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Support to the Implementation of the SEETO Strategic Work programme (2015-2017) - Provide Technical Assistance to SEETO structure in the areas of railway and road safety.

December 2017

Revisiting the SEETO Railway Memorandum of Understanding with a View to Establishing of Rail Freight Corridor in Western Balkans.

### Preliminary Implementation Plan



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## Version update & control

No	Evolution index	Date	Modifications / comments	Written by	File
1	Draft Preliminary Implementation Plan (PIP) V1	15 June 2017	1st draft	F. Zambelloni / M. Pascucci	Preliminary Implementation Plan - 1st draft.pdf
2	Draft Preliminary Implementation Plan V2	22 August 2017	2nd draft extended to the 6 RPs, with all material submitted by Stakeholders	F. Zambelloni / M. Pascucci	22-08-2017 Preliminary Implementation Plan - 2nd Draft (Rev. 2 - Ver. 3).pdf
3	Annex Transport Market Study (TMS) Rev.3	23 October 2017	Early submission of Annex TMS Rev 3	F. Zambelloni / M. Pascucci	Annex TMS Rev 3 Ver 4 21-10-17.pdf
4	Draft Preliminary Implementation Plan V3	31 October 2017	Corrected after main decisions, comments and required political changes	F. Zambelloni / M. Pascucci	Draft PIP partly AMENDED Cutting Surplus.pdf
5	Draft PIP V 4	7 November 2017	Incorporating comments and required political changes	F. Zambelloni / M. Pascucci	Draft PIP Rev 5 Ver 4 - 07.11.17.pdf
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##### **Appendix 1 - Governance of a Rail Freight Corridor**

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## Abbreviations and Acronyms

<b>ALB</b>	Albania
<b>AMM</b>	Annual Meeting of Ministers
<b>BC</b>	Border Crossing
<b>BCA</b>	Border Crossing Agreement
<b>B&amp;H</b>	Bosnia and Herzegovina
<b>BG</b>	Bulgaria
<b>CONSULTANT</b>	Suez / Safege
<b>DG MOVE</b>	Directorate General for Mobility and Transport
<b>EB</b>	Executive Board
<b>EC</b>	European Commission
<b>EL</b>	Greece
<b>EU</b>	European Union
<b>HU</b>	Hungary
<b>HR</b>	Croatia
<b>IFI</b>	International Financial Institution
<b>IM</b>	Infrastructure Manager
<b>IWW</b>	Inland Water Way
<b>KOS</b>	Kosovo*
<b>MAP</b>	Multi–Annual Plan
<b>MB</b>	Management Board
<b>MKD</b>	The former Yugoslav Republic of Macedonia
<b>MS</b>	Member State of EU
<b>RFC</b>	Rail freight Corridor
<b>RP</b>	Regional Participant/Partner of SEETO
<b>SEETO</b>	South East Europe Transport Observatory
<b>TA</b>	Technical Assistance
<b>TMS</b>	Transport Market Study
<b>ToR</b>	Terms of Reference
<b>WB</b>	Western Balkans
<b>WBIF</b>	Western Balkans Investment Framework
<b>ToR</b>	Terms of Reference
<b>WBIF</b>	Western Balkans Investment Framework

*\* 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.*

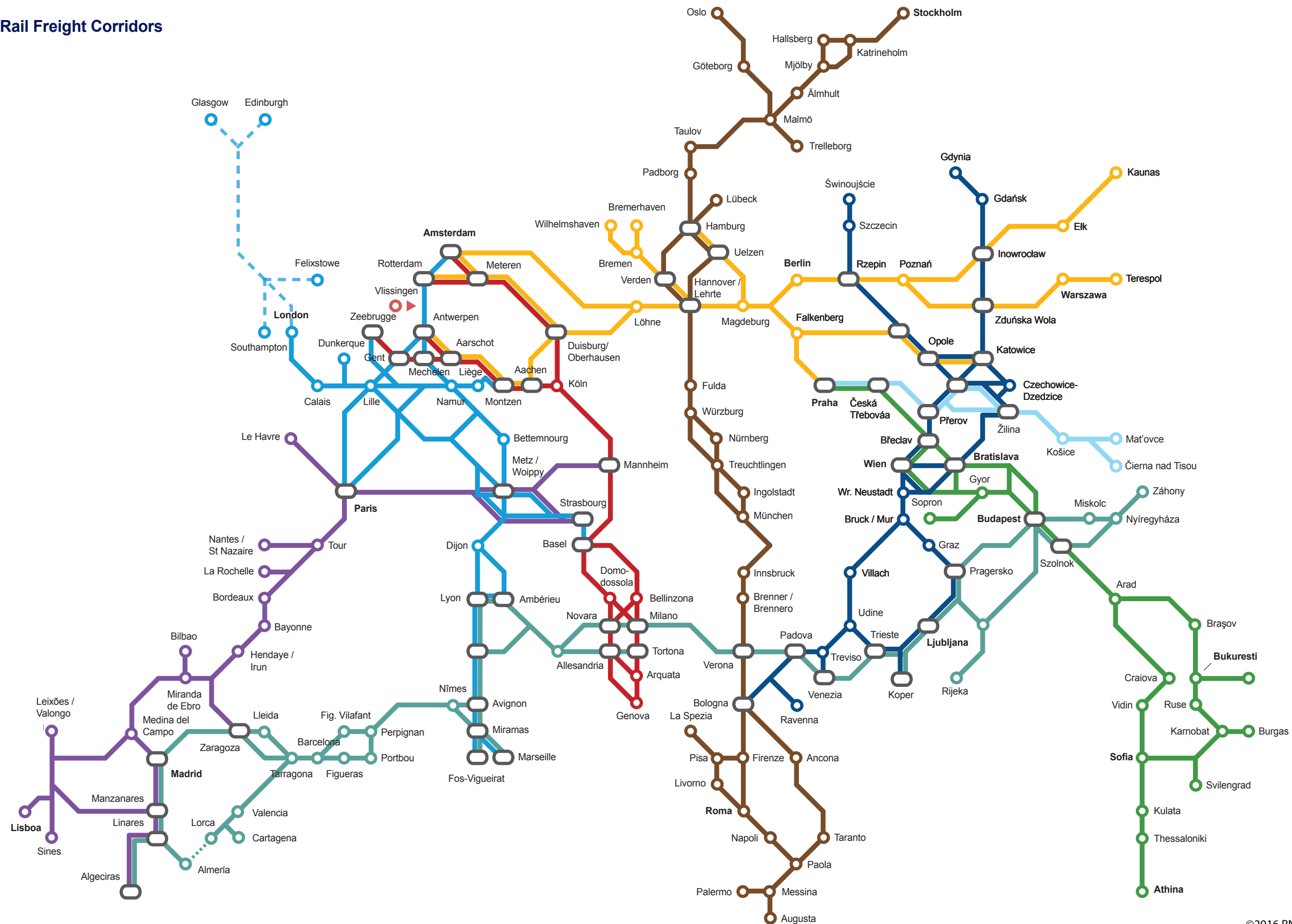
## PROJECT SYNOPSIS

<b>Programme:</b>	Support to the Implementation of the SEETO Strategic Work programme (2015-2017) Provide Technical Assistance to SEETO structure in the areas of railway and road safety	
<b>Project title:</b>	<b>REVISITING THE SEETO RAILWAY MEMORANDUM OF UNDERSTANDING WITH A VIEW TO ESTABLISHING OF RAIL FREIGHT CORRIDOR IN WESTERN BALKANS</b>	
<b>Reference No:</b>	EuropeAid/132633/C/SER/multi	
<b>Contract No.:</b>	CRIS 2016/374791	
<b>Commencement and End date:</b>	03.10.2016 4.07.2017 (contracted date)	
<b>Name:</b>	<b>EUROPEAN COMMISSION</b> Directorate-General for Mobility and Transport	<b>SAFEGE</b>
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<b>Project Objectives</b>	<p>The global objective of the Project, Sub-action 1, is to assist in the implementation of South East Europe Transport Observatory (SEETO) Strategic Work Programme. At the Western Balkan 6 summit in August 2015, the SEETO countries have committed to "Implementation of rail reform strategy - Definition of a framework for implementation of EU Freight Corridors Regulation (Regulation EC 913/2010), extended to the Western Balkans."</p> <p>The specific objective of the project is the Extension of an EU rail freight corridor to one or more candidate countries of the Western Balkans ("SEETO region") – transfer of the best practice solutions. The main expected outputs are an inventory of rail freight facilities on the Core Network Corridors in the Western Balkans, including Alpine-West Balkan rail freight corridor and an implementation plan in accordance with the Regulation EC 913/2010 concerning the European rail network for competitive freight, which will facilitate inclusion of the Western Balkans area into the Rail Freight Corridor initiative.</p>	

<b>Requested Services</b>	<ul style="list-style-type: none"> <li>▶ Interviews, desk work including, notably, the network statements of regional infrastructure managers, surveys, field visits, scenario technique, workshops with key stakeholders. At least one field visit to each Regional Participant is envisaged, where meetings and interviews would be conducted with key stakeholders.</li> <li>▶ A transport market study (see below) for the Core Network Corridors in the Western Balkans including Alpine-West Balkans rail freight corridor in accordance with Article 9(3) of Regulation EU No 913/2010 considering previously completed market studies for the existing nine rail freight corridors.</li> <li>▶ An implementation plan in accordance with Article 9(1) of the Regulation, with the exception of the investment plan referred to in the Article 11 of the Regulation (EU) No 913/2012.</li> <li>▶ An inventory of rail freight facilities as referred to in Annex II of the Directive 2012/34/EU points 2, 3 and 4 as they exist along the Core Network Corridors in the Western Balkans, including Alpine West Balkan corridor.</li> <li>▶ Gathering of information on terminal access conditions as an input data for the Last-mile web portal of DG Mobility.</li> <li>▶ Preparation of the final report containing results from the Report 2 and Report 3.</li> </ul>
<b>Expected Results</b>	<ul style="list-style-type: none"> <li>▶ Inception Report: Will include assignment methodology, staffing and time schedule, as well as the summary of the review of existing studies and stock-taking.</li> <li>▶ Report 2: Rail freight corridor Implementation plan on the basis of the handbook and the regulation.</li> <li>▶ Report 3: Inventory of all rail facilities along the rail freight corridor; Technical parameters and data for presentation of access conditions and charges for the freight facilities on the Core Network Corridors in the Western Balkans, including the Alpine West Balkan corridor, collected and prepared for the inclusion in the Last-mile web portal of DG Mobility; and Market study in accordance with the Regulation EU No 913/2010.</li> <li>▶ Draft Final Report containing results of the report 2 and report 3. Presentation to key stakeholders (rail infrastructure managers, terminal operators, railway undertakings, freight forwarders, shippers, etc.)</li> <li>▶ Final Report (including revisions of the Reports 2 and 3).</li> <li>▶ Monthly Progress reports.</li> </ul>



## Existing Rail Freight Corridors



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## EXECUTIVE SUMMARY

The main task of the present version of the Preliminary Implementation Plan is to offer IMs and Ministries guidelines to help establish Rail Freight Corridors in the region.

The present document has a twofold format:

- ▶ one devoted to demonstrate the form and content of the Implementation Plan that has to be proposed by the Management Board (composed of the infrastructure managers and allocation bodies) and approved by the Executive Board (composed of the Ministries of transports) - (written in normal font);
- ▶ the other to be a practical tool to accompany the SEETO Regional Participants (RPs) along the processes of Designation of Terminals and Lines and the processes of Agreement about List of Measures, Charges and the like – taking into account the harmonisation with the contiguous RFC 6 + 7 required by RNE (*written in italics*); RNE is also developing a Common Structure for the Implementation Plan (IP) that will probably be ready and published by the end of 2018.

Please note the text in *italics* is devoted to suggesting the above stakeholders how to proceed and finalize the steps and processes indicated in the Regulation 913/2010 and relevant Handbook.

Moreover, the present document version consists of three parts and has the following particularities, due to its declared main tasks.

### 1<sup>st</sup> part – Chapters 1. Introduction and 2. Corridor description

The Chap. 1. Introduction consists of the Paragraphs: 1.1 Aim of the Implementation Plan; 1.2 Legal background; 1.3 Aim of the Extension of RFC to WB and 1.4 Objectives of the Extension of RFC to WB. Please note more extended descriptions should then go in the CID Book 1 – Generalities.

The Chap. 2. Corridor Description consists of the Paragraphs: 2.1 Designation of lines and terminals; 2.2 List of Railway Lines designated to the RFC in WB, where the designated lines characteristics of MKD, MNE, SER and KOS are reported as well as those of ALB and B&H (two rail companies) as future expansion and for both the possible connections to other RFC are shown (more extended descriptions should then go in the CID Book 2 – Network Statement Excerpts); 2.3 Corridor Terminals and 2.4 List of Terminals designated to the RFC in WB, where a summary of the designated Terminals, their category and main features are reported according to their importance. More detailed and extended description of Terminals and Rail Freight facilities are reported in Appendix, foreshadowing the CID Book 3 – Terminal Description. Further Paragraphs: 2.5 Bottlenecks and 2.6 Description of Planned Changes / Improvements are reporting the list of capacity bottlenecks and the plans

to overcome them, even if more related to the Investment Plan not required in this study. The following paragraph 2.7 Compliance with required Technical Parameters gives a table view of the status of compliance of the WB rail infrastructure compared to the infrastructure requirements, key technical parameters, as set in Article 39 of EU Regulation No. 1315/2013. Finally, the Paragraph 2.8 Governance gives an introduction and some Consultant's suggestions also in form of possible roadmap to progress with RFC in WB.

### 2nd part – Chapter. 3 'Essential elements of the Transport Market Study' (TMS)

It gives, in brief, the main indications of the current transport flows and future forecast for the international freight traffic. The whole TMS is reported in the Annex.

### 3rd part – Chapter. 4 'List of Measures

It gives an overview of measures needed to be introduced according to the regulation together with some Consultant's suggestions. As a case study example, the Measures are reported in Appendix which are used by RFC 6 – Mediterranean in its former Draft for approval of the EB.

The part of the future extension of Rail Freight Corridor (RFC WB) to the Western Balkans that is laid down in the territories of the four SEETO Regional Partners: the former Yugoslav Republic of Macedonia, (MKD), Montenegro (MNE), Serbia (SER), and Kosovo\*<sup>1</sup>(KOS) already having the necessary legal basis will be referred to as: "Extension of Rail Freight Corridor (RFC WB) to the Western Balkans", or "RFC WB", or simply the Corridor.

The remaining SEETO RPs of Albania (ALB) and Bosnia & Herzegovina (B&H) could enter the Corridor as applicants, waiting for the separation of infrastructure from the operation essentially required by DG Move to become eventually full members of the Corridor.

It is important to clarify that in the given situation there are several scenarios for the Western Balkans regarding the implementation of the RFC WB as a standalone corridor or as the part of some extension of EU RFC.

In the Consultant's opinion, the main scenarios to deal with are as follows:

- 1) Actual scenario: important since provides the present status of the infrastructures, terminals, service facilities and the like already present and working along the RFC in WB. In this scenario RPs can start with the operational application of some of the provisions of the regulation (e.g. coordination on capacity restrictions, agreeing on interoperability in border processes etc.) without the legal framework and formal EC extension of the RFC to WB.  
Time 1 = 2017/2018

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<sup>\*1</sup> 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.

- 2) Initial operation scenario: it means the scenario to be considered at the time of the real establishment of the whole RFC 10. It can require the intervention of the bordering Member States (MS) and in any case the approval of DG Move of the relevant application submitted. Then, it will usually require at least two years to become legal plus some more time to become operational. Time 2 = 2017/2018 + 2 years = 2019/2020
- 3) Potential/Operational scenario: it is the scenario when some rail infrastructures, terminals and facilities that had the potential to be a facility of the Corridor, but were not operational under the previous scenarios, can become operational and thus be designated to the RFC in WB. The timeline of scenarios 2 and 3 can overlap. Time 3 = 2019/2020 + 1 year = 2020 (Optimistic) / 2021 (Pessimistic).
- 4) Market Operational scenario: it occurs when all the bases to establish the RFC in WB have been provided, all the requirements fulfilled and a well-functioning Corridor Organisation is offering the Corridor to the rail transport market as a working unit. Time 4 = 2020/2021 + 1 year = 2021 (Optimistic) / 2022 (Pessimistic).
- 5) Future Expansion scenario: it means that the RFC in WB can develop and/or expand in future to include other lines, terminals and facilities. They can often be identified at earlier stages and proposed to be included in the Corridor when they become suitable for the Corridor purposes and rules. It can overlap with the previous scenarios, depending upon the time required to implement successfully the legal actions and the projects it comprises. Time 5 = 2021/2022 + 1 year = 2022 (Optimistic) / 2023 (Pessimistic).

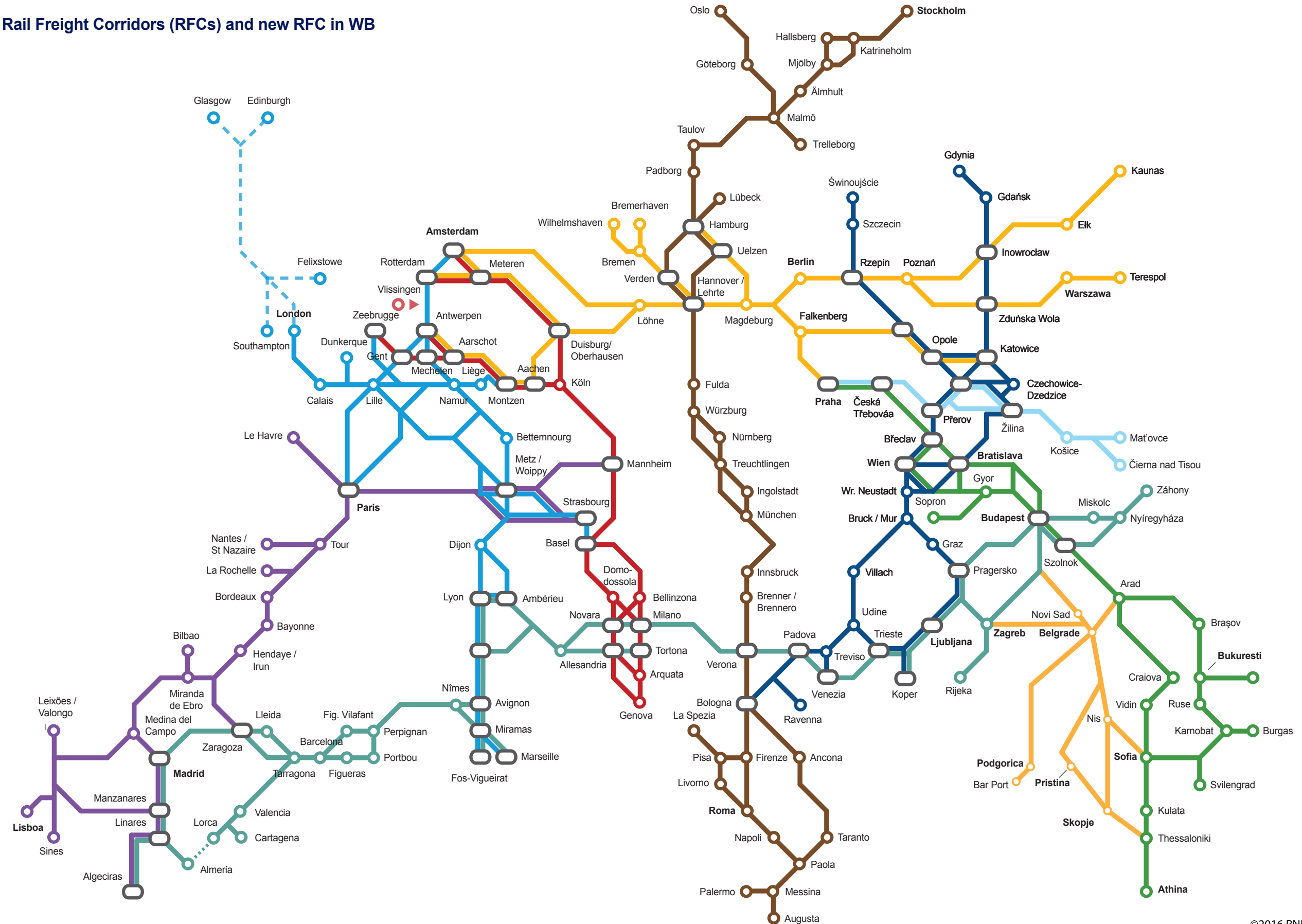
Thus, this document is to be understood also as a collection of assumptions, evaluations and proposals that the involved Institutions have the opportunity to accept, reject, amend and/or discuss.

It has to be reported that after the SEETO - Western Balkans Rail Freight Corridors Meeting of 16 November 2017 some basic agreements between the SEETO Regional Participants (RPs) have been reached during the connected workshop/Seminar sessions.

However, the concrete implementation of all the provisions of the Regulation is still ahead of us, therefore this document is a rolling document, to be further revised and updated during the formal establishment of Management and Executive Boards.



## Existing Rail Freight Corridors (RFCs) and new RFC in WB



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# 1. Introduction

## 1.1 Background

The rail network for goods has been experiencing difficulties for more than thirty years for a number of reasons: changes in industry, the development of motorways, and new logistic requirements on the part of companies. In order to respond to these difficulties, the Community has launched an active policy for the revitalization of rail transport based on progressively opening up transport services to competition (effective for all freight since 1 January 2007) and developing the interoperability of rail systems. The slow progress made with rail freight to date is due to several factors including the slow development of competition and interoperability and the lack of capacity of good-quality and reliable infrastructure allocated to international freight.

Following its adoption by the European Parliament and the Council on 22 September 2010, Regulation EC 913/2010 concerning a European rail network for competitive freight entered into force on 9 November 2010.

The Regulation concerning the European rail network for competitive freight – hereinafter referred to as the Regulation – has been elaborated with the overall purpose of increasing international rail freight's attractiveness and efficiency, so that rail can increase its competitiveness and market share on the European transport market.

The objective of the initiative was to act in four areas corresponding to the main problems: improving coordination between IMs; improving the conditions of access to infrastructure; guaranteeing freight trains adequate priority, and improving inter-modality along the corridors.

In order to achieve this, the Regulation has the general objective of improving the conditions for international rail freight by reinforcing cooperation at all levels – especially among Infrastructure Managers – along selected Rail Freight Corridors, with the twofold aim:

- ▶ to develop the rail freight corridors in terms of infrastructure capacity and performance in order to meet the market demands both quantitatively and qualitatively
- ▶ to lay the ground for provision of good quality freight services, meeting customer expectations.

The Rail Freight Corridors established on the basis of the Regulation are forming a European-wide network for competitive freight. This requires not only cooperation between Infrastructure Managers within each corridor, but cooperation between Infrastructure Managers and corridor organizations

across several corridors. As for the Western Balkan region, the Rail Freight Corridor has not been established. However, in the light of the Vienna Summit and the extension of the EU Core Network and Core Corridors onto the Western Balkans and the fact that regulation allows extension to non EU countries (contingent upon that it connects EU territories through this extension), pre-conditions are made to establish the Rail Freight Corridors in the Western Balkans as well.

In order to achieve the above mentioned objectives, cooperation framework had to be established. The cooperation framework has been cited in the Regulation and involves cooperation between Member States (MS) and Infrastructure Managers (IM) over at least one corridor per MS; furthermore, according to the Regulation, in this corridor the freight would have sufficient priority and competition between operators will be facilitated. The similar approach would be undertaken within this study, with a special focus on the application of the Handbook on the Regulation concerning the European rail network for competitive freight on the Western Balkans market and the specificities for the possible inclusion of the Western Balkan corridors into the existing Rail Freight corridor structures.

The initial concepts of the Western Balkan Corridor has been assessed by various actors and stakeholders during the past years, including the Pan-European Corridors, the TEN-T Corridors and the Comprehensive/Core Network Corridors.

The Regulation 913/2010 – hereinafter referred to as the Regulation – has then established the Rail Freight Corridors (RFC) concepts and their main features. After years of development of the first nine RFC, the EU Commission has now funded this initial study about the possibility to implement another Rail Freight Corridor or an extension of an existing one, further to the already established RFC n. 1 to 9, as defined by the Regulation initial annex, plus the recent applications of RFC 10 and 11.

Previous agreements including Member States (MS) as Austria, Hungary and Greece and then Croatia have already set up some bases to define other RFCs in the Western Balkans, thus its possible geographic extension and features are the subject of this study.

Therefore, a complete RFC in WB can be proposed to run in future through the axes:

- ▶ *Salzburg (AT) – Ljubljana (SI) – Zagreb (HR) – Belgrade (RS) – Nis (RS) – Skopje (MKD) (then towards Thessaloniki, EL), and:*
- ▶ *Graz (AT) – Ljubljana (SI) – Zagreb (HR) – Belgrade (RS) – Kraljevo (RS) – Pristina (KOS) – Skopje (MKD) (then towards Thessaloniki, EL), and:*
- ▶ *Budapest (HU) – Novi Sad (RS) – Belgrade (RS) – Nis (RS) – Sofia (BG) (then towards Istanbul, TR), and:*
- ▶ *Timisoara (RO) – Belgrade (RS) – Podgorica (ME) – Bar (ME).*



Future expansions, to exploit the additional potentiality of ports terminals in Durres and Ploce can also include the following routes:

- ▶ Albania: Durres – Tirana – Podgorica (ME).
- ▶ B&H: *Ploce (HR)/ Capljina (B&H) – Mostar – Sarajevo - Doboi – Samac* (Border Crossing B&H-HR) then towards Novi Sad or Belgrade (*or, towards Budapest, HU* (Pan-European Corridor V) *or Zagreb, HR*).

