TRANSPORT MARKET STUDY
RAIL FREIGHT CORRIDOR 7

Change history:

Version	Author	Date	Changes
V.1	ŽSR VVÚŽ	6.9.2012	creation
V.2	Blanka Ondovčíková	12.9.2012	Adjusted on meeting of the meeting of WG Marketing in Bratislava
V.3	ŽSR VVÚŽ	20.9.2012	Adjustments according to comments from the members of WG Marketing
V.4	ŽSR VVÚŽ	15.1.2013	Adjustments according to comments of Advisory groups and members of WG Marketing
V.5	Blanka Ondovčíková	23.1.2013	Adjusted on meeting of the meeting of WG Marketing in Bratislava
V.6	Blanka Ondovčíková	20.2.2013	Adjusted according to requirements of Managing board
V.7	Blanka Ondovčíková	09.5.2013	Linguistic corrections
V.8	Blanka Ondovčíková	10.5.2013	Modification of Appendix B5
V.9	ZSR VVUZ	15.8.2013	Modification according to general comments of EC DG- MOVE
V.10	Blanka Ondovčíková	22.10.2013	Modification according to the decision of MB meeting (25.9.2013, Vienna)

Content

Glossary/ abbreviations

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Glossary/abbreviation	Definition
AB	Allocation Body
Allocation	Means the allocation of railway infrastructure capacity by an Infrastructure manager or allocation body. When the Corridor-OSS makes the allocation decision as specified in Art 13(3) of 913/2010 the allocation itself is done by the Corridor OSS on behalf of the concerned IMs concluding individual national infrastructure usage contracts based on national network access conditions.
CE Delft	CE Delft is an independent research and consultancy organisation specialised in developing solutions to environmental problems.
C-OSS	The Corridor One Stop Shop A Joint body designated or set up by the RFC organisations for applicants to request and to receive answers, in a single place and in a single operation, regarding infrastructure capacity for freight trains crossing at least one border along the freight Corridor. (EU Regulation No 913/2010, Art 13).
DG TREN	Directorate-General of the European Commission responsible for transport and energy within the European Union.
ETCS	European Train Control System This component of ERTMS guarantees a common standard that enables trains to cross national borders and enhances safety. It is a signalling and control system designed to replace the several incompatible safety systems currently used by European railways. As a subset of ERTMS, it provides a level of protection against over speed and overrun depending upon the capability of the line side infrastructure.
ERTMS	European Railway Traffic Management System ERTMS is a major industrial project being implemented by the European Union, which will serve to make rail transport safer and more competitive. It is made up of all the train-borne, trackside and lineside equipment necessary for supervising and controlling, in real-time, train operation according to the traffic conditions based on the appropriate Level of Application.
FTE	Forum Train Europe FTE is a European association of railway undertakings and service companies based in Berne (Switzerland) that promotes cross-border rail freight and passenger traffic in Europe
GDP	Gross Domestic Product
GSM-R	Global System for Mobile Communications – Railway GSM-R is an international wireless communications standard for railway communication and applications. A sub-system of ERTMS, it is used for communication between train and railway regulation control centers
HEATCO	Harmonised European Approaches for Transport Costing and Project Assessment
IM	Infrastructure Manager

n/a	Not available
NPV	Net Present Value
PCS	Path Coordination System, formerly known as Pathfinder. IT tool for coordination of path requests.
Pre-arranged paths	On RFC a pre-constructed paths offered either on whole corridors or corridor sections. Previously RNE used the term Catalogue path or Pre-planned paths. A Corridor Pre-arranged path is a path set up by the IM's in the corridors and given to the Corridor OSS's to allocate on.
Regulation 913/2010	EU Regulation for a European Rail Network for Competitive Freight (913/2010)
Reserve Capacity	Capacity for international freight trains running on the freight corridor, kept in the final working timetables which allows for a quick and appropriate response to ad hoc requests for capacity.
RFC	Rail Freight Corridor. A corridor organised and set up in line with the EU Regulation 913/2010
RoLa	A rolling highway (originating from the German: Rollende Autobahn, also known as Rollende Landstraße and abbreviated as RoLa) is a combined transport system to transport trucks by rail. Special wagons are used in a rolling highway to provide a driveable track along the entire train. During a rolling highway journey, the truck drivers are accommodated in a passenger car with seats or beds. At both ends of the rail link there are purpose-built terminals that allow the train to be easily loaded and unloaded.
RNE	RailNetEurope RNE is an association set up by a majority of European Rail Infrastructure Managers and Allocation Bodies to enable fast and easy access to European rail, as well as to increase the quality and efficiency of international rail traffic
RU	Railway Undertaking
SWOT analysis	a structured planning method used to evaluate the **S**trengths, **W**eaknesses, **O**pportunities, and **T**hreats involved in this study
TEN-T	Trans-European Transport Network
TMS	Transport Market Study
TSI (TAF, TAP)	Technical Specification for Interoperability The European technical standards for interoperability. DIRECTIVE 2008/57/EC, Art. 2: a 'technical specification for interoperability' (TSI) means a specification adopted in accordance with this Directive by which each subsystem or part subsystem is covered in order to meet the essential requirements and ensure the interoperability of the rail system'. TAF/ TAP - Technical Specifications for Interoperability for Telematic Applications for Freight/ for Passenger Services
WEO	Word Economic Outlook

1 Introduction

The rail freight transport is an important part of transport market and it is an important support of sustainable development. The share of rail freight transport of total traffic volume in Central Europe gradually decreases, as regards new generated transport, there is a shift to road transport while rail freight transport increases in the West and East European countries (average annual growth 2,8%) and new generated transport is reallocated between rail and road transport more evenly. To turn the current situation in Central Europe with great potential of rail transport, it is necessary to ensure continued support for quality increase (not only in technical field, but also in time field) and rail transport competitiveness.

The main aim of the study is a support of increasing the qualitative terms and competitiveness of international rail freight transport.

The study deals with:

- establishment of rail freight corridor 7 (RFC 7) Prague-Bratislava/Vienna-Budapest-Bucharest-Constanta-Vidin-Sofia-Thessaloniki-Athens- Pireus,
- comple and precise data on current technical and technological condition of the corridor,
- capacity analysis, structure and level of the charges,
- impact of intended investments,
- quantification of the most important benefits of establishing the corridor.

Based on elaborated partial analysis, the measures and recommendations for the establishment of rail freight corridor 7 - including management of paths, improving coordination, communication and ultimately promotion of rail freight performance on corridor are specified.

1.1 TMS LEGAL BACKGROUND, SCOPE AND OBJECTIVE

1.1.1 Legal background (brief description)

The rail freight corridor 7 is being established based on Regulation (EU) No 913/2010 of the European Parliament and the Council of 22 September 2010, concerning a European rail network for competitive freight transport.

This Regulation follows the Council Directive 91/440/EEC of 29 July 1991 on the development of the Community's railways and Directive of the European Parliament and the Council 2001/14/EC of 26 February 2001 on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure.

The objective of the Council Directive 91/440/EEC of 29 July 1991 is to achieve the equal and non-discriminatory access to railway infrastructure and to promote a rail market in the Europe through economic competition.
Directive 2001/14/EC, concerning access to network and charges, sets that infrastructure manager has to publish the network statement that contains information on (technical) type and restrictions of network, network access conditions and capacity allocation rules. New operators, if they have such information, can introduce the services generating the competitiveness on internal market and maximising customer's profit. Directive 2001/14/EC is a part of the first railway package.

The other legal regulation of the first package, part of which is the Directive 2001/14/EC, was the second railway package aimed at revitalizing the railways through rapid construction of an integrated European rail area. Five measures are based on the Directives specified in the transport White Paper and are aimed at improved safety, interoperability and opening up of the rail freight market. These five measures consist of:

- development of common approach to rail safety,
- promotion of interoperability primary principles,
- establishment of an effective management body: the European Railway Agency,
- widening and accelerating the opening up of rail freight market, especially, by enabling the market access for international freight transport on the whole European rail network from 1 January 2006 and for national freight traffic from 1 January 2007,
- Commission recommendation for the accession to the Convention concerning International Carriage by Rail (COTIF)

Moreover, the European Commission in its policy for encouraging a rail transport has adopted the approach based on the corridors in the context of trans-European transport network (TEN-T). This allowed allocating the subsidies for rail development projects through TEN-T funds. In fact, in this context, there is ERTMS implementation (ERTMS corridors)

In order to establish the European rail network aimed at the freight transport, some technical and operational incentives were established , e.g.:

- development of interoperability by means of Technical Specification for Interoperability relating to the Traffic Operation and Management (OPE CCS TSI) and Technical Specification for Interoperability on Telematic Applications for Freight (TAF TSI).

- establishment of RailNetEurope, organisation joining 37 railway infrastructure managers and allocation bodies from the whole Europe. Its main objective is to enable easy and rapid access to European railway infrastructure and to increase the quality and effectiveness of cross-border rail transport. It offers its customers service, software, and provides useful coordination framework between infrastructure managers.

- creation of corridor structures by Member States and infrastructure managers as part of ERTMS development on six main European routes that are important for freight transport.

The last incentives for the promotion of international freight transport are:
- Directive 2012/34/EU of the European Parliament and of the Council of 21 November 2012 establishing a single European railway area,
- the above mentioned Regulation (EU) No 913/2010 of the European Parliament and the Council of 22 September 2010 concerning a European railway network for competitive freight transport. Based on the Regulation 913/2010, freight corridors for competitive freight transport are going to be established.

1.1.2 Scope

Approach to assess the current situation is comprehensive, with selection of the most important socio-economic benefits and proposal of essential corrective measures, expectations and determination of implementation plan for draft rail freight corridor 7.

1.1.3 Goal

Although the services of national and international freight transport are opened up to economic competition from 1 January 2007, elimination of “barriers” between individual countries was not achieved sufficiently up to now. These barriers relate to border coordination, common investment plans concerning border stations and lines, compliance with terms of delivery, reliability, coordination between the terminals etc.

The aim of the study is:
- to describe and perhaps even specify (terminals, route diversions) a draft rail freight corridor 7,
- to evaluate the current situation of lines of draft rail freight corridor
- to propose corrective measures for improving the current situation
- to quantify the most significant socio-economic benefits after establishing of RFC 7

More precisely, this study is aimed at:
- providing the actual state of draft rail freight corridor 7 and future forecast after putting the freight corridor into practice,
- providing information on benefit of putting the corridor into practice,
- proposing the corrective measures and recommendations for railway infrastructure quality increase and increasing the international rail transport competitiveness.

1.2 CORRIDOR GEOGRAPHIC OUTLINE – LISTED IN REGULATION NO 913/2010 (DESCRIPTION + MAP, COMPARISON WITH TEN-T /PRIORITY PROJECT 22/ ERTMS / RNE CORRIDORS)

Corridor draft according to the Annex " List of initial freight corridors" of Regulation (EU) No 913/2010 of the European Parliament and the Council of 22 September 2010, concerning European rail network for competitive freight transport, is shown on the following map no 1.

Map 1: Draft of the initial Rail Freight Corridor 7 according to Regulation 913/2010

In this Chapter, the simplified overview of comparison of the initial RFC 7 with TEN-T priority axis 22, ERTMS and RNE corridors is shown. The purpose of simply comparison is to provide visual comparison that shows the differences in corridor routes and can help to define the main, alternative and connecting lines of the future rail freight corridor 7.

Key: (for comparison of corridors)

Prague - junction (node) is a part of initial RFC 7 (Orient Corridor)

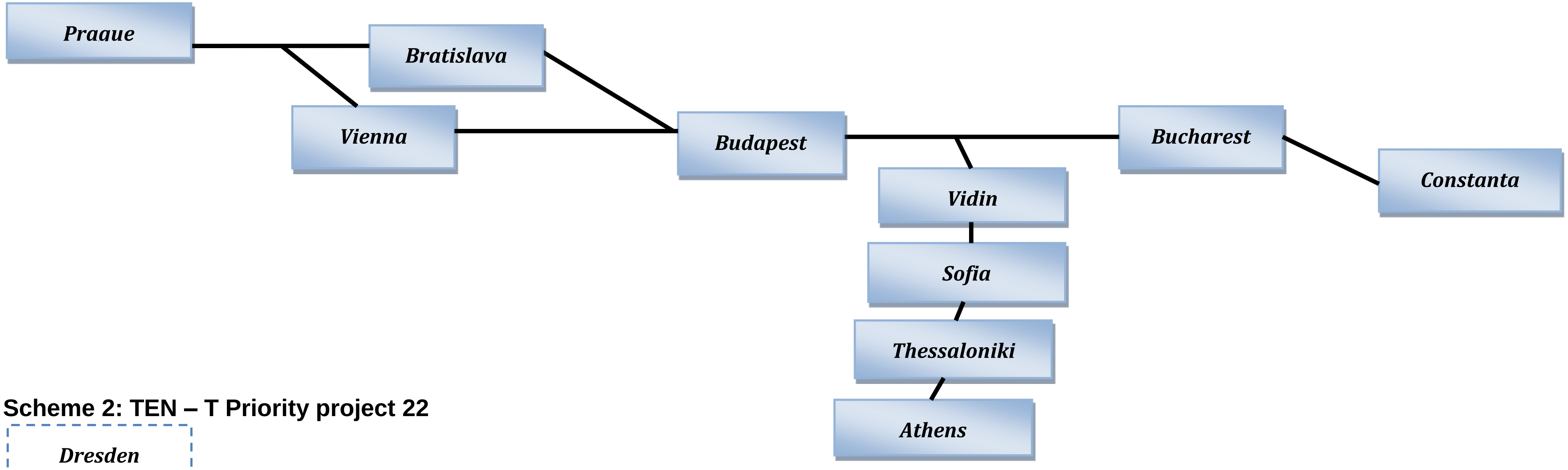
Hamburg - junction (node) is a part of compared corridor but not a part of initial RFC 7

