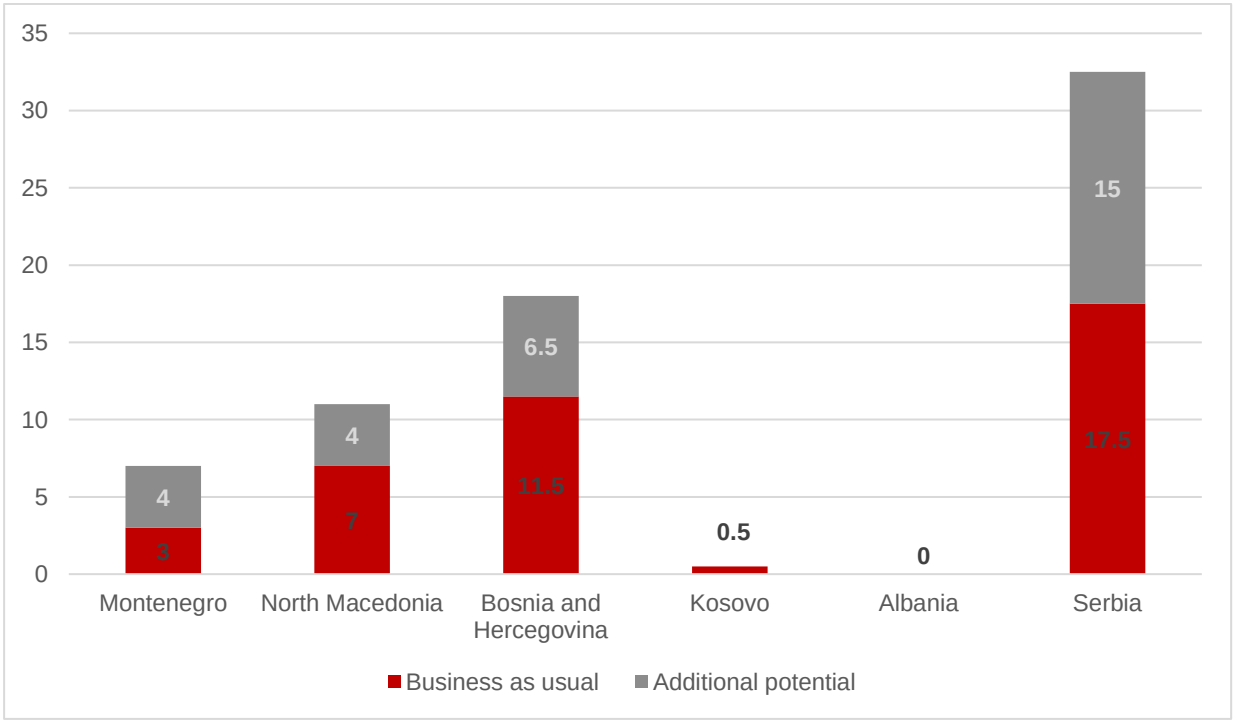

Figure 6 Average number of international freight trains per SEEP, two forecast scenarios for 2025
Source: MC Mobility Consultants.