Moreover, some diversionary lines could also be in the future RFC in WB as, for instance, the route Zvornik Novi – Tuzla –Doboj –Banja Luka – Novi Grad – Dobrljin, which can constitute a rail route parallel to the line connecting Belgrade to Zagreb.

Initially, the RUs of both ALB and B&H could operate with the bordering Croatia and the SEETO Regional Partners of MNE and SER by means of agreements.

Once ALB and B&H will have established the necessary separation of infrastructure and operations, together with the other legislative requirements of EC/DG Move, they could enter the future Corridor as full members.

The four SEETO Regional Partners of MKD, MNE, SER and KOS have stated they have the priority to improve and complete the rail links designated or to be designated to the RFC in WB crossing their territories.

Moreover, further Intermodal Terminals can be added, since some already exist, particularly as trimodal terminals to exploit the potentiality of the river ports along the Inland Water Ways.

Other Terminals already exist all along the principal routes; many are just lacking suitable equipment to become operational. Other Intermodal Terminals are already planned or under realisation, e.g. in MKD.

The RFC in WB initial scheme can thus be drawn and it results compliant with the TENtec Core Network Corridors in the SEETO Regional Participant territories, as per the maps below.



**Map 1 - Scheme of RFC in WB (SEETO Region)**

**Core/Comprehensive Network Corridors in SEETO Region****Map 2 - RFC in WB - Compliance with Core/Comprehensive Network Corridors**

## 1.2 Aim of the Implementation Plan

The aim of this Preliminary Implementation Plan is to present to a preliminary group of rail infrastructure managers, terminal operators and railway undertaking (a preliminary management board) a preliminary assessment of the main actions, decisions, engagements and the like needed in order to help them setting up the potential Rail Freight Corridors in the Western Balkans.

The study, inclusive of this Implementation Plan, is the first step to help SEE-TO Regional Participants (IMs and Ministries) to establish Rail Freight Corridors in the region.

## 1.3 Legal Background

Given that the Regulation EC 913/2010 concerning the European rail network for competitive freight allows the extension of the RFC also to non-EU countries - upon the condition that EU territories are connected by means of this extension – there are already some bases to establish the Rail Freight Corridors in the Western Balkans.

The aim of this preliminary work is submission to the EU institution, to the MS mentioned above and to other stakeholders, as well as the description and the main features of a future Extension of RFC to Western Balkans.

Actually, this part is constituted by the territories of the non-EU-member SEE-TO Regional Participants of the Former Yugoslav Republic of Macedonia, Montenegro, Serbia and Kosovo whose railway systems already have the prerequisite of the separation between Infrastructure and Operation.

There are probably other preconditions and requirements by the EU Institution that are needed by a non-MS to legally become a member of a RFC.

In fact, all EU MS have to adopt the EU legislative framework by default, therefore they are automatically not only applying the Regulation, but also all the Directives transposed into the national legislation.

Instead, the non-MS of the WB should transpose the Regulation (EU) 913/2010 and the relevant EU laws and bylaws concerning railways and put them into effect before establishing a Rail freight Corridor in the region.



The other two SEETO RPs, which are also interested in participating in the Extension of RFC to the Western Balkans, namely Albania and Bosnia and Herzegovina, are advised firstly to set up the above mentioned separation between Infrastructure and Operation (according to the Directive 2012/34/EU) in all their railway systems, since it can require some time.

Meanwhile, it is advisable to RPs to continuously improve the legal, documentary, organisational and technical status of their railway systems.

Further conditions and requirements requested by the EU Institution, as needed by a non-MS to completely fulfil all the necessary provisions, could be understood by considering the main railway Directives and their further modifications, for instance:

1. As referenced to in the Regulation:

- ▶ Directive 2012/34/EU of The European Parliament and of the Council of 21 November 2012 establishing a Single European Railway Area (Recast)

2. As amended by the 4th Railway Package

- ▶ Directive 2012/34/EU of the European Parliament and of the Council of 21 November 2012 establishing a Single European Railway Area (Recast)
- ▶ Regulation (EC) No 1370/2007 of the European Parliament and of the Council of 23 October 2007 on public passenger transport services by rail and by road
- ▶ Regulation (EC) No 881/2004 of the European Parliament and of the Council of 29 April 2004 establishing a European Railway Agency
- ▶ Directive 2004/49/EC of the European Parliament and of the Council of 29 April 2004 on safety on the Community's railways
- ▶ Directive 2008/57/EC of the European Parliament and of the Council of 17 June 2008 on the interoperability of the rail system within the Community
- ▶ Repealed Regulation (EEC) 1192/69 on common rules for the normalisation of the accounts of railway undertakings.

3. As discussed in the document

- ▶ Regulation (EU) No 1315/2013 of the European Parliament and of the Council of 11 December 2013 on Union guidelines for the development of the trans-European transport network and repealing Decision No 661/2010/EU (Text with EEA relevance) [*See Para 2.7*]

At a certain moment, e.g. when the trend of development of the RFC in WB will be absolutely clear, the SEETO RPs can ask for more detailed clarifications about all the legal bases necessary to become a member of a RFC.

## 1.4 Aim of the Extension of RFC to the Western Balkans (RFC in WB)

As per the Regulation, in the Rail Freight Corridors the international rail freight would have sufficient priority and the competition between operators will be facilitated.

To achieve this, the cooperation at all levels should be reinforced and particularly between IMs to obtain a suitable development of the selected lines in terms of infrastructure capacity and performance, with the objective to meet the market demands and to offer customers a good quality freight service.

Moreover, IMs should have the best coordination particularly on the management of capacities and traffic optimisation, in order to provide consistency and continuity along the potential Corridor. In this regard, specific measures need to be adopted for removing bottlenecks and overcoming cross-border difficulties.

MKD, MNE, SER and KOS could already start to prepare a procedure for the establishment of an Extension of RFC to WB; then the aims of the future Corridor could be reported more in detail.

After completing this, the railway systems of B&H and ALB could become full member of the same RFC too, as discussed above. Meanwhile they may collaborate with the RFC under establishment by means of agreements and/or by offering diversionary/extended rail routes to the RFC in WB until when they satisfy all the requirements needed to become full members of the RFC in WB.

Finally, the new RFC in WB could connect to other already existing RFC, namely:

- ▶ RFC 6 Mediterranean – now extended to Croatia - in Zagreb;
- ▶ RFC 7 Orient in Timisoara (RO) and Sofia (BG);
- ▶ RFC 11\* in Kelebija (Border Crossing with Serbia).

\* New RFC: [Koper — Ljubljana —/Zalaszentivan — Sopron — Csorna - /Rajka — Bratislava — Leopoldov — Žilina — Katowice -/Kraków — Warszawa -/Łuków — Terespol (Polish-Belarusian border) /Komárom — Budapest — Kelebia.

## 1.5 Objectives of the Extension of RFC to Western Balkans (RFC in WB)

The railway IMs, RUs and other infrastructure-manager and capacity-allocation companies responsible for the establishing and running RFC in WB are committed to:

- ▶ developing a railway corridor in harmony with freight market demand,
- ▶ offering reliable, high-quality, competitive transport services in order to increase the market demand for it,
- ▶ operating the infrastructure cost-effectively on the long run through harmonization of technical and procedural conditions,
- ▶ being a worthy part of the European railway network by becoming a connection between Central Europe and South-East Europe, plus a link to Turkey and Asia,
- ▶ contributing to increasing the market share of the environmentally most friendly land transport mode,
- ▶ facilitating the environmentally sustainable development of the economy of both, Member States and SEETO Regional Partners and the achievement of a better quality of life for its people.

To reach the aforementioned objectives, it is reputed necessary to improve:

- ▶ the collaboration and coordination between all the interested IMs,
- ▶ the conditions of access to the infrastructure and the Intermodality along the lines designated for the Corridor.

Moreover, an adequate priority should be ensured for the freight trains and a punctuality objective should be pursued as well.



**Map 3 – Scheme of RFC in WB and RFC 6 + 7**



## 2. Corridor Description

The part of the future Extension of RFC to the Western Balkans, that is located in the territories of the four SEETO Regional Partners of: the former Yugoslav Republic of Macedonia (MKD), Montenegro (MNE), Serbia (SER), Kosovo (KOS), already having the necessary legal basis - referred to also as "RFC in WB"- it is mostly running North – South or vice versa, even if by different axis, slightly oblique.

Its principal routes are the following:

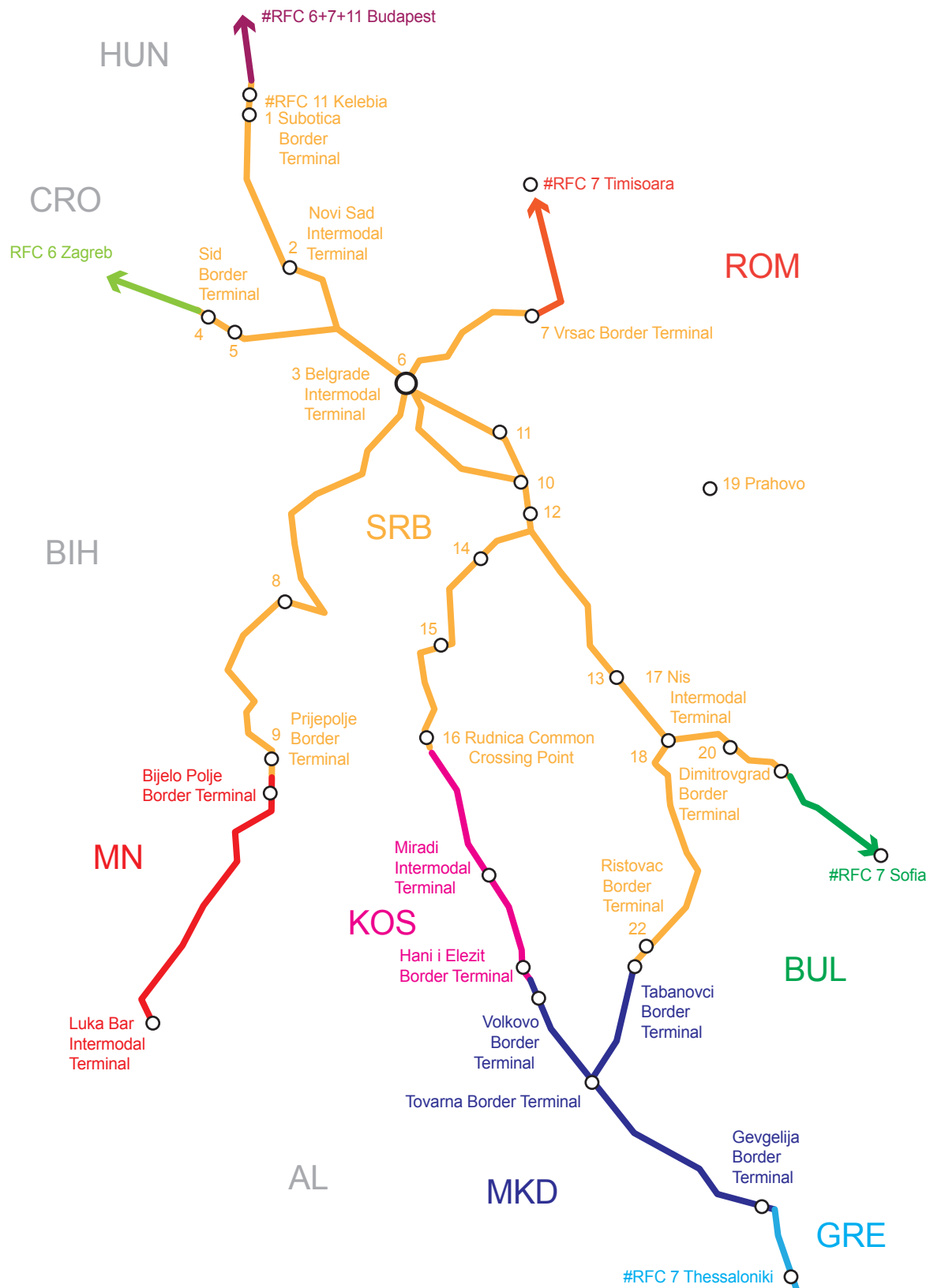
- ▶ from the border of Serbia - Hungary, via Subotica and Novi Sad, or
- ▶ from the Croatia border, via Šid, or
- ▶ from the border of Serbia - Romania, via Vršac and Pančevo, to Belgrade.

Then, from Belgrade to:

- ▶ Bijelo Polje (SER-MNE Border) via Resnik, Valjevo, Prijepolje / Vrbnica, then Podgorica and the Port of Bar (MNE), or
- ▶ Leshak (SER-KOS Administrative Boundary/Border), via Lapovo, Kraljevo and Rudnica; then to the Miradi Terminal/Pristina and Hani I Elezit (KOS – Border MKD), then to the Tovarna Terminal/Skopje and Gevgelija (*MKD-Border EL*), then, in Greece, toward the Port of Tessaloniki, or
- ▶ Niš and Ristovac (SER-MKD Border) then to Tovarna Terminal, Skopje and to Gevgelija, as above (*MKD- Border EL*), then, in Greece, toward the Port of Tessaloniki, or
- ▶ Niš and Dimitrovgrad (*Border SER-BUL*) then to Sofia and, in BUL, toward Kapikule Edirne (*Border Bulgaria-Turkey*).

The scheme of the RFC in WB and the connections with RFC 6 and 7 is shown above.

A general map of the possible Principal Routes of the RFC in WB in the SEETO Regional Partners territories is below.



Map 4 - RFC in WB in the SEETO Regional Partners Territories

## 2.1 Designation of Lines and Terminals

The designation of lines and terminals to the RFC in WB could be amended and updated from time to time based on indications from the Transport Market Study, requests by RUs, comments by Advisory Groups and Applicants and improvements according to the investments in the infrastructure of the corridor.

The total length of the rail lines initially designated to the RFC in WB as Principal Routes is of approx. km 1939, of which approx. km 243 in the former Yugoslav Republic of Macedonia (MKD), approx. km 167 in Montenegro (MNE), approx. km 1380 in Serbia (SER) and approx. km 149 in Kosovo (KOS).

## 2.2 List of Railway Lines designated to the RFC in WB

The List of all the Railway Lines designated to the RFC in WB is presented below and their Key Parameters in the following paragraphs:

2.2.1 The Former Yugoslav Republic of Macedonia

2.2.2 Montenegro

2.2.3 Serbia

2.2.4 Kosovo



### 2.2.1 The former Yugoslav Republic of Macedonia

[illegible]



Designation of Rail Lines to RFC in WB	SECTION LENGTH	LINE TYPE			TRACK GAUGE		DOUBLE TRACK	MAX. TRAIN LENGTH (INCLUDING TRACTION)								AXLE LOAD				LOAD PER METRE				TRAIN SPEED				INTER MODAL LOADING GAUGE	LOADING GAUGE		POWER SUPPLY			SIGNALING SYSTEM										GRADIENT / (INCLINE)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
	km	PRINCIPAL ROUTE	DIVERSIONARY	CONNECTING FEEDER	1435 mm	1520		200 m	360 m	450 m	500 m	550 m	575 m	600 m	625 m	650 m	750 m	16	18	20	21	22.5	5.0	6.4	7.2	8	T ≤ 75 km/h	75 < T ≤ 90 km/h	90 < T ≤ 100 km/h	T > 100 km/h	UCI Grid line	Lines	Tunels	DC 1500 V	DC 3000 V	AC 25000 V	ASFA	KVB	KVB	BCA	BACC	SCMT	PZB	EVM	EICS L1	EICS L2	APS	ID	O	+	-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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Designation of Rail Lines to RFC in WB	SECTION LENGTH	LINE TYPE			TRACK GAUGE		DOUBLE TRACK	MAX. TRAIN LENGHT (INCLUDING TRACTION)								AXLE LOAD					LOAD PER METRE				TRAIN SPEED				INTER MODAL LOADING GAUGE	LOADING GAUGE		POWER SUPPLY			SIGNALLING SYSTEM										GRADIENT / (INCLINE)							
	km	PRINCIPAL ROUTE	DIVERSIONARY	CONNECTING FEEDER	1435 mm	1520		200 m	360 m	450 m	500 m	550 m	575 m	600 m	625 m	650 m	750 m	16	18	20	21	22.5	5.0	6.4	7.2	8	T≤ 75 km/h	75 < T ≤ 90 km/h	90< T ≤ 100 km/h	T > 100 km/h	UCI Gride line	Lines	Tunels	DC 1500 V	DC 3000 V	AC 25000 V	ASFA	KVB	KVB	BCA	BACC	SCMT	PZB	EVM	EICS L1	EICS L2	APS	ID	O	+	-	
Užice freight station-Prijepolje freight station	93.956	☑			☑						☑	☑										☑				☑	☑					GB	GB			☑												18	17			
Belgrade marshalling yard-Resnik	7.716	☑			☑						☑											☑				☑	☑					GB	GB			☑												16	16			
Resnik-Velika Plana	76.375	☑			☑						☑		☑								☑				☑		☑	☑	☑			GB	GB			☑													12	13		
Belgrade marshalling yard-K1	12.234	☑			☑									☑								☑				☑	☑				☑	GB	GB			☑							☑									
K1-Mala Krsna	60.987	☑			☑									☑								☑				☑	☑	☑				GB	GB			☑													15	9		
Mala Krsna-Velika Plana	29.154	☑			☑									☑								☑				☑	☑	☑				GB	GB			☑														8	4	
Velika Plana-Lapovo marshalling yard	17.979	☑			☑		☑								☑							☑				☑	☑	☑				GB	GB			☑													5	6		
Lapovo marshalling yard-Lapovo	1.688	☑			☑		☑									☑						☑				☑	☑					GB	GB			☑									☑				8	3		
Lapovo-Kragujevac	28.163	☑			☑																☑					☑						GB	GB										☑									
Kragujevac-Kraljevo	55.915	☑			☑						☑															☑		☑					GB	GB											☑				12	10		
Kraljevo-Rudnica	77.244	☑			☑																				☑		☑					GB	GB											☑					7	3		
Stalać-Kraljevo	71.247		☑		☑															☑						☑						GB	GB												☑							
Kraljevo-Požega	64.486		☑		☑																	☑				☑		☑	☑				GB	GB			☑								☑							
Lapovo marshalling yard-Lapovo	1.688	☑			☑		☑						☑									☑				☑	☑						GB	GB			☑								☑					6	5	
Lapovo-Stalać	64.267	☑			☑		☑					☑										☑				☑	☑	☑	☑	☑			GB	GB			☑						☑									
Stalać-Đunis	18.629	☑			☑							☑										☑				☑	☑	☑	☑				GB	GB			☑						☑									
Đunis-Aleksinac	19.258	☑			☑		☑					☑										☑				☑		☑	☑				GB	GB			☑						☑									
Aleksinac-Trupale	20.742	☑			☑		☑								☑							☑				☑		☑	☑				GB	GB			☑						☑							6	6	
Trupale-Niš marshalling yard	2.934	☑			☑																	☑				☑	☑						GB	GB			☑															
Crveni Krst-Zaječar	110.901		☑		☑				☑											☑						☑		☑					GB	GB											☑					12	11	
Zaječar-Prahovo pristanište	72.989		☑		☑					☑											☑					☑		☑					GB	GB											☑					10	17	
Niš marshalling yard-Niš	4.103	☑			☑					☑												☑				☑	☑						GB	GB			☑						☑							6	4	
Niš-Niška Banja	10.259	☑			☑						☑											☑				☑		☑					GB	GB								☑										
Niška Banja-Pirot	62.435	☑			☑						☑											☑				☑		☑					GB	GB											☑							
Pirot-Dimitrovgrad	24.488	☑			☑									☑								☑				☑		☑	☑				GB	GB										☑							10	5
Niš marshalling yard-Ristovac	119.354	☑			☑					☑												☑				☑	☑	☑					GB	GB			☑						☑								7	6

## 2.2.4 Kosovo



KOSOVO	SECTION LENGTH	LINE TYPE			TRACK GAUGE	DUBLE TRACK	MAX. TRAIN LENGHT (INCLUDING TRACTION)										AXLE LOAD			LOAD PER METRE			TRAIN SPEED				INTER MODAL LOADING GAUGE	LOADING GAUGE		POWER SUPPLY			SIGNALLING SYSTEM										GRADIENT / (INCLINE)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
km	PRINCIPAL ROUTE	DIVERSIONARY	CONNECTING FEEDER	1435 mm	1520	200 m	360 m	450 m	500 m	550 m	575 m	600 m	625 m	650 m	750 m	18	20	21	22.5	6.4	7.2	8	50<T≤ 60 km/h	75 < T ≤ 90 km/h	90< T ≤ 100 km/h	T > 100 km/h	UCI Gride line	Lines	Tunels	DC 1500 V	DC 3000 V	AC 25000 V	ASFA	KVB	KVB	BCA	BACC	SCMT	PZB	EVM	EICS L1	EICS L2	APS	ID	O	% Towards NS	% Towards SN																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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## 2.3 Future Expansion

The following maps are showing possible future expansions regarding the RFC in WB.

Particular possibilities are presented for Albania and Bosnia & Herzegovina.