- connection of iniatial RFC 7

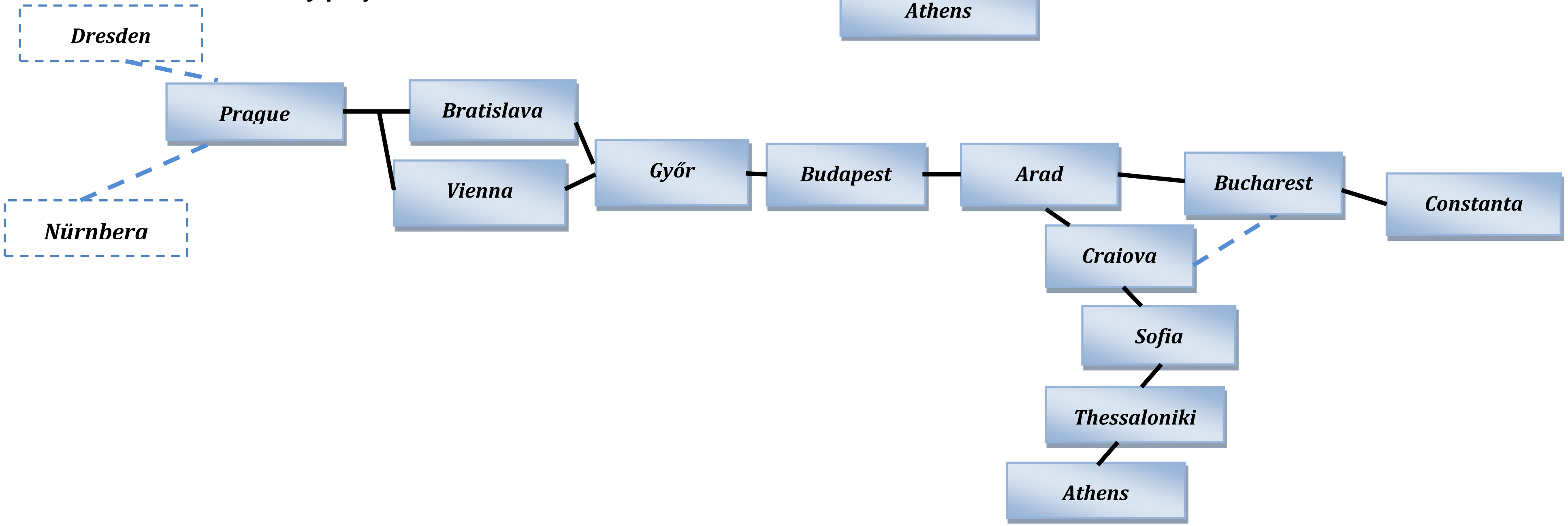
- connection of compared corridor but out of initial RFC 7

Notice: recommendation of this Transport Market Study which lines and terminals in addition to initial lines shall be the part of the RFC7 are defined in the Chapter 4

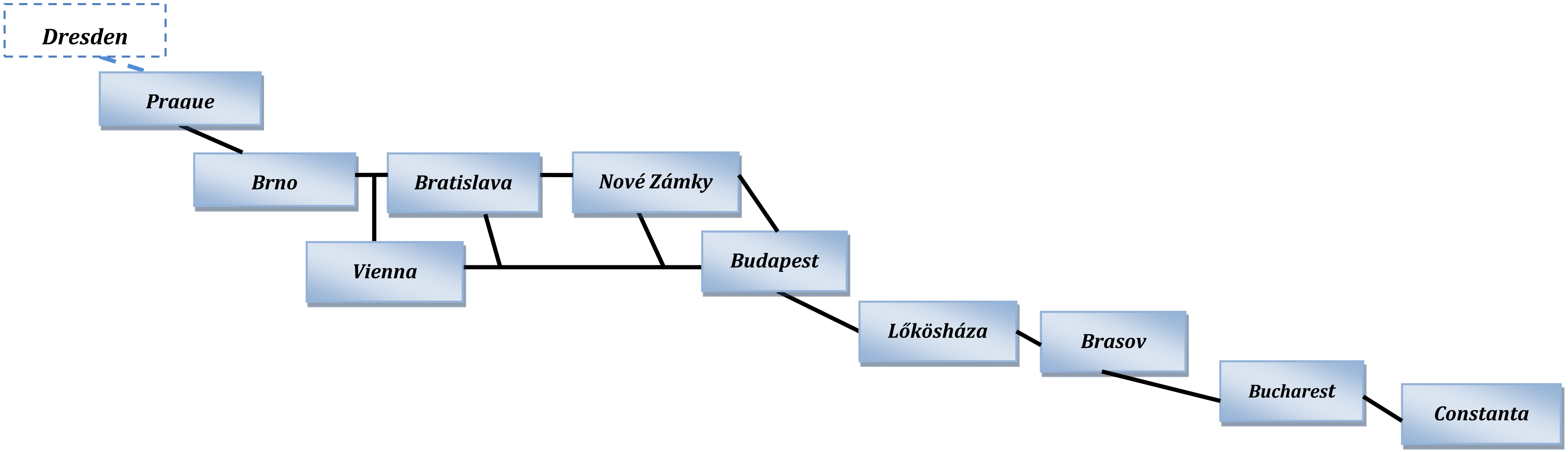
Scheme 1: Draft of <u>initial</u> Rail Freight Corridor 7 (proposed routes and terminals of the <u>future</u> RFC 7 are drafted in Chapter 4)



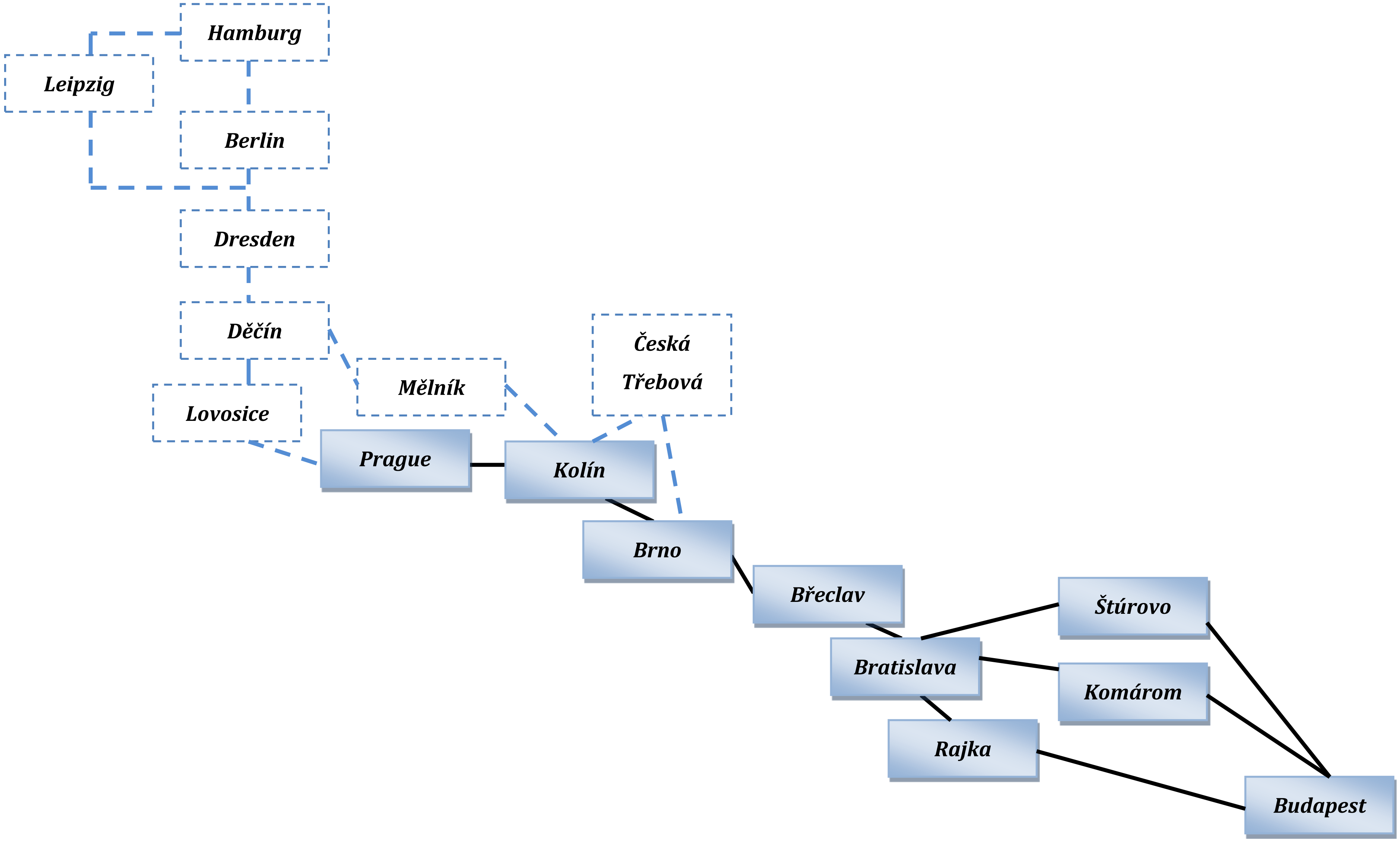
Scheme 2: TEN – T Priority project 22



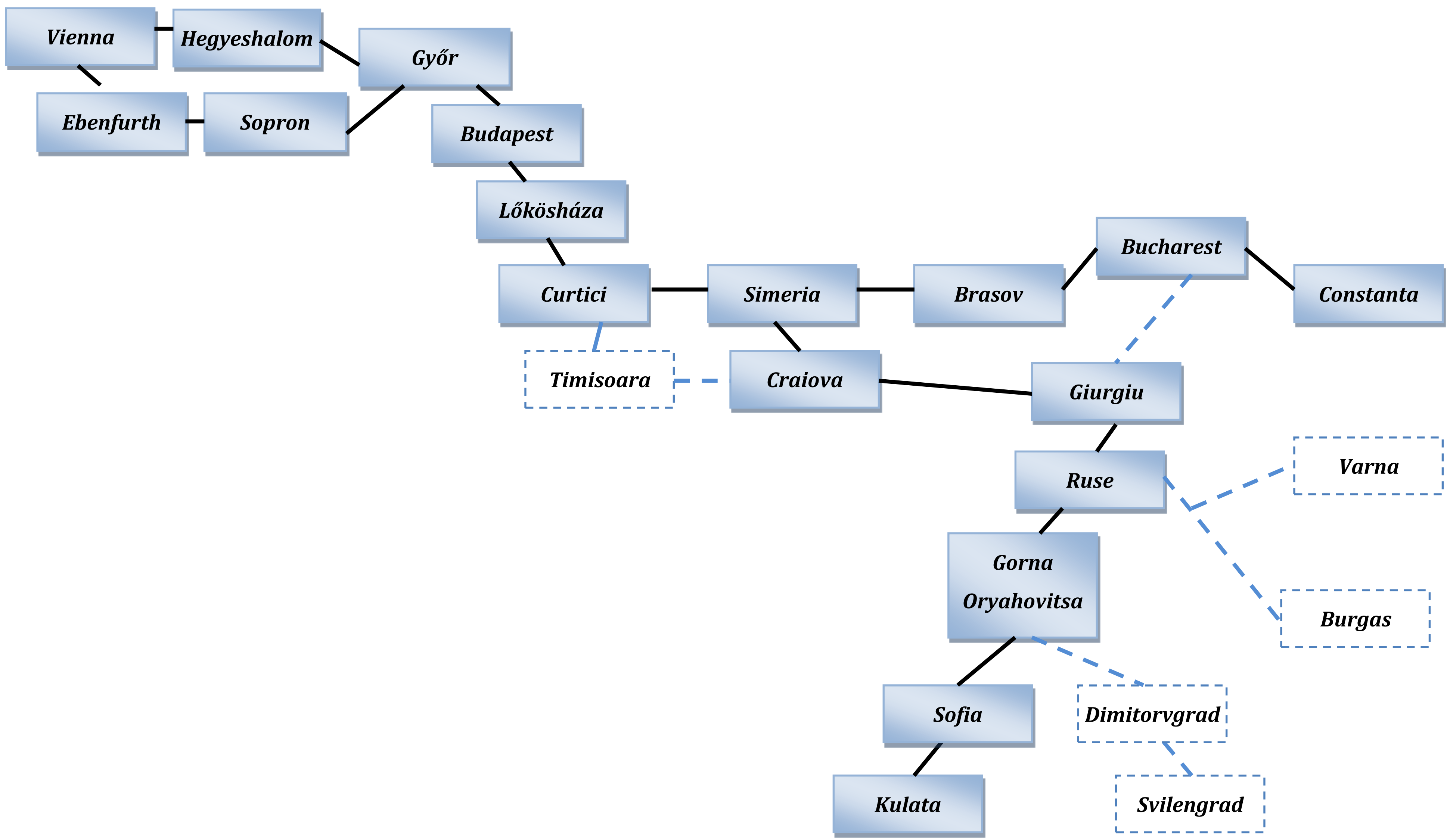
Scheme 3: ERTMS corridor E



Scheme 4: RNE Corridor (Corridor C10)



Scheme 5: RNE koridor, (Koridor C09)



1.3 METHODOLOGY OF TMS PREPARATION

To define the recommendations, quantifying the most significant social benefits resulting from implementation of the Regulaiton, the methodology is set up so as to serve for identifying the impacts of the establishment of the rail freight corridor 7 to promote the freight transport competitiveness.

The document seeks to elaborate several scenarios of impacts (technical, economic and social) depending on satisfying the Regulation strategy. Evaluation of impacts links to improving the technological processes, reducing the waiting times, expected economic growth and investment implementation of measures in corridor's member states.

The study deals with, especially, rail freight transport. It deals with passenger transport only in minimum, if it is necessary (capacity of infrastructure).

1.3.1 Input sources

The study evaluates various scenarios of impacts in order to improve rail freight competitiveness.

The document preparation results from obtained sources relating macroeconomic and microeconomic indicators concerning corridor routing data.

Input sources were provided by individual infrastructure managers. They relates to macroeconomic information of respective country, detailed information on new draft freight corridor, information on capacity and further supplementary information.

The study draws from conclusions and objectives of:
- White Paper – European transport policy for 2010: time to decide
- Green Paper
- Preparatory study for an impact assessment for a rail network giving priority to freight
- ETCS Study, Corridor E: Dresden – Prague – Bratislava/Vienna – Budapest – Bucharest – Constanta
- Sustainable development
- Expected economic development
- Performance development on draft corridor routes in 2006 - 2010

In accordance with Regulation (EU) No 913/2010 of the European Parliament and the Council of 22 September 2010, concerning a European rail network for competitive freight transport, it would be suitable to include also customer satisfaction in input data.