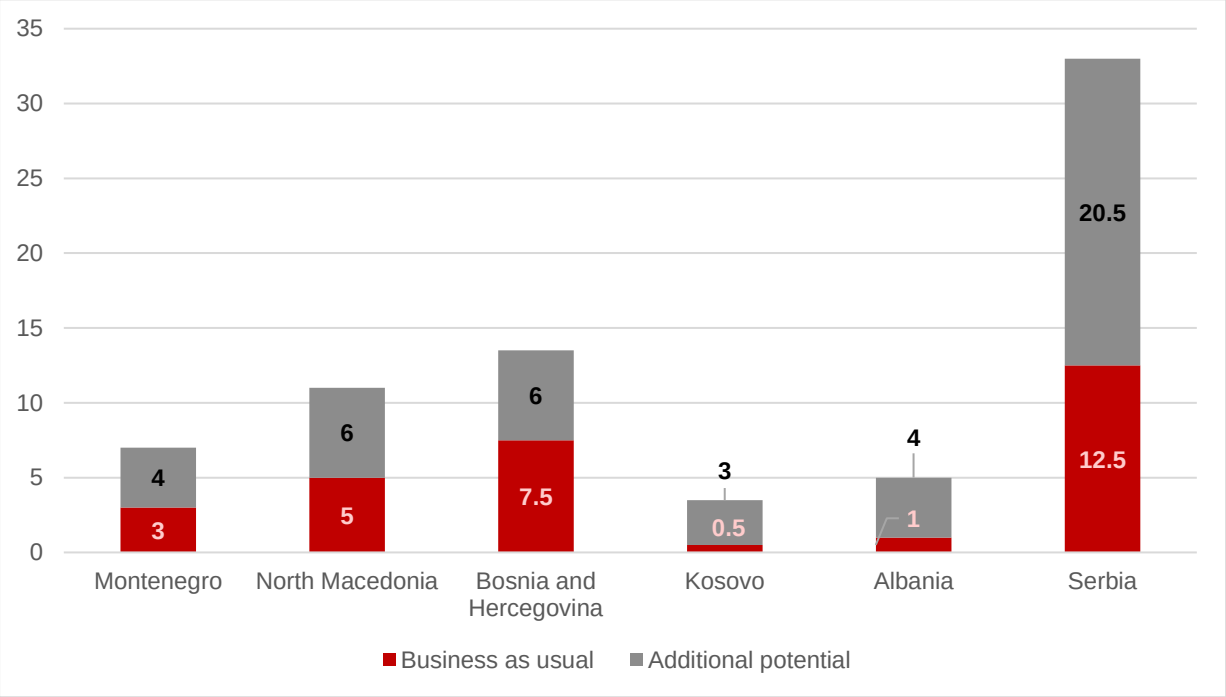

Figure 7 Average number of international freight trains per SEEP, two forecast scenarios for 2030
Source: MC Mobility Consultants.

Conclusions:

- **The "business as usual" scenario indicates a shrinking tendency in modal share and transport performance for international train movements.**
- **With a fast implementation, even of low-cost investment measures such as last miles and terminal infrastructure improvement, elimination of infrastructure bottlenecks, the future shall show a slight upwards tendency.**
- **A condition sine qua non is that the market (decision-makers) participates in the decision-making process for investment measures financed and funded by public authorities.**
- **However, it is important to mention that such future potential international train movements bear risks since there exists sufficient competition with other rail corridors, not to mention the road and maritime transport.**

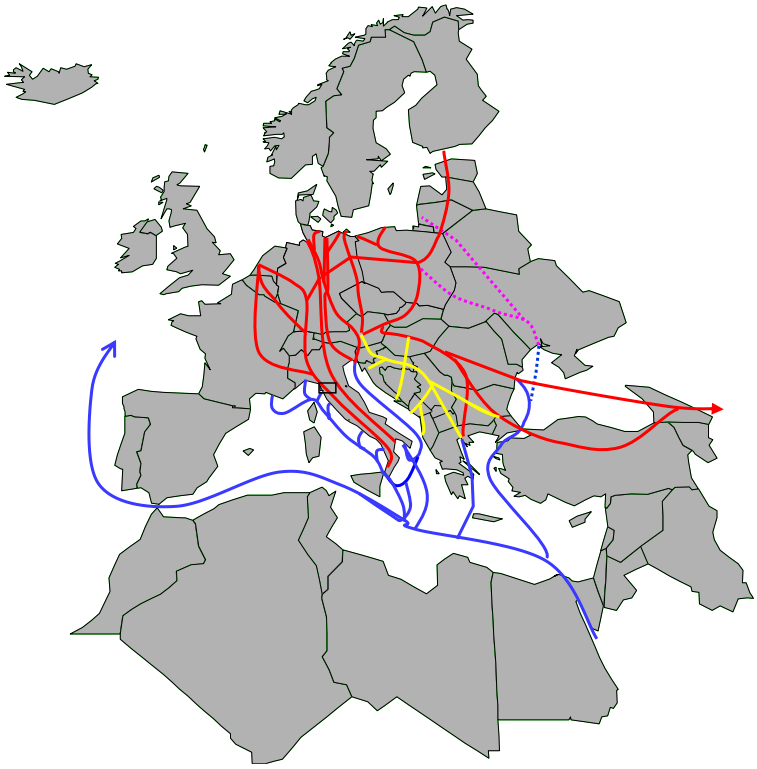

Figure 8 Competitive position of the Western Balkan corridors
Source: MC Mobility Consultants

5. Preliminary Implementation Plan

Regulation (EU) No 913/2010 foresees that the Infrastructure Managers of a tentative Rail Freight Corridor (RFC) draw up a Preliminary Implementation Plan. It is approved by the EU Member States concerned before they submit it together with their application for a new RFC to the European Commission. The upcoming amendment of that Regulation will do away with that application procedure. Nonetheless, the obligation to prepare and update an Implementation Plan at the level of the Rail Freight Corridor will remain.