**Map 5** – RFC in WB – Possible Future Expansion

### 2.3.1 Albania



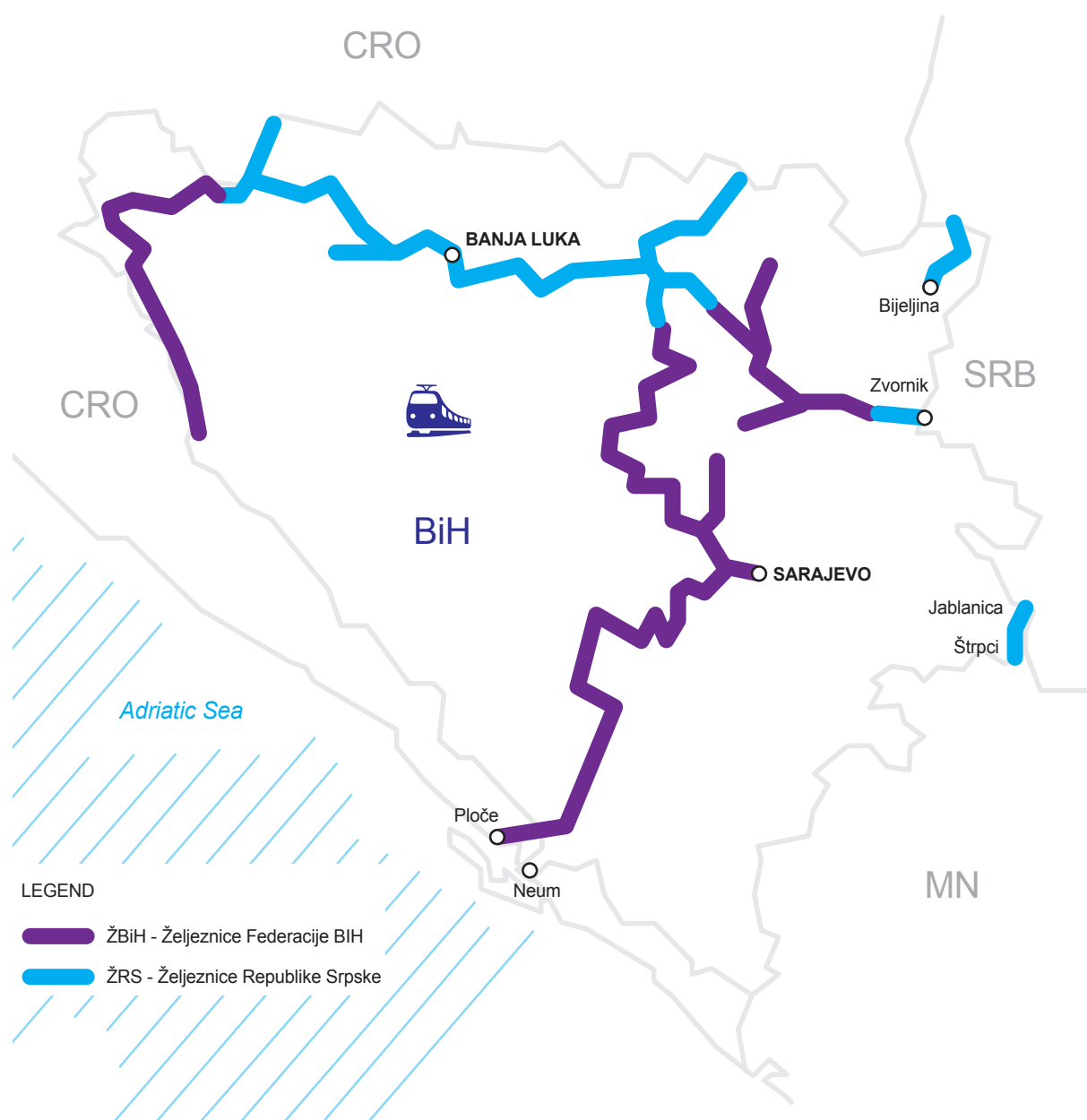
**Map 6 – Possible future expansion in Albania**

[illegible]

Elbasan- Kraste	10.17	☑		☑			730	☑		☑	☑		GB2					☑	12%	
Krastë-Mirakë	9.83	☑		☑	225			☑		☑	☑		GB2					☑	10	14.86
Mirakë-Librazhd	9	☑		☑		570		☑		☑	☑		GB2	GB1				☑	9%	
Librazhd-Xhyrrë	12.265	☑		☑	442			☑		☑	☑		GB2	GB1				☑	18	
Xhyrrë-Qukës	5.71	☑		☑	442			☑		☑	☑		GB	GB1				☑	15.8	
Qukës-Prrenjas	8.025	☑		☑			645	☑		☑	☑		GB	GB1				☑	16.5	
Prrenjas-Lin-	13.83			☑				☑		☑	☑		GB2	GB1				☑	18	
Lin-Pogradec	15.817	☑		☑			680	☑		☑	☑		GB2	GB1				☑		2
Rrogozhinë -Vlorë-Balsh																				
Rrogozhinë- Dushk	10.968	☑		☑	☑			☑		☑	☑							☑	4.5	9
Dushk- Lushnje	6.9	☑		☑	☑			☑		☑	☑		GB2					☑	7	4.5
Lushnje-Gradisht	11.9	☑		☑	☑			☑		☑	☑		GB2					☑		7.2
Gradisht - Libofsh	7.51	☑		☑	☑			☑		☑	☑		GB2					☑	1.75	
Libofsh-Fier	12.9	☑		☑	☑			☑		☑	☑		GB2					☑	7	7.5
Fier -Levan	8.9	☑		☑	☑			☑		☑	☑		GB2	GB1				☑	11.5	9
Levan-Novosel	7.375	☑		☑	☑			☑		☑	☑		GB2					☑	9	4.3
Novosel-Cerkovine	5.575	☑		☑	☑			☑		☑	☑		GB2					☑	4.3	2.7
Cerkovine -Vlore	14.44		☑	☑	☑			☑		☑	☑		GB2					☑	5	6.4
Fier -Kraps	8.204		☑	☑	☑			☑		☑	☑		GB2					☑	8	
Kraps-Kasnice	6.55		☑	☑	☑			☑		☑	☑		GB2					☑	9	
Kasnice-Ballsh	9.1		☑	☑	☑			☑		☑	☑		GB2					☑	13	
					☑			☑		☑	☑									

### 2.3.2 Bosnia & Herzegovina

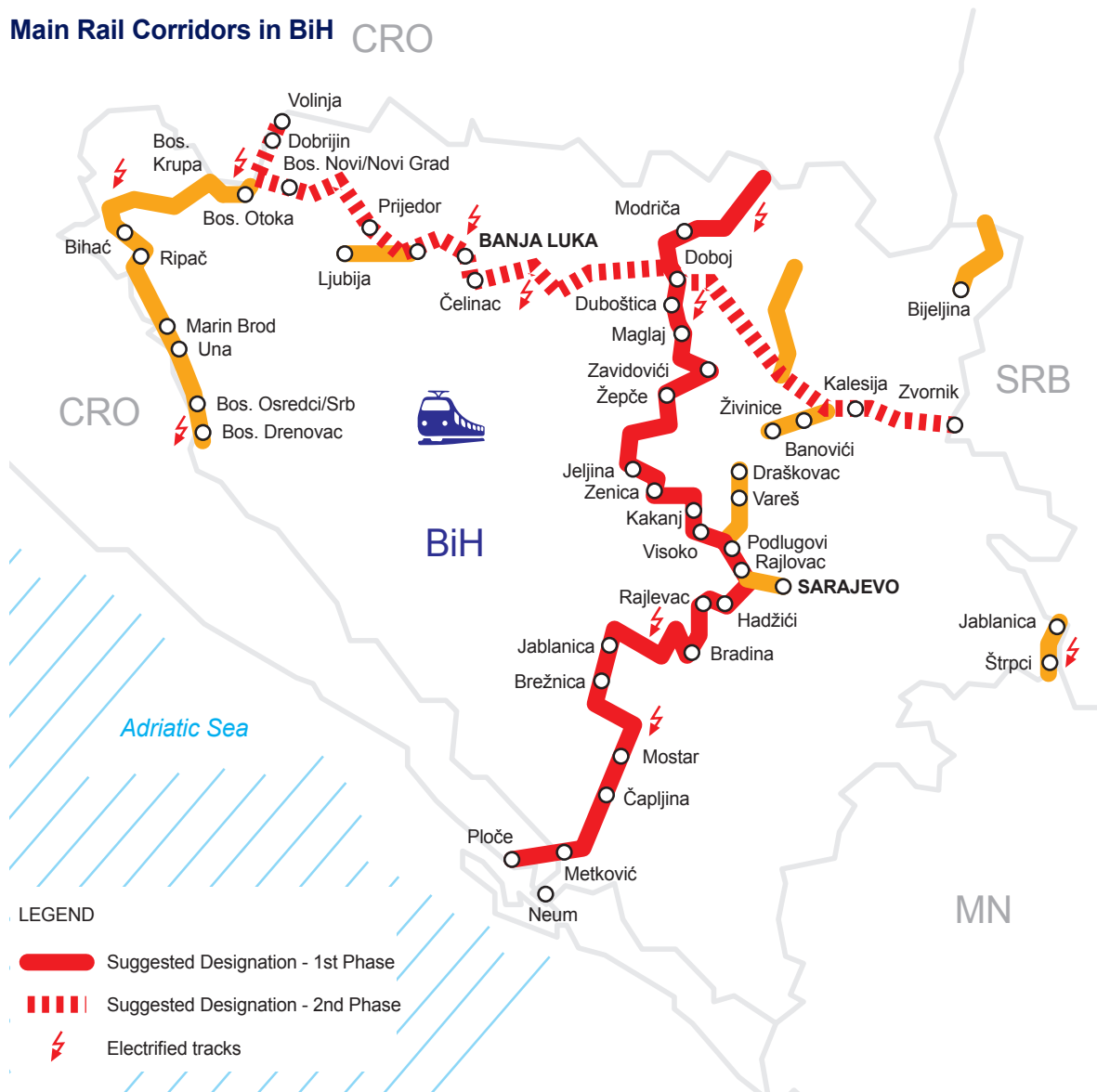
The railway sector constitutes of two Railway Companies: ŽFBiH and ŽRS, as per the rail maps below.



**Map 7 – Railway Lines of the two Companies in B&H**



## Main Rail Corridors in BiH CRO



Map 8 – RFC in WB possible Future Expansion in B&amp;H

***Please note full collaboration by the two Rail Companies is necessary for participating in the RFC in WB Future Expansions to allow designated lines to cross at least one international border.***



RAILWAYS OF FEDERATION OF BIH (ZFBIH)	SECTION LENGTH	LINE TYPE			TRACK GAUGE	DOUBLE TRACK	MAX. TRAIN LENGHT (INCLUDING TRACTION)								AXLE LOAD		LOAD PER METRE	TRAIN SPEED				INTER MODAL LOADING GAUGE	LOADING GAUGE		POWER SUPPLY			SIGNALING SYSTEM										GRADIENT / (INCLINE)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	km	PRINCIPAL ROUTE	DIVERSIONARY	CONNECTING FEEDER	1435 mm 1520		200 m 360 m 450 m 500 m 550 m 575 m 600 m 625 m 650 m 750 m	18 20 21 22.5	6.4 7.2 8	T ≤ 75 km/h 75 < T ≤ 90 km/h 90< T ≤ 100 km/h T > 100 km/h	UCI Gride line	Lines Tunels	DC 1500 V DC 3000 V AC 25000 V	ASFA KVB KVB BCA BACC SCMT PZB EVM EICS L1 EICS L2 APS ID O	+ .																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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RAILWAYS OF REPUBLIC OF SRPSKA (ZRS)	SECTION LENGTH	LINE TYPE			TRACK GAUGE		DOUBLE TRACK	MAX. TRAIN LENGHT (INCLUDING TRACTION)								AXLE LOAD				LOAD PER METRE				TRAIN SPEED				INTER MODAL LOADING GAUGE	LOADING GAUGE		POWER SUPPLY			SIGNALLING SYSTEM										GRADIENT / (INCLINE)								
	km	PRINCIPAL ROUTE	DIVERSIONARY	CONNECTING FEEDER	1435 mm	1520		200 m	360 m	450 m	500 m	550 m	575 m	600 m	625 m	650 m	750 m	18	20	21	22.5	6.4	7.2	8	T ≤ 75 km/h	75 < T ≤ 90 km/h	90< T ≤ 100 km/h	T > 100 km/h	UCI Gride line	Lines	Tunels	DC 1500 V	DC 3000 V	AC 25000 V	ASFA	KVB	KVB	BCA	BACC	SCMT	PZB	EVM	EICS L1	EICS L2	APS	ID	O	+	-			
MEDDITERANEAN CORRIDOR VC																																																				
Šamac (ent.border) - Doboj	62.172	☑			☑							☑		☑							☑			☑	☑	☑	☑			GB	GB			☑								☑	☑	☑			max.6					
Doboj - Maglaj (entity border 103+500)	18.800	☑			☑		☑					☑					☑				☑			☑	☑	☑	☑			GB	GB			☑								☑	☑	☑			max.2					
COMPREHENSIVE NETWORK																																																				
Doboj - Banja Luka	29.000		☑		☑						☑						☑				☑			☑		☑	☑			GB	GB			☑									☑	☑			max.12					
Banja Luka - Novi Grad - Dobrljin - State border	105.256		☑		☑						☑			☑							☑			☑		☑				GB	GB			☑											☑			max.20				
Doboj - Petrovo Novo - entity border	29.194		☑		☑							☑									☑			☑	☑	☑	☑			GB	GB			☑											☑			max.6				
ent.border - Zvornik - State border (Serbia)	21.332		☑		☑										☑						☑			☑	☑	☑				GB	GB			☑										☑			max.12					
(entity border) - Brčko - state border	7.840	☑			1435					☑								☑					☑		☑					GB	GB																	max.7				

Comprehensive 251.382 km  
 Electrified 134.256 km  
 Electrified in % 53.407 %  
 Axle load 22,5t/ 70.085 %

2.3.3 Montenegro

MONTENEGRO	SECTION LENGTH	LINE TYPE			TRACK GAUGE	DOUBLE TRACK	MAX. TRAIN LENGHT INCLUDING TRACTION)								AXLE LOAD			LOAD PER METRE		TRAIN SPEED			INTER MODAL LOADING GAUGE	LOADING GAUGE		POWER SUPPLY			SIGNALING SYSTEM												GRADIENT / (INCLINE)								
	km	PRINCIPAL ROUTE	DIVERSIONARY	CONNECTING FEEDER	1435 mm	1520		200 m	360 m	450 m	500 m	550 m	575 m	600 m	625 m	650 m	750 m	18	20	21	22.5	6.4	7.2	8	T ≤ 75 km/h	75 < T ≤ 90 km/h	90< T ≤ 100 km/h	T > 100 km/h	UCI Gride line	Lines	Tunels	DC 1500 V	DC 3000 V	AC 25000 V	ASFA	KVB	KVB	BCA	BACC	SCMT	PZB	EVM	EICS L1	EICS L2	APS	ID	O	+	-
Future Expansion																																																	
Line Podgorica - border with Albania	24.740																																	SS equipment on Podgorica - Tuzi - Simens SpDrS64															
Podgorica - Tuzi	13.683			☑	☑						☑										☑			☑	☑					GB	GB																	5	7
Tuzi - border with Albania	11.057			☑	☑						☑										☑			☑	☑					GB	GB																	7	7

## 2.3.4 Serbia

SERBIA	SECTION LENGTH	LINE TYPE			TRACK GAUGE		DOUBLE TRACK	MAX. TRAIN LENGHT (INCLUDING TRACTION)								AXLE LOAD				LOAD PER METRE				TRAIN SPEED				INTER MODAL LOADING GAUGE	LOADING GAUGE		POWER SUPPLY			SIGNALING SYSTEM												GRADIENT / (INCLINE)								
	km	PRINCIPAL ROUTE	DIVERSIONARY	CONNECTING FEEDER	1435 mm	1520		200 m	360 m	450 m	500 m	550 m	575 m	600 m	625 m	650 m	750 m	16	18	20	21	22.5	5.0	6.4	7.2	8	T ≤ 75 km/h	75 < T ≤ 90 km/h	90< T ≤ 100 km/h	T > 100 km/h	UCI Grid line	Lines	Tunels	DC 1500 V	DC 3000 V	AC 25000 V	ASFA	KVB	KVB	BCA	BACC	SCMT	PZB	EVM	EICS L1	EICS L2	APS	ID	O	+	-			
Ruma- Šabac	31.942			☑	☑						☑											☑			☑			☑			GA	GA														☑								
Šabac- rasputnica 3	1.170			☑	☑						☑							☑					☑				☑				GA	GA														☑								
rasputnica 3- Štitar	7.545			☑	☑						☑											☑					☑				GA	GA															☑							
Štitar- Petlovača	13.536			☑	☑						☑										☑					☑					GA	GA															☑							
Petlovača- Lešnica	12.382			☑	☑						☑							☑					☑				☑				GA	GA															☑							
Lešnica- Lipnica	11.226			☑	☑											☑						☑				☑					GA	GA															☑							
Lipnica- Gornja Koviljača	16.618			☑	☑						☑							☑					☑					☑			GA	GA															☑							
Gornja Koviljača- Donja Borina	6.667			☑	☑						☑											☑				☑					GA	GA															☑							
Donja Borina- State Border	0.800			☑	☑											☑					☑				☑						GA	GA															☑		7	7				
Stalač-Kraljevo	71.247		☑		☑														☑					☑				☑				GB	GB														☑							
Kraljevo-Požega	64.486		☑		☑																	☑				☑		☑	☑			GB	GB			☑											☑							
Doljevac- Prokuplje	23.279			☑	☑							☑							☑				☑								GA	GA															☑							
Prokuplje- Merdare	60.769			☑	☑			☑										☑					☑								GA	GA															☑		9	8				

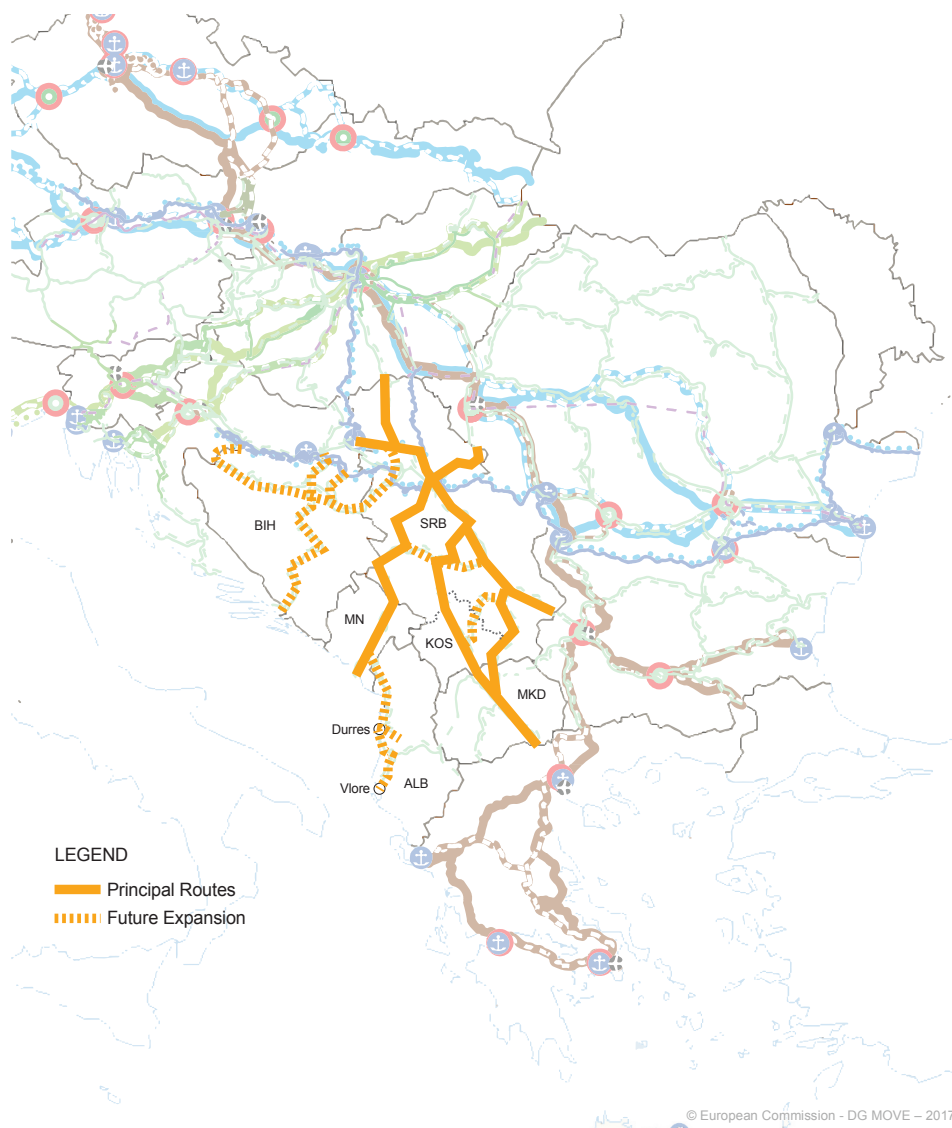
### 2.3.5 Kosovo

[illegible]



### 2.3.6 Connections with Other Corridors of RFC in WB Future Expansions

The map below shows the connection of RFC in WB, after the possible Future Expansions detailed above, with RFC 6 Mediterranean and RFC 7 Orient as well as the interaction with TEN-T Corridor Rhine – Danube. The connection with the latter is particularly interesting as far as the Internal Water Ways ports in SEETO Region are concerned.



**Map 9** – RFC in WB possible Future Expansion and adjacent Corridors

## 2.4 Corridor Terminals

From the Regulation 913/2010 Handbook the Cap. 6 TERMINALS is reported.

The word ‘terminal’ used in the Regulation covers all facilities where loading/unloading of goods onto/from freight trains, the integration of rail services with other modes of transport and the forming or modification of the composition of freight trains take place (Art 2(2b)). This includes intermodal terminals, marshalling yards, rail infrastructures and freight services in ports. Furthermore, border stations with third countries are also included.

The quality of a rail freight corridor is not only dependent on the rail route but also on the physical capability and capacity of terminals and how they are operated.

Open Access shall be mandatory for the publicly owned terminals and for terminals owned by companies where the state is the main shareholder or where other circumstances make open access mandatory (e.g. in connection with public co-funding).

These terminals should contribute to the progressive introduction of IT tools in the Corridors.

Requests by railway undertakings to the supply of services and access to the terminals can only be rejected if viable alternatives under market conditions exist, according to Art. 5(1) of Directive 2001/14/EC on the allocation of railway infrastructure capacity.

Terminals should be obliged to participate to the corridor if the Transport Market Study identifies as relevant to become designated to a corridor.

Terminals are referenced by several articles of the regulation including:

- ▶ the corridor definition (Art. 2(2))
- ▶ the criteria to establish new corridors (Art 4(i))
- ▶ the Advisory Group of managers and owners of terminals (Art 8(7))
- ▶ the Implementation Plan (Art 9(4))
- ▶ the coordination of capacity allocation with the rail network (Art 14(9))
- ▶ the coordination of traffic management with the rail network (Art 16(2))
- ▶ the publication of relevant information in the ‘Corridor Document’ (Art 18(b)).

These issues are examined in the relevant chapters.

As mentioned in chapter 3.4, the Management Board has to set up an Advisory Group of managers and owners of the terminals including, where necessary, rail-connected sea and inland waterway ports.



In addition Art. 14(9) and 16(2) also envisage procedures between Infrastructure Managers of the freight corridor and terminal managers to ensure optimal coordination of capacity allocation and for traffic management. Railway undertakings may become involved in these procedures.

A reinforcement of the collaboration between Infrastructure Managers and terminals at operational level is also necessary.

Concerning the path allocation, a common interface should be developed between the IT-tools (e.g. Pathfinder) and the IT tools of railway undertakings and/or authorised applicants, and terminal managers for path allocation. Monitoring tools, such as Europtirails, should also be available to terminals for traffic management.

The Advisory Groups with the administrative aid of the Management Board should coordinate the dissemination of knowledge and best practices for infrastructure and equipment, operations and IT, organisation and benchmarking and quality systems with a view to improve railway services in terminals.

## 2.5 List of Terminals designated to the RFC in WB

Terminal definition: 1 siding (one track) and one lorry track with storage space.

Three categories of terminal:

- ▶ Intermodal terminal
- ▶ Potential terminal (2 sidings and one lorry track with storage space)
- ▶ Station terminal

The list of terminals of MKD, MNE, SER, KOS and, as Future Expansion, the terminals of ALB and B&H is listed below.