Carrying out the customer satisfaction surveys too often, e.g. by means of questionnaires, results in reduction of interest in this kind of feedback. As the managers carry out the customer satisfaction survey, i.e. also user survey of draft corridor, annually, in an unequal time periods, the survey was postponed to the next year. During the next year, input market survey with satisfaction of users of rail freight corridor 7 will be carried out in frequency to which the customers in individual countries are accustomed. Feedback to customers will be insured by consultation with the advisory groups.

1.3.2 Initial terms

Assessment of the most important socio-economic impacts is processed according to cost-benefit analysis paper „Guidance on the Methodology for carrying out Cost-Benefit Analysis“, HEATCO - Developing Harmonized European Approaches for Transport Costing and Project Assessment.

The most significant socio-economic benefit savings are assessed based on the Handbook on estimation of external cost in the transport sector (February 2008). The handbook deals with transport externalities in 27 European countries (EU countries 25, Switzerland and Norway). External costs are differentiated according to individual transport modes.

The recommendations for implementation plan and management of corridor routes subjected to rail freight corridor result from the recommendations of particular infrastructure manager and taking into account present technical condition and track technical parameters and free capacity.

Determination of corridor routes is based on infrastructure manager recommendations, taking into account track technical parameters and track capacity.

1.3.3 Methodological processes

Individual parts of the document are closely related to each other and complement each other.

With respect to the fact that initial draft was defined and elaborated in Annex of Regulation (EU) No 913/2010 of the European Parliament and the Council, concerning a European rail network for competitive freight transport, the primary task is to put RFC 7 more exactly in classification into main routes, alternative routes and connecting terminals. As it is still “live” material, individual routes can be complemented or modified also with respect to technical and capacity possibilities of individual sections.

In case of terminal specification it is similar, but construction of new terminals or widening the facilities and capacity of terminals depend on economic growth and building up new companies and industry parks in the vicinity of draft freight corridor (e.g. new investments Audi – Györ, Mercedes – Kecskemét), too.

In order to define the most significant socio-economic benefits of Transport Market Study of basic scenario and to come to recommendations, the following tasks, defined in Table 1, were carried out:

Table 1: Monitored indicators

Technical parameters	Maximum train length and length of associated critical sections
	Maximum train weight on critical sections
	Maximum axle load on critical sections
	Maximum speed on critical sections
	Existence of ERTMS
Transport performances	Development of transport performances on the corridor in 2006-2010
	Transport performances development on the whole country network
Macroeconomic indicators	Gross Domestic Product development
	Development of transport share in Gross Domestic Product
Microeconomic indicators	Transport time saving
	Structure and level of access charges
International transport	Transit share in total freight transport
Modal split	Development of rail and road freight ratio
Capacity analysis	Percentage utilization of the routes (≥50%, 50% - 90%, ≤90%)
Waiting times	Coordination at cross-border stations (unnecessary delays due to lack of coordination, reasons for delay)
	Coordination between terminals (unnecessary delays due to lack of coordination)
Investment plans	Their impact on the improvement of technical, capacity and coordination possibilities
Other plans	Their impact on the improvement of technological, capacity and coordination possibilities

Particular aspects of the effects listed in Table 1 are elaborated from the data provided by the individual infrastructure managers. View of monitored indicators is complex (interrelated) for the whole rail freight corridor 7.

In the next step, the important task is to divide these aspects into two main categories (macroeconomic and microeconomic) from which the socio-economic benefits resulting from time savings and externalities will be emerged from, referred to transport performance forecast and „converted transport“.

In addition to transport forecast, a microeconomic aspect is supported by „converted transport“ resulting from modal split analysis. „Converted transport“ will, in its part, support increase of time savings and externalities. „Converted transport“ results from increase of quality, time and satisfaction of customers following the application of Regulation (EU) No 913/2010 of the European Parliament and the Council of 22 September 2010, concerning a European rail network for competitive freight.

Within the support of transport forecasts, the capacity analysis, analysis for reducing the time intervals resulting from elimination of border waiting times, wrong coordination between terminals or increasing the technical speed and analysis of access charges are carried out.

After completion of current situation analysis, the second phase follows. In the second phase, based on complex assessment of current situation, development of transport performances will be modeled. Development of transport performances follows the expected macroeconomic results as well as capacity analysis, waiting times, access charge analysis and willingness to meet the specified objectives.

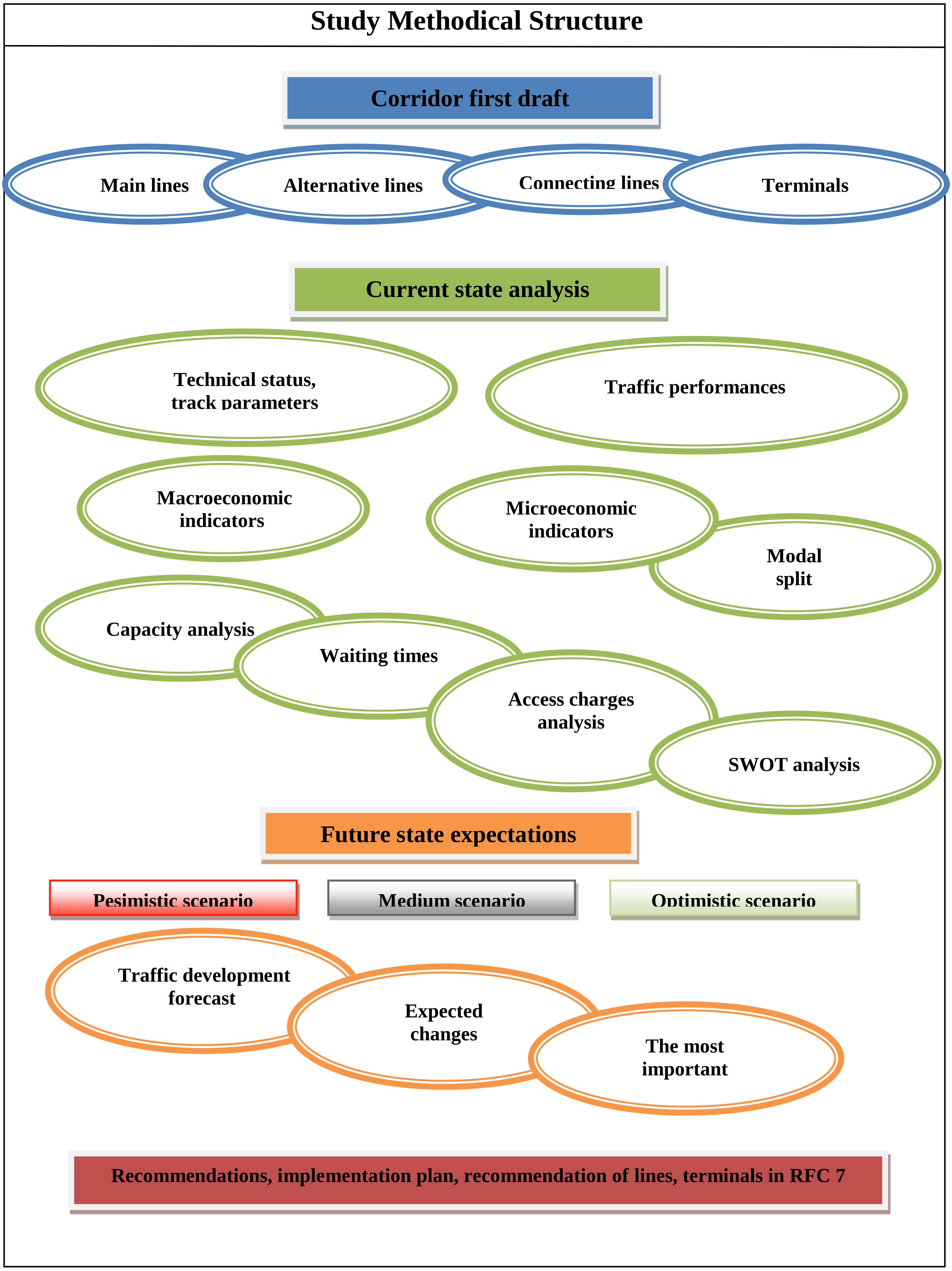
Based on the modeled transport performances resulting from increasing the quality of freight corridor and thus customer satisfaction as well as from converted transport, the selected socio-economic benefits will be quantified.

Within freight corridor development and its expected complete implementation in 2014, the benefits will be calculated from this year.

Use of individual rates, which are calculated by value index, the gross domestic product per capita in particular country in purchasing power parity, expressed to the European Union average (EU= 100%, Slovakia = 52,9% , Czech Republic = 72% etc.), plays the key role in the assessment of externalities and revenues from time savings.

In the last step, the recommendations or proposals and measures for eliminating the shortcomings (technical, technological, legal, political, capacity, charging) and associated objectives are proposed. Overall methodology of document preparation is shown in the following scheme:

Scheme 6: Document Preparation Methodology



2 ANALYSIS OF CURRENT „AS – IS“ SITUATION

Analysis of current situation assesses each corridor country apart. At first, the current situation of economy and of transport is evaluated in each country and then transport flows and technical level of the corridor are analysed for the purpose of drafting main and alternative lines.

Analysis of access charges and transport time is carried out comprehensively for all countries.

Finally, SWOT analysis of strengths and weaknesses, opportunities and threats was carried out in respect of the planned corridor.

2.1 SOCIO-ECONOMIC SITUATION AND CHARACTERISTICS OF TRANSPORT MARKET (2006 – 2010) AND RAIL FREIGHT CORRIDOR INFRASTRUCTURE ACCORDING TO INDIVIDUAL COUNTRIES

Due to improved clarity, the individual parts dealing with, in general, socio-economic situation, characteristics of transport market and railway infrastructure are elaborated summarily according to the respective countries of the corridor.

Additional partial analyses compare the respective countries of rail freight corridor RFC 7 among each other.

2.1.1 Czech Republic

General socio-economic situation (2006 -2010)

The Czech Republic is a landlocked industrial country in the Central Europe. Number of inhabitants: 10.5 millions (source: Czech Statistical Office).

Prague is the capital of the Czech Republic located on the corridor with 1 272 692 inhabitants. The second largest city is Brno with 384 277 inhabitants, located on the corridor as well. The other large city is Ostrava with 302 456 inhabitants that is outside a draft RFC 7.

The gross domestic product per capita in purchasing power parity reached 80% of EU average (EU 27) in 2010. Heavy industry and services are GDP basis. GDP development, industry structure in 2010 and GDP development prognosis are shown in the following Table 2.

Table 2: Czech Republic GDP structure, development and prognosis

GDP structure (2010)		Reality						Prognosis	
Czech Republic	Share in %	2006	2007	2008	2009	2010	2011	2012	2013
Agriculture	2,3	7,0	5,7	3,1	-4,7	2,7	1,8	0,0	1,5
Industry	30,6								
Transport	10,3								
Trade	13,7								
Services	32,2								

Source: member of RFC 7 Commission from Czech Republic, Eurostat prognosis – GDP real growth rate database - volume

Table 3: GDP per capita in Czech Republic in purchasing power parity

Years	Reality					
	2006	2007	2008	2009	2010	2011
EU (27)	100,0	100,0	100,0	100,0	100,0	100,0
Czech Republic	80,0	83,0	81,0	82,0	80,0	80,0

(data are expressed in relation to EU average EÚ 27 = 100), Source: Eurostat

Based on the above mentioned tables, we can conclude the economic growth slowdown in the Czech Republic following the years with high GDP growth. The slowdown is caused by economic crisis which is reflected by reducing external demand, especially from Germany. During economic crisis, economic growth rate decreased by 4.7%. Repeated recovery occurred between 2010 and 2011. According to Eurostat prognosis this trend of slow recovery will continue (see Table 3).

Table 4: Development of state expenditures in infrastructure in Czech Republic

Transport mode	State expenditures in infrastructure (millions of EUR)*				
	2006	2007	2008	2009	2010
Rail	527,1	680,1	918,2	783,7	569,8
Road	1 690,7	1 658,4	2 038,5	2 101,0	1 739,8
Waterways	21,1	15,6	21,5	62,3	58,5
Air	80,6	85,5	324,3	97,6	82,3
Pipeline	28,4	32,0	17,3	8,4	9,2
Total	**2 347,9**	**2 471,6**	**3 319,8**	**3 053,0**	**2 459,6**

Source: member of RFC 7 Commission from Czech Republic
** 1€ = 25,- Kč*

State expenditures in infrastructure decreased and in 2010 reached the level of 2007. The largest share of total state expenditures is in road infrastructure.

Table 5: Freight transport modal split Czech Republic

Transport mode	Freight transport modal split in thousands of tons				
	2006	2007	2008	2009	2010
Rail	97 491	99 777	95 073	76 715	82 900
Road	444 574	453 537	431 855	370 115	355 911
Waterways	2 032	2 242	1 905	1 647	1 642
Air	22	22	20	15	14
Total	**544 119**	**555 577**	**528 853**	**448 492**	**440 466**

Source: Member of RFC 7 Commission from Czech Republic

Gradual decrease of transport performances has occurred in monitored years in all transport modes. The most significant decrease is in road and rail transport. In spite of rail volume decrease, share of rail transport of total traffic volume has increased. It is due to greater decrease of road transport.

The share of rail transport from the total traffic volumes was in range 17% - 19% in years 2006-2010.

Significant decrease in transport performances was recorded in 2009 when there was decrease by 19.3% compared to 2007. However, this trend changed already in 2010 when there was a growth of 8.06% compared to 2009.

In 2010, intermodal transport share of total volume of transported km is11.96 %.

Increase in number of RUs´ on SŽDC network as well as on draft rail freight corridor is observed (see Annex B, Table B.4).

Table 6: Passenger transport modal split in Czech Republic

Transport mode	Passenger transport modal split in thousands of passengers				
	2006	2007	2008	2009	2010
Rail	183 000	184 200	177 400	165 000	164 800
Road – public	388 000	375 000	373 400	367 600	381 200
Road – individual	2 160 000	2 220 000	2 250 000	2 240 000	1 970 000
Waterways	1 100	1 100	900	1 200	900
Air	6 700	7 000	7 200	7 400	7 500
Total	**2 738 800**	**2 787 300**	**2 808 900**	**2 781 200**	**2 524 400**

Source: Member of RFC 7 Commission from Czech Republic

Since 2008, total number of passengers has been decreasing. The significant decrease occurs in road individual and rail transport.