- **Implementation of the Alpine-Western Balkans Rail Freight Corridor**

  The Alpine-Western Balkans (AWB) RFC includes a non-EU-Member State, Serbia. The AWB RFC has passed this process, the Implementation Plan has been approved and published.

  AWB RFC started operations in January 2020[16].

- **Changes in the EU legal framework**

  The main legal acts for an RFC are Regulation (EU) 9013/2010 on a competitive rail freight network and Directive 2012/34/EU on a Single European Railway Area.

  Although Regulation (EU) 913/2010 has not been amended, the underlying legal framework has considerably evolved.

  Directive 2012/34/EU was significantly amended under the 4th Railway Package in 2016.

  Most relevant for the Implementation Plan is Annex VII of Directive 2012/34/EU on the handling of train paths across borders and the Delegated Decision of the European Commission in 2017 amending the consultation and capacity allocation process in the case of temporary capacity restrictions.

[16] Inauguration Day of Alpine - Western Balkan Rail Freight Corridor | AWB RFC (rfc-awb.eu)

Based on those amendments, RailNetEurope (RNE) aligned its User Guides for RFC implementation.

- **Upcoming amendment of the Rail Freight Corridor Regulation (EU) 913/2010 and consequences for the Implementation Plan**

  In 2023, the European Council and the European Parliament, completed their first reading of the Proposal of the European Commission to amend the RFC Regulation (EU) 913/2010 as part of the amendment of the TEN-T Regulation (EU) 1315/2013.
  The European Council's General Approach [17] and the European Parliament's Compromise Amendments give some idea of how the measures of the implementation plan should be designed in the near future, probably in 2024 or 2025.

- **Consequences for the RFC Management Board[18]**

  European Council and European Parliament propose to update the Implementation Plan every two or four years, whilst Regulation (EU) 913/2010 as in force only provides for 'regular' updates, without further specification.
  If coming into force, RFC management boards may thus have to update the implementation plans more frequently than in the past.

  The Implementation Plan shall take into account the development of terminals along the RFC.
  As a consequence, the Management Board shall take measures to cooperate with local and regional authorities and the market participants in respect of the Implementation Plan.

  The Western Balkans Transport Network, as it will be adopted with the amendments of the TEN-T Regulation, does not include rail-road terminals. However, RFCs and their implementation plans need to include terminals, notably rail-road terminals, sea-rail terminals, and inland waterway-rail terminals.

  The Management Board shall introduce consultation mechanisms with a view to the proper participation of the applicants[19] likely to use the RFC. It shall ensure that applicants are consulted before the Implementation Plan is submitted to the Executive Board[20].

- **Consequences for the RFC Infrastructure Managers**

  The Infrastructure Managers shall focus on the following measures of the Implementation Plan:

  - The description of the characteristics of the RFC, notably the terminal access conditions and their publication in a corridor information document.
  - The coordination of works to synchronise necessary temporary capacity restrictions on a corridor. Annex VII of Directive 2012/34/EU stipulates in detail the timelines for consultation and capacity allocation during the process of planning these restrictions. The timelines are set taking into consideration the yearly timetable change in early December.
  - The allocation of pre-arranged train paths (under the annual timetable planning) and of reserve capacity (for ad-hoc train paths) by the one-stop shop.
  - The coordination between infrastructure managers regarding traffic management of freight trains running on an RFC line when approaching another network. The Commission proposal stipulates a maximum dwelling time and the arrival in time of a given percentage of freight trains.
  - Traffic management in case of disturbance.
  - By the end of 2030, Infrastructure Managers must render possible dwelling times at border crossings of not more than 15 minutes. Furthermore, 90% of freight trains crossing at least one internal border must arrive at their destination with a delay of less than 30 minutes[21]. More generally speaking, the use of performance objectives measured through published