### Legend of forms below

Bimodal - there are infrastructure capacities for loading / unloading in the railway station or on connected industrial tracks

### LIST OF TERMINALS, STATIONS, MARSHALING YARDS

THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA					
Terminals	Railway terminal (station)		Port connected to the railway station (trimodal)	Intermodal terminal connected to the railway station	Note
Tabanovci	Border		-	-	
Kumanovo	-	Bimodal	-	Potential	
Miladinovci	-	Bimodal		Potential	
Ilinden	-	Bimodal	-	Potential	
Madgari	-	Bimodal	-	Potential	
Skopje Tovarna	-	Bimodal	-	Container terminal	
Skopje Jug	-	Bimodal	-	Potential	
Trubarevo Ranzirna Marshaling Yard	-	Bimodal	-	-	<i>in strategic documents, study for multimodal yard</i>
Lisice	-	Bimodal	-	Potential	

**THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA**

Terminals	Railway terminal (station)		Port connected to the railway station (trimodal)	Intermodal terminal connected to the railway station	Note
Veles	-	Bimodal	-	Potential	
Gradsko	-	Bimodal	-	Potential	
Krivolak	-	Bimodal		Potential	
Negotino Vardar	-	Bimodal		Potential	
Gevgelija	Border	Bimodal		Potential	

**MONTENEGRO**

Terminals	Railway terminal (station)		Port connected to the railway station (trimodal)	Intermodal terminal connected to the railway station	Note
Vrbnica		Station			
Bijelo Polje	-	Station		potential	
Mojkovac		Station			
Kolašin		Station			
Trebešica		Station			
Podgorica	-	Station	-	potential	
Golubovci		Station			
Virpazar		Station			
Sutomore		Station			
Bar	-	Station	Port of Bar	potential	
Tuzi	-	Station	-		
Feeder line terminals	Railway terminal (station)		Port connected to the railway station (trimodal)	Intermodal terminal connected to the railway station	Note
Nikšić	-	Station	-		
Danilovgrad	-	Station	-		

SERBIA					
Terminals	Railway terminal (station)		Port connected to the railway station (trimodal)	Intermodal terminal connected to the railway station	Note
Aleksinac	-	Station	-	-	
Batajnica	-	Station	-	Potential (see a note)	<i>the start of construction of terminal is planned in 2018 (there is a project documentation)</i>
Belgrade Danube/ Beograd Donji grad	-	Potential	Luka Beograd		
Belgrade marshaling yard	-	Intermodal	-	Container terminal "ŽIT Beograd" (intermodal)	<i>preliminary design has been completed together with an environmental impact study for new intermodal terminal</i>
Crveni Krst	-	Potential	-	-	
Dimitrovgrad	Border	-	-	-	
Kragujevac	-	Potential	-	-	
Kraljevo	-	Potential	-	-	
Lapovo marshaling yard	-	Potential	-	-	
Mala Krsna	-	Station	-	-	
Niš marshaling yard	-	Station	-	Potential (see a note)	<i>in strategic documents, construction of logistic center is planned in the region of Niš</i>

SERBIA					
Terminals	Railway terminal (station)		Port connect- ed to the rail- way station (trimodal)	Intermodal terminal con- nected to the railway station	Note
Novi Sad marshaling yard	-	Potential	Luka Novi Sad	Potential (see a note)	<i>in strategic documents, construction of logistic center is planned in the region of Novi Sad</i>
Pančevo glavna	-	Station			
Pančevo Varoš	-	Potential	Luka Dunav	Potential (see a note)	<i>there are plans to build container terminal in port "Luka Dunav"</i>
Pirot	-	Potential	-	Potential (see a note)	<i>prefeasibility study for the construction of an logistic terminal in the Free Zone of Pirot has been completed</i>
Prijepolje teretna	Border	Station	-	-	
Ristovac	Border	-	-	-	
Šid	Border	Potential	-	-	
Sremska Mitrovica	-	Intermodal	RTC Luka Leget	Leget Container Transport (intermodal)	
Subotica	Border	Potential	-	-	
Surčin	-	Intermodal	-	Nelt Container Terminal (intermodal)	
Užice teretna	-	Station	-	-	
Velika Plana	-	Station	-	-	
Vrbas	-	Potential	-	-	
Vršac	Border	Potential	-	-	

SERBIA					
Feeder line terminals	Railway terminal (station)		Port connected to the railway station (trimodal)	Intermodal terminal connected to the railway station	Note
Prahovo pristanište	-	Potential	Luka Prahovo *	-	* The port in bankruptcy has been bought. Activities of the port operator are expected to start soon.
Radinac (siding of steel mill)	-	Station	-	-	
Šabac	-	Potential	Luka Zorka *	-	* The port in bankruptcy has been bought. Activities of the port operator are expected to start soon.
Smederevo	-	Potential	Luka Smederevo	-	
Brasina	Border	-		-	

KOSOVO					
Terminals	Railway terminal (station)		Port connected to the railway station (trimodal)	Intermodal terminal connected to the railway station	Note
Leposaviq	Station	Bimodal	-	-	The terminal is in operation and has direct connection to the road R 31
Sllatinë e Ibrit.	Station	Bimodal	-	-	The terminal is in operation and has direct connection to the road R 31

KOSOVO					
Terminals	Railway terminal (station)		Port connected to the railway station (trimodal)	Intermodal terminal connected to the railway station	Note
Banjë	Station	Bimodal	-	-	The terminal is in operation and has direct connection to the road R 206
Vallaç	Station	Bimodal	-	-	The terminal is in operation and has direct connection to the road R 31
Mitrovicë	Station	Bimodal	-	-	The terminal is in operation and has direct connection to the road R 31
Vushtri	Station	Bimodal	-	-	The terminal is in operation and has direct connection to the road R 31
Prelluzhë	Station	Bimodal	-	-	The terminal is in operation and has direct connection to the road R 31
Obiliq	Station	Bimodal	-	-	The terminal is in operation and has direct connection to the road R 31
Miradi	Intermodal	-	-	Container terminal	The terminal is in operation and has direct connection to the road M 9 and highway R 7. Detailed information in NS for freight terminals <a href="http://www.kosovorailway.com">www.kosovorailway.com</a>

KOSOVO					
Terminals	Railway terminal (station)		Port connected to the railway station (trimodal)	Intermodal terminal connected to the railway station	Note
Lipjan	Station	Bimodal	-	-	The terminal is in operation and has direct connection to the road R 6
Bablak	Station	Bimodal	-	-	The terminal is in operation and has direct connection to the road R 6
Gurëz	Station	Bimodal	-	-	The terminal is in operation and has direct connection to the road R 6
Kaçanik	Station	Bimodal	-	-	The terminal is in operation and has direct connection to the road R 6
Hani i Elezit	Station / Border	Bimodal	-	-	The terminal is in operation and has direct connection to the road R 6



## FUTURE EXPANSION

ALBANIA					
Terminals	Railway terminal (station)		Port connected to the railway station (trimodal)	Intermodal terminal connected to the railway station	Note
Durrës (Mallina station)- Shkozë+Plazh	Station	Bimodal	Port of Durrës.	Container terminal	
Shkozë -Plazh -Lin Sukth	Station		-	Potential terminal	
Sukth-Vorë - (Hani I Hotit)	Station	Bimodal		Potential terminal	
Vorë - Kashar (Domje- Rinas)	Station	Bimodal	-	Potential terminal	
Kashar -Tiranë	Station	Bimodal	-	Potential terminal	
Vorë- Hani I Hotit		-	-	-	
Vorë- Budallë	-		-	-	
Budallë-Fushe Krujë	Station	Bimodal	-	Potential terminal	
Budallë-Ishëm	-		-	-	
Ishëm- Mamurras	Station	Bimodal	-	-	
Mamurras-Gjormë	Station	Bimodal	-	Potential terminal	
Gjormë-Lac	Station	Bimodal		Potential terminal	
Lac- Milot	Station	Bimodal		Potential terminal	
Milot-Lezhë	Station	Bimodal		Potential terminal	
Lezhë- Baqel	Station	Bimodal	In the future the connection with Port of Shengjin,	Potential terminal	
Baqel-hajmëli	Station	Bimodal	-	Potential terminal	
Hajmëli-Mjete	Station	Bimodal	-	Potential terminal	
Mjete- Shkodër	Station	Bimodal	-	Potential terminal	
Shkodër- Grile	Station	Bimodal		Potential terminal	
Grile-Koplik	Station	Bimodal	-	Potential terminal	
Koplik-Bajze	Station	Bimodal	-	Potential terminal	
Bajze- Hani I Hotit	Station	Bimodal	-	Potential terminal	
Hani Hotit	Border	Bimodal	-	-	
Durrës-Pogradec (Lin -Border)	-		-	-	
Plazh- Golem					
Golem- Kavajë	Station			Potential terminal	
Kavajë- Lekaj	Station			Potential terminal	
Lekaj-Rrogozhinë	Station	Bimodal		Potential terminal	

ALBANIA					
Terminals	Railway terminal (station)		Port connected to the railway station (trimodal)	Intermodal terminal connected to the railway station	Note
Rrogozhinë- Peqin	Station	Bimodal		Potential terminal	
Peqin- Bishqem	Station	Bimodal		Potential terminal	
Bishqem- Paper	Station	Bimodal		Potential terminal	
Paper-Vidhas	Station	Bimodal		Potential terminal	
Vidhas- Elbasan	Station	Bimodal		Potential terminal	
Elbasan- Kraste	Station	Bimodal		Potential terminal	
Krastë-Mirakë	Station	Bimodal		Potential terminal	
Mirakë-Librazhd	Station	Bimodal		Potential terminal	
Librazhd-Xhyrrë	Station	Bimodal		Potential terminal	
Xhyrrë-Qukës	Station	Bimodal		Potential terminal	
Qukës-Prrenjas	Station	Bimodal		Potential terminal	
Prrenjas-Lin-	Station	Bimodal		Potential terminal	
Lin-Pogradec	Border?	Bimodal		Potential terminal	Potential (border)
Pogradec	Station	Bimodal		Potential terminal	
Rrogozhinë -Vlorë-Balsh					
Rrogozhinë- Dushk	Station	Bimodal			
Dushk- Lushnje	Station	Bimodal		Potential terminal	
Lushnje-Gradisht	Station	Bimodal		Potential terminal	
Gradisht - Libofsh	Station	Bimodal		Potential terminal	
Libofsh-Fier	Station	Bimodal		Potential terminal	
Fier -Levan	Station	Bimodal		Potential terminal	
Levan-Novosel	Station	Bimodal		Potential terminal	
Novosel-Cerkovine	Station	Bimodal		Potential terminal	
Cerkovine -Vlore	Station	Bimodal		Potential terminal	
Fier -Kraps	Station	Bimodal			
Kraps-Kasnice	Station	Bimodal		Potential terminal	
Kasnice-Balsh	Station			Potential terminal	

\*-The meaning of the "Potential container terminal" concern with the construction of the station, number of the rail lines there, the storages building, conform the planing of the projecting of this station. If the flow of trafic will be in line of the purpose of the project and constructing of the rail line, that's mean that these station are in capable to be immedietly intermodal station if the investiment to improve the technical condition is possible.

BOSNIA AND HERZEGOVINA					
ZRS					
Terminals	Railway terminal (station)		Port connected to the railway station (trimodal)	Intermodal terminal connected to the railway station	Note
Dobrljin	Border	Bimodal			
Novi Grad	-	Bimodal			
Blagaj	-	Bimodal			
Svodna	-	Bimodal			
Brežićani		Bimodal		Potential	
Prijedor	-	Bimodal		Potential	
Kozarac	-	Bimodal			
Omarska	-	Bimodal			
Piskavica	-	Bimodal			
Potkozarje	-	Bimodal			
Ramići	-	Bimodal		Potential	
BANJA LUKA	-	Bimodal		Container terminal	
Vrbanja	-	Bimodal			
Čelinac	-	Bimodal			
Snjegotina		Bimodal			
Dragalovci		Bimodal			
Rudanka	-	Bimodal			
Srpska Kostajnica		Bimodal			
DOBOJ		Bimodal		Container terminal	
Sočkovac		Bimodal			
Zvornik Novi	Border	Bimodal			
Šamac	Border	Bimodal	Port connected to the railway station (trimodal)	Potential	
Modriča		Bimodal		Potential	
Ševarlije		Bimodal		Potential	
Brčko	Border	Bimodal	Port connected to the railway station (trimodal)	Potential	

## 2.6 Bottlenecks

Definition of Bottleneck as per:

**REGULATION (EU) No 1316/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 establishing the Connecting Europe Facility, amending Regulation (EU) No 913/2010 and repealing Regulations (EC) No 680/2007 and (EC) No 67/2010**

*Article 2*

### Definitions

For the purposes of this Regulation, the following definitions apply:

*... OMISSIS ...*

**“(15) “bottleneck” in the transport sector means a physical, technical or functional barrier which leads to a system break affecting the continuity of long-distance or cross- border flows and which can be surmounted by creating new infrastructure, or substantially upgrading the existing infrastructure, that could bring significant improvements which will solve the bottleneck constraints;”**

According to the experience in the region, the most limiting factors are:

- ▶ border crossings
- ▶ reduction of number of tracks
- ▶ low capacity
- ▶ speed limits
- ▶ limited length of trains
- ▶ limited axle load
- ▶ non electrified sections
- ▶ changes or lack of adequate signalling & safety equipment.

This analysis can help the SEETO Regional Partners, their Infrastructure Managers and other stakeholders to prioritise key infrastructural and capacity projects, which possibly constitute bottleneck removal actions. The timely development and the implementation of these projects are critical to increase the rail services and improve the performance of rail freight on the Corridor, since improving the performance on the bottlenecks is key to improving the performance of the entire Corridor. According to the meeting of the preliminary management and executive board the Western Balkans region two types of bottlenecks exist: commercial and infrastructural.

Commercial bottlenecks are defined as follows:

- ▶ Capacity
- ▶ Speed limits
- ▶ Border crossing

While infrastructural bottlenecks will be determined according to the Core Network, technical requirements for railway network are further explained in chapter 2.7.

For a general assessment of the Capacity constraints, an extract from the REBIS Study Update<sup>\*2</sup> is reported below, while detailed lists of bottlenecks follow:

### 2.6.1 Capacity Assessment: The Identification of Physical Bottlenecks

This section of the report assesses the capacity of the existing TEN-T Comprehensive Network for the Western Balkans (defined as the 'do-nothing' network scenario) to handle the existing traffic as well as the 2030 projected traffic. It also assesses the capacity of the Full SEETO Comprehensive Network (which is based on the Multi-Annual Development Plan 2015) to handle the 2030 projected traffic. The objectives of this exercise are to identify, based on technical capacity constraints, whether an intervention is required to alleviate a bottleneck and if so, what type of intervention; and when it would be required. The proposed interventions need to be subject to an economic cost-benefit analysis to determine their viability before a decision can be made regarding their implementation.

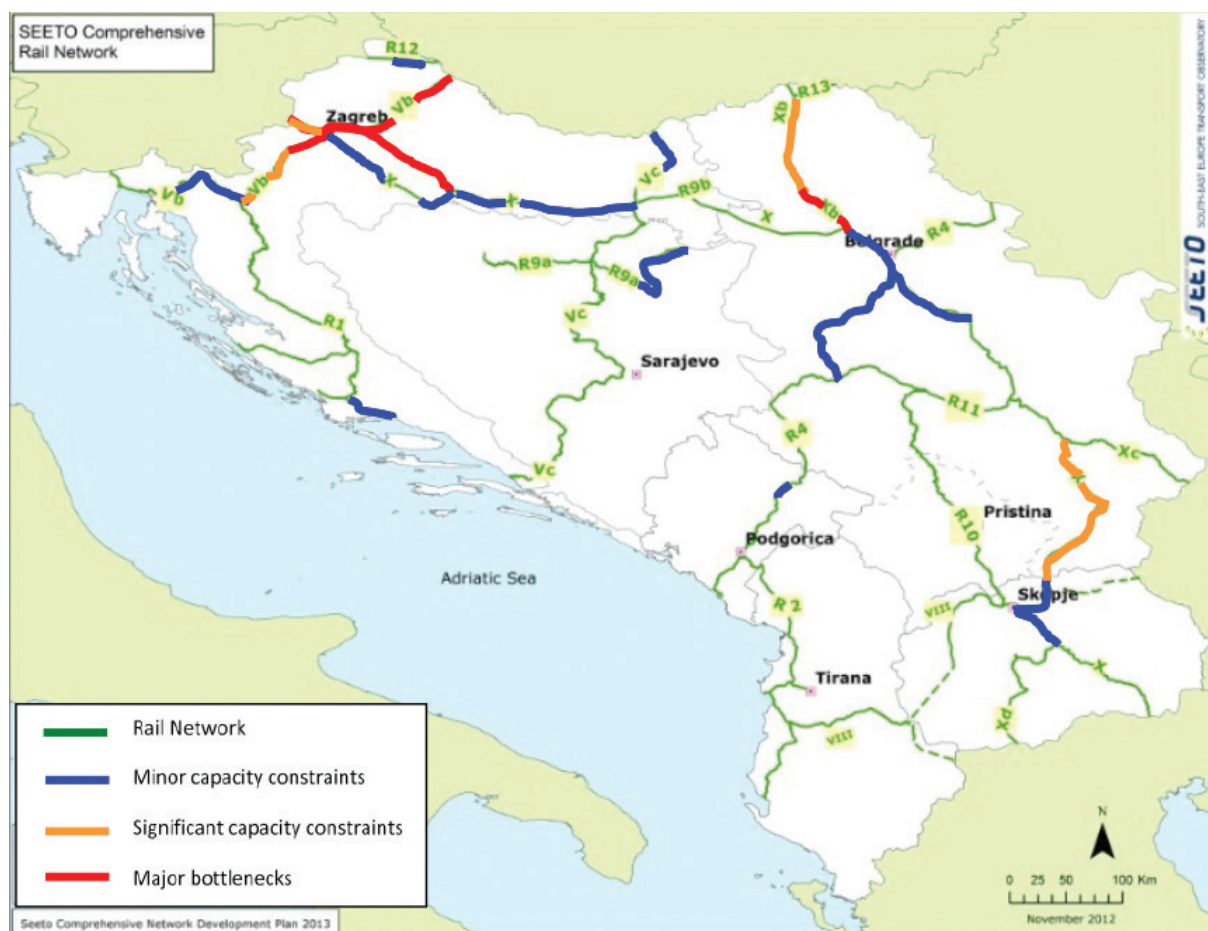
The existing railway traffic and 2030 traffic projections were assessed against the capacity of the SEETO Comprehensive Railway networks (the existing the Full SEETO networks) to identify bottlenecks where interventions would need to be considered. This was carried out for both the low/moderate and moderate/high economic growth scenarios. Based on the current average speeds and temporary speed restrictions on the regional network, one can conclude that it has significant problems and limitations in terms of the quality of infrastructure. The following analysis, however, focuses on the capacity of the network under the assumption it is functioning in reasonable conditions. Four categories of constraints were used:

- ▶ Rail sections with **no capacity constraints** related to infrastructure. These rail sections refer to links with less than 40 percent utilization, thus no improvements are needed.
- ▶ Rail sections with **minor capacity constraints**. Minor capacity constraints in infrastructure that can be improved with some minor rehabilitation and im-

<sup>2</sup> REBIS STUDY UPDATE (May 2015)

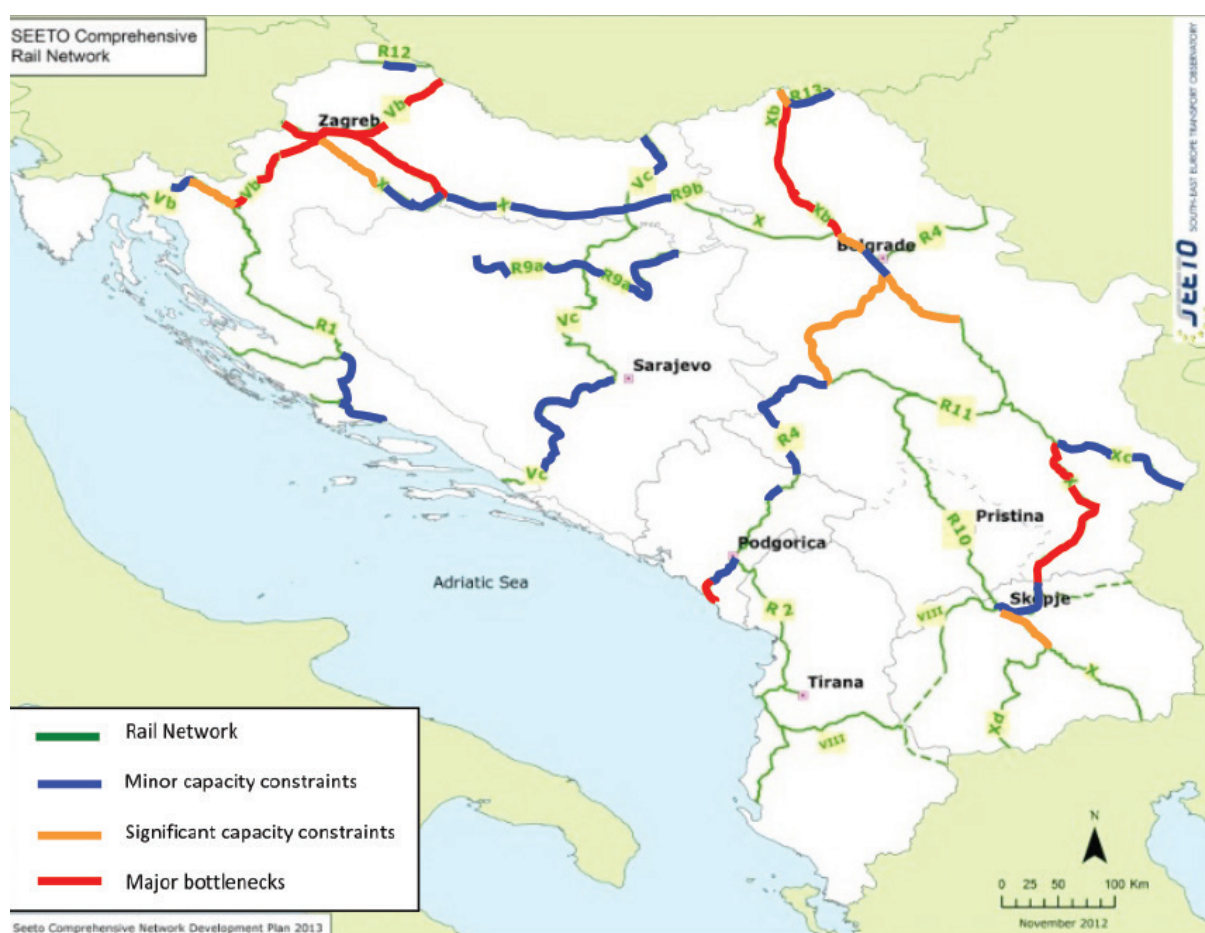
mediate maintenance. These are assumed to be the links with average utilization 40-65 percent.

- ▶ Rail sections with **significant capacity constraints**. Significant capacity constraints in infrastructure that need major rehabilitation. These are links with utilization of 65-80 percent.
- ▶ Rail sections with **major capacity constraints**. Major capacity constraints in infrastructure that needs the construction of new line: links with utilization above 80 percent.



Source: REBIS Consultant's estimates based on SEETO data (2012) and model output (forecasts)

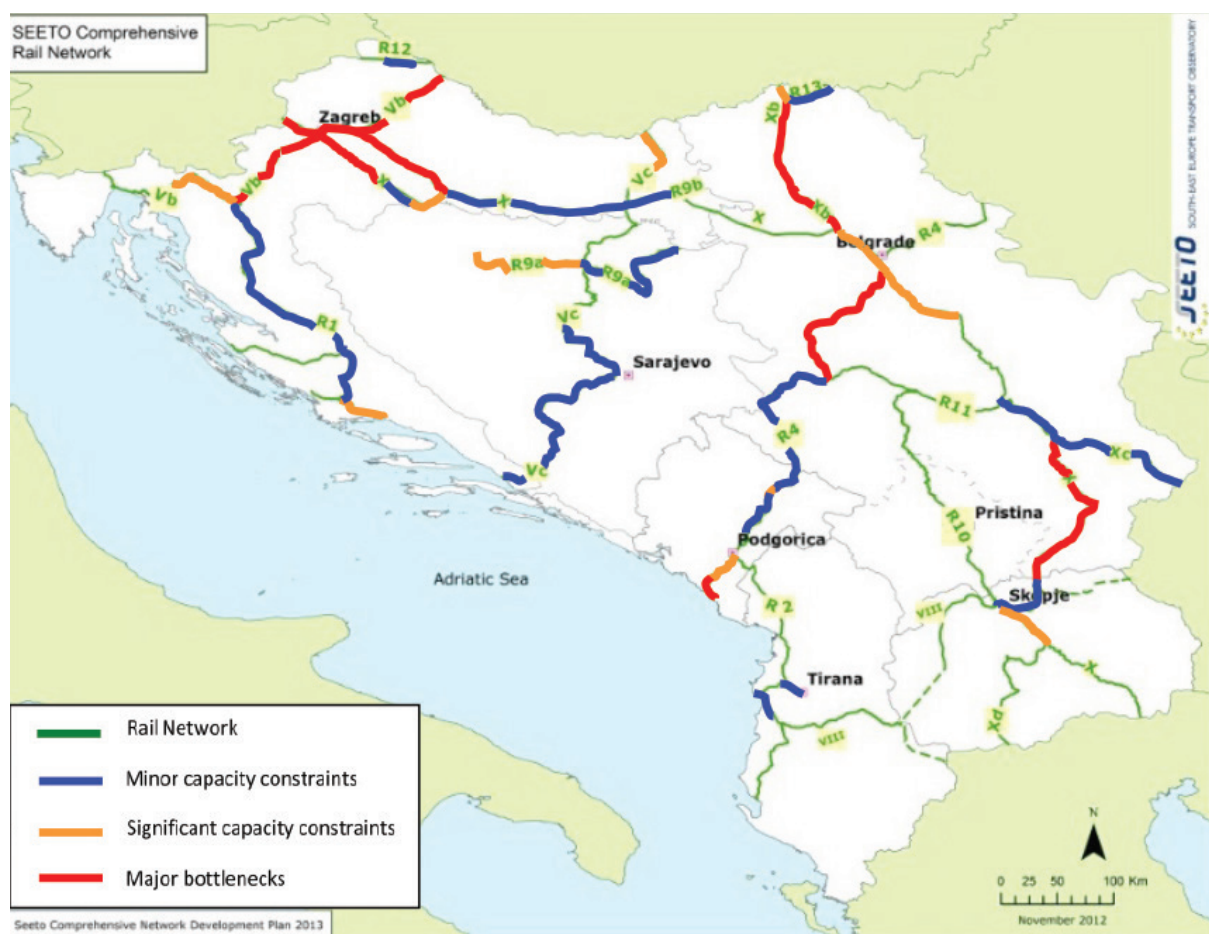
**Figure 1.** Identified current bottlenecks on the SEETO Comprehensive Rail Network



Source: REBIS Consultant's estimates based on SEETO data (2012) and model output (forecasts)

**Figure 2.** Identified *future* bottlenecks on the *existing* SEETO Comprehensive Rail Network for the low/moderate traffic growth scenario





Source: REBIS Consultant's estimates based on SEETO data (2012) and model output (forecasts)

**Figure 3.** Identified *future* bottlenecks on the SEETO Comprehensive Rail Network for the moderate/high traffic growth scenario



## 2.6.2 Other commercial bottlenecks

A further list of other bottlenecks (speed limits, border crossing) as identified by each of the SEETO RPs follows below.

### THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA

#### Bottlenecks List

Line	Section	Restrictions	Benefits	Method for removal of restrictions
Tabanovce border station	Tabanovce-Kumanovo	6 tracks (3305.15 m) are not enough capacity for reception and manipulation of wagons	Increasing the capacity of border station Tabanovci will decrease delays of trains on a border	Building 4 new tracks in the station Tabanovci
Gevgelija border station	Dubrovo-Gevgelija	Idomeni station (OSE) has a limited work time and this obstructs the traffic on the trains. The trains must wait at the station Gevgelija and it blocks the capacity of the station Gevgelija.	If OSE works 24/7 than trains will no longer wait in Gevgelija at night and accordingly the capacity of the border station will increase.	Internationally to influence solving this problem

### MONTENEGRO

#### Bottlenecks List

Line	Section	Restrictions	Benefits	Method for removal of restrictions
state border Vrbnica-Bar	Station Bijelo Polje	Border crossing	higher line capacity, shorter travel time	reconstruction of border crossing station
Bijelo Polje-Podgorica-Bar	Trebješica-Bratonožići-Bioče	Speed limits (60km/h and 50km/h)	higher line capacity, shorter travel time	general overhaul and modernization
Bijelo Polje-Podgorica-Bar	Bioče-Podgorica	Speed limits (50km/h)	higher line capacity, shorter travel time	general overhaul and construction of junction Zlatica

Line	Section	Restrictions	Benefits	Method for removal of restrictions
Podgorica-Bar	Podgorica-Golubovci-Virpazar-Sutomore-Bar (except tunnel "Sozina")	Speed limits (70km/h)	higher line capacity, shorter travel time	general overhaul and modernization
Podgorica-state border with Albania	Podgorica-Tuzi-state border with Albania	Speed limits (70km/h)	shorter travel time, environmental protection	overhaul and electrification
Nikšić-Podgorica	Danilovgrad-Spuž-Podgorica	Speed limits (60km/h)	higher line capacity, shorter travel time	Construction of underpasses or parallel roads and elimination of temporary illegal rail crossings
Nikšić-Podgorica	Nikšić-Danilovgrad	Speed limits (60km/h)	higher line capacity, shorter travel time	Construction of underpasses or parallel roads and elimination of temporary illegal rail crossings

## SERBIA

### Bottlenecks List

Line	Section	Restrictions	Benefits	Method for removal of restrictions
Belgrade - Stara Pazova	Batajnica -Surčin - Ostružnica - Resnik (Rakovica)	speed, signaling devices Vmax=30km/h L=26.8km	higher railway capacity, shorter travel time of trains	general overhaul and modernization
Novi Sad - Subotica - Hungarian Border	Lovćenac - Subotica	speed Vmax=40km/h L=47.6km time delays for freight trains inbound 8.8-9.9h outbound 8-13.8h	higher railway capacity, shorter travel time of trains	general overhaul and modernization

Line	Section	Restrictions	Benefits	Method for removal of restrictions
Stara Pazova - Šid – Border	Ruma - Šid (right track)	speed Vmax=50km/h L=16.8km Vmax=30km/h L=34.7km	higher railway capacity, shorter travel time of trains	general overhaul and modernization
Belgrade - Mala Krsna	Rakovica - Mala Krsna	speed Vmax=50km/h L=31.5km	higher railway capacity, shorter travel time of trains	general overhaul and modernization
Belgrade - Resnik - Velika Plana	Belgrade - Resnik - Velika Plana	carrying capacity, axle load on the part of the line Resnik -Kusadak category C3	undisturbed traffic of trains in direction north-south with a carrying capacity higher than C3	modernization with reconstruction
Stalać – Niš	Stalać - Đunis	number of tracks	higher railway capacity, shorter travel time of trains	Modernization, construction of a double-track line
Niš - Dimitro- vgrad – Border	Niš - Dimitro- vgrad	speed, non-electrified line, signaling devices time delays for freight trains inbound 1.4h outbound 5.8h	modernization of railway line with execution of works on construction and electrical infrastructure	modernization of railway line with execution of works on construction and electrical infrastructure
Valjevo- Požega	Valjevo - Požega	speed Vmax=50km/h L=63.1km	shorter travel time , higher railway capacity, higher reliability of trains	general overhaul and modernization
Požega - Montenegrin Border	Užice - Vrbnica	speed Vmax=50km/h L=68.1km Vmax=30km/h L=37.8km	shorter travel time , higher railway capacity, higher reliability of trains	general overhaul and modernization

Line	Section	Restrictions	Benefits	Method for removal of restrictions
Belgrade - Pančevo - Vršac – Border	Pančevo Glavna - Vršac	non-electrified line, signalling devices	shorter travel time , environ- mental protec- tion	modernization of railway line with execution of works on electro technical infrastructure
Niš - Preševo – Border	Grdelica - Priboj Vranjski	speed Vmax=50km/h L=36.3km Vmax=30km/h L=10.2km time delays for freight trains inbound 6.6h outbound 6.1h	shorter jour- ney time	general overhaul and modernization

## KOSOVO

### Bottlenecks List

Line	Section	Restrictions	Benefits	Method for removal of restrictions
Border/ Administrative boundary with Serbia	Border/admin- istrative bound- ary zone	Missing joint common crossing point control	higher rail- way capacity, shorter travel time of trains	Signature of the agreement for joint control between Kosovo and Serbia
Leshak - Mitrovicë	Zvečan – Mitrovicë km (213+230 - 213+270)	Switch in the opened line	higher rail- way capacity, shorter travel time of trains	Expected general rehabilitation and modernization till 2022
Obiliq - Lipjan	Fushë Kosovë - Miradi	Missing inter- locking signal- ing systems in stations	Increase of safety, higher railway capacity, and shorter travel time of trains	Expected general rehabilitation and modernization till 2022
Miradi - Lipjan	Miradi Km (254+464 - 254+498)	Switch in the opened line	Increase of safety, higher railway capacity, and shorter travel time of trains	Expected general rehabilitation and modernization till 2022

Line	Section	Restrictions	Benefits	Method for removal of restrictions
Gurzë - Kaçanik	Tunnel Km (297+223 - 297+374)	Speed in the tunnel	Increase of safety, higher railway capacity, and shorter travel time of trains	Expected general rehabilitation and modernization till 2022
Kaçanik - Hani i Elezit	Tunnel Km (307+032 - 307+599)	Speed in the tunnel	Increase of safety, higher railway capacity, and shorter travel time of trains	Expected general rehabilitation and modernization till 2022
Border with MKD	Border zone	Missing joint border control	higher rail-way capacity, shorter travel time of trains	Implementation of the signed BC agreement for joint border control between KOS and MKD

## FUTURE EXPANSION

### ALBANIA

#### Bottlenecks List

Line	Section	Restrictions	Benefits	Method for removal of restrictions
The core Albanian railway network	N/A	The current speed of trains is reduced to 40 kph. No electrification. Signalling presented the little interlocking equipment that is still operational, and recommended the new system to be installed, capable of full EU interoperability	shorter travel time, higher railway capacity, higher reliability of trains	general overhaul and modernization
Durres–Vore-Tirane	various	speed 60 kph	shorter travel time, higher railway capacity, higher reliability of trains	general overhaul and modernization

Line	Section	Restrictions	Benefits	Method for removal of restrictions
Durres–Rrogozhine	various	speed 40 kph	shorter travel time, higher railway capacity, higher reliability of trains	general overhaul and modernization
Rrogozhine–Elbasan	various	speed 60 kph	shorter travel time, higher railway capacity, higher reliability of trains	general overhaul and modernization
Vore–Shkoder	various	speed 40 kph	shorter travel time, higher railway capacity, higher reliability of trains	general overhaul and modernization
Shkoder–Hani Hotit	various	speed 60 kph	shorter travel time, higher railway capacity, higher reliability of trains	general overhaul and modernization
The remaining lines:	N/A	The current speed of trains is reduced to 20 kph.		
Elbasan–Pogradec	various	speed 20 kph	shorter travel time, higher railway capacity, higher reliability of trains	general overhaul and modernization
Rrogozhine–Vlore	various	speed 40 kph	shorter travel time, higher railway capacity, higher reliability of trains	general overhaul and modernization
Fier-Ballsh and	various	the current speed of trains is reduced to 20 kph	shorter travel time, higher railway capacity, higher reliability of trains	general overhaul and modernization

## BOSNIA AND HERZEGOVINA

## ZRS NETWORK

## Bottlenecks List

Lines	Section	Restrictions	Benefits	Method for removal of restrictions
<b><u>Core Network</u></b> State Border - Šamac - Doboj - entity border - Maglaj	Doboj - entity border - Maglaj	Speed, signalling devices. Length of line is 23,3 km with Vmax = 50 km/h	higher railway capacity, shorter travel time of trains	general overhaul and modernization
<b><u>Comprehensive Network</u></b> 1. State border - Dobrljin - Doboj - Petrovo Novo entity border - entity border - Zvornik Novi - state border. 2. (Vinkovci) - state border - Brčko - entity border - Bukovac	1. Doboj - Petrovo Novo entity border - Dobošnica 2. station Brčko	Non-electrified line which includes 3 sections: Tuzla - Doboj, (Vinkovci) - state border - Brčko entity border - Banovići and Živinice - entity border - Zvornik Novi - state border. Speed limit is valid on section Tuzla - Doboj. Signalling devices. Speed in station Brčko = 10 km/h	shorter travel time, environmental protection	general overhaul and modernization

Data not submitted from ZFBH.

## 2.7 Description of planned changes / improvements

There are a lot of projects which are foreseen and/or ongoing whose finalization will substantially increase the allowed speed, capacity and overall performance of the railway nodes, rail lines and terminals designated or to be designated to the RFC in WB.

The latest information delivered by the Stakeholders are reported below.

The Former Yugoslav Republic of Macedonia - Planed future activities on RFC in WB

Section	Length	Source of financing and value	Project status	Project description
Tabanovci-Gevgelija	215	providing of funding is through WBIF 800 000 euro	planned	Preparation of Prefeasibility study and Preliminary design for GSMR and ETCS
Tabanovci-Gevgelija	215	providing of funding through IPA is under way 500 000 euro	planned	From total value of project 2 M euro for 15 new level crossings, 700 000 euro is estimated for 5 new level crossings on Corridor 10
Station Tabanovci		Funding source is not defined, the estimated value is 10 mil euro for 4 additional tracks and 1 mil euro for a new level crossing	planned	Building of 4 new rail tracks in border station Tabanovci is needed to increase the station capacity in order to eliminate present bottleneck (not enough tracks for reception and dispatch of trains)and due to the planned increase of traffic, a new level crossing is needed
Kumano-vo-Miladinovci	17 km	Funding source is not defined, the estimated value is 50 mil euro	planned	A major project for reconstruction of the railway line for speed of 120 km/h was prepared and provided by IPA funds. The reconstruction of this section needs to be done for the speed of 120 km/h
Miladinovci-Ilinden	6.5 km	Funding source is not defined, the estimated value is 3 mil euro	planed	The renewal of this section is needed



Section	Length	Source of financing and value	Project status	Project description
Demir kapija-Miravci	21 km	Funding source is not defined, the estimated value is 10 mil. euro	planned	The renewal of this section is needed

Planned future projects, in case the usage of capacities is over 80%

Section	Length	Source of financing and value	Project status	Project description
Dracevo - Veles	38,7km	Funding source is not defined, the estimated value is between 600 mil euro - 1 billion euro	planned	A Visibility study was prepared for building a new two-track railway. In the future it is necessary to build a new two-track railway line because of the limited characteristics of surrounding (river gorge) of the existing railway
Veles - Nogaeveci	20 km	Funding source is not defined, the estimated value is 150 mil. euro	planned	A major project was prepared for a speed of 120km/h, financed by IPA. In the future it is necessary to make a new tunnel solution to Veles

**MONTENEGRO**

Planned future investments in the next three years:

Section	Length	Source of financing and value	Project status	Project description
Podgorica station	N/A	Value: 6 M €	Foreseen on 2017 - 2019	Replacement of signal - safety devices
Kos - Trebješica	Km. 18.146	Value: 4.6 M €	Foreseen on 2017 - 2019	Overhaul of the superstructure of the railway
Trebješica	N/A	Value: 3.4 M €	Foreseen on 2017	Dismantling of existing, procurement and installation of new electric-traction facility
Border station Bijelo Polje	N/A	Value: 3.4 M €	Foreseen on 2017 - 2019	Preparation of Main designs for urban technical landscaping
Point to point	N/A	Value: 3.4 M €	Foreseen on 2017 - 2019	Rehabilitation of 6 slopes and 5 concrete bridges

## SERBIA

### Current and planned projects for reconstruction and modernization of rail sections on the network of „Serbian Railways Infrastructure“ JSC

The following table presents current and planned infrastructure projects of rail sections that are located on the future Alpine – Western Balkans rail freight corridor on the territory of the Republic of Serbia, viewed from the border with the Republic of Croatia (Tovarnik/Šid) through Belgrade to the border with the Republic of Bulgaria (Dimitrovgrad/Dragoman).

Section	Lenght (m)	Source of financing and value	Project Status	Project description
Golubinci – Ruma (right track)	17.889	The credit of the Russian Federation, value 13,022 mil \$	Completed, October 2015	Section is located on the main, double-track, electrified line Belgrade – Stara Pazova – Šid – State border (Corridor X), with the axle-load of 22.5 t/os and 7.2 t/m. Reconstruction and modernization of civil and eletrical engineering infrastructure was completed. Design speed is 120 km/h.
Belgrade bypass, section Batajnica - Ostružnica - Beo-grade Marshalling	28.000	The funding source is not defined, the estimated value is 52 mil €	Planned, the beggining of works is planned in 2018/2019	Section is located on two main, single-track, electrified lines that are part of the Corridor X: Belgrade Marshalling „A“ – Ostružnica – Batajnica and Belgrade Marshalling „B“ – Ostružnica with axle-load of 22.5 t/os and 8 t/m. Bad condition of superstructure and substructure have caused the reduction of speed limit to 50 km/h. A complete reconstruction and modernization of all infrastructure elements for speeds of up to 120 km/h are planned. This freight train traffic bypass will completely relocate freight train traffic outside the city area and significantly speed up freight train transit through Belgrade. For project implementation it is necessary to prepare complete project documentation.

Section	Lenght (m)	Source of financing and value	Project Status	Project description
Freight railway bypass Beli potok-Vinča-Pančevo with construction of rail-road bridge over the Danube	28.800	The funding source is not defined, the estimated value is 430 mil €	planned, the beginning of works is planned in 2018	Freigh railway bypass around the city of Belgrade will be completed after the planned construction of a new line that will enable the re-location of freigh traffic from the city center and to make a new link between Corridor X and Route 4. The rail is designed as a single-track line for design speed of up to 120 km/h, it is electrified and equipped with modern SI and TC devices. The Project also includes construction of a new rail-road bridge over the Danube and the railway triangles Zuce – Bubanj Potok – Pančevo Hipodrom – Pančevo Varoš. It is necessary to update prepared project documentation (Preliminary design) and to prepare missing documentation.
Junction G–Rakovica–Resnik	7,444	EBRD V, Contracted value of works 23.7 mil €	Works are in progress	Section is located on the main, double-track, electrified line Beograd – Mladenovac – Niš (Corridor X) with axle-load of 22.5 t/os and 8 t/m. Reconstruction and modernization of infrastructure elements for speeds of up to 120 km/h are planned. Works have started in March 3, 2017. Contractual deadline for completion of works is 351 days.
Jajinci – Mala Krsna	57.904	EBRD V, estimated value 30 mil €	Beginning of works is planned in 2017/2018. Tender will be announced in the middle of 2017	Section is located on the main, single-track, electrified line (Beograd) – Rakovica – Jajinci – Mala Krsna – Velika Plana (Corridor X) with axle-load of 22.5 t/os and 8 t/m. A complete reconstruction and modernization of all infrastructure elements for speeds of up to 120 km/h are planned. Preparation of a tender for selection of Contractor is in progress.

Section	Lenght (m)	Source of financing and value	Project Status	Project description
Mala Krsna station		EBRD V, estimated value 10 mil €	Beggining of works is planned in 2017/2018. Tender will be announced in the middle of 2017	Station is located on the main, single-track, electrified line (Belgrade) – Rakovica – Jajinci – Mala Krsna – Velika Plana (Corridor X) with axle-load of 22.5 t/os and 8 t/m. Mala Krsna station is a junction station for regional lines Smederevo – Mala Krsna i Mala Krsna – Bor – Junction „2“ (Vražogrnac). Reconstruction and modernization of civil and eletrical engineering infrstructure in the stations is planned. Preparation of tender for selection of Contractor is in progress. In order to reduce the total investment, reconstruction of the station will be carried out simultaneously with the reconstruction of the Jajinci-Krsna section.
Sopot Kosmajski - Kovačevac	18.389	The credit of the Russian Federation, project value 11,79 mil \$	completed, September 2015	Section is located on eletrified, single-track line Beograd – Mladenovac – Niš (Corridor X), with axle-load on the section of od 20 t/os and 7.2 t/m. Reconstruction and modernization of civil and eletrical engineering infrastructure is completed. Design speed of 120 km/h is on the section Sopot Kosmajskog - Vlačkog Polja and 100 km/h on the sectionVlačko Polje - Kovačevac.
Mala Krsna – Velika Plana	29.453	The credit of the Russian Federation, project value 14,91 mil \$	completed, April 2016	Section is located on the main, single-track, electrified line (Belgrade) – Rakovica – Jajinci – Mala Krsna – Velika Plana (Corridor X) with axle-load of 22.5 t/os and 8 t/m. Reconstruction and modernization of civil and eletrical engineering infrstructure for speeds of up to 120 km/h are completed.

Section	Lenght (m)	Source of financing and value	Project Status	Project description
Gilje – Đuprija - Paraćin	10,2+0,322	EIB IV, value 45,51 mil €	completed, January 2017	<p>Section is located on the main, single-track, electrified line (Belgrade) – Rakovica – Jajinci – Mala Krsna – Velika Plana - Niš (Corridor X) with axle-load of 22.5 t/os and 8 t/m.</p> <p>Reconstruction, modernization and construction of double-track line are being carried out for design speed of up to 160 km/h (substructure and interlocking) and 120 km/h (superstructure). Within the planned works, a new bridge over Velika Morava river was built with the length of 322 m and with two tracks.</p>
Stalać -Đunis	17.770	The funding source is not defined. Estimated value 105,55 mil €	In progress, Beginning of works is planned in 2018/2019.	<p>Section is located on the main, single-track, electrified line (Belgrade) – Rakovica – Jajinci – Mala Krsna – Velika Plana - Niš (Corridor X) with axle-load of 22.5 t/os and 8 t/m.</p> <p>Reconstruction and modernization of existing and construction of the second track for speed of up to 160 km/h is planned.</p> <p>The process of revision of the Preliminary design with related studies by the Audit Committee of Ministry of construction, transport and infrastructure is in progress.</p>
Railway bypass around the City of Niš	22.400	The funding source is not defined. Potential source EIB, WBIF, Budget of the Republic of Serbia, estimated value 87 mil €	planned, Beginning of works is planned in 2020.	<p>Revision of the Preliminary design with related studies is in progress. Preliminary design and tender documentation for the construction of modern, single track railway bypass around the city of Niš is financed from IPA fund. Construction of railway bypass will enable unobstructed development of the city of Niš and traffic network, including the airport.</p>

Section	Lenght (m)	Source of financing and value	Project Status	Project description
Sićevo – Staničenje -Dimitrovgrad	80.066	The funding source is not defined. Potential source of funding – EIB, WBIF, Budget of the Republic of Serbia estimated value 84,37 mil €	Planned, Beggining of works is planned in 2017/2018.	Section is located on main, single-track, non-electrified line Niš –Dimitrovgrad –State border with Bulgaria (Corridor X). Reconstruction and modernization of civil and eletrical engineering infrstrucure for speeds of up to 120 km/h with axle-load of 22.5 t/os and 8 t/m is planned, as well as preparation works for electrification. The updating of completed project documentation (Preliminary Design) is in progress.
Niš - Dimitrovgrad	96	The funding source is not defined. Potential source of funding – EIB, WBIF, Budget of the Republic of Serbia estimated value 59 mil €	Planned, Beggining of works is planned in 2019.	Electrification of the section and installation of modern SI and TC devices is planned. The section is the only non-electrified section on Corridor X through Serbia.

## KOSOVO

### Description of planned Changes/Improvements and foreseen Implementation Period

General Rehabilitation and Modernization of the Railway Route 10 from border/administrative boundary with Serbia km 164+400,00 up to the Border with The former Yugoslav Republic of Macedonia (MKD) km. 313+510,00.

The project will be executed in three phases:

1. Phase 1: Fushë Kosovë – Border with MKD;
2. Phase 2: Fushë Kosovë – Mitrovicë; and
3. Phase 3: Mitrovicë – border/administrative boundary with Serbia

After the general rehabilitation, the line shall fulfil TSI on Interoperability, respectively ERTMS and ETCS – Level 1 conditions.

Section	Length	Source of financing and value	Project Status	Project description
Border with MKD- Fushë Kosovë – Mitrovicë- border /administrative boundary with Serbia	150km	208.4 million e WBIF, EBRD and EIB	<p>Project design for phase 1 completed during the first half of 2017. General rehabilitation expected to start during 2017. Ongoing procedure for selection of the company for phase 2 project design.</p> <p>Entire project expected to be completed in the 2022.</p>	General Rehabilitation and Modernization of the Railway Route 10 from border /administrative boundary with Serbia km 164+400,00 up to the border with Macedonia km. 313+510,00.



## 2.8 Compliance with required Technical Parameters

The infrastructure requirements, key technical parameters, are set in Article 39 of EU Regulation No. 1315/2013, excerpted below. They are considered obligatory and common part of the future elements of the transport infrastructure for both passengers and freight transport capacity.

### **“Union guidelines for the development of the trans-European transport network and repealing Decision No 661/2010/EU**

#### *Article 39*

#### **Infrastructure requirements**

1. Innovative technologies, telematic applications and regulatory and governance measures for managing the infrastructure use shall be taken into account in order to ensure resource-efficient use of transport infrastructure for both passengers and freight transport and to provide for sufficient capacity.
2. The infrastructure of the core network shall meet all the requirements set out in Chapter II. In addition, the following requirements shall be met by the infrastructure of the core network, without prejudice to paragraph 3:
  - (a) for railway transport infrastructure:
    - (i) full electrification of the line tracks and, as far as necessary for electric train operations, sidings;
    - (ii) freight lines of the core network as indicated in Annex I: at least 22.5 t axle load, 100 km/h line speed and the possibility of running trains with a length of 740 m;
    - (iii) full deployment of ERTMS;
    - (iv) nominal track gauge for new railway lines: 1 435 mm except in cases where the new line is an extension on a network the track gauge of which is different and detached from the main rail lines in the Union.

Isolated networks are exempt from requirements (i) to (iii);”

*The compliance of the main lines of the RFC in WB has been assessed in detail by the IMs and their percentage of compliance to requirements calculated as a proportion (%) of relevant rail network Kms and reported to the table shown below. Moreover, the detailed assessment i.e. line per line, could provide indications on or the identification of long-terms trends likely to impact international rail freight.*

*This, combined with the information on lines’ capacity, bottlenecks and the already reported Description of Planned Changes / Improvements, can provide the bases to elaborate an Investment Plan that takes into account the priorities coming out from said combined information.*

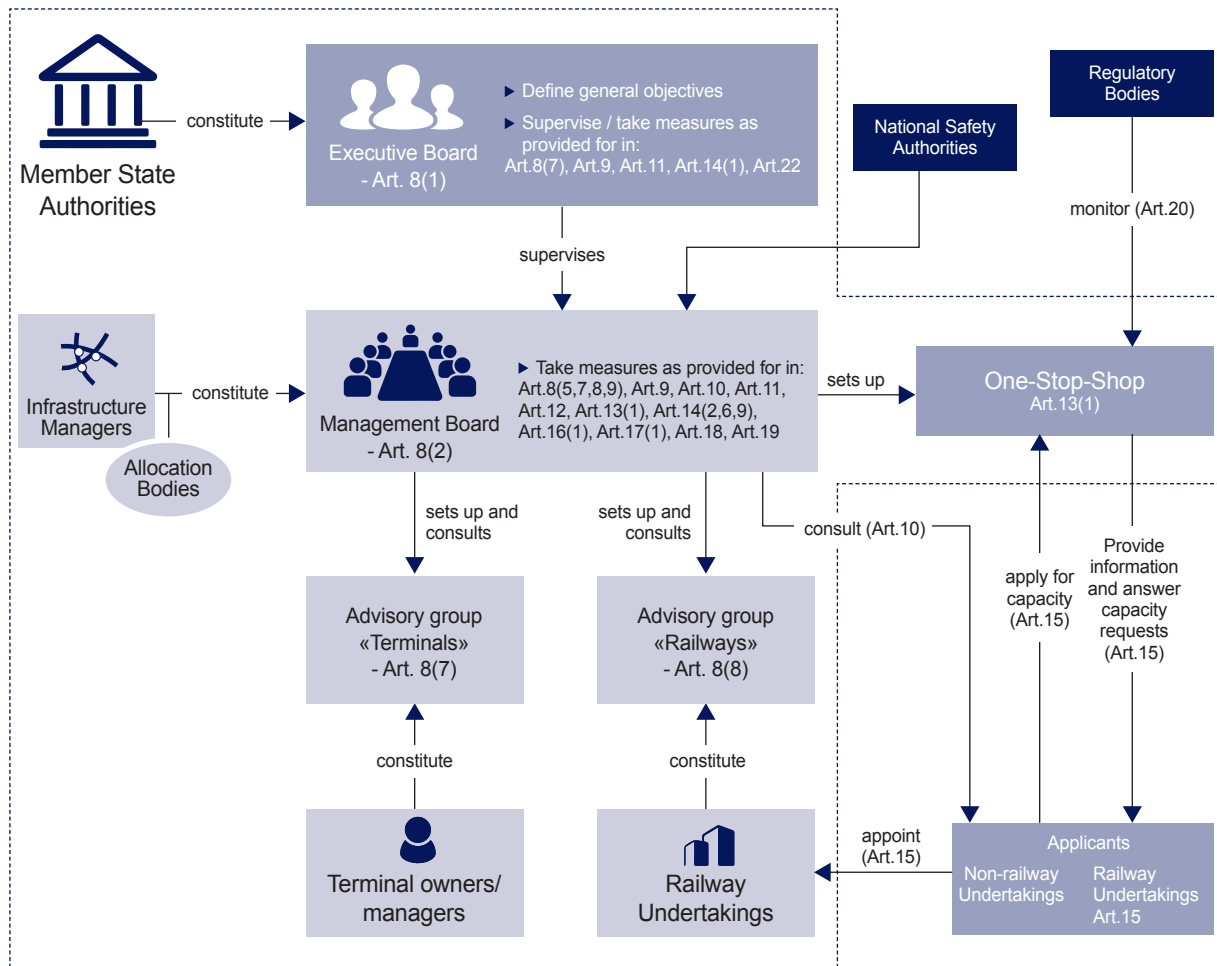
*It will be up to the Stakeholders /IMs to pursue enhanced results with projects, commitments and plans to gradually improve the situation reported in the summary table after.*

<b>Electrification ►</b>	The general situation 2017 in the region is comparable to the average EU RFCs Value 2015, particularly for the Core Network, even if some of the Principal Routes lines are still non electrified. However, implementation plans and relevant actions are ongoing.
<b>Track gauge ►</b>	This requirement is already fulfilled at 100% by almost all the lines in the Region.
<b>ERTMS implementation ►</b>	This is one of the most complex requirement to fulfil, not only by the SEETO RPs. In fact, in 2015 it was fulfilled only by 9.5% on the existing EU RFCs. However, implementation plans and relevant actions are ongoing.
<b>Line speed <math>\geq</math> 100 Km/h ►</b>	Some of the rail lines, particularly on the Principal Routes, already fulfil this criteria. Many works are already planned or ongoing to improve the allowed max. speed of the lines with a geometry allowing it. It is worthwhile to note that generally speaking the difficulties to meet this criteria are more due to the poor conditions of the lines than to their geometry
<b>Axle load <math>\geq</math> 22.5 t. ►</b>	Several rail lines on the Principal Routes, especially on the Core Network already fulfil this requirement and many are already ongoing or planned to improve the permissible axle load.
<b>Train length <math>\geq</math> 740 m. ►</b>	Few of the rail lines, even those on the Principal Routes are actually compliant. More attention is needed on this concern. The present underutilization lower the perception of the importance of this criteria.