Table 7: Rail freight transport according to groups of goods

Goods structure	Rail freight transport development according to groups of goods in millions of tonne-km				
	2006	2007	2008	2009	2010
Products of agriculture	228,0	114,5	632,0	772,0	843,0
Coal, gas, oil	6603,0	6361,6	5 221,0	5 066,0	4 876,0
Metals	2317,0	2330,9	1 193,0	919,0	966,0
Chemicals	826,0	730,2	740,0	630,0	753,0
Wood, paper	1068,0	1492,2	363,0	349,0	366,0
Others	4737,0	5274,5	7 288,0	5 056,0	5 966,0
Total	**15779,0**	**16304,0**	**15 437,0**	**12 792,0**	**13 770,0**

Source: Member of RFC 7 Commission from Czech Republic
Note: Since 2008, in accordance with new Commission Regulation (EC) No 1304/2007, the original classification of goods NST/R (24 groups) has been replaced by new one NST 2007 (20 groups)

A significant transport share according to groups of goods has coal, gas and oil. This share has not decreased in each year under 33% of total traffic volume.

More detailed information on the Czech Republic is shown in summary tables of Annex A.

Detailed information on corridor on the Czech Republic territory

The data relating exclusively the lines that are proposed for the establishment of the rail freight corridor (main and alternative lines) are shown in the following tables.

Table 8: Freight transport development on draft rail freight corridor RFC 7 in Czech Republic

Years	Freight transport in thousends of gross tons			
	2008	2009	2010	2011
Praha- Poříčany	10 051,9	9 386,4	13 403,2	14 588,1
Poříčany- Kolín	7 359,6	8 666,4	12 054,7	13 621,6
Kolín -Řečany nad Labem	23 906,1	20 371,1	24 668,6	31 037,1
Řečany nad Labem- Pardubice	19 361,2	14 752,9	20 471,5	25 195,9
Pardubice- Choceň	19 331,0	16 822,3	20 687, 0	24 806,6
Choceň - Česká Třebová-	20 701,5	18 443,0	22 325,7	26 723,3
Česká Třebová - Letovice	2 787,2	2 740,1	4 397,8	6 032,4
Letovice - Brno	2 875,4	2 734,6	4 288,0	6 081,1
Brno - Břeclav	12 550,3	8 873,7	10 783,9	12 355,5
Břeclav -Lanžhot st.hr.	11 827,3	9 165,0	11 282,7	12 500,2
Total	**130 752,0**	**111 956,1**	**144 363,6**	**172 942,2**

Source: Member of RFC 7 Commission from Czech Republic

Freight growth is higher on draft corridor than on the whole SŽDC network on the Czech Republic territory after 2008 and 2009 when decrease in performances has been occurred. The highest growth between individual sections is noted on the track section Česká Třebová – Brno

Table 9: Passenger transport development on draft rail freight corridor RFC 7 in Czech Republic

Years	Passenger transport in train-km			
	2008	2009	2010	2011
Praha - Poříčany	2 929 038	3 205 341	3 243 838	3 407 503
Poříčany- Kolín	1 555 173	1 742 934	1 744 800	1 748 629
Kolín- Řečany nad Labem	1 186 164	1 251 195	1 227 563	1 228 474
Řečany nad Labem-Pardubice	1 162 035	1 138 978	1 198 917	1 183 093
Pardubice- Choceň	1 938 245	1 993 880	1 971 636	1 988 421
Choceň -Česká Třebová	1 359 373	1 435 488	1 432 045	1 433 426
Česká Třebová- Letovice	1 214 843	1 263 764	1 282 343	1 300 853
Letovice- Brno	1 803 002	1 891 720	1 944 972	1 953 350
Brno- Břeclav	1 685 422	2 071 986	2 119 746	2 221 938
Břeclav -Lanžhot st.hr.	162 916	168 237	161 756	149 158
Total	**14 996 211**	**16 163 523**	**16 327 616**	**16 614 845**

Source: Member of RFC 7 Commission from Czech Republic

In contrast to decrease in rail passenger transport performances on SŽDC network, the growth of passenger transport performances on the corridor remains.

Since 2006, continued growth of RU´s on SŽDC network has been observed. SŽDC has the highest number of RU´s on its network among all members of rail freight corridor 7 (see Annex B, Table B.4).

In 2010, the share of intermodal transport on draft freight corridor is 11.96% of total volume of km transported on SŽDC network.

Capacity of proposed lines of rail freight corridor 7 is utilised maximum on the level higher than 90% of line capacity on the sections Příčany – Pardubice, Choceň – Česká Třebová. The other lines of draft RFC 7 are utilised maximum on the level lower than 90% of line capacity. Traffic diversion from the lines with fully capacity utilization is possible through alternative line Kolín – Havlíčkov Brod – Brno (it should be noted that there is reduced clearance gauge on this line).

Scheme 7 of stations, their facilities, lines and technical parameters of rail freight corridor on the Czech Republic territory shows the proposed lines and their technical parameters. More detailed and further aditional information (not listed in schemes) concerning terminals, marshalling yards is listed in Annex B.

Legend:

Stations description:

Prague	Corridor station
Vienna	Station on corridor in neighboring country
Havlíčkův Brod	Station on alternative line
Dunajská Streda	Station on connecting line

Type of line:

Corridor double track main line
Corridor single track main line
Corridor double track (connecting, route diversion) alternative line
Corridor single track (connecting, route diversion) alternative line
Corridor single track (connecting, route diversion) connecting line

G	GSM-R
E	ETCS

Intermodal freight codes

1	P /C 45/375
2	P/C 57/381
3	P/C 70/400
4	P/C 78/402
5	P/C 59/389
6	P/C 80/410

Terminals

M	Marshaling yard
I	Intermodal terminal/keeper
	Seaport

Electrification (catenary voltage)

Z	**3 KV DC**
Y	**25 KV AC (50 Hz)**
V	**15 KV AC (16 2/3 Hz)**
X	**Non-electrified**

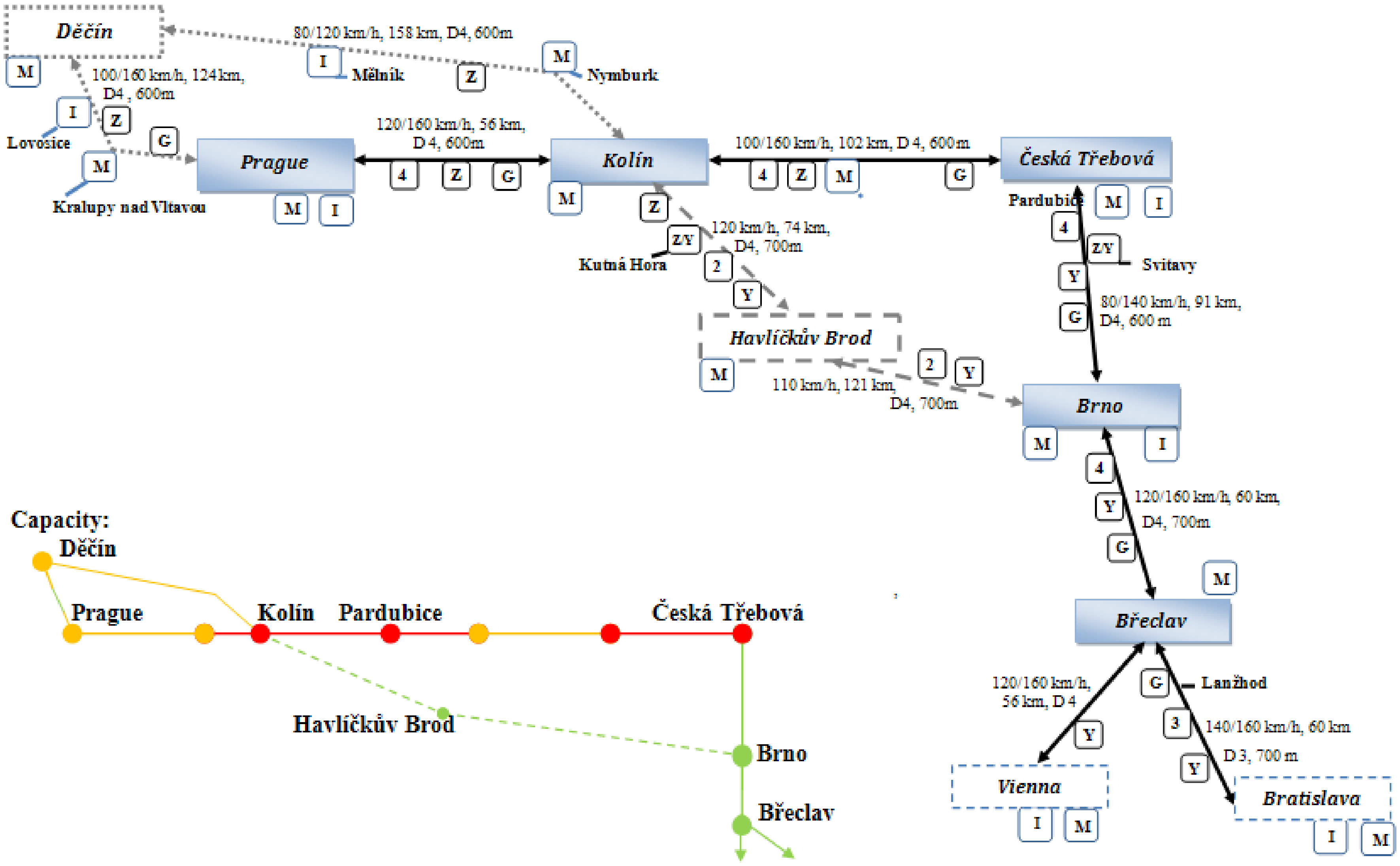
Capacity:

Capacity utilisation up to 50%
Capacity utilisation between 50% and 90%
Capacity utilisation over 90%
n/a

Corridor description:

100/160 km/h, 220 km, C4, 750 m
Minimum/maximum speed in km/h, distance, class of load, maximum train legth

Scheme 7: Scheme of lines and technical parameters of freight rail corridor on the Czech Republic territory (SŽDC)



Electrification: Z _ 3 KV DC
Y _ 25 KV AC (50 Hz)
X _ Non-electrified

Profil (P/C): 2 _ P/C 57/381
3 _.P/C 70/400
4 _.P/C 78/402

M _ Marshaling yard
I _ Intermodal terminal/keeper
G _ GSM-R

E _ ECTS

2.1.2 Slovak Republic

General socio-economic situation (2006-2010)

Slovakia is a landlocked country in the Central Europe with 5.43 million of inhabitants. Bratislava is the capital of the Slovak Republic with 428.9 thousands of inhabitants (is located on the corridor). The second largest city is Košice with 233.9 thousands of inhabitants lying outside the corridor in the east of the Slovak Republic (distance from corridor is about 400 km).

Gross domestic product per capita in purchasing power parity reached 73% of EU average (EU 27) in 2010. Heavy industry and services are GDP basis. GDP development and structure in 2010 and GDP development prognosis are shown in the following table. The purchasing power parity is over 75% in Bratislava region (region where corridor passes).

Table 10: Slovak Republic GDP structure, development and prognosis

GDP structure (2010)		Reality						Prognosis	
Slovak Republik	**Share in %**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Agriculture	2,85	8,3	10,5	5,8	-4,9	4,2	3,3	1,8	2,9
Industry	36,47								
Transport	17,23								
Trade									
Services	34,37								

Source: member of RFC 7 Commission from Slovak Republic, Eurostat prognosis – GDP real growth rate database - volume

Table 11: GDP per capita in Slovak Republic in purchasing power parity

Years	Reality					
	2006	**2007**	**2008**	**2009**	**2010**	**2011**
EU (27)	100,0	100,0	100,0	100,0	100,0	100,0
Slovak Republik	63,0	68,0	73,0	73,0	73,0	73,0

(data are expressed in relation to EU average 27 = 100, Source: Eurostat

Based on the above tables, we can conclude the economic growth slowdown (the Slovak Republic had the highest GDP growth in the Central Europe). Growth slowdown is caused by economic crisis which is reflected by reducing external demand, especially from Germany. During the economic crisis, economic growth rate decreased by 4.9%. Repeated recovery occurred between 2010 and 2011. According to Eurostat prognosis this trend of slow recovery will continue (see Table 10).

Table 12: Development of state expenditures in infrastructure in Slovak Republic

Transport mode	State expenditures in infrastructure (millions of EUR)				
	2006	**2007**	**2008**	**2009**	**2010**
Rail	234,9	302,5	214,4	190,3	285,8
Road	541,0	675,7	755,1	854,0	516,8
Waterways	2,1	1,5	4,7	3,8	5,1
Air	13,5	17,8	33,4	59,1	74,7
Pipeline		51,5	46,3	63,6	51,1
Total	**791,50**	**1 049,00**	**1 053,90**	**1 170,80**	**933,50**

Source: member of RFC7 Commission from Slovak Republic, Statistic SR

Total state expenditures in infrastructure decreased in 2010 in spite of increasing expenditures in infrastructure for rail. Increasing expenditures in infrastructure for rail is due to decreasing prices and access charge structure implementing the Regulation of the European Commission resulting from the Directive of the European Parliament and the Council 2001/14/EC of 27 February 2001on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification. The Slovak Republic belonged to EU countries with the highest level of railway infrastructure access charges till 2010 (see charper 2.4).

Table 13: Freight transport modal split in Slovak Republic

Transport mode	Freight transport modal split in thousends of tons				
	2006	2007	2008	2009	2010
Rail	52 449	51 813	47 910	37 603	44 327
Road	181 424	179 296	199 218	163 148	143 071
Waterways	1 713	1 806	1 767	2 192	3 109
Air	0,52	0,19	0,31	0,01	0,01
Total	**235 587**	**232 915**	**248 895**	**202 943**	**190 507**

Source: Member of RFC 7 Commission from the Slovak Republik, MDVRR SR (Ministry of Transport)

Since 2008 there has been a significant decrease in the total traffic volume.