[17] Trans-European transport network: Council agreement paves way for greener, smarter and more resilient transport in Europe (europa.eu)
[18] Established by the Infrastructure Managers (and application bodies) of the RFC, according to Art. 8.2 of Regulation (EU) 913/2010.
[19] *'applicant' means a railway undertaking or an international grouping of railway undertakings or other persons or legal entities, such as competent authorities under Regulation (EC) No 1370/2007 and shippers, freight forwarders and combined transport operators, with a public-service or commercial interest in procuring infrastructure capacity (Directive 2012/34/EU, Art. 3).*
[20] Established by the Member States of the RFC, according to Art. 8.1 of Regulation (EU) 913/2010
[21] See Article 15 of the Commission Proposal to amend the TEN-T Regulation at EUR-Lex - 52021PC0812 - EN - EUR-Lex (europa.eu)

performance indicators to bring service quality for freight trains up to a desired level. User satisfaction surveys should be carried out.

Pursuant to past or forthcoming amendments, regional Infrastructure Managers can envisage the following measures as non-priorities:

- The process of approval a new or amendment of an existing RFC will be eliminated in the amended Regulation.
- Both, Council of Ministers and European Parliament, agree on deleting the market study from the list of measures.
- The recast Directive replaced the term 'authorised applicant' with a more accurate definition of "applicant" (see footnote above), thus taking away previous leeway of the management board to permit or not an entity as applicant.

6. Recommendations

The recommendations are divided into:

- Recommendations coming from the market (see interviews in the Transport Market Study)
- Recommendations coming from the regulatory side, in particular Regulation (EU) No 913/2010

With each recommendation, information is given on the:

- Time horizon
  - Short-term: implementation should start in 2024 for a positive effect until 2026
  - Medium-term: implementation should start in 2024 for a positive effect until 2028 and the
- Responsible parties for the implementation.

Recommendations coming from the market:

Recommendation 1: Market network

Enter into direct contact with the market players to build up a network consisting of the regional transport decision-makers that will produce market-oriented information.

- As a result of the contacts, an **Advisory Group** at TCT level could be developed to regularly exchange proposals and ideas which might result in investment measures.
- **Awareness meetings** should be organised at regular intervals in the SEEP with market decision-makers to discuss investment measures and listen to their advice.

Time horizon: short-term
Responsible parties: TCT Secretariat, shippers, IMs, terminal operators

Recommendation 2: Investment measures and last mile

Consult the decision-makers in the market before proposing investment measures financed/funded by public entities to ensure that they receive backing from the market in the investment decision processes.

Finance the last mile between the corridors and the terminals with the possibility of co-financing by the terminal operators in order to ensure an efficient feeder infrastructure to the corridors.

Parts of it have already been mentioned in the Transport Community's Rail Action Plan of October 2020, see Action "Organise stakeholder workshops on the streamlining of technical assistance and financing of the reform of the rail sector and rail infrastructure projects in the Western Balkans" (p. 31).

Time horizon: short-term
Responsible parties: SEEP, IMs, terminal operators, funding institutions

Recommendation 3: The terminal operators

Enter into contact with the SEEP terminal operators:

- To have regular meetings with them to sound out the market situation, in particular investment

measures to:
  - Coordinate the investment measures with the TCT Secretariat investment measures or plans.
  - Sound out co-financing measures.
  - Convince them to make available data on their facilities, be it in the Network Statements[22], in the Corridor Information Document, European Rail Infrastructure Managers (EIM)'s databank of rail facilities or in other types of platforms.
- To organise meetings between SEEP terminal operators and operators in the neighbouring EU states in order to promote closer cooperation between the terminals and encourage them to offer regular international train services (so-called shuttle services).

Time horizon: short-term
Responsible parties: TCT Secretariat, IMs, terminal operators, RFC

Recommendation 4: Real-time information on the estimated time of arrival

Foster digitalisation of rail operations and provide real-time information on the estimated time of arrival of trains/containers/consignments to logistics operators, shippers, and other parties.

Time horizon: medium-term
Responsible parties: IMs, terminal operators, railway undertakings

Recommendation 5: Short-and medium-term infrastructure recommissioning and modernisation needs of the market

Implement the following investment measures:

Albania:

- **Most important:** Reconstruction or new construction of the **railway bridge over the Ishëm River**, destroyed in 2019. If not carried out, there will be no international freight traffic between the industrial centres around Durres and Elbasan, the existing port terminals at Durres Port, new port terminals at the Port Romano and the remaining Western Balkan regions via Montenegro[23].
- Improvement of the rail access to Port of Durres and new rail access to the new terminal in Porto Romano. Rail access infrastructure to/from/at the Port of Durres is in very poor condition. Without such investment, road transport will remain predominant.