Compliance with required Technical Parameters												
Indicator	Pas-senger (P) Freight (F)	Unit	Calculation	EU RFCs average Value in 2015	Target: 2030 for core, 2050 for comprehensive	MKD	MNE	SER	KOS	ALB	BiH	
Electrification	P/F	%	Electrified rail network kms as a proportion of relevant rail network kms	"81.3 % (core) 80.6% (comprehensive)"	100%	100%	92%	82,31%/0%	0.00%	0.00%	100 % /61 %	
Track gauge 1.435mm	P/F	%	Standard (1,435mm) track guage as a proportion (%) of relevant rail network kms	"77% (core) 75.8% (comprehensive) "	100%	100%	100%	100%/100%	100%	100%	100%	
ERTMS implementation	P/F	%	Length of Permanent Operation of both ERTMS and GSM-R on rail network, as a proportion of a relevant rail networks kms	9.5% of core network corridor sections	100%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
line speed (≥km/h)	F	%	Length of freight and combined line with a permitted speed greater than or equal to 100 km/h, as a proportion of a relevant rail networks kms	"86.8% (core) 86.6% (comprehensive)"	100%	48.15%	0.00%	0%/0%	0.00%	0.00%	80 %/ 50 %	

Compliance with required Technical Parameters					MKD	MNE	SER	KOS	ALB	BiH
Indicator	Pas-senger (P) Freight (F)	Unit	Calculation	EU RFCs average Value in 2015	Target: 2030 for core, 2050 for comprehensive	Value (2017)	Value 2017 Core/ Comprehensive	Value (2017)	Value (2017)	Value 2017 Core/ Comprehensive
Axle load (≥22,5t)	F	%	Length of freight and combined line with a permitted axle load greater than or equal to 22,5 tonnes, as a proportion of a relevant rail networks kms	"66.8% (core) 66.6% (comprehensive)"	100%	100%	85,67%/16,5%	100%	100%	100 %/ 83 %
Train length (≥740m)	F	%	Length of freight and combined line with a permitted train length greater than or equal to 740m, as a proportion of relevant rail networks kms	"46.5% (core) 46.6% (comprehensive)"	100%	0.00%	0%	17%	13%	0%/0%

## 2.9 Governance



**Figure 3.1:** Governance structure of a Rail Freight Corridor

Please note the relevant Handbook Chapter 3. ‘Governance of a Rail Freight Corridor’ is fully reported in the Appendix. There are only some excerpts given below.

Excerpt from Para 3.3 ‘Setting-up the Management Board’ that at the present first step is to be considered more relevant/urgent:

“The main tasks of the Management Board are:

- proposing the lines and terminals to be designated to the corridor establishing its structure (Art 8(5)) and defining all internal work
- establishing its structure (Art 8(5)) and defining all internal work procedures
- setting up an Advisory Group of terminals owners and managers (Art 8(7))

- ▶ setting up an Advisory Group of railway undertakings and taking into account its opinions (Art 8(8))
- ▶ the coordination of the use of IT tools for paths requests and traffic management (Art 8(9))
- ▶ drawing up and periodical review of the Implementation Plan and the Transport Market Study (Art 9(1-3))
- ▶ cooperation as appropriate with regional and/or local administrations (Art 9(5))
- ▶ consultation of applicants (Art 10)
- ▶ drawing up the Investment Plan (Art 11)
- ▶ coordination and publication of works (Art 12)
- ▶ setting up or designating the One Stop Shop (Art(13(1))
- ▶ assessment evaluation of the necessary capacity (Art 14(6))
- ▶ promotion of coordination of priority rules concerning the allocation of capacities (Art 14(6))
- ▶ procedures to ensure optimal coordination of the allocation of capacity between Infrastructure Managers and terminals (Art 14(9))
- ▶ procedures for coordinating traffic management (Art 16(1))
- ▶ adoption of common targets for punctuality (Art 17(1))
- ▶ adoption of guidelines for traffic management in case of disturbances (Art 17(1))
- ▶ publication of a 'Corridor Document' (Art 18)
- ▶ promotion of compatibility between the performance schemes (Art(19))"

The following sentences from above Para 3.3.1 are reported:

- ▶ The Management Board is an operational body. Even if its structure and internal rules are not officially defined and agreed, the Management Board has to prepare its organisation and start immediately its missions.
- ▶ The Management Board should be made up of adequate management representatives having decision-making powers responsible for implementation of the corridor within their organisation.
- ▶ It sets up working groups with expert members of the respective Infrastructure Managers to deliver the required measures. In the existing ERTMS corridors there are among others working groups on ERTMS deployment, Operations, Capacity, Traffic Quality, Terminals, and Investments (see organization charts from ERTMS-corridors A and C below). The roles and duties of the existing working groups could be expanded to accommodate the requirements foreseen in this regulation.

New working groups can be established if needed. These working groups could welcome the view of the users, where relevant, notably those that are not directly represented in the Advisory Groups. Each Infrastructure Manager should manage at least one working group, if possible.

*Consultant's general and detailed suggestions then follow and some other considerations, in Italics like the present text.*

### Consultant general suggestions

*The following steps appear logical in the specific situation of RFC in WB.*

*1st – Preliminary Management Board: Only four (SER, MNE, KOS, MKD) of the six SEETO Regional Participants (SEETO RP) have already the legal basis to enter in a RFC. Then, it appears natural that it is up to them to establish a Preliminary Management Board (PMB) that, in the Consultant's opinion, could also include the other two SEETO RP (B&H, ALB), at least as Observers.*

*This PMB should carry out its tasks as per Para 3.3 'Setting-up the Management Board' of the Handbook, up to when it is considered possible to involve the bordering Member States (MS).*

*2nd – This PMB could have had early / informal relations with the bordering MS interested in the setting up of the RFC in WB. Thus, it is logically up to it to go on with enlarged meetings (official or not) with the interested bordering MS, in particular presenting them the preliminary findings / results for the RFC in WB crossing the SEETO territories.*

*3rd – Depending upon the preliminary steps already taken, the PMB could be enlarged to the bordering MS interested in the RFC in WB establishment or entering in their organisation, if any. Since said MS are most likely already members of other RFC (e.g. 6 + 7), it will be up to them to continue an informed management of the activities necessary for the establishment of the RFC in WB, probably starting with the setting up of a Management Board including both, Member States and non-member entities.*

*Obviously, the above general suggestions should adapt to the actual situation, depending on the steps possibly already done, even informally, to set up a Preliminary MB. In any case, if there had been previous acts/meetings about the RFC in WB and between which IMs i.e., only SEETO Reg. Partners or also with bordering/interested MS like Croatia, Slovenia, Hungary and particularly Austria.*

*This is why the Consultant cannot write more detailed suggestions than those below, without running the risk to be incorrect because not fully informed.*



### Consultant detailed suggestions

1. *The RPs could try to open a constructive communications channel with Croatia, which already has a recent experience with RFC 6. This can be done whenever.*
2. *The 4 IMs of MKD, MNE, SER and KOS should meet, even informally, to try and find a common view on some important matters e.g.: Definitions: from Intermodal /Freight Terminal, Marshalling Yard, etc. to Corridor Train, List of Measures, AA – Authorised Applicants, etc.). It should be easier among the said 4 IMs since they have already faced some of these issues when doing the NS. Now, they should try to harmonise/agree among them. Then, what is agreed, can be reported on another version of the IP.*
3. *These restricted meetings should prepare the ground to meet MSs, starting from Croatia again (or instead of point 1.) as a check on how SEETO RP are to meet the other interested MSs e.g. Slovenia, Austria, Bulgaria.*
4. *If the interested MSs accept to be involved in the RFC in WB, after having had factual meetings and the like on the matter, a MB including MSs could be envisaged. Obviously, a strong common political pressure towards the setting up of the RFC in WB should be kept.*
5. *Alt.B: As an alternative, it could happen that some interested MS will involve the SEETO RPs or some of them.*

**NOTE:** *This first path could be followed immediately by the mentioned 4 RPs having legal basis. B&H and ALB need more time, just to conform to EU legal requirements and to prepare the necessary documentation (NS, etc.).*

*Nevertheless, B&H and ALB could either follow the way of the 4 IMs above or go in parallel to the points mentioned above, in case they can progress to solve their own issues rapidly.*

*This is why it is advised to include informed, capable and motivated representatives of B&H and ALB from the very beginning, in the initial meetings of the 4IMs, at least as observers.*

*The previous points are mostly based on the adoption by the MB of the Principal Routes, at that point there will be the possibility to foresee a future expansion, including the terminals and rail lines of B&H and ALB.*

*In this way, it can be presumed that there is no real waste of time for B&H and ALB, as far as they will use the time to go on fast with both, their own improved legal bases and the preparation of the required documentation.*



*A tentative Roadmap follows here below.*

**Roadmap (proposal) for RFC in the Western Balkans (SEETO RPs)**

Year	ACTIVITIES BY STAKEHOLDERS				
	Infrastructure Managers (MB)	Status	Steps	Ministries (EB)	European Commission
01/2017 – 12/2017	Prepare a Preliminary Implementation Plan (PIP) of RFC in WB, as per RNE Common Structure, excluding the Investment Plan and its follow up(1).	Ongoing	1	Establish a Preliminary Executive Board (PEB) by SEETO Regional Partners with a view to establish an Extension of RFC to Western Balkans comprising all the RPs and involving the interested MS.	
	Setting up a Preliminary Management Board of RFC In WB (SEETO Region) by MKD, MNE, SER, KOS (+ BiH + ALB as Observer / Applicant).	Ongoing	2		
	Taking over of the PIP by a Corridor Organisation(2) / MB inclusive of interested Member States to continue its development and its expansion to the final Corridor Information Document (CID) of RFC in Western Balkans.		3		
from 01/2018	Pursue possible Corridor basis activities(3)		4		

**Notes:**

- (1) Particularly (but not limited to):
- ▶ Define and Designate Lines and Terminals;
  - ▶ Provide key parameters/maps Etc.
  - ▶ Define and list Bottlenecks, Freight Facilities, Service Centres;

- ▶ Provide data/information for Traffic Patterns;
  - ▶ Provide Available Capacity;
  - ▶ Agree/harmonise the List of Measures, the Objectives/Performance;
  - ▶ Quality evaluation; Etc.
- (2) In case there is not enough Corridor permanent staff at the beginning of the freight corridor construction, a Task Force could be set up, during the preparatory meeting of the Preliminary Management Board. This Task Force can be composed of one or two representatives for each Member of the Corridor, perhaps under the coordination of one Member. It should ensure the full involvement of all corridor IMs and ABs in the definition of a common vision of the corridor functioning and development.
- (3) For instance, there is the possibility to start anytime to define a common view on the most important items and also to agree in detail e.g. the Measure necessary to create a Corridor or to implement some of the low hanging fruit actions like guidelines on temporary capacity restrictions, introduction of KPIs etc.

## 3. Essential Elements of the Transport Market Study

### 3.1 Introduction

In this document we would like to present just the most important parts of the Transport Market Study (TMS) – complete TMS is enclosed as an Annex.

The Transport Market Study was based on an analysis of data available from common statistical sources, such as:

- ▶ National statistical institutions of Serbia, Bosnia and Herzegovina, the former Yugoslav Republic of Macedonia, Montenegro, Albania and Kosovo
- ▶ Databases of OECD (Organisation for Economic Co-operation and Development) and IMF (International Monetary Fund)
- ▶ COMTRADE database from the United Nations

Data collected from various sources presented some discrepancies that required a cross-comparison and some adjustments that are described in more details inside this same text.

The main goal of this study was (1) the identification of potential o/d matrices for the proposed corridor and (2) the estimation of the corresponding potential traffic, at least at first preliminary level. However, it is important to highlight that Article 9 (Measures for implementing the freight corridor plan) of the Regulation 213/2010 states that the TMS has to deal with the “*the observed and expected changes in the traffic on the freight corridor, as a consequence of its being established, covering the different types of traffic, both regarding the transport of freight and the transport of passengers. This study shall also review, where necessary, the socio-economic costs and benefits stemming from the establishment of the freight corridor*”. The goal at this phase was, therefore, the identification of a possible methodology and the identification of preliminary (potential) figures.

### 3.2 Estimation of the O/D matrices

Basically, the methodology followed for the estimation of the origin/destination matrices was based on an input/output approach, namely a cross-comparison of the import and export of each regional participants of the SEETO area. A specific zoning was set up, covering any possible range of distance (import/export from/to a far country has anyway at least a port as local origin/destination). The zoning was the following:

▶ Zone 1	Africa	▶ Zone 15	Kosovo
▶ Zone 2	Albania	▶ Zone 16	The Former Yugoslav Republic of Macedonia
▶ Zone 3	Americas	▶ Zone 17	Middle East, Iran and Afghanistan
▶ Zone 4	Austria and Switzerland	▶ Zone 18	Montenegro
▶ Zone 5	Bosnia and Herzegovina	▶ Zone 19	Germany and North-west Europe
▶ Zone 6	Bulgaria	▶ Zone 20	Poland, Finland and Baltic Countries
▶ Zone 7	CIS (as former USSR) countries	▶ Zone 21	Romania
▶ Zone 8	Croatia	▶ Zone 22	Serbia
▶ Zone 9	Czech Republic	▶ Zone 23	Slovakia
▶ Zone 10	France, UK and Ireland	▶ Zone 24	Slovenia
▶ Zone 11	Greece and Cyprus	▶ Zone 25	Southern Asia, Far East and Oceania
▶ Zone 12	Hungary		
▶ Zone 13	Iberian peninsula		
▶ Zone 14	Italy and Malta		

The next Table 1 presents the imports and exports (in terms of values in USD, which is the reference currency for international trade statistics) re-arranged inside an origin/destination matrix.

**Table 1 - Present import / export (year 2016). Origin/destination from/to the six SEETO RPs of the study area - Data for Kosovo is for year 2015 - Source: Consultant's elaboration from COMTRADE database and from respective national statistics institutions – values are in USD x 1000**

Macro zone	From/to macro area	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1	Africa		66681			35921										11919	215042		6919				200316			
2	Albania	11132	0	19908	30309	8179	23796	3120	7595	11744	25364	90084	19452	64911	1135431	168028	51740	32754	33201	91740	8025	27677	33434	2610	11036	79316
3	Americas		187648			375767										121155	286614		57427				563402			
4	Austria and Switzerland		106403			364735										74534	191901		53331				788424			
5	Bosnia and Herzegovina	41239	27458	38802	503301	0	44899	73486	555863	80147	118731	7700	109860	86819	640201	83727	74173	253923	129875	1080245	61760	73886	453241	79185	456467	322119
6	Bulgaria		61944			77775										52789	311688		14614				361778			
7	CIS (as former USSR) countries		118690			425948										28146	197770		12773				1904718			
8	Croatia		35561			908066										77577	101879		122479				481802			
9	Czech Republic		44812			150525										20771	99352		28562				482404			
10	France, UK and Ireland		142073			300417										45565	839641		66905				880246			
11	Greece and Cyprus		370948			104535										123296	497969		122566				297863			
12	Hungary		39764			229053										26988	140131		21176				882384			
13	Iberian Peninsula		113247			121657										28364	101711		51409				287834			
14	Italy and Malta		1367569			1082134										250588	386993		168154				1989332			
15	Kosovo	12938	45697	695	26590	6256	7412	9291	3247	440	7115	1158	263	2935	21646	0	35023	12301	8600	51087	4014	1164	35688	1032	2209	57503
16	The former Yugoslav Republic of Macedonia	9308	62756	63560	72371	84042	246502	64631	89276	42426	83838	164040	45062	125789	175303	184009	0	83332	28448	2521273	40165	134712	213486	49445	65881	111587
17	Middle East, Iran and Afghanistan		392168			411148										289273	399628		78482				978097			
18	Montenegro	3183	18905	2177	7091	28997	614	3554	2487	6666	7662	979	38449	296	19905	19278	5382	8761	0	19896	12736	397	77400	491	16651	61387
19	Germany and North-west Europe		535904			1413031										368652	1064646		331881				3595480			
20	Poland, Finland and Baltic Countries		90961			285970										84087	132083		54151				945689			
21	Romania		56630			101608										34218	213854		27789				552304			
22	Serbia	214062	122367	303461	485705	1127500	422316	972161	513763	367227	686883	165584	476814	180582	2167705	422709	547647	530281	613802	2475958	381507	845503	0	301822	475859	231701
23	Slovakia		13264			74281										7407	36391		7335				250090			
24	Slovenia		30197			458148										64774	138781		51255				568229			
25	Southern Asia, Far East and Oceania		588245			1058574										353143	738939		296474				2455986			



The transformation of the values of Table 1 into tonnes was made by taking into account a conversion factor of 0.90 tons for each USD x 1000.

Forecasts were then carried out in two steps:

- A first step considered projections until year 2022, given that until such year import export forecasts from IMF are available for each of the 6 SEETO RPs considered
- A second step considered projections until year 2030 (the first goal established by the year 2011 White Paper, whereas it states that *“Thirty per cent of road freight over 300 km should shift to other modes such as rail or waterborne transport by 2030, and more than 50 % by 2050, facilitated by efficient and green freight corridors. In order to meet this goal, the appropriate infrastructure needs to be developed”*<sup>3</sup>)

Given the unavailability of IMF's GDP forecast for each single country, the Consultant adopted the hypothesis of a uniform GDP growth for the entire area, i.e. the same of the Euro area, with a corresponding growth of imports and exports (an elasticity of 1 was assumed between GDP and import/export variations). The next tables present the growth factor assumed for the import/export variations from 2016 until 2022 and from 2022 and 2030 respectively.

**Table 2 – Forecasted growth factors for imports and exports until year 2022**  
(source: International Monetary Fund)

Country		2017	2018	2019	2020	2021	2022	Cumulate (2016=100%)
Albania	imports	3.79%	1.74%	0.84%	1.54%	4.18%	5.45%	119%
	exports	4.78%	5.56%	4.24%	4.74%	5.91%	4.74%	134%
Bosnia and Herzegovina	imports	4.87%	4.61%	3.21%	4.13%	3.25%	3.43%	126%
	exports	3.07%	4.25%	4.80%	4.60%	4.21%	3.85%	127%
Kosovo	imports	0.95%	4.21%	5.79%	6.49%	5.73%	1.67%	127%
	exports	3.59%	0.67%	4.58%	1.91%	5.37%	7.69%	126%
The former Yugoslav Republic of Macedonia	imports	9.63%	7.96%	7.31%	7.79%	8.18%	7.94%	160%
	exports	11.68%	9.85%	8.95%	9.15%	9.55%	9.14%	174%
Montenegro	imports	7.42%	9.00%	-1.98%	-6.40%	4.32%	3.65%	116%
	exports	5.68%	2.03%	1.48%	2.04%	2.67%	3.05%	118%
Serbia	imports	6.64%	6.60%	6.68%	7.11%	7.06%	7.13%	149%
	exports	10.06%	8.12%	7.62%	7.31%	7.29%	7.16%	158%

<sup>3</sup> See White Paper on transport, Roadmap to a Single European Transport Area - Towards a competitive and resource efficient transport, available on-line at <http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52011DC0144>

**Table 3** - Forecasted growth factors for Euro area GDP from year 2022 until 2030 (source: International Monetary Fund)

	2023	2024	2025	2026	2027	2028	2029	2030	Cumulate (2022 = 100%)
GDP increase (Euro area)	1.91%	1.92%	1.94%	1.94%	1.93%	1.90%	1.87%	1.84%	116%

The adoption of the same GDP growth of the Euro area between years 2022 and 2030, also for the six SEETO RPs included in the study, was justified considering the strict links between their economies and the countries adopting the Euro as national currency.

Moreover, a further macro-zoning was considered by leaving as single countries only the six that are inside the study area plus Bulgaria, Croatia, Greece (plus Cyprus, that has anyway a minimal share) and Hungary. This brought to a more compact definition of the origin/destination matrices. At year 2030 the final o/d matrix is represented inside the next table.



**Table 4 - Forecasted import / export (year 2030). Origin/destination from/to the six SEETO RPs of the study area towards macro-aggregated zones-- Source:**  
Consultant's elaboration-- values are in tonnes

	far O/D	AL	other EUR	B&H	BG	HR	GR and CY	HU	KOS	MKD	MNE	ROM	SRB
far O/D		1689892		3053299					1076297	3088415	552080		9557353
Albania	205900	0	1944768	11170	33506	10694	126844	27390	230815	79896	43647	38971	49719
other EUR		3052109		5625162					1265280	5026674	992825		15328879
Bosnia and Herzegovina	977679	35540	4163429	0	60168	744900	10319	147221	112167	112016	166324	99013	658607
Bulgaria		77343		102919					70699	523735	17847		566592
Croatia		44401		1201633		0			103898	171189	149573		754566
Greece and Cyprus		463165		138330					165129	836747	149679		466493
Hungary		49649		303103					36144	235465	25860		1381930
Kosovo	122925	58818	155192	8285	9825	4304	1535	349	0	52639	10951	1543	51601
MKD	609474	96709	5823960	132649	451951	163684	300760	82619	291907	0	43449	246989	362882
Montenegro	98178	23540	113492	37189	762	3088	1216	47745	24879	7863	0	493	108666
Romania		70708		134457					45828	359343	33936		864981
Serbia	3739732	178012	12495161	1682320	701413	853295	275014	791928	634097	914897	884515	1404273	0

### 3.3 Estimation of the rail share

Two different estimations of the potential rail shares were made:

- ▶ The first one, was simply based on the assumption of the White Paper of year 2011 the goal of which is a share of 30% for rail and waterborne transportation for distances over 300 km, and this percentage was directly applied to the O/D matrix of Table 4.
- ▶ The second one was more complex, and it was based on a proxy comparison with the current situation of Germany, identified as “a developed target country”, because its specific organisation of rail freight market. Such assessment with Germany had to consider that this country has a different production system and also a different consumption system (the latter mainly due to the different level of income) in comparison with the SEETO regional partners. The comparison was based on:
  - a) the evaluation of the rail share of the main product categories in Germany
  - b) the evaluation of the composition of the import / export of the SEETO's regional participants
  - c) the application of the same percentages of rail share presently existing in Germany to each specific import/export category of SEETO's regional participants

The details of the two different approaches can be found inside the full TMS in the annexes. The potential shares of rail traffic fluctuate between the 30% maximum of the White Paper (optimistic scenario) and the 15% that resulted from the proxy comparison with Germany (with all the appropriate corrections). Considering an average payload of 500 tonnes per train and also considering the empty returning trains, the min – max potential international traffic may be represented by the values of next table.