Significant decrease in traffic volume after 2008 was in road goods transport. In rail freight transport there was a slight growth in 2010 after significant decrease in traffic volume in 2008 and 2009. Long-term growth records the waterways.

By high growth of road transport by 2009 and decrease in rail performances, the rail share of total traffic volume has still decreased (up to rail freight rate of total traffic volume for 18.5% to 80.4% share of road goods transport). This trend changed in 2010 when a share of rail freight in total traffic volume of all transport modes was 23.3% which means increase in rail freight share in total traffic volume of all transport modes compared to 2009 by 4.4%. Share of volume of road goods transport in total traffic volume decreased in 2010 compared to 2009 by 5.3%.

After expectation of moderate transport recovery, we assume also recovery in stagnant transport modes (rail, road).

Table 14: Passenger transport modal split in Slovak Republik

Transport mode	Passenger transport modal split in thousands of passengers				
	2006	2007	2008	2009	2010
Rail	48 438	47 070	48 744	46 667	46 583
Road - public	403 270	384 637	365 519	323 142	312 717
Road - individual	1 792 000	1 811 986	1 833 082	1 846 439	1 859 479
Waterways	111	122	122	110	120
Air	2 291	3 068	4 176	2 288	554
Total	**2 246 110**	**2 246 883**	**2 251 643**	**2 218 646**	**2 219 453**

Source: Member of RFC 7 Commission from the Slovak Republik, MDVRR SR (Ministry of Transport)

The total number of passengers has been decreasing. A significant decrease is in public road, rail and air transport. Road individual transport observes the growth of passenger number during the whole monitored period.

Table 15: Rail freight transport according to groups of goods

Goods structure	Rail freight transport development according to groups of goods in millions of tonne-km				
	2006	2007	2008	2009	2010
Products of agriculture	217,5	157,0	112,8	84,5	62,6
Coal, gas, oil	2 329,0	2 356,1	2 237,2	1 927,5	1 800,3
Metals	4 587,8	4 340,5	4 132,5	2 941,3	3 786,3
Chemicals	726,9	706,1	680,2	480,0	573,1
Wood, paper	516,4	485,0	469,5	397,6	513,9
Others	1 610,3	1 602,3	1 666,8	1 133,2	1 368,9
Total	**9 988,0**	**9 647,0**	**9 299,0**	**6 964,0**	**8 105,0**

Source: Member of RFC 7 Commission from the Slovak Republik, MDVRR SR (Ministry of Transport)

Metals and metal products, coal, gas and oils have a significant share of transport on ŽSR network according to groups of goods. The share of these commodities did not decrease in 2006-2010 under 68.5% of total rail traffic volume.

More detailed information on the Slovak Republic is shown in Tables of Annex A.

Detailed information on corridor on the Slovak Republic territory

Data concerning exclusively lines proposed for the establishment of the rail freight corridor (main and alternative lines) in the Slovak Republic are shown in the following tables.

Table 16: Freight transport development on draft rail freight corridor RFC 7 in Slovak Republic

Years	Freight transport in thousands of gross tons			
	2008	2009	2010	2011
Kúty št. hr. - Devínska N.Ves			13 998, 9	18 987, 0
Devínska N. Ves - Bratislava hl. st.			14 427, 4	16 547, 1
Bratislava hl. st.- Dunajská Streda			7 873, 8	8 685, 3
Dunajská Streda - Komárno št. hr.			2 346, 3	3 986, 2
Bratislava hl. st.- Rusovce št. hr.			21 021, 8	24 009, 1
Bratislava hl. st.- Nové Zámky			17 894, 5	23 630, 8
Nové Zámky - Komárno št. hr.			3 133, 4	5 707, 0
Nové Zámky - Štúrovo št. hr.			7 059, 5	8 920, 7
Total			**87 755, 8**	**110 473, 5**

Source: Member of RFC 7 Commission from the Slovak Republik, PIS ŽSR

In 2011 compared to 2010 there is an increase in rail freight transport on the rail freight corridor 7 by 25.88%. This increase is much higher than increase on the whole ŽSR network on the Slovak Republic territory.

The highest percentage increase in rail freight transport is on the section Nové Zámky – Komárno border, i.e. increase by 82.13% in 2011 compared to 2010. The highest increase in rail freight volume is on the section Bratislava main station – Nové Zámky, i.e. by 5.7 millions of gross tons in 2011 compared to 2010. There is a slower increase on the other sections.

There is rapid increase on the section Dunajská Streda – Komárno border in 2011 compared to 2010, i.e. by 69.90% in 2011 compared to 2010. This increase is due to development of intermodal terminal in Dunajská Streda (Metrans).

Intermodal transport on draft freight corridor represents 11.36% share of total volume of transported km on the corridor in 2010. The share of intermodal transport is much higher than on the whole ŽSR network where this share is at the level of 3.5% of the total transported km on ŽSR network.

Table 17: Passenger transport development on draft rail freight corridor 7 in Slovak Republic

Years	Passenger transport in train- km			
	2008	2009	2010	2011
Kúty št.hr. - Devínska N.Ves			1 063 224	1 037 328
Devínska N.Ves - Bratislava hl.st.			398 811	390 982
Bratislava hl.st.- Dunajská Streda			463 132	368 408
Dunajská Streda - Komárno št.hr.			329 823	330 227
Bratislava hl.st.- Rusovce št.hr.			169 821	117 684
Bratislava hl.st.- Nové Zámky			1 984 673	2 011 248
Nové Zámky - Komárno št.hr.			241 106	240 070
Nové Zámky - Štúrovo št.hr.			620 146	633 715
Total			**5 270 736**	**5 129 662**

Source: Member of RFC 7 Commission from the Slovak Republik, PIS ŽSR

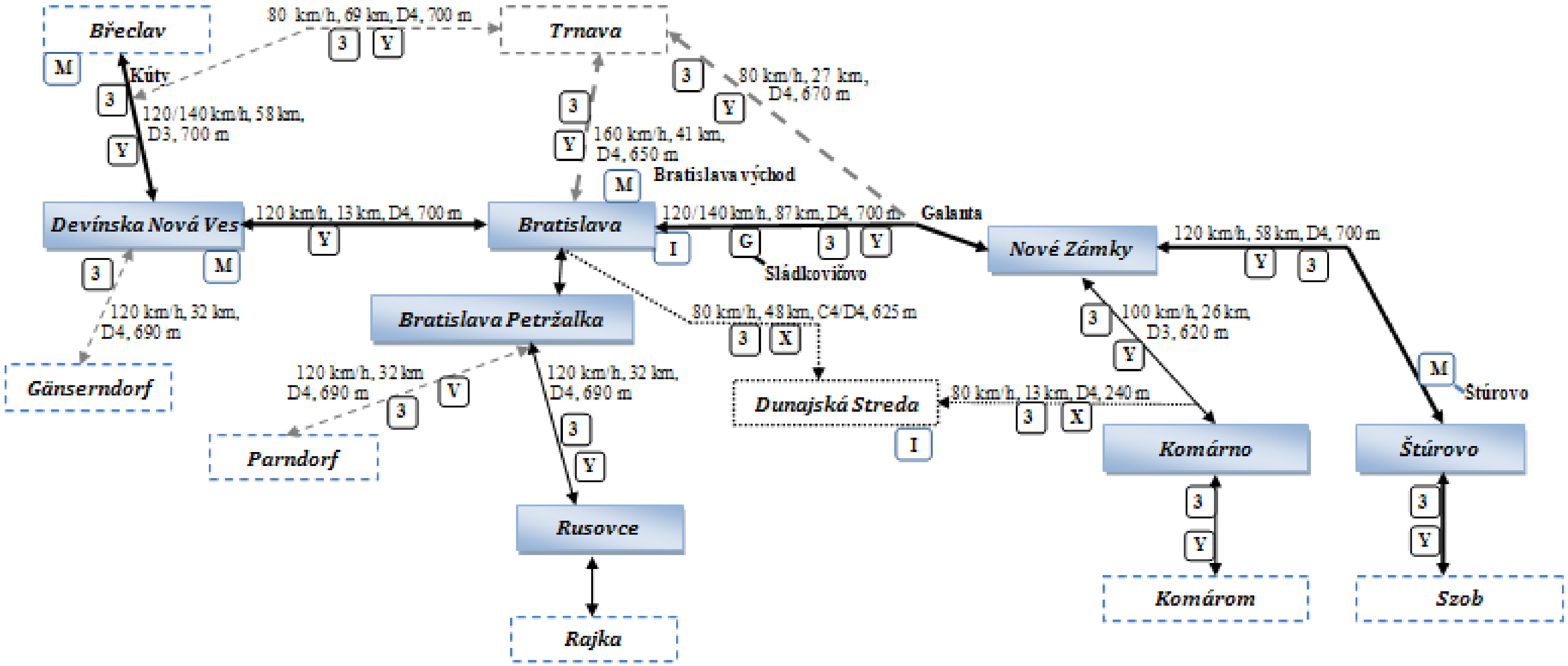
So as decrease in volume of passenger transport performances on ŽSR network, there is moderate decrease in volume of passenger transport performances on the corridor.

The highest decrease by 30.7% is on the track Bratislava main station – Rusovce border in 2011 compared to 2010.

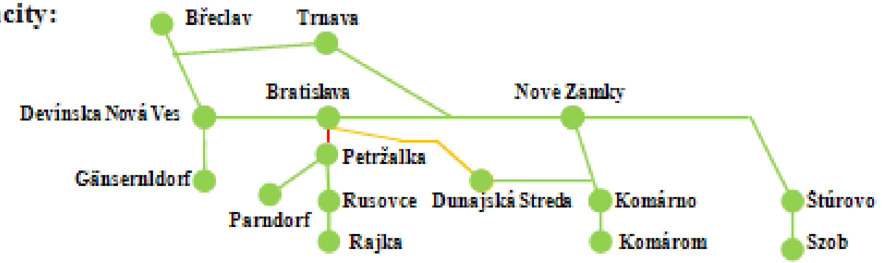
Capacity of draft corridor, except the section Bratislava main station - Bratislava Nové Mesto (more than 90% utilisation), is utilised under 50%.

Scheme 8 of stations, their facilities, lines and technical parameters of rail freight corridor on the Slovak Republic territory shows proposed lines and their technical parameters. More detailed and other additional information (not listed in Schemes) concerning the terminals and marshalling yards is listed in Annex B.

Scheme 8: Technical parameters of corridor lines on the Slovak Republic territory (ŽSR)



Capacity:



Electrification: Z _ *15 KV AC (16 2/3 Hz)*
Y _ *25 KV AC (50 Hz)*
X _ *Non-electrified*

Profil (P/C): 2 _ *P/C 57/381*
3 _ *P/C 70/400*
4 _ *P/C 78/402*

M _ *Marshaling yard*
I _ *Intermodal terminal/keeper*
G _ *GSM-R*

E _ *ECTS*

2.1.3 Austria

General socio-economic situation (2006-2010)

Austria is a federal, landlocked country with 8 184.7 thousands of inhabitants. Vienna is the capital of Austria with 1 661 thousands of inhabitants (lies on the corridor). The second largest city is Graz with 247 thousands of inhabitants (located 200 km from corridor). The other important city is Linz with 188 thousands of inhabitants (located 200 km from the corridor).

GDP per capita in purchasing power parity reached 129 % of EU average (EU 27) in 2011. Services are GDP basis (45.9%). Austria has the large mineral reserves. The coal has to be imported. Austria is the second largest producer of magnesite in the world.

GDP development, industry structure in 2010 and GDP development prognosis are shown in the following table.

Table 18: Austria GDP structure, development and prognosis

GDP structure (2010)		Reality						Prognosis	
Austria	**Share in %**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Agriculture	1,5	3,7	3,7	1,4	-3,8	2,3	2,9	0,8	1,7
Industry	29,2								
Transport*									
Trade	23,3								
Services	45,9								

**Transport is included in „trade", construction in „industry"*
Source: Member of RFC 7 Commission from Austria, prognosis – GDP real growth rate database-volume

Table 19: GDP per capita in Austria in purchasing power parity

Years	Reality					
	2006	**2007**	**2008**	**2009**	**2010**	**2011**
EU (27)	100,0	100,0	100,0	100,0	100,0	100,0
Austria	126,0	124,0	124,0	125,0	126,0	129,0

(data are expressed in relation to EU average EÚ 27 = 100),Source: Eurostat

Based on the above mentioned tables, we can conclude the economic growth slowdown following the years with average GDP growth. The slowdown is caused by economic crisis. During economic crisis, economic growth rate decreased by -3.8% Repeated recovery occurred between 2010 and 2011. According to Eurostat prognosis the growth will slow down, but trend of slow recovery will continue (see Table 18).

Table 20: Freight transport modal split in Austria

Transport mode	Freight transport modal split in thousands of tons				
	2006	**2007**	**2008**	**2009**	**2010**
Rail	110 779	115 526	121 579	98 887	107 670
Road	353 386	349 188	364 919	332 203	326 852
Waterways		12 107	11 209	9 322	11 052
Air	230	229	229	222	258
Total	**464 395**	**477 050**	**497 935**	**440 634**	**445 833**

Source: Member of RFC 7 Commission from Austria, Statistics Austria

In 2009, there was a significant decrease in total traffic volume.

In 2009, there was a significant decrease in traffic volume in all transport modes. After a significant decrease in traffic volume in 2009, there was a moderate increase in rail freight transport in 2010. Decrease in road transport volume was observed also in 2010.

Share of rail transport of total volume of all transport modes, except 2009, is at the level of about 24%. Share of road goods transport of total traffic volume of all transport modes decreased from 76.09% to 73.20% in 2007 and except the crisis year 2009 (75.40%) it is at the level of 73.3%, i.e. at the level of 2007.

Water transport has remarkable share in modal split. Its share, in 2006-2010, is in the range of 2.1% – 2,5%.

After expectation of moderate transport recovery, we assume recovery in stagnant transport modes (rail, road).

Table 21: Passenger transport modal split in Austria

Transport mode	Passenger transport modal split in millions of passenger km				
	2006	2007	2008	2009	2010
Rail	9 500	9 600	10 800	10 700	
–Road - public	13 100	13 700	13 600	13 600	
– Road -individual	70 600	72 000	73 300	72 300	
Waterways					
Air					
Total	**93 200**	**95 300**	**97 700**	**96 600**	

Source: Member of RFC 7 Commission from Austria, Statistical pocketbook transport in figures, DG TREN;

There was increase in total volume of transport performance (pkm) by 2008. In 2009, there was decrease in transport performance volume (pkm) due to significant decrease in transport performance volume in road individual transport.