Bosnia and Herzegovina:

- Increase in train speed and decrease in time spent on technical and commercial inspection of trains as well as time spent on Bosnia and Hercegovina border crossings (internal and external).
- Improvement of access to Port Terminal Brcko.

Kosovo:

- Modernisation of the Miradi Terminal and the planned logistics centre in Pristina. Adaptation to modern logistics requirements
- Reopening of Route 10 between Mitrovica – Lesak – Kraljevo for international traffic[24].

Montenegro:

- Improvement of the Port of Bar and hence the rail connections to play a major role as gateway for overseas trade exchange.

North Macedonia:

- Modernisation of terminals in the Skopje area as an important turning plate for international freight traffic between North Macedonia/Kosovo and the Greek ports. At a later stage, turning plate for the corridor Bari-Port of Durres-Sofia.
- Models for public-private partnership (PPP) under consideration, such as a new terminal at

[22] *'Network statement' means a publishable structured information document providing the general rules, deadlines, procedures and criteria for charging and capacity-allocation schemes of an infrastructure manager* (Directive 2012/34/EU, Article 3).
[23] The railway line Durres to Montenegro has been approved for EU funding and loan from EBRD for reconstruction.
[24] Studies are ongoing for the improvement of the line by WBIF, in Kosovo and in Serbia

Trubarevo, but no concrete private partners are mentioned, nor negotiations or contracts reported.
- Private terminals already exist such as the Fersped and Blue Bell terminals, which have their own rail access (industrial track) to the main rail network.

Serbia:

- Encourage the most recent private terminal operators in the Belgrade and Nis industrial regions to ensure last mile access to the corridors to become turning plates for the One Road One Belt Central European and other freight traffic.

Time horizon: medium-term
Responsible parties: SEEP, TCT Secretariat, IMs, funding institutions

Recommendations from the regulatory side of RFC:

Recommendation 6: Implementation of the new legal framework for rail freight corridors[25]

Facilitate the transposition and implementation of the amended EU legal framework

Pursuant to the above comparison between **Regulation (EU) 913/2010** and the likely amendments to be introduced by the Council's General Approach and the European Parliament's Compromise, the following conclusions for the SEEP can be drawn:

- The intended concept of European Transport Corridors (ETC) requires a stronger integration of network development and operations.
- Responsibility of States and Commission to consider future market needs when deciding on the future evolution of the ETC is reinforced.
- SEEP are individually responsible to designate terminal and facilities relevant for ETC according to the needs for the market.

Time horizon: short-term
Responsible parties: SEEP

Recommendation 7: Transparency and non-discriminatory access to service facilities[26]

Continue monitoring the infrastructure managers regarding implementation of transparent and non-discriminatory access:

- Include terminal access in Network Statements, Corridor Information Document (CID) and on the European portal www.railfacilitiesportal.eu
- Publish the clearance gauges to support the railway undertakings in checking the route compatibility. For non-discriminatory access to the infrastructure, the NSAs or the railway undertakings should involve the regulatory bodies.
- Ownership of land or equipment or the legal status of the facility operator (rental, concessionaire, etc), whether public or private, makes no difference when it comes to meeting those legal obligations. This is a difference to the historic form of railway legislation in the West Balkan region.
- Users of services in facilities need to know what services are supplied, including the availability, the hours of operation and the contacts. Terminal operators and regulatory bodies may have to join forces to resist pressure to discriminate against new entrants. For example, such pressures can be felt when certain users have strong ties with the supplier of the service as owners or have contracted a larger share of the capacity for a long time.

Some of the proposed measures have already been mentioned in the Transport Community's Rail Action Plan of October 2020, see Action "Publish Network Statement for service facilities (sea and river ports, terminals)" (p. 30).

Time horizon: short-term

[25] Regulation (EU) No 913/2010 as last amended, the new TEN-T Regulation and Directive 2012/34/EU
[26] Service facilities means a set of infrastructure related services the non-discriminatory access to which is essential for the efficient provision of transport services by rail. This includes not only rail-road and rail-maritime terminals, but also repair workshops for rolling stock, traction current, maintenance workshops etc. Border crossing authorities such as customs or police are not included in the scope, though in practice they may cause delays at border crossings.