**Table 5** – Potential total daily trains (including empty wagons) based on conservative/optimistic scenarios. Overall from/to the six SEETO RPs of the study area towards macro-aggregated zones-- Source: Consultant's elaboration– values are in trains per day (empty returning traffic is not considered)

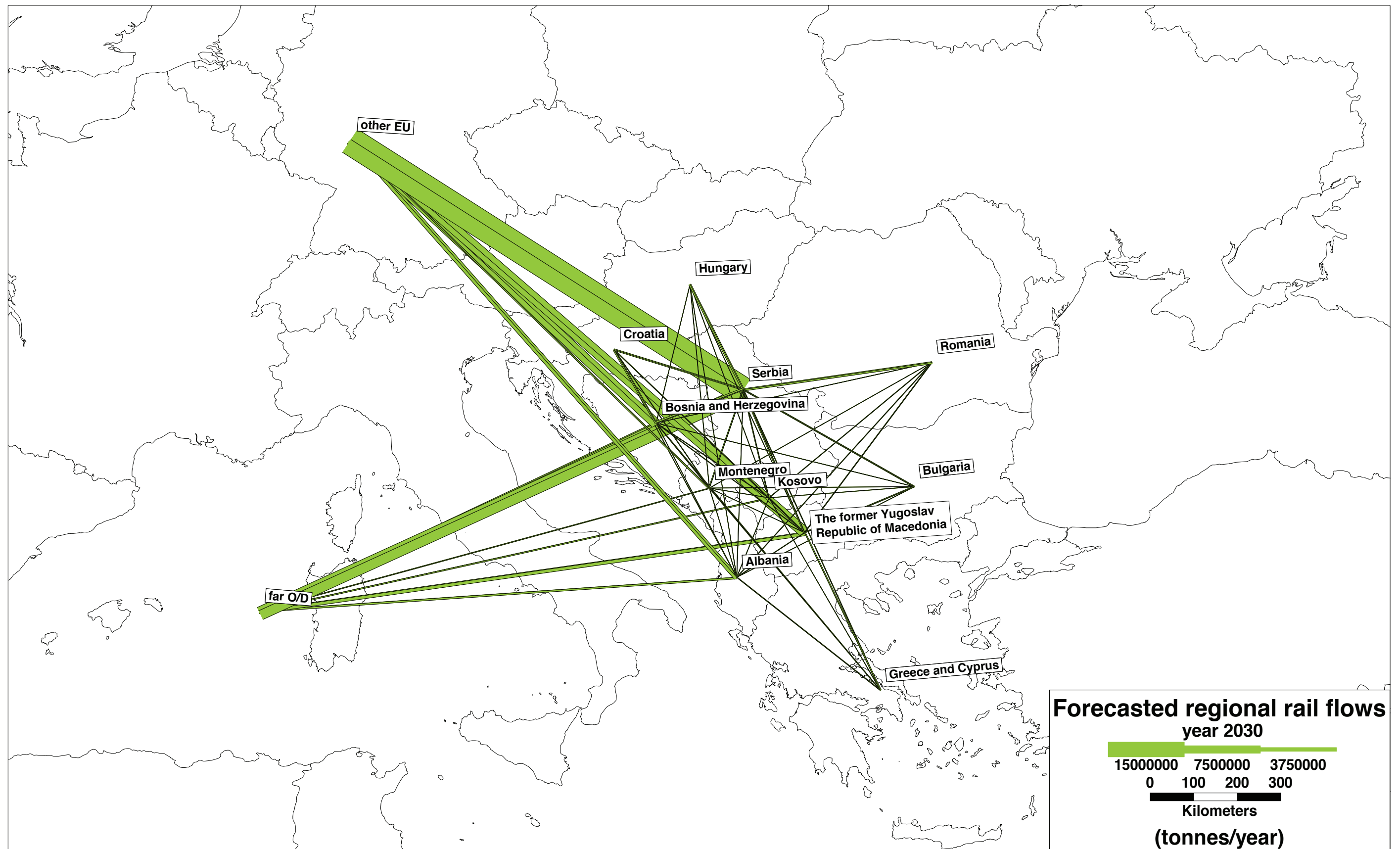
SEETO RPs	International trains/day at year 2030 (potential min-max traffic)	
	pessimistic scenario - arriving plus departing (including empty wagons)	optimistic scenario -arriving plus departing (including empty wagons)
Albania	≈ 10 (min)	≈ 20 (max)
Bosnia and Herzegovina	≈ 20 (min)	≈ 40 (max)
Kosovo	≈ 7 (min)	≈ 14 (max)
The former Yugoslav Republic of Macedonia	≈ 19 (min)	≈ 38 (max)
Montenegro	≈ 5 (min)	≈ 10 (max)
Serbia	≈ 50 (min)	≈ 100 (max)

Finally, it should be considered that the above values are based on assumptions that must be verified during the further development of the TMS and during the time framework passing between the present and the final development of the Corridor, and basically during the following future steps:

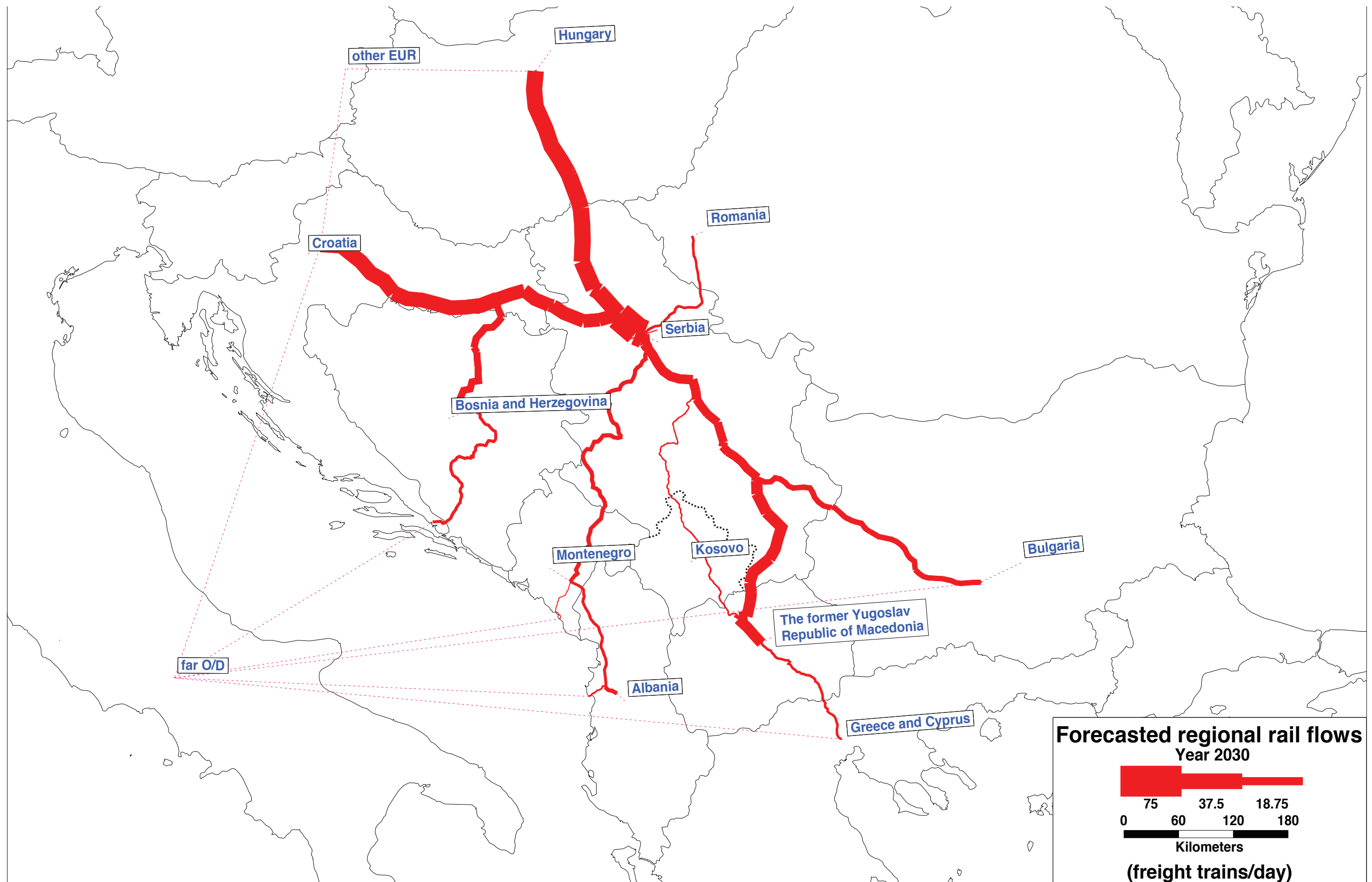
- ▶ Re-establishment of efficiency conditions on the existing rail network, with investments mainly focused to the increase in capacity
- ▶ A rail market open to competition, based on EU laws and standards
- ▶ The establishment of the Rail Freight Corridor itself

The further stages of implementation of this RFC will require more detailed analyses (with the adoption of more sophisticated modelling methodologies, widespread investigations, etc.), but this initial step anyway provided preliminary results that can be used as a base and comparison for any further evaluation.





**Figure 4** - Potential yearly rail flows based on the forecasted import / export (year 2030 based on the year 2011 White Paper goals / rail share of 30%). Overall from/to the six SEETO RPs of the study area towards macro-aggregated zones-- Source: Consultant's elaboration-- values are in trains per day (empty returning traffic is not considered).



**Figure 5** - Potential daily rail flows based on the forecasted import / export (year 2030 based on the year 2011 White Paper goals / rail share of 30%). Overall from/to the six SEETO RPs of the study area towards macro-aggregated zones-- Source: Consultant's elaboration-- values are in trains per day (empty returning traffic is not considered).

## 4. List of Measures

In this document we would like to quote some parts of the relevant Measures, while the complete List of Measures is presented in Appendix 2 – Measures,

From RNE

*[Reg. 913/2010 – Article 9 (1.e)]*

*Measures foreseen for the implementation of Art. 12-19:*

- a) Cross-border coordination of infrastructure works – Art.12*
- b) Establishment of a One-Stop-Shop – Art.13*
- c) Framework for allocation of capacity – Art.14*
- d) Inclusion of non-railway undertakings among Applicants – Art.15*
- e) Traffic Management Procedures – Art.16*
- f) Traffic Management in event of disturbance – Art.17*
- g) Information to be provided – Art.18*
- h) Quality of service on the freight corridor – Art.19*

From RNE - Proposed content for “Book 5 – Implementation Plan” - Suggested

### TABLE OF CONTENTS

- 4.1 Coordination of planned temporary capacity restrictions
- 4.2 Corridor OSS
- 4.3 Capacity Allocation Principles
- 4.4 Applicants
- 4.5 Traffic Management
- 4.6 Traffic Management in Event of Disturbance
- 4.7 Information to be provided
- 4.8 Quality Evaluation

*As it was announced, the current third part of this first version of the Preliminary Implementation Plan – Cap. 4 ‘List of Measures’ mainly consists of suggestions made by reporting what has already been done by the contiguous RFC 6 in order to open a productive discussion amid the IMs of the RFC in WB aimed at sharing an agreed text, which should be harmonised as much as possible with those of the contiguous RFCs.*

***In any case, any common view (or text) could have to partly or fully adhere to what had already been established by contiguous MS and/or RFCs. Therefore, the direction of development of the RFC in WB should be decided/agreed before the detailed definition of the content of the List of Measures.***



*Indeed, RNE requires the deepest possible harmonisation of Measures and Objectives and, on the matter, gives the following guidelines on its website - <http://www.rne.eu/rail-freight-corridors/downloads-documents>*

## **RFC GUIDELINES & SPECIFICATIONS**

- ▶ GUIDELINES FOR CORRIDOR ONE-STOP SHOPS (C-OSSS) OF EUROPEAN RAIL FREIGHT CORRIDORS (RFCS) FOR MANAGING PRE-ARRANGED PATHS (PAPS) AND RESERVE CAPACITY (RC)
- ▶ EXPLANATION FOR GUIDELINES FOR C-OSS CONCERNING PAP AND RC MANAGEMENT
- ▶ GUIDELINES FOR COORDINATION / PUBLICATION OF PLANNED TEMPORARY CAPACITY RESTRICTIONS
- ▶ KEY PERFORMANCE INDICATORS OF RAIL FREIGHT CORRIDORS
- ▶ GUIDELINES FOR CORRIDOR OSS
- ▶ OVERVIEW OF PRIORITY RULES IN OPERATION
- ▶ FRAMEWORK FOR SETTING UP A FREIGHT CORRIDOR TRAFFIC MANAGEMENT SYSTEM
- ▶ GUIDELINES FOR PRE-ARRANGED PATHS
- ▶ GUIDELINES FOR PUNCTUALITY MONITORING

*Moreover, the text of a rolling version of the Implementation Plan – like those of RFC 6 + 7 – often makes a reference to what was published in other Books, which together constitute the whole Corridor Information Document (CID), as below:*

<b>Book 1 – Generalities</b>
<b>Book 2 – Network Statement Excerpts [Timetabling year Y]</b>
<b>Book 3 – Terminal Description</b>
<b>Book 4 – Procedures for Capacity and Traffic Management</b>
<b>Book 5 – Implementation Plan</b>

*Since at the preliminary stage the other books could not be finished, the extracts from the previous, comprehensive version of the RFC 6 Implementation Plan are reported as possible guidelines in Appendix, due to their length.*



## 4.1 Coordination of planned temporary capacity restrictions

*[From RFC 6 Book 5 Implementation Plan 2017]*

“RNE Guidelines for Coordination / Publication of works and possessions” provide recommendations for the process of coordinating and publishing activities reducing the available capacity on a Rail Freight Corridor. The aim is to use a common tool for gathering and publishing necessary information about capacity restrictions.

In this Guideline, the term „possession” will be used instead of „works”, because the term better describes the need of the IMs to use their infrastructure for any activities reducing the infrastructure capacity (e.g. maintenance, repair, renewal, enhancement, construction works).

All possessions on the infrastructure and its equipment that would restrict the available capacity on the corridor shall also be coordinated at the level of the freight corridor and be the subject of updated publication.

“RFC6 manage the process of coordination/publication of possessions in accordance with RNE Guidelines for Coordination / Publication of Works and Possessions”.

All information concerning the coordination of possessions shall be available in the Corridor Information Document Book 4 chapter 4.

*This kind of coordination amid IMs can start whenever.*

*It is a good approach to start agreements on the measures necessary to constitute a freight corridor.*

*In fact, such agreements could improve performance even if not supported by general official/procedural steps but only by the specific agreements needed case by case.*

*The cases of the Border Crossing Agreements in the Region are good example that can be followed.*

*It can be suggested:*

- *To study and follow the RNE GUIDELINES FOR COORDINATION / PUBLICATION OF PLANNED TEMPORARY CAPACITY RESTRICTIONS\_*

- ▶ *To start with preliminary agreements on the definitions with the other IMs*
- ▶ *To continue with tentative implementation of the RNE Guidelines, maybe testing in practice first the mechanism itself and after the (severe) time constraints that RNE and a RFC require.*

***Samples from adjacent RFC 6 + 7 – relevant also to further Paragraphs - are reported in Appendix and as an extract here below.***

**From RFC 7 IP 2018****VIII. Traffic management on the corridor****VIII.1 CORRIDOR TRAIN**

The MB of RFC 7 found it necessary to define what shall be considered as a “Corridor train”. The following definition was accepted based on the proposal by Traffic Management WG.

The “Corridor train” has to

- ▶ be submitted to a C-OSS,
- ▶ use PCS system,
- ▶ include at least one PaP segment in the request,
- ▶ cross at least two borders or to cross one border + run 500 km on the Corridor.

The MB has the right to add additional international freight trains (coming from different regions of the Corridor) to be treated as Corridor trains.

## VIII.2 PRIORITY RULES

According to the position of DG MOVE of European Commission about priority rules

- ▶ RFC Regulation (913/2010/EU) does not require detailed priority rules on corridor level;
- ▶ it could be enough if corridors collect the different priority rules IM by IM, but must ensure the common punctuality targets on corridor level;
- ▶ the priority rules of each IM shall be published in the Corridor Information Document.

Traffic Management WG of RFC7 has collected the national priority rules, and discussed in detail the possible points of harmonization. Based on their conclusions and the above recommendation of DG MOVE, the MB of RFC7 decided to publish the individual priority rules of involved IMS in the Corridor Information Document, and also established the following common rules regarding priority of trains applicable on corridor level.

### VIII.2.1 Short summary of priority rules on the corridor

General principles of prioritization on RFC 7:

- ▶ If the Corridor train is on time, it has the priority against other freight trains.
- ▶ In case of conflict between 2 delayed trains, priority is given to the faster train. RUs can give priority to a specific train among their trains.

Order of priority of train types on RFC 7:

1. Emergency trains (breakdown, rescue, fire-fighter trains)
2. High speed passenger trains and long distance passenger trains
3. Passenger trains, priority freight trains (including Corridor trains) – faster trains have principally priority to slower trains
4. Other freight trains
5. Service trains

National priority rules are also available in the following link on the RNE website:

[http://www.rne.eu/priority\\_rules/index.php](http://www.rne.eu/priority_rules/index.php)

### VIII.2.2 National priority rules --OMISSIS

### VIII.3 COORDINATION OF TRAFFIC MANAGEMENT

In the today normal traffic management business bi- or multi-lateral cross-border procedures for communication already exist.

The main strategy is to improve the existing means, in order to ensure that all communication needs are fulfilled and that the used tools are integrated and user-friendly at the maximum possible extent.

At this aim the following have been used as a basis for the presented task:

- ▶ Train Information System (TIS): a web-based application monitoring international traffic on real time and providing historical information through its reporting function; not all involved parties are currently using such a tool, but a roll-out to other partners is foreseen, RUs and Terminals can use this (presently) free application after making a contract with RNE. For more information please visit: <http://tis.rne.eu/>;
- ▶ Traffic Control Centres Communication (TCCCom) Guidelines: the TCCCom project aimed to improve the communication among cross border dispatching centres. This internet based tool is suitable for both free texts and pre-defined, automatically translated messages.

TIS - Train Information System, as an RNE IT tool can be useful for the IMs and RUs involved. If all of the members will use TIS, each partner can follow their trains along the corridor.

The agreed coordination procedure should be applied only if no coordination procedures are already in place and well working. This means that already existing channels of bilateral communication should not be replaced by the new procedures.

Harmonization along corridor and/or between corridors is difficult and sometimes not advisable due to the different characteristics of the Corridors themselves.

The general aims of the procedure should be always kept in mind in order to have the proper size of the necessary information flows between partners. Such general aims are:

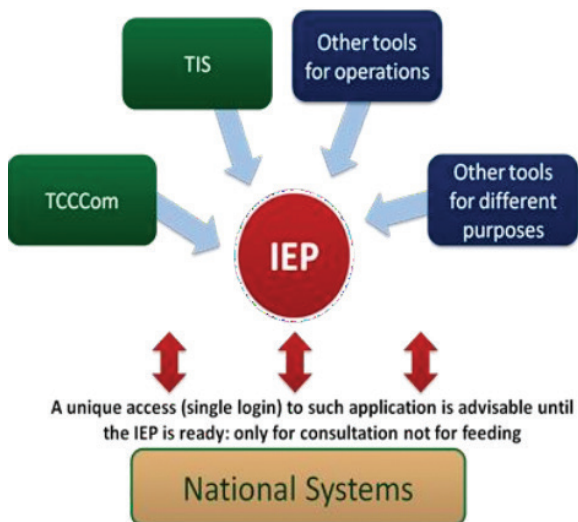
- ▶ to make the traffic management easier;
- ▶ to have the possibility to take corrective measures as early as necessary

The current availability of tools supporting the communication and the data collection connected with international rail traffic management has been analysed. The conclusion of the analysis is that no new tool is needed and that the already existing IT tools, namely TIS and TCCCom, are compliant to the purposes of rail freight corridors.

In addition, the normal means of communication together with specific templates, shall be used to put in place the procedure here described. As far as the IT tools are concerned, on a time perspective, the following development is considered as necessary:

- ▶ Current situation:: TCCCom integrated in TIS
- ▶ LONG TERM: integrated platform of all systems (for the purposes of this document called IEP – Integrated European Platform)

The long-term perspective is illustrated in the picture below.



- ▶ IEP: “Integrated European Platform”
- ▶ Procedures, times, actors, rules are already defined in the systems that are proposed to be integrated, therefore they are not specified here.

*Source of picture: RNE Guidelines for freight corridor traffic management*

### VIII.3.1 Coordination of traffic management along the corridor and with Terminals

As required by the regulations, the Traffic Management WG has identified the extent of the involvement in the traffic management procedures of other stakeholders associated to the activity of the Freight Corridors, i.e. the Railway Undertakings and the Terminal Managers (which are represented by the respective Advisory Groups)

- ▶ The contribution by the RUs and the Terminal Managers is very important for an efficient traffic management.
- ▶ As far as the RUs are concerned, the exchange of information is completely covered by the rules of TAF TSI.
- ▶ The Terminal Managers should also be involved in the exchange of information.

### VIII.3.2 Traffic management on border sections

Traffic Management WG members agreed to collect the existing cross-border agreements in the national languages as they are, and they will be published

on the corridor website. Procedures related to the traffic management will be sent in English language and they will be published in the Corridor Information Document.

The related border section information such as

- ▶ Agreement between the two states in national languages
- ▶ Agreement between IMs about cross-border rail traffic in national languages
- ▶ Short description of the border section in English language
- ▶ Border Contact Document in English language are available on the RFC's website.

## VIII.4 COORDINATION OF TRAFFIC MANAGEMENT IN EVENTS OF DISTURBANCE

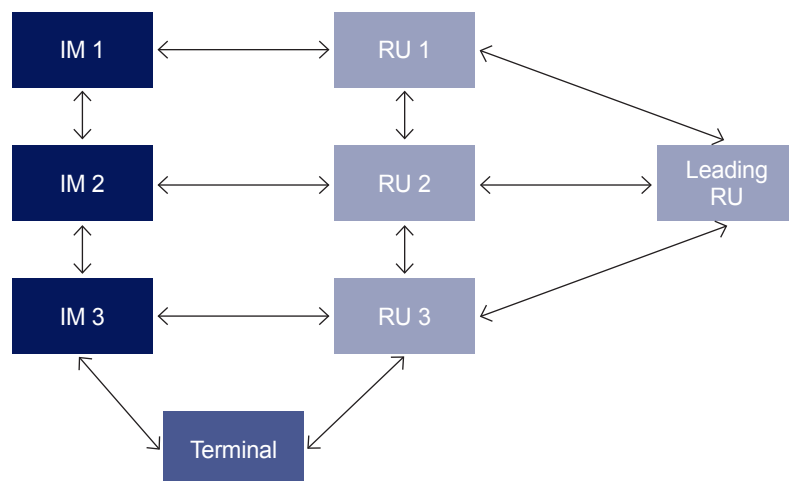
Many unexpected events may have influence on railway traffic, such as:

- ▶ Disturbances with big influence and consequences on the traffic (accidents),
- ▶ Line interruption,
- ▶ Heavy capacity reduction (for lines, stations and shunting yards).

If an RU wants to deviate from the timing of its PaP, the RU should request a new path and thereby renounce the quality requirements (delay, alternative routes). In this case the new path has to be allocated by the IM.

In the case of emergency, IM has to inform the national RU(s) and the neighbouring IM(s) about the circumstances.

### Communication flow in case of disturbances



Assistance in the event of disturbance:

- ▶ IMs can use any RU's locomotive to clear the track. · IMs are responsible to inform the concerned RUs.

Diversion of trains

- ▶ In case of non-planned events, trains use alternative routes to destination.
- ▶ Operational scenarios in case of unplanned capacity restriction on border sections are available on RFC7 website
- ▶ When a train delay is more than 60 minutes, IMs must inform the concerned RUs.



In case of deviations from timetable the following Traffic Management procedures shall apply:

- ▶ IMs – where the event happened - must inform the RUs about the deviation from the timetable.
- ▶ Terminals get the information from the IMs.
- ▶ In case of disturbance, which affects one or more corridor trains, the related IM informs the C-OSS using TCCCom

Each IM is responsible for communicating the given information to the RU which operates the train in their respective network, as soon as possible. Additionally, the notified IM shall communicate the information of the affected train(s) to the related partners in its own country.

The main targets of IMs in case of deviation from timetable are

- ▶ the best possible use of the capacity of the Corridor,
- ▶ to guarantee the fluidity of operations,
- ▶ to improve punctuality of all trains,
- ▶ to get back to the regular state as soon as possible.

#### Recovery of the timetable after deviation:

Delayed trains are to be set back into the original timetable by usage of the highest speed and extraordinary crossings, by the reduction of stopping times and making other trains run earlier if possible.

A prioritised train is to be delayed by other light delayed or early trains if the caused delay can be dissolved on the further part of the route (by running other trains early or reducing the length of stopping times etc.) or it can be reduced to such an extent that the delay is not to cause major disturbance, a missing connection or any major delay for other trains.