Table 22: Rail freight transport according to groups of goods

Goods structure	Rail freight transport development according to groups of goods in millions of tonne-km				
	2006	2007	2008	2009	2010
Products of agriculture	3 958,8	3 458,0	3 244,5	2 847,5	2 973,9
Coal, gas, oil	2 241,2	2 298,8	2 430,9	2 225,8	2 200,7
Metals	3 572,2	3 809,2	3 908,7	2 476,3	3 317,5
Chemicals	1 581,3	1 642,9	1 606,8	1 432,0	1 558,3
Wood, paper					
Others	8 866,0	9 155,5	9 425,9	7 972,3	9 110,7
Total	**20 219,5**	**20 364,5**	**20 616,8**	**16 953,9**	**19 161,2**

Source: Member of RFC 7 Commission from Austria, Statistics Austria

Products of agriculture have significant share in rail freight transport according to groups of goods. Transport share of products of agriculture gradually decreases. Dynamic increase, interrupted by the year 2009, is observed in transportation of metals.

More detailed information on Austria is shown in tables of Annex A.

Detailed information on the corridor on the Austria territory

The data relating exclusively the lines that are proposed for the establishment of the rail freight corridor (main and alternative lines) in Austria are shown in the following tables.

Table 23: Freight transport development on draft rail freight corridor 7 in Austria

Years	Freight transport in thousands of gross tons					
	2006	2007	2008	2009	2010	2011
Břeclav - Gänserndorf	15 071,5	17 717 019	18 743,9	15 203,4	14 734,4	14 329,3
Gänserndorf - Wien Zvbf	19 655,9	21 583,2	22 258,4	16 234,6	17 394,1	17 501,5
Wien Zvbf - Hegyeshalom	21 062,7	21 825,8	22 276,1	22 466,2	24 088,2	24 589,6
Wien Zvbf - Ebenfurth	21 862,7	23 480,8	26 120,1	22 566,7	24 836,5	24 181,8
Ebenfurth - Sopron	5 811,0	5 684,0	5 388,0	3 834,0	4 275,0	4 214,0
Ebenfurth – Wiener Neustadt	14 637,3	16 417,2	17 387,6	15 567,2	18 461,6	18 048,7
Gänserndorf – Devínska Nová Ves	4 810,8	4 077,6	3 659,9	1 093,9	2 846,5	2 746,7
Parndorf – BA Petržalka	4 561,9	4 313,8	4 752,3	6 293,2	5 717,9	6 270,2
Gramatneusiedl – Wampersdorf	21 169,6	22 880,7	25 454,8	21 732,2	23 810,5	22 795,5
Wien Zvbf – Wiener Neustadt via Baden	36 300,3	35 910,4	38 007,8	30 737,6	32 280,6	32 064,5
Wiener Neustadt – Sopron via Loipersbach-Schattendorf	298,9	403,1	230,4	229,0	237,9	187,3
Wien Zvbf – Wien Freudenau Hafen – Wien Nordwestbahnhof	0,0	0,0	8,8	782,8	1 725,6	2 217,3
Total	**165 242,6**	**174 293,7**	**184 288,3**	**156 740,8**	**170 408,9**	**169 146,3**

Source: Member of RFC 7 Commission from Austria, ÖBB Infrastructur, GYSEV

There is decrease in total performances of all transport modes on draft rail freight corridor by 0.74% in 2011 compared to 2010.

On the track Břeclav – Wien Zvbf, there is decrease in freight transport performances in 2011 compared to 2006. On the tracks Wien Zvbf – Hegyeshalom and Wien Zvbf – Ebenfurth, there is increase in performances in 2011 compared to 2006. On the track Wien Zvbf – Hegyeshalom, there is moderate increase also in crisis year 2009.

The highest percentage increase in rail freight transport is on the section Ebenfurth – Wiener Neustadt (123,3%) in 2011 compared to 2006.

Intermodal transport on draft rail freight corridor represents 13.3% share of total volume of transported km on the corridor in 2010. Share of intermodal transport on the corridor is much lower than on the whole ÖBB network where this share is at the level of 21.3% of total transport performances on ÖBB network.

Table 24: Passenger transport development on draft rail freight corridor 7 in Austria

Years	Passenger transport in train-km					
	2006	2007	2008	2009	2010	2011
Břeclav - Gänserndorf	702 458	940 830	977 387	934 588	924 857	939 592
Gänserndorf – Wien Zvbf	2 320 169	2 440 849	2 477 308	2 155 272	2 148 790	1 955 493
Wien Zvbf - Hegyeshalom	2 841 877	3 149 185	3 290 234	3 302 621	2 846 620	2 646 197
Wien Zvbf - Ebenfurth	168 118	169 859	178 758	167 992	161 637	159 732
Ebenfurth - Sopron	364 039	375 894	393 579	394 790	355 473	360 638
Ebenfurth – Wiener Neustadt	250 068	254 839	278 940	258 882	242 602	236 332
Gänserndorf – Devínska Nová Ves	221 200	189 482	192 227	190 236	167 801	165 420
Parndorf – BA Petržalka	349 878	390 318	395 967	380 237	291 424	285 171
Gramatneusiedl – Wampersdorf	16 313	15 986	18 624	6 544	6 218	4 189
Wien Zvbf – Wiener Neustadt via Baden	3 967 097	4 028 382	4 082 746	4 397 025	5 013 659	4 300 382
Wiener Neustadt – Sopron via Loipersbach-Schattendorf	481 077	460 994	510 689	582 030	546 309	484 640
Wien Zvbf – Wien Freudenau Hafen – Wien Nordwestbahnhof	0	0	0	5	73	124
Total	**11 682 292**	**12 416 618**	**12 796 460**	**12 770 222**	**12 705 463**	**11 537 910**

Source: Member of RFC 7 Commission from Austria, ÖBB Infrastructur, GYSEV

So as in total volume of passenger transport on ÖBB network, there is moderate decrease in passenger transport performances also on respective lines of draft rail freight corridor 7 in 2010 compared to 2006.

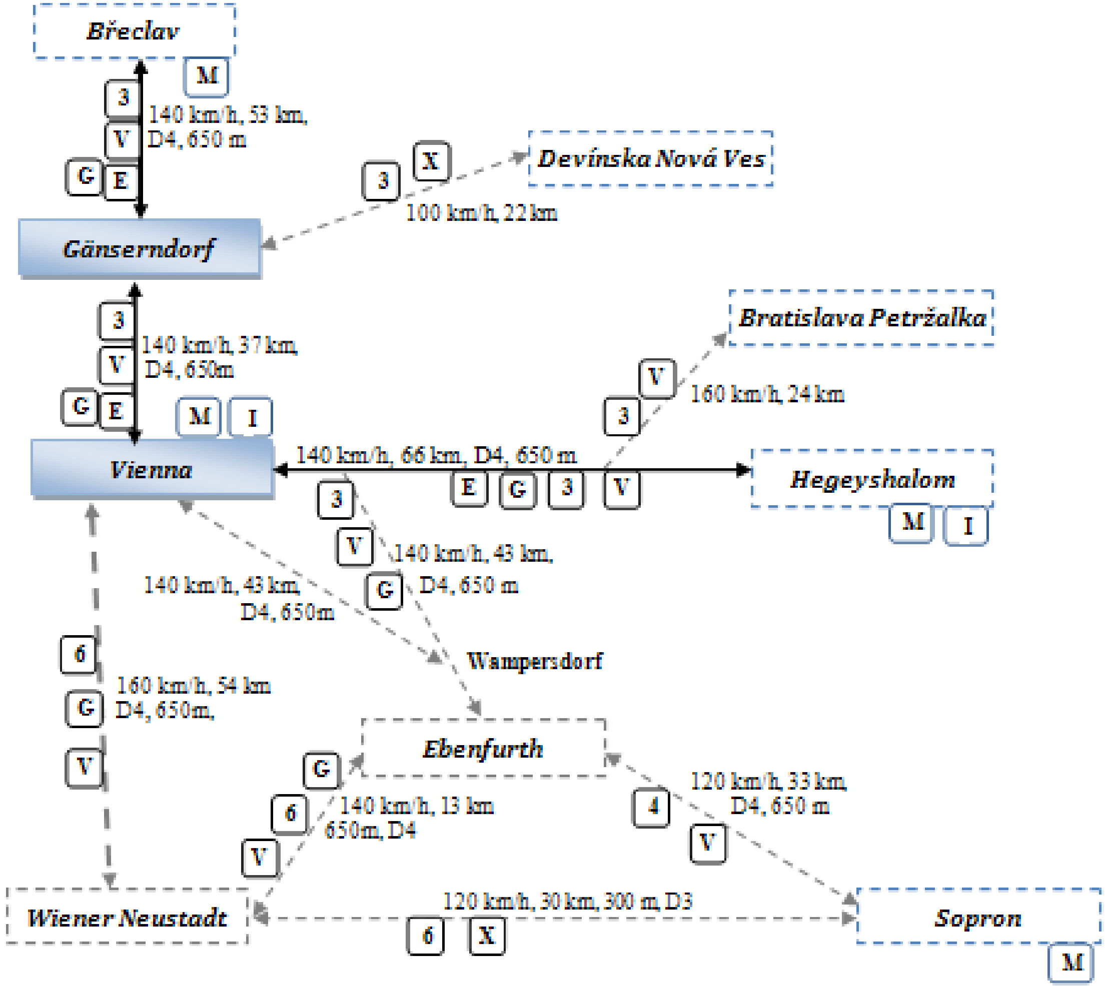
There is a significant decrease in passenger transport volumes in 2011 copmared to 2010 by -9,2%.

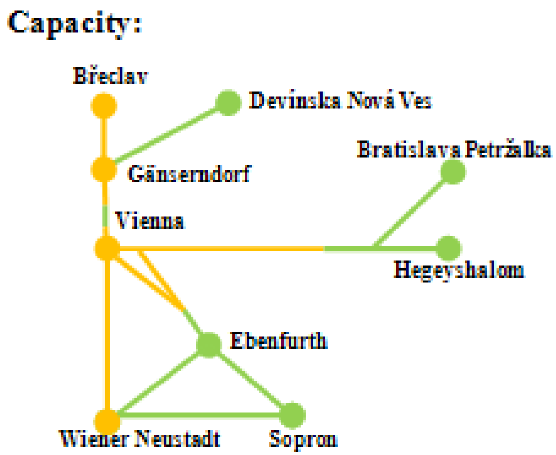
The highest increase in volume of passenger transport performances is on the track Břeclav – Gänserndorf. The volume of passenger transport performances on the track Břeclav - Gänserndorf increased by 33.8% in 2011 compared to 2006. The highest decrease in volume of passenger transport performances is on the track Gänserndorf – Devínska Nova Ves. The volume of passenger transport performances decreased by -25,2% in 2011 compared to 2006.

The capacity of proposed lines of rail freight corridor is utilised on a maximum level of 50-90% of line capacity.

Scheme 1 of stations, their facilities, lines and technical parameters of rail freight corridor on the territory of Austria shows the proposed lines and their technical parameters. More detailed and the other additional information (not shown in Schemes) concerning the terminals and marshalling yards is listed in Annex B.

Scheme 9: Technical parameters of corridor lines on the territory of Austria (ÖBB)





Electrification: V _ *16 KV AC (16 2/3 Hz)*
Y _ *25 KV AC (50 Hz)*
X _ *Non-electrified*

Profil (P/C): 3 _ *P/C 70/400*
4 _ *P/C 78/402*
6 _ *P/C 80/410*

M _ *Marshaling yard*
I _ *Intermodal terminal/keeper*
G _ *GSM-R*

E _ *ECTS*

2.1.4 Hungary

General socio-economic situation (2006-2010)

Hungary is a landlocked country in the Central Europe with 9.986 millions of inhabitants. Budapest is the capital of Hungary with 1 733.7 thousands of inhabitants (lies on the corridor). The second largest city is Debrecen with 208.0 thousands of inhabitants (located 50 km from the corridor). The other important city lying on the corridor is Győr with 131.3 thousands of inhabitants.

Gross domestic product per capita in purchasing power parity reached 66% of EU average (EU 27) in 2011. Services and heavy industry are GDP basis. Machine industry, chemical industry and food industry, which is closely related to agriculture, are the most important branches of industry. The agriculture loses its dominant role.

GDP development, industry structure in 2010 and GDP development prognosis are shown in the following table.

Table 25: Hungary GDP structure, development and prognosis

GDP structure (2010)		Reality						Prognosis	
Hungary	**Share in %**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Agriculture	3,8	3,9	0,3	0,8	-6,7	1,3	1,4	-0,3	1,0
Industry	31,3								
Transport	5,7								
Trade	9,7								
Services	49,5								

Source: Member of RFC 7 Commission from Hungary, Eurostat prognosis – GDP real growth rate database-volume,Hungarian Central Statistical Office

Table 26: GDP per capita in Hungary in purchasing power parity

Years	Reality					
	2006	**2007**	**2008**	**2009**	**2010**	**2011**
EU (27)	100,0	100,0	100,0	100,0	100,0	100,0
Hungary	63,0	62,0	64,0	65,0	65,0	66,0

(data are expressed in relation to EU average EÚ 27 = 100)
Source: Eurostat

Based on the GDP development, we can conclude that the economic crisis became evident in full extent in 2009. During the economic crisis, economic growth rate decreased by -6.7%. Repeated recovery occurred between 2010 and 2011. According to Eurostat prognosis this trend of slow recovery, after small forecasted decrease, will continue (see Table 25).

Table 27: Development of state expenditures in infrastructure in Hungary

Transport mode	State expenditures in infrastructure (millions of EUR)					
	2006	**2007**	**2008**	**2009**	**2010**	**2011**
Rail	2,4	98,0	35,5	3,5	87,2	73,9

Source: Member of RFC 7 Commission from Hungary

Hungary has the lowest state expenditures in railway infrastructure among all countries involved in the corridor.