Responsible parties: IMs, terminal operators, regulatory bodies

Recommendation 8: Mutual recognition of vehicle authorisations and availability of rolling stock

Facilitate the cooperation of national safety authorities (NSA) of the SEEP to foster availability of rolling stock.

- The NSAs should facilitate the authorisation process between the SEEP NSAs, by mutually accepting vehicle authorisations.
- The demand for modern container flat wagons and interoperable traction is rising. Various Western European leasing companies are already testing new traction in Serbia, Montenegro, and North Macedonia to receive vehicle authorisations from the NSAs.
- Based on the positive results of vehicle authorisations in Serbia, Montenegro and North Macedonia, the second largest market, Bosnia and Hercegovina, should apply the same measures for the Ploce-Serbia route and the Ploce-AWB RFC via Samac.
- The leasing of interoperable traction by railway undertakings should further be promoted in Bosnia and Hercegovina, Albania, and Kosovo. Where state-owned railway undertakings hesitate to lease their locomotives, the owners should urge them to make available rolling stock in the leasing market. Leasing generates additional positive cash flow to the owners of the rolling stock.

Some of the proposed measures have already been mentioned in the Transport Community's Rail Action Plan of October 2020, see Actions "Take legislative and/or regulatory measures to achieve mutual recognition at regional level of: operating licenses, train driver licenses, safety certificates, vehicle authorization" and "Establish functioning institutions (regulatory body, licensing body, national safety authority, national investigation body, designated body) – including legal, administrative, and budgetary actions" (p. 30) as well as Actions under "Interoperability" (p. 32).

Time horizon: medium-term
Responsible parties: TCT Secretariat, SEEP, national safety authorities

Recommendation 9: The Model Border Crossing Agreement (BCA)

Promote the model BCA[27] at all internal SEEP BCPs and adjust the BCAs to the market situation by entering into contact with the competent ministries, thus ensuring full conformity with the EU legislation and open access to the SEEP rail networks.

TCT Secretariat should contact the **European Commission** to ask them for assistance to introduce new border crossing agreements at **the BCPs with the neighbouring EU Member States**. The European Commission should support TCT Secretariat to contact the respective ministries of the neighbouring EU Member States**.**

Some of the proposed measures have already been mentioned in the Transport Community's Rail Action Plan of October 2020, see Actions under "Improving rail border-crossing/common crossing operations" (p. 33).

Time horizon: short-term
Responsible parties: SEEP

Recommendation 10: One-stop shop

Infrastructure managers should join permanently to provide one-stop shop services as if European regulations had already been implemented in the Region

- International groupings of applicants need pre-arranged train paths and reserve capacity out of one hand for any cross-border train service.
- Infrastructure managers should cooperate in the process of timetable planning and, even more important, the allocation of ad-hoc train paths, "as if" their corridors were already RFC. The reference could be the Corridor One-Stop-Shop (C-OSS) of AWB RFC.

[27] The model BCA had been conceived in 2008 by the predecessor organisation SEETO and applied. The model was implemented for the first time in 2015 for the rail border crossing between Albania and Montenegro and was recently fully implemented for the border crossing between Kosovo and North Macedonia.

- The following corridors are proposed. The order of priority is based on the number of international trains that cross regional borders and borders with the neighbouring EU Member States:
  - Corridor X: Subotica-Greek border
  - Corridor Vc: (Hungary-Croatia)-Samac-Bosnia and Hercegovina-Ploce (Croatia)
  - Route Belgrade-Port of Bar
- One-stop shop and Infrastructure Managers should offer pre-arranged train paths and reserve capacity to applicants as defined in Directive 2012/34/EU.
- The AWB RFC should apply the definition and requirements of applicants provided in Directive 2012/34/EU and the relevant implementing acts.

Time horizon: short-term
Responsible parties: IMs, RFC

Recommendation 11: Infrastructure managers as partners in a harmonised corridor management

Infrastructure managers (IMs) should cooperate inside the SEEP and with the neighbouring IMs regarding:

Temporary capacity restrictions (TCR):
- To coordinate the TCR in accordance with Art. 12 among IM
  Reasoning: Coordination and publication of TCR are low hanging fruits to be reaped before RFC are fully operational.
  - Model 1: the case of model border crossing agreement is a good example that can be followed for coordination and publication of TCR.
  - Model 2: RNE's TCR tool will facilitate coordination and publication in a timely, comprehensive and user-friendly way.