Traffic dispatchers and movements inspectors have to calculate the forecasted departure time for all trains in the event of a delay or an early running and in case of trains running in the same direction they have to calculate the earliest and latest time of departure and manage the traffic the most advantageous way on the basis of the calculated results.

#### Execution principles:

One of the most important issues regarding the execution is the proper information flow. The received information is to be forwarded, analysed, identified and discussed in coordination in line with the current situation and the identification of the operational process according to the situation.

After this the traffic managers are to carry out the approved measures.

The operative Traffic Management has the right to order the extraordinary traffic measures.

## VIII.5 COORDINATION OF WORKS AND POSSESSIONS

Based on the European Regulation 913/2010, the RNE Guidelines for coordination/publications of possessions provide recommendations for the process of coordinating and publishing activities reducing the available capacity on a Rail Freight Corridor. The aim is to use a common tool for gathering and publishing necessary information about capacity restrictions.

In this document the term Planned Temporary Capacity Restrictions (TCR) will be used, which covers the earlier used 'Works', 'Possessions', 'works and possessions' and Capacity Restrictions. It indicates that the restrictions are planned (no force majeure restrictions) and temporary (no long lasting bottle-necks).

All significant TCRs on the infrastructure and its equipment that would restrict the available capacity on the Corridor should also be coordinated at the level of the RFC and be the subject of updated publication.

### Aim of coordination:

According to the RNE Guideline temporary capacity restrictions are necessary to keep the infrastructure and its equipment in operational condition and/or to allow changes to the infrastructure necessary to cover market needs. However, there is a high customer demand to know in advance which capacity restrictions they will be confronted with. All Corridor relevant capacity restrictions have to be coordinated, taking into account the interests of the RUs and the impacts on available capacity on rail traffic.

### Principles of coordination:

- ▶ In the case of a TCR on one section of the corridor which does not allow re-routings, further restrictions in other sections of the corridor should be avoided, unless they do not affect the total capacity offer (also over a longer period) of the RFC7 in a negative way.
- ▶ In case of a total closure the aim should be to plan the maximum amount of works simultaneously if technically possible.
- ▶ A TCR on one section of the corridor which requires re-routing of traffic shall be coordinated with capacity available over alternative routes and border crossings to limit the negative impact on the capacity offer of the RFC7. This may be done, for example, by coordinating TCRs on the alternative route.
- ▶ TCRs on one corridor, which may influence traffic of other corridors, should be coordinated between involved corridors.
- ▶ A TCR, on one section of the corridor, which requires re-routing of traffic, shall be coordinated or combined with additional restrictions on neighbouring sections of the corridor if the same re-routings may be used. If possible, modifying the time of TCRs shall be taken into consideration.

- TCRs should not be planned in such a way that they conflict with already published PaPs. This demands active communication between the possession planning IMs and the C-OSS

#### 5.1.1. Timeline for coordination

The coordination process on RFC-level can start at X-25 if data are available, but has to start

18 months in advance of the timetable change with the first publication of major TCRs at X-

17. Initial information about TCRs is provided by the IMs and published on the website of RFC7.

	x-36	x-35	x-34	x-33	x-32	x-31	x-30	x-29	x-28	x-27	x-26	x-25
	December	January	February	March	April	May	June	July	August	September	October	November
Three years ahead	Collecting and pre-coordinating information about TCRs											
Two years ahead	x-24	x-23	x-22	x-21	x-20	x-19	x-18	x-17	x-16	x-15	x-14	x-13
	December	January	February	March	April	May	June	July	August	September	October	November
	Bilateral Coordination						TCR International Coordination	Publication of TCRs	PaPs start Construction	Bilateral Coordination		
										TCR Coordination Meeting		
One year ahead	x-12	x-11	x-10	x-9	x-8	x-7	x-6	x-5	x-4	x-3	x-2	x-1
	December	January	February	March	April	May	June	July	August	September	October	November
	Network Statement (NS)	PaPs Published	Updates of TCRs (coordinated with PaPs)				TCR Coordination of updates	Publication of updates (if applicable)	Coordination of late changes			
	Publication											TCR Solution of conflicts due to late changes

■ Period described by TCR Guideline

■ TCR-stage 3 Meeting (twice a year)

■ Publication of TCRs (x-17, x-12, x-5 updates if necessary)

■ Milestones of the timetabling procedures

**Table:** Timeline for coordination and publication

### 5.1.2. Management of conflicts between TCRs

During the possession planning and coordination phase, conflicts between different capacity restrictions may occur. The process designed to manage conflicts between IMs follows the steps described below.

1. Conflicts should be addressed primarily during the regular bi- or trilateral coordination meetings of the neighbouring IMs, aiming to reach a shared solution. Unresolved conflicts will be reported to the TCR Corridor Coordinator (TCRC).
2. If necessary the TCRC shall organise a coordination meeting two times a year (in June and in November) on corridor level. The aim of these meetings is to solve any conflict between the TCRs and to update the already publicised TCRs.
3. If there is still no agreement, the reasons and possible solutions will be reported to the MB.
4. The MB will recommend a solution to the IMs.
5. The final decision is the responsibility of the IMs.

### 5.1.3. Publication

The coordinated possessions shall be published at least on the following dates:

- ▶ X-17 Publication of major coordinated TCRs based on available information
- ▶ X-12 Detailed coordinated TCRs – issued prior to the publication of PaPs at X-11

Planned capacity restrictions shall be published on the website of RFC 7, in a form of an Excel table. The RFC7 is responsible for the format but the information has to be provided by the IMs. The information shall be updated, if there is any change.

### 5.1.4. Criteria of TCRs for coordination and publication

In order to cover the main activities on a RFC that may reduce available capacity, especially in the early phases of the coordination process, the following publication criteria shall be applied:

X-17 (17 months before the timetable change)

- ▶ Continuous total closure of a line for more than 72 hours (3 days) in a row
- ▶ Periodical total closure (e.g. every night) for more than 30 days in a row
- ▶ Any other temporary (e.g. 3 hours every afternoon) or continuous TCR for more than 30 days in a row (e.g. closure of one track of a double track line, temporary TCR on a station along the RFC). Included in this category are speed, length or weight restrictions.

X-12

- ▶ Continuous total closure of a line for more than 24 hours (1 days) in a row
- ▶ Periodical total closure (e.g. every night) for more than 14 days in a row
- ▶ Any other temporary (e.g. 3 hours every afternoon) or continuous TCR for more than 14 days in a row (e.g. closure of one track of a double track line, temporary TCR on a station along the RFC). This category includes speed, length, weight or traction restrictions.

#### VIII.5.2.1 Coordination meetings

Based on RNE Guideline each RFC shall organise two meetings per year dedicated to the coordination of possessions. These meetings should be held in November and in May. Only the representatives of RFC, IM and concerned Working Groups (OSS WG, Traffic Management WG, Infrastructure Development WG) will participate in these meetings. Between the two coordination meetings, IMs may meet in ad-hoc bilateral or trilateral meetings to cover specific issues. The results will be reported to the RFC MB and published information will be updated if necessary.

#### VIII.5.2.2 Involvement of Terminals

According to Article 14 9. of the Rail Freight Regulation, the process of capacity allocation between IMs shall take into account access to Terminals. Therefore, capacity restrictions affecting access to Terminals have to be included in the coordination and publication process of the RFCs.

Restrictions regarding rail infrastructure or loading/unloading facilities inside terminal areas are the responsibility of terminal owners/operators. If terminal owners/operators provide information about these restrictions, they have to be taken into consideration in the coordination process and the information may be published by using the Rail Freight Corridors' tool. Terminals may also take part in the coordination meetings.

## 4.2 Corridor OSS

The working language of the C-OSS is English, prepared documents and possible meetings are held in English in the framework of C-OSS activity.

### Requirements

#### Defined by Regulation 913/2010

According to Art. 13 of the Regulation 913/2010, the requirements for the Corridor OSS's role are defined as follows:

It is a contact point for Applicants to request and receive answers regarding infrastructure capacity for freight trains crossing at least one border along a Corridor;

As a coordination tool, provide basic information concerning the allocation of the infrastructure capacity.

It shall display the infrastructure capacity available at the time of request and its characteristics in accordance to pre-defined parameters for trains using prearranged paths on the Freight Corridor;

To make a decision regarding applications for pre-arranged paths and reserve capacity;

Forwarding any requests/applications for infrastructure capacities, which cannot be met by the Corridor OSS to the competent IM, and communicating their decision to the Applicant;

Keeping a path request register available to all interested parties.

The Corridor OSS shall provide the information referred in article 18, of the Regulation n°913/2010 included in the Corridor Information Document drawn up, regularly updated and published by the RFC MB:

- ▶ Information contained in the Network for national networks regarding the freight corridor
- ▶ A list and characteristics of terminals, in particular information concerning the conditions and methods of accessing the terminal

#### Documentation related to the C-OSS

Documents, which could contribute to the C-OSS operation, are as follows:

- ▶ EU Regulation 913/2010 (including the Handbook to the Regulation): spells out the overall framework for setting up the Corridor OSSs;
- ▶ RNE Related guidelines.

### **Availability of the Corridor OSS**

It shall be mandatory for all Applicants to use PCS when they request pre-arranged paths. Other questions can be submitted via e-mail or telephone and be answered accordingly. The Corridor OSS is available during regular office hours.

### **Customer Confidentiality**

The Corridor OSS is carrying out its assigned working task on behalf of the Management Board consistent of cooperating IM in a RFC. The task shall be carried out in a non-discriminatory way and under customer confidentiality, keeping in mind that the applicants are competing in many cases for the same capacity and transports.

All information concerning the establishment of a One-Stop-Shop shall be available in the Corridor Information Document Book 4 chapter 2.

*The establishment of the Corridor One Stop Shop (COSS) requires an already set up Corridor Organisation.*

*It can be consequentially suggested not to start this activity before the appropriate time arrives.*



### 4.3 Capacity Allocation Principles

This document is expected to provide an overview on the principles of:

- ▶ The supply of PaPs by the national IMs and Abs;
- ▶ The allocation of PaPs and RC by the C-OSS;
- ▶ Regulatory control;
- ▶ Authorized applicants;
- ▶ Priority rules;

With reference to Article 14.1 of the Regulation (EU) 913/2010, the Ministers of Transport should adopt a decision related to capacity allocation by the C-OSS on the future RFC in WB.

For any timetable year, a revised version has to be drafted and adopted by the representatives of the Executive Board.

The detailed text should be published.

A sample can be found on RFC 6 Website:

<https://www.railfreightcorridor6.eu/RFC6/web.nsf/OnePager/index.html>

Please note that the Framework for Capacity Allocation (FCA) constitutes the basis for the capacity allocation via the C-OSS.

Principles and procedures for Capacity allocation shall be described in the CID Book 4.

*The Capacity Allocation Principles requires an already set up Corridor Organisation or, at least detailed decisions and agreements amid the IMs.*

*It can be suggested to start this activity even in an informal way by pursuing the necessary detailed agreements on the important topics above.*

## 4.4 Applicants

Article 15 of the regulation 913/2010 is stating "Notwithstanding Article 16(1) of Directive 2001/14/EC, applicants other than undertakings or the international groupings that they make up, such as shippers, freight forwarders and combined transport operators, may request international pre-arranged train paths specified in Article 14(3) and the reserve capacity specified in Article 14(5). In order to use such a train path for freight transport on the freight corridor, these applicants shall appoint a railway undertaking to conclude an agreement with the infrastructure manager in accordance with Article 10 of Directive 91/440/EEC."

Article 3 'Definitions' of the directive 2012/34/EU of the European Parliament and of the Council of 21 November 2012 establishing a single European railway area defines an applicant as:

"Applicants : a railway undertaking or an international grouping of railway undertakings or other persons or legal entities, such as competent authorities under Regulation (EC) n°1370/2007 and shippers, freight forwarders and combined transport operators, with a public-service or commercial interest in procuring infrastructure capacity."

### AA – Authorised Applicants

*The regulation states that corridors are obliged to make international train paths available for authorized applicants, however the definition of "authorized applicants" is not clearly defined in the relevant EU legislations. Since the definition is not standardized among the member states, there are many different rules and legislation existing in our 7 participating countries.*

*The Management Board is not in the position to change any of national rules and regulations. As one of the main goals is to enable partners to apply for international path at a single C-OSS, the conditions have to be adjusted.*

*The MB sees two possible solutions: either the particular national requirements for Authorized applicants determined in different national legal documents are applied for corridor applicants, too; or EB sets up common requirements regarding AAs for RFC-7 – this is our preferred solution.*

*In case of the first scenario, i.e. the application of existing national requirements, C-OSS needs to contact all involved IM's before the PaP is allocated in order to receive the confirmation that the applicant is authorized in all*

*involved countries. Applicants have to be informed about this procedure in advance, so the process of their information should also be defined.*

*In case of the second scenario, i.e. common requirements are applied; it is to be defined who the contracting parties are.*

*a) If AA makes contract with C-OSS, C-OSS shall be a legal entity and shall be able to levy charges for unused capacity.*

*b) If AA makes separate contract with each IM, different types of contract shall be elaborated for possible applicants: for AA on RFC in WB, for AA on other RFC (if common requirements are not same for all RFCs), for AA on the infrastructure outside RFCs.*

*Another problem in this field is that different rules are applied now for AAs and for RUs in case of cancelling a path reservation. E.g., an AA is obliged to nominate the RU until a certain deadline before the transport takes places but this deadline can differ in each country. On the other hand, the consequence of not nominating an RU who performs activities on behalf of the AA may also be different.*

*This is thus resulting in the possible fact that in a certain country a part of the PaP is automatically withdrawn by law by the simple fact of not having nominated any RU while in some other countries different rules apply.*

*It is thought that AAs and RUs should be treated equally in terms of responsibilities and deadlines.*

*As the above questions are outside the competence of IM and AB companies, the MB of the RFC in WB can find it necessary that the EB take a stand on the matter of Authorized Applicants, make a clear statement about the proposed solution, and take measures to ensure the legal background for the chosen scenario.*

As an example, the text from RFC 7 is reported below.

“According to article 15 of the Regulation N° 913/2010, an applicant means a railway undertaking (RU) or an international grouping of RU's or other persons or legal entities, such as shippers, freight forwarders and combined transport operators, with a commercial interest in procuring infrastructure capacity.

If the applicant is not a RU, it shall assign the responsible RU for execution of the traffic as early as possible, but at the latest 10 days before the first running day. The appointment of the executing RU(s) is only valid if at 10 days before the first circulation of the train, the appointed RU(s) possesses all the necessary authorisations, including licences, certificates and contracts with

the involved IM/AB(s). If the necessary authorisations are not provided at this date, the PaP/RC will be treated as cancelled by the applicant, and national rules for the cancellation of a path will be applied, including its financial consequences.

The C-OSS will forward the name of the RU(s) to the concerned IM(s)/AB(s), without prejudice of the conditions of the IMs/ABs.

If the RFC does not supply PaPs/RC on a line, the applicant can request a catalogue or tailor-made path for this segment only if it is authorised in the national legislation to do so. The deadline for the appointment of the executing RU(s) will also follow the national legislation in this case.”

Moreover, from RFC 6:

The C-OSS will act according to the above-mentioned regulation in cooperation with the concerned IMs/ABs in order to assess the commercial interest of the Applicant.

The applicant commits to comply with all relevant regulations regarding its path request via the Corridor C-OSS, by signing the applicable “General Terms and Conditions” (GTC) for requesting international freight paths through the Corridor One Stop Shop (COSS), at the latest before placing the request, otherwise the request will not be handled. The General Terms and Conditions have to be signed by all applicants.

General Terms and Conditions can be found on Book 4.

*Who can be an authorized applicant in each country?*

*The SEETO Regional Partners and first of all SER, MNE, KOS, MKD, since involved in the setting up of the RFC in WB, should try and harmonise their definitions of Authorised Applicant.*

*If a common definition cannot be reached, the Applicant will be authorised based on the national laws and bylaws.*

*In consideration of all the above, it is repeated the recommendation to make since the beginning any effort to define common requirements for the AA, at least in the SEETO Region.*

## 4.5 Traffic Management

The capacity allocation framework is to be approved at Executive Board level.

The document is expected to provide an overview on the principles of:

- ▶ The supply of PaPs by the national IMs and Abs;
- ▶ The allocation of PaPs and RC by the C-OSS;
- ▶ Regulatory control;
- ▶ Authorized applicants;
- ▶ Priority rules.

The RNE specific guidelines do apply, as already followed by the SEETO Regional Partners of MKD, MNE, SER, KOS, in their respective NS. Of them, only SER and MKD are already members of RNE.

*The IMs, with priority of those of the above-mentioned SEETO Regional Partners, should then try to harmonise a text to 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.*

***Samples from adjacent RFC 6 + 7 are reported in Appendix and as an extract at point 4.1 above.***

## 4.6 Traffic Management in Event of Disturbance

The matter is subject of a RNE specific guideline, more or less already followed by the SEETO Regional Partners of MKD, MNE, SER, KOS, in their respective NS.

*The IMs, with priority of those of the above-mentioned SEETO Regional Partners, should then try to harmonise a common text to 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.*

***Samples from adjacent RFC 6 + 7 are reported in Appendix and as an extract at point 4.1 above.***

## 4.7 Information to be provided

Exhaustive information on the conditions of use of the freight corridor should be made available in the Corridor Information Documents (CID), as follows:

- ▶ Book 2 Network Statement Excerpts [Timetabling year Y] - All the information contained in the network statement for national networks regarding the freight corridor;
- ▶ Book 3 Terminal Description - The list and characteristics of terminals, in particular information concerning the conditions and methods of accessing the terminals;
- ▶ Book 4 Procedures for Capacity and Traffic Management - Information concerning the procedures referred to the Management of the Freight Corridor, as the procedures of Capacity and Traffic Management.

*It can be advised to all the IMs to start to collect, organise and made consistent the required information, even before the time to set up a Corridor Organisation.*

*In particular, the IMs that do not already have a Network Statement can do the above activity for instance by following the RNE guidelines for the Book 2 – ‘Network Statement Excerpts’.*

*It can be suggested to start this activity even in an informal way and afterwards try to pursue detailed agreements on these important topics.*

## 4.8 Quality Evaluation

The quality of the service on the Rail Freight Corridor can be measured by a set of indicators - comparable to those of the other modes of transport.

Service quality is evaluated as a performance.

Performance is measured with Performance Indicators.

These indicators are the tools to monitor the performance of a service provider.

Concerning the international Rail Freight Corridors services, the above is an obligation based on the provisions of Article 19 of the EU Regulation 913/2010, under the CHAPTER IV

MANAGEMENT OF THE FREIGHT CORRIDOR, extracted below.

### **Article 19** **Quality of service on the freight corridor**

*1. The management board of the freight corridor shall promote compatibility between the performance schemes along the freight corridor, as referred to in Article 11 of Directive 2001/14/EC.*

*2. The management board shall monitor the performance of rail freight services on the freight corridor and publish the results of this monitoring once a year.*

*3. The management board shall organise a satisfaction survey of the users of the freight corridor and shall publish the results of it once a year.*

*Additionally, the correspondent definitions, decisions and actions undertaken by RFC 7 are exemplified in extract here below. The same, from RFC 6 Annual Report 2015 is reported in the Appendix 'RFC 6 – Quality of Rail Freight Corridor', which includes – beyond results - their positions and definitions in regard of:*

- ▶ Train Performance Management
- ▶ Key Performance Indicators (KPIs) for: 1-Capacity; 2- Punctuality
- ▶ Customer Satisfaction Survey



**From RFC 7 IP 2018****VI Performance objectives and monitoring**

Management Board of RFC7 made decisions on performance-related issues based on the proposals prepared mainly by Marketing WG, Traffic Management WG and OSS WG of the corridor. The below description reflects the major topics discussed and decisions made by RFC7 MB in this field.

**VI.1 PERFORMANCE OBJECTIVES - QUALITY OF SERVICE**

The timeframe for allocation of pre-arranged paths and reserve capacity is described in the RNE Guidelines for Pre-arranged paths and C-OSS, and RFC7 intends to apply the provisions therein.

Response time to customer questions related to the information function of C-OSS shall be: as soon as possible, but max. within 5 working days.

IT tools helping to C-OSS to answer the questions of customers are CIS, interactive maps with corridor description (national in the first stage, common in a later stage), common databases (RNE database – Frequently asked question, RNE project CHRISTINA, the future RNE project Benchmark of NS and CIS).

The punctuality of corridor trains shall be min. 75% in the first year of operating the corridor. The process for monitoring performance is described in RNE Guidelines for Punctuality targets.

Delay codes follow the UIC coding system.

Planned common IT tool for monitoring of quality is TIS, however in the first stage (until full implementation of TIS by all members of RFC7) the quality reports will be compiled from national IT systems. RFC7 will make use of RNE work and experiences in Train performance management.

The following indicators of quality should be monitored:

- ▶ Response time of C-OSS to questions of customers
- ▶ Total transport time of corridor trains
- ▶ Delays in minutes and codes of delays (if delays were caused by IM/ RU / third party)
- ▶ Dwelling time in border stations

## VI.2 PERFORMANCE OBJECTIVES - CAPACITY OF THE CORRIDOR

As discovered by the Transport Market Study, Orient Corridor is in a relatively good situation with respect to capacity, so the Management Board does not expect major overload due to path requests for freight transport. Nevertheless, railway infrastructure manager companies involved intend to enhance railway operation improving the state and capacity of their infrastructure. The removal of bottlenecks will be in line with the suggestions of the Transport Market Study (Table B7) and the Investment Plan of the corridor.

The Management Board plans to increase allocated pre-arranged paths and reserve capacity by min. 2% annually.

For the purposes of the next TMS studies, all kinds of corridor flows will be monitored, i.e. not only trains with capacity allocated from PaPs, but also from tailor-made paths, catalogue paths and ad-hoc paths. At the first stage, the traffic flows will be monitored by national systems and compiled together, later the usage of TIS is assumed (monitored indicators are described in chapter VI.4).

## VI.3. PROMOTING COMPATIBILITY BETWEEN PERFORMANCE SCHEMES

Actual performance schemes differ from country to country. In the future the usage of European performance regime will be estimated. Details of EPR are described in the EPR Handbook, its implementation will follow after conclusion of the EPR project on RNE/UIC level.

## VI.4. MONITORING OF PERFORMANCE

The following indicators of performance shall be monitored:

- ▶ Number of corridor trains per month
- ▶ Number of the border crossing allocated/used path corridor trains – Length of path

The process for monitoring performance is described in RNE Guidelines for Punctuality targets.

Delay codes follow the UIC coding system.

Performance will be monitored by national systems at the first stage, then by TIS later on.

Next performance indicators which should be monitored for TMS purposes:

- ▶ Number of trains on corridor with capacity allocated by national OSS
- ▶ Tonnes
- ▶ Gross tonnes km
- ▶ Train km

## VI.5. SATISFACTION SURVEY

The Marketing WG analysed whether it is advisable for RFC7 to prepare its own Satisfaction Survey before November 2013, or it is sufficient to join the comprehensive Satisfaction Survey to be carried out by RNE in 2014.

Although a detached survey on corridor level could also serve as a promotion tool towards railway undertakings, it would be difficult to compare its results with the results of the RNE survey, if RFC7 questionnaire is somehow different from RNE questionnaire. New topics might also arise after the real operation of the corridor, which can be added to the RNE survey. The web-questionnaire to be applied by RNE is also more user-friendly than the email questionnaire which would be the method in case of an own RFC7 survey.

After considering the pros and cons of both solutions, the MB of RFC7 decided to take part in the Satisfaction Survey to be carried out by RNE for all six initial rail freight corridors.

The proposed plan is to carry out the RFC7 CSS in September of each business year. The first results will be available by mid-October. The summary of the yearly survey is available on the WEB site also.

### 4.8.1 Performance Monitoring Report

Guidelines for Freight Corridor Punctuality Monitoring have already been developed by RNE.

They describe the basic processes needed to carry out a regular activity of quality monitoring and analysis within the framework of the RFCs established by the Freight Regulation.

The processes are intended to particularly fulfil the requirements stated in the articles of the Regulation.

The explicit requirement of the Regulation is that the Corridor Organisations adopt common rules for punctuality targets and objectives in terms of performance.

The algorithm is as follows:

- ▶ Collection and compilation of data to identify the development
- ▶ Evaluation of the data, with regard to the past and in terms of a forecast for the future with the aspects:
  - Development of the traffic
  - Framework conditions (how have the conditions changed, how will they change in the future; e.g. construction work, changes to the infrastructure?)
  - Identification of the customer's viewpoint concerning punctuality targets
  - Consideration of political requirements (international or national)

The Guidelines describe the process that focuses on the collection and analysis of reliable data, as this information basis is essential in order to develop punctuality targets.

### 4.8.2 User Satisfaction Survey

Please find below the results of the RNE survey carried out in 2016 comparing results of an equivalent survey performed in 2015.

## RFC User Satisfaction Survey 2016 Summary on Top 10 and Bottom 10 Aspects in 2016

1=very unsatisfied, 2=unsatisfied, 3=slightly unsatisfied, 4=slightly satisfied, 5=satisfied, 6=very satisfied