Table 28: Freight transport modal split in Hungary

Transport mode	Freight transport modal split in thousands of tons				
	2006	2007	2008	2009	2010
Rail	42 628	43 149	40 345	29 916	34 396
Road	17 617	25 130	26 465	27 753	28 622
Waterways	7 247	8 344	8 755	7 701	9 921
Air	30	32	29	24	28
Total	**67 522**	**76 655**	**75 594**	**65 394**	**72 967**

Source: Member of RFC 7 Commission from Hungary ,EuroStat, KSH (Central Statistical Office)

In 2009, there was a significant decrease in total traffic volume.

In 2010, there was a moderate increase in rail freight transport following the significant decrease in traffic volume in 2009. The share of rail freight transport in total traffic volume is high compared to other countries, but it continuously decreases. In 2006, the share of rail freight traffic of total traffic volume was 63.13% and 47.13% in 2010, i.e. significant decrease in share of rail transport in 2010 compared to 2006 by -16.0 %.

The road transport observes continuous increase in traffic volume as well as in share of total volume of all transport modes. In 2010, the share of road goods transport of total traffic volume of all transport modes was 39.2% compared to 2006, i.e. increase by 13.1% of total traffic volume.

Table 29: Passenger transport modal split in Hungary

Transport mode	Passenger transport modal split in thousands of passangers				
	2006	2007	2008	2009	2010
Rail	156 628	149 551	144 900	142 683	140 398
Road – public	487 056	451 927	469 763	502 600	517 500
Road - individual	71 992	74 732	71 284		
Waterways	1 346	1 007	828	859	641
Air	4 551	4 896	4 340	4 573	4 512
Total	**721 573**	**682 113**	**691 115**	**650 715**	**663 051**

Source: Member of RFC 7 Commission from Hungary, EuroStat, KSH (Central Statistical Office)

Total number of passengers is decreasing. The significant decrease is in public road, rail and air transport.

Table 30: Rail freight transport according to groups of goods

Groups of goods	Rail freight transport development according to groups of goods in millions of tonne- km		
	2008	2009	2010
Products of agriculture	319	733	784
Coal, gas, oil	571	1 151	1 596
Metals	3 436	1 949	2 258
Chemicals	631	675	610
Wood, paper	486	419	464
Others	4 431	2 747	3 096
Total	**9 874**	**7 674**	**8 808**

Source: Member of RFC 7 Commission from Hungary, Hungarian Central Statistical Office

The metals and products of metals, coal, gas and oils have a significant share of transport according to groups of goods. In 2006 – 2010, share of these commodities did not decrease under 68.5% of total rail transport volume.

More detailed information on Hungary is shown in tables of Annex A.

Detailed information on corridor on the territory of Hungary

The data relating exclusively the lines proposed for the establishment of the rail freight corridor (main and alternative, terminal lines) in Hungary are shown in the following tables.

Table 31: Freight transport development on draft rail freight corridor RFC 7 in Hungary

Years	Freight transport in thousands of gross tons					
	2006	2007	2008	2009	2010	2011
Rajka-Hegyeshalom	4 154,3	4 287,7	5 394,6	3 932,1	4 120,3	4 306,8
Ebenfurth - Sopron	6 156,7	5 943,4	5 464,5	4 052,8	4 621,5	4 384,8
Sopron - Győr	9 497,6	9 356,9	8 686,7	5 317,7	5 887,9	5 228,1
Hegyeshalom oh.-Győr	12 520,8	12 741,2	13 114,0	3 932,1	4 120,3	4 306,8
Győr-Tatabánya	21 701,9	21 672,2	21 216,2	11 687,9	15 175,9	17 692,1
Tatabánya-Budapest Ferencváros	23 596,5	23 374,8	22 948,6	17 269,5	21 216,4	24 139,5
Budapest Ferencváros-Szolnok (100)	5 990,3	4 056,9	5 817,4	18 571,2	23 069,9	25 657,3
Budapest Ferencváros-Szolnok (120)	11 992,6	9 450,9	7 207,8	4 413,3	9 550,6	12 950,4
Szolnok-Szajol	15 970,7	12 629,0	12 142,3	6 330,6	5 345,1	4 130,4
Szajol-Békéscsaba	6 270,7	5 745,7	6 319,9	4 036,2	6 323,9	15 526,6
Békéscsaba-Lőkösháza oh.	5 982,7	5 510,1	5 535,4	4 317,0	6 223,0	8 090,1
Szajol-Püspökladány	9 879,0	6 868,6	5 990,6	3 343,5	5 361,4	7 143,3
Püspökladány-Biharkeresztes oh.	4 309,1	4 613,4	3 607,1	4 944,9	6 673,5	7 545,2
Szob-Rákospalota-Újpest	4 689,4	5 068,4	4 693,0	n/a	n/a	n/a
Rákosrendező-Kőbánya Kispest	530,9	277,3	184,0	3 243,5	3 943,7	3 436,2
Rákospalota-Újpest-Ferencváros	4 909,0	5 341,3	5 326,0	110,8	129,6	192,4

Source: Member of RFC 7 Commission from Hungary ,GYSEV, MÁV Co. Traffic Line Statistics

The highest increase in freight transport volume is observed on the track Budapest Ferencváros – Szolnok (100) 428%). The largest decrease in freight transport volume is on the track Rákosrendező-Ferencváros (-96.1%).

Intermodal transport on draft freight corridor represents 46.2% share of total volume of transported km on the corridor in 2010. The share of intermodal transport on the corridor is higher than on the whole MÁV and GYSEV network where this share is at the level of 35.5% of overall transport performances on MÁV and GYSEV network.

Intermodal transport in Hungary has the highest share in overall performances compared to others member states of the corridor.

Since 2006 there has been a continuous increase of RU´s on MÁV and GYSEV network (see Annex B Table B.4).

Table 32: Passenger transport development on draft rail freight corridor RFC 7 in Hungary

Years	Passenger transport (train km)					
	2006	2007	2008	2009	2010	2011
Rajka-Hegyeshalom	165 419	145 765	146 567	149 385	53 320	50 750
Ebenfurth - Sopron	364 039	375 894	393 579	394 790	355 473	360 638
Sopron - Győr	1 795 437	2 457 402	2 372 983	2 244 209	2 273 573	3 275 035
Hegyeshalom oh.-Győr	977 228	1 116 737	1 126 984	1 129 341	1 093 187	1 051 065
Győr-Tatabánya	1 835 313	2 358 232	2 081 271	2 136 770	2 060 712	2 160 049
Tatabánya-Budapest Ferencváros	1 795 833	2 287 592	2 232 066	2 244 621	2 248 448	2 222 415
Budapest Ferencváros-Szolnok (100)	3 191 023	4 345 090	4 720 080	4 626 025	4 628 124	4 776 129
Budapest Ferencváros-Szolnok (120)	4 505 372	5 294 061	4 907 406	5 094 264	5 109 465	5 125 279
Szolnok-Szajol	395 718	483 597	492 301	520 591	530 399	544 861
Szajol-Békéscsaba	1 179 915	1 381 108	1 408 715	1 438 039	1 413 111	1 409 928
Békéscsaba-Lőkösháza oh	434 162	521 997	531 806	447 160	444 552	441 103
Szajol-Püspökladány	1 481 661	1 904 981	1 913 877	1 935 838	1 884 476	1 976 675
Püspökladány-Biharkeresztes oh.	485 780	526 325	526 479	501 476	504 467	503 986
Szob oh.-Rákosrendező	2 183 767	2 184 075	2 308 275	2 310 964	2 309 219	2 288 944
Rákosrendező-Kőbánya Kispest	324 218	437 955	480 984	557 014	577 358	594 400
Rákosrendező-Ferencváros	16 693	52 804	39 779	38 877	40 397	39 485

Source: Member of RFC 7 Commission from Hungary, GYSEV, MÁV

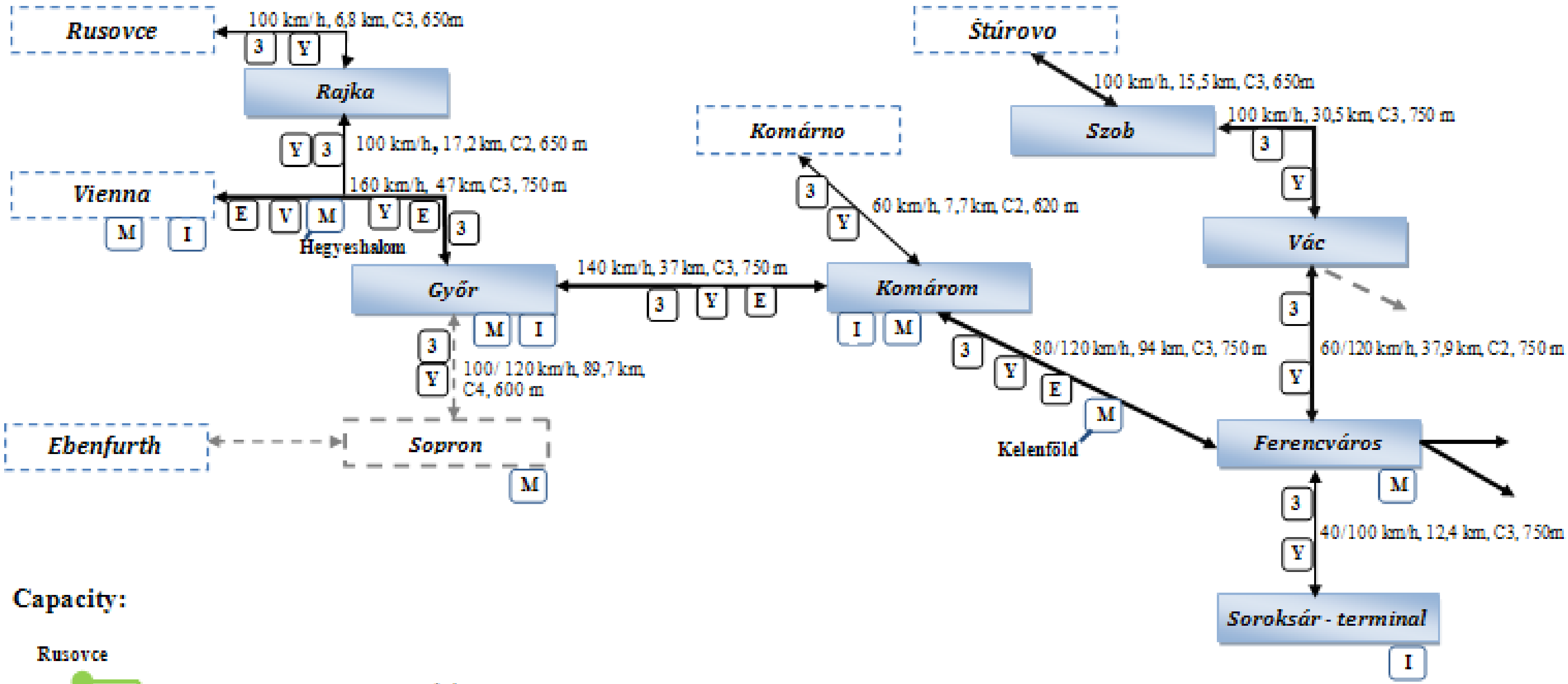
In contrast to decrease in passenger performance volumes on the whole MÁV and GYSEV network, there is a continuous/ progressive increase in passenger performance volumes on the draft corridors.

The largest decrease in passenger transport performances is on the track Rajka – Hegyeshalom where in 2010 there was a radical cut off in number of trains. The highest increase in passenger traffic performances is on the tracks Sopron – Györ and Budapest Ferencváros – Szolnok (100).

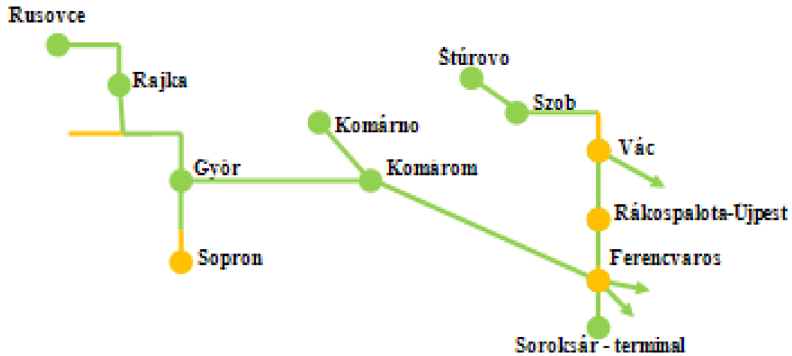
The capacity of proposed lines of rail freight corridor 7 is utilised on maximum level of 50-90% of line capacity on the sections Sopron – Fertőboz and Verőce – Vác. The other lines of draft rail freight corridor 7 are utilized at maximum level of 50% of line capacity.

Scheme 10 of stations, their facilities, lines and technical parameters of rail freight corridor on the territory of Hungary shows proposed lines and their technical parameters. More detailed and further additional information (not shown in Schemes) concerning terminals and marshalling yards is listed in Annex B.