Capacity allocation principles:
- To suggest harmonising capacity allocation principles among the IMs of one SEEP corridor, if possible, with the neighbouring EU infrastructure managers, in an informal way. Such arrangements could also address issues such as TCR, performance scheme, disturbance management, monitoring scheme, and user satisfaction survey.

Performance scheme:
- To start harmonising performance schemes along the corridor for freight trains.
- Performance schemes, if calibrated in accordance with the need for punctuality of the different services, should provide effective, consistent and realistic signals to shippers, logistics operators, railway undertakings/intermodal operators, and IMs.

Managing traffic disturbance on RFC:
- Agree on a procedure to be followed in the event of disturbance in accordance with RNE recommendations.
  - The procedure should be submitted for adoption to a preliminary Management Board, waiting for the establishment of further governance bodies, as the Executive Board of the RFC, which have to approve it.
  - The procedure to be followed in the event of disturbance is subject of a RNE specific guideline, already followed by the regional IMs in their respective Network Statements.

Monitoring scheme:
- Develop, together with a future RFC Management Board or the IMs individually, a Monitoring Scheme including a set of indicators, and consult their clients on the indicator design. This Monitoring Scheme could become a reference for the other IMs in the Region.

Service quality of transport and infrastructure:
- Step up efforts for service quality evaluation on rail freight corridors, consult clients on their needs and publish their assessment of the situation as well as the remedial measures taken or planned. By the end of 2030, Infrastructure Managers must render possible dwelling times at border crossings of not more than 15 minutes. Furthermore, 90% of freight trains crossing at least one internal border must arrive at their destination with a delay of less than 30 minutes. Reason: Due to long waiting times at/or near border crossings in the SEEP and dissatisfactory infrastructure conditions on the corridors. Model: AWB RFC user satisfaction survey.

Time horizon: short-term
Responsible parties: IMs, RFC

Recommendation 12: Corridor management AWB RFC and future RFC

The Management Board of AWB RFC and future RFC shall improve the level of awareness amongst market decision makers, in particular as immediate measures:

- AWB RFC should provide transparency on its level of service quality, whereby recent dwelling times at borders and transhipment times at terminals should be published in accordance with the revised Regulation and compared with targets.
- AWB should provide financial incentives under a harmonised effective performance scheme. The performance scheme as a whole should reconcile in a realistic manner the punctuality requirements of the shippers with the performance targets of the infrastructure manager and the railway undertakings. Regulatory bodies should ensure that net financial flows between the infrastructure manager and the railway undertaking are balanced in a given period if punctuality targets are achieved in that period, such that the performance scheme would not jeopardise the business model of a service but place an incentive to achieve agreed targets.
- AWB RFC should establish and actively promote amongst market decision-makers its service quality as a brand. The brand would raise awareness amongst market decision makers of the RFC.

Time horizon: short-term (AWB RFC), medium-term (future RFC)
Responsible parties: AWB RFC, future RFC

Recommendation 13: The SEEP regulatory bodies

Facilitate the exchange of best practice through regular meetings with the regulatory bodies of the SEEP.

- To reinforce their cooperation, including their cooperation with regulatory bodies in the EU, with a view to decision making where cases in another SEEP are concerned.
- To enable them, through the meetings, to anticipate and promptly remedy potentially discriminatory behaviour notably regarding charges and access conditions of facilities, respecting confidentiality of their sources.
  Reasoning: Such discriminatory problems may intervene in a country in a different way according to the location of the terminal. The only short-term remedy may be for the service provider or a user to ask informally and promptly the regulatory body to intervene without a formal complaint or without revealing the identity of the aggrieved.
- Regulatory bodies should urge infrastructure managers and facility operators, in particular terminal operators, to publish all access conditions and prices.

Some of the proposed measures have already been mentioned in the Transport Community's Rail Action Plan of October 2020, see Action "Establish functioning institutions (regulatory body, licensing body, national safety authority, national investigation body, designated body) – including legal, administrative, and budgetary actions" (p. 30).

Time horizon: short-term
Responsible parties: SEEP, regulatory bodies