Scheme 10: Technical parameters of corridor lines on the territory of Hungary (VPE, MÁV, GYSEV)



Capacity:



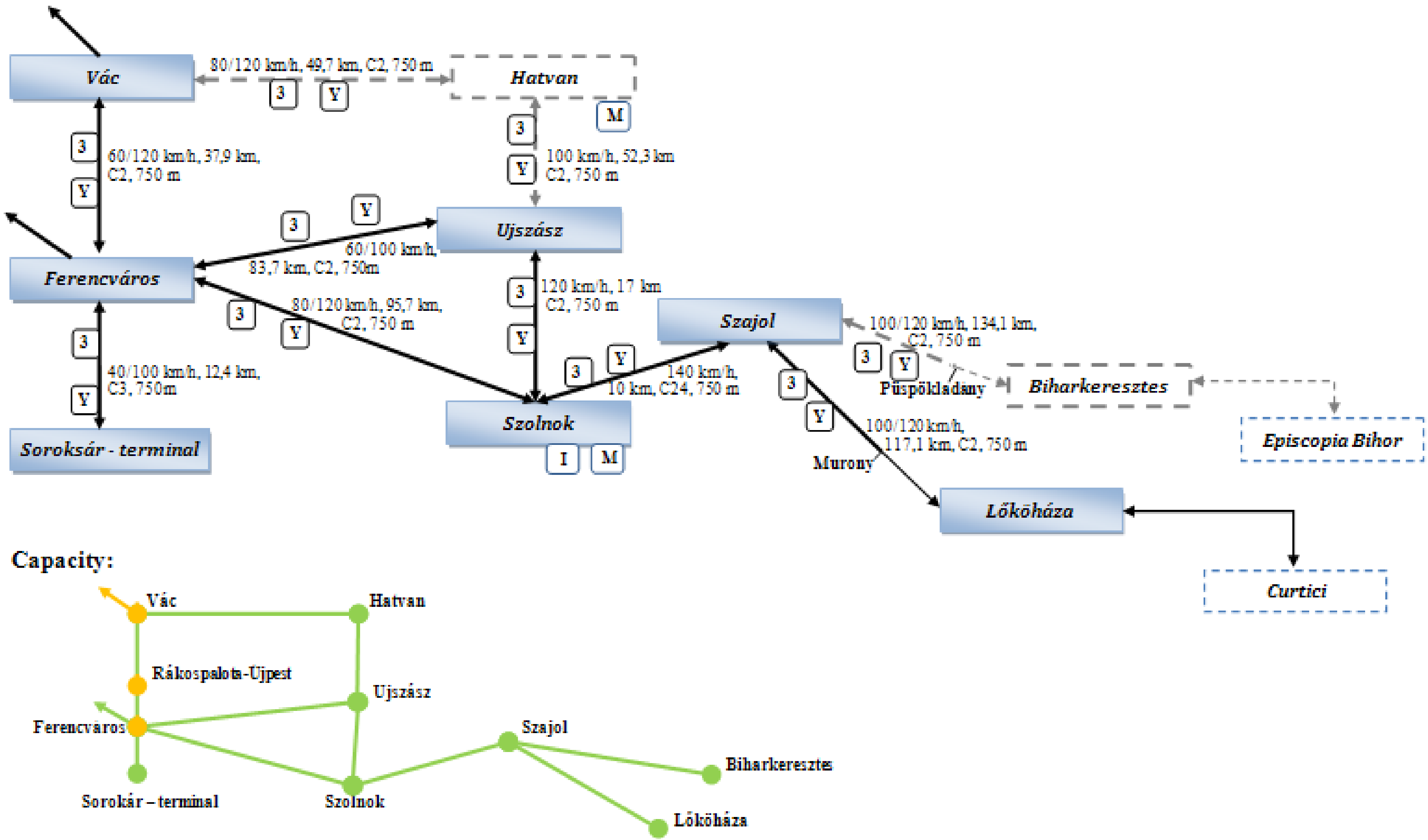
Electrification: V _ *16 KV AC (16 2/3 Hz)*
Y _ *25 KV AC (50 Hz)*
X _ *Non-electrified*

Profil (P/C): 2 _ *P/C 57/381*
3 _*P/C 70/400*
4 _*P/C 78/402*

M _ *Marshaling yard*
I _ *Intermodal terminal/keeper*
G _ *GSM-R*

E _ *ECTS*

Scheme 10: Technical parameters of corridor lines on the territory of Hungary (VPE, MÁV, GYSEV) - continuation



Electrification: V _ 16 KV AC (16 2/3 Hz) Y _ 25 KV AC (50 Hz) X _ Non-electrified

Profil (P/C): 2 _ P/C 57/381 3 _P/C 70/400 4 _P/C 78/402

M _ Marshaling yard I _ Intermodal terminal/keeper G _ GSM-R

E _ ECTS

2.1.5 Romania

General socio-economic situation (2006-2010)

Romania is a country in the South-East Europe with 21.39 millions of inhabitants. Bucharest is the capital of Romania with 1 942.2 thousands of inhabitants. The other important cities are Timisoara, Jasy, Cluj, Constatna, Craiova. They are located on the corridor, except Jasy.

GDP per capita in purchasing power parity reached 49% of EU average (EU 27) in 2011. Industry and services are GDP basis. Romania has the highest share of agriculture in GDP (6.66%) among all evaluated countries.

The country is rich in minerals (mineral salt, potassium salt, iron ore, manganese, bauxite, silver, gold, oil, natural gas). The basic raw material of chemical industry is a domestic oil and natural gas. Machine, metallurgical, wood-processing and paper industries are the important branches of industry in Romania.

GDP development, industry structure in 2010 and GDP development prognosis are shown in the following table.

Table 33: Romania GDP structure, development and prognosis

GDP structure (2010)		Reality						Prognosis	
Romania	**Share in %**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Agriculture	6,66	7,9	6,3	7,3	-6,6	-1,6	1,7	1,4	2,9
Industry	39,58								
Transport	21,64								
Trade									
Services	32,12								

Source: member of RFC 7 Commission from Romania, Eurostat prognosis – GDP real growth rate database-volume

Table 34: GDP per capita in Romania in purchasing power parity

Years	Reality					
	2006	**2007**	**2008**	**2009**	**2010**	**2011**
EU (27)	100,0	100,0	100,0	100,0	100,0	100,0
Romania	38,0	42,0	47,0	47,0	47,0	49,0

(data are expressed in relation to EU average 27 = 100)
Source: Member of RFC 7 Commission from Romania

Based on GDP development, we can conclude that the economic crisis became evident in full extent in 2009.

During the economic crisis, the economic growth rate decreased by -6.7%. Growth rate decreased by -1.7% in 2010 and repeated recovery has been occurred in 2011. According to Eurostat prognosis this trend of slow recovery, after expected decrease in 2012, will continue (see table 33).

Table 35: Development of state expenditures in infrastructure in Romania

Transport mode	State expenditures in infrastructure (millions of EUR)				
	2006	2007	2008	2009	2010
Rail	98,3	305,1	333,9	199,5	169,4
Road	1 883,6	2 752,5	4 106,0	3 492,1	2 858,4
Waterways	205,6	351,9	517,1	603,0	424,4
Air	14,6	41,1	9,6	6,9	0,9
Pipeline		51,5	46,3	63,6	51,1
Total	**2 202,2**	**3 450,6**	**4 966,6**	**4 301,5**	**3 453,1**

Source: Member of RFC 7 Commission from Romania, Ministry of Transport, National Statistic Institute Yearbook

Overall state expenditures in infrastructure decreased in 2010 at the level of 2007.

The highest share of overall state expenditures is in the road infrastructure (in the range of 81.2% - 85.5%). Since 2009, volume of state expenditures as well as share of overall state expenditures for railway transport has been decreasing.

Table 36: Freight transport modal split in Romania

Transport mode	Freight transport modal split in thousands of tons				
	2006	2007	2008	2009	2010
Rail	68 313	68 772	66 711	50 596	52 932
Road	335 327	356 669	364 605	293 409	174 551
Waterways	76 013	78 354	80 744	60 764	70 206
Air	23	22	27	24	26
Total	479 676	503 817	512 087	404 793	297 715

Source: Member of RFC 7 Commission from Romania, National Statistic Institute Yearbook

Since 2009, total traffic volume has been significantly decreasing.

Significant decrease in traffic volume was in road goods transport in 2009 and 2010. There was a moderate increase in rail freight transport in 2010 following a significant decrease in traffic volume in 2009. An increase in water transport was interrupted in 2009. In 2010, there was observed recovery in water transport.

Due to a high growth of road transport by 2008 and stagnation of rail performances, a share of rail traffic of total volume was decreasing continuously (share of rail freight traffic of total traffic volume decreased at the level of 12.5% to 72.5% share of road goods transport of total volume). This trend changed in 2010 when a share of rail freight traffic increases at the level of 17.8%, i.e. increase in rail freight share by 5.28%. Road goods transport share decreased by 13.85%.

Water transport has a high share of total traffic volume. This share of total traffic volume increased from 15.01% in 2009 to 23.6% in 2010, i.e. by 7.74%.

After expectation of moderate economic growth, we assume also small transport growth in all transport modes (rail, road, water, air).

Table 37: Passenger transport modal split in Romania

Transport mode	Passenger transport modal split in thousands of passangers				
	2006	2007	2008	2009	2010
Rail	94 441	88 264	78 252	70 332	64 272
Road – public **Road – individual**	228 009	231 077	296 953	262 311	244 944
Waterways	190	223	232	174	107
Air	5 497	7 831	9 077	9 093	10 128
Total	**328 137**	**327 395**	**384 514**	**341 910**	**319 451**

Source: Member of RFC 7 Commission from Romania, Ministry of Transport and 2011 National Statistic Institute Yearbook

Since 2009, the total number of passengers has been decreasing. Significant decrease is in public road transport and rail transport. Air transport observes long-term increase. Road transport observes long-term slow increase of total number of passengers while rail traffic observes long-term slow decrease of total number of passengers.

Table 38: Rail freight transport according to groups of goods

Goods structure	Rail freight transport development according to groups of goods in millions of tonne-km				
	2006	2007	2008	2009	2010
Products of agriculture	0,52	0,26	0,786	0,638	0,911
Coal, gas, oil	37,567	39,85	28,411	22,748	23,024
Metals	3,998	3,577	5,068	2,826	2,449
Chemicals	3,197	2,798	4,842	3,307	3,951
Wood, paper	2,536	2,324	0,906	0,432	0,836
Others	20,495	19,963	26,698	20,645	21,761
Total	**68,313**	**68,772**	**66,711**	**50,596**	**52,932**

Source: Member of RFC 7 Commission from Romania, Ministry of Transport and 2011 National Statistic Institute Yearbook

Coal, gas and oils have significant transport share according to groups of goods in rail transport. Share of these commodities has been decreasing to 43.5% share of total rail traffic volume in 2010.

Further information on Romania is shown in tables of Annex A.

Detailed information on corridor on the territory of Romania

Data relating exclusively lines proposed for the establishment of the rail freight corridor 7 (main or alternative, terminal lines) in Romania are shown in the following tables.

Table 39: Freight transport development on draft rail freight corridor RFC 7 in Romania

Years	Freight transport in thousands of gross tons	
	2010	2011
Border (HU/RO) - /LCurtici	62 573,3	65 866,7
Curtici - Arad	112 127,1	118 028,5
Arad - Simeria	2 049 823,0	1 339 790,9
Simeria - Coslariu	560 469,7	607 374,4
Coslariu - Sighişoara	534 411,1	544 389,6
Sighişoara - Braşov	605 152,7	665 207,6
Braşov - Predeal	119 333,8	154 441,6
Predeal - Brazi	620 637,0	653 302,1
Brazi - Bucureşti	719 484,8	757 352,4
Bucureşti - Feteşti	986 975,6	1 038 921,7
Feteşti - Constanţa	1 880 209,3	1 979 167,7
Arad - Timişoara	223 300,6	221 658,5
Timişoara - Orşova	1 918 634,5	1 685 245,2
Orşova - Filiaşi	853 405,9	869 147,8
Filiaşi - Craiova	2 965 446,6	2 845 789,2
Craiova - Calafat	76 772,9	7 675,9
Calafat - Border RO/BG	0,0	0,0
Border - Episcopia Bihor	7 437,1	10 297,0
Episcopia Bihor - Coslariu	652 065,0	798 289,5
Simeria - Filiasi	2 255 149,8	2 053 502,0
Craiova - Videle	2 040 449,2	2 357 438,4
Videle - Bucuresti	763 019,0	798 368,4
Videle - Giurgiu Nord	126 740,3	128 050,7
Giurgiu Nord - Frontiera	2 638,0	7 567,3
Total	**20 136 256,0**	**19 706 872,9**

Source: Member of RFC 7 Commission from Romania, CFR SA

In 2011 compared to 2010, there is a decrease of total performance volume on draft rail freight corridor 7 by -2,1%.

The highest increase in freight transport performance volume in 2011 compared to 2010 is observed on the tracks Craiova <--> Videle (15.5%) and Episcopia Bihor <--> Coslariu (22.4%). The largest decrease in freight transport performance volume in 2011 compared to 2010 is on the tracks Arad <--> Simeria (-34,6%) and Simeria <--> Filiaşi (-8,9.%).

Since 2006 to 2010 there is a continued increase of carriers on CFR network. In 2011 compared to 2010 there is a decrease of carriers on CFR network (see Annex B Table B.4).

Table 40: Passenger transport development on draft rail freight corridor RFC 7 in Romania

Years	Passenger transport in train-km		
	2009	2010	2011
Border (HU/RO) – Lőkösháza/Curtici	82 661,0	78 724,8	71 568,0
Curtici - Arad	277 560,4	264 343,2	240 312,0
Arad - Simeria	2 721 053,4	2 591 479,4	2 355 890,4
Simeria - Coslariu	1 526 837,0	1 454 130,5	1 321 936,8
Coslariu - Sighişoara	1 778 066,1	1 693 396,3	1 539 451,2
Sighişoara - Braşov	1 726 900,6	1 644 667,2	1 495 152,0
Braşov - Predeal	340 269,7	347 214,0	354 300,0
Predeal - Brazi	1 327 108,4	1 354 192,2	1 381 828,8
Brazi - Bucureşti	1 269 998,7	1 209 522,6	1 099 566,0
Bucureşti - Feteşti	1 530 509,3	1 561 744,1	1 643 941,2
Feteşti - Constanţa	1 272 598,1	1 298 569,4	1 366 915,2
Arad - Timişoara	542 925,5	517 071,9	492 449,4
Timişoara - Orşova	2 193 424,2	2 088 975,4	1 989 500,4
Orşova - Filiaşi	1 039 207,2	989 721,2	942 591,6
Filiaşi - Craiova	838 435,4	798 509,9	760 485,6
Craiova - Calafat	286 606,8	292 455,9	298 424,4
Calafat - Border RO/BG	0,0	0,0	0,0
Border - Episcopia Bihor	30 295,0	27 540,9	32 120,4
Episcopia Bihor - Coslariu	4 283 544,6	3 859 049,2	4 350 499,3
Simeria - Filiasi	1 726 463,5	1 583 911,5	1 424 686,3
Craiova - Videle	2 505 327,5	2 319 747,7	2 523 734,1
Videle - Bucuresti	1 149 960,2	1 045 418,4	967 980,0
Videle - Giurgiu Nord	331 899,9	301 727,2	281 988,0
Giurgiu Nord - Frontiera	12 556,1	11 363,0	10 318,0
Total	**28 794 208,6**	**27 333 476,0**	**26 945 639,1**

Source: Member of RFC 7 Commission from Romania, CFR SA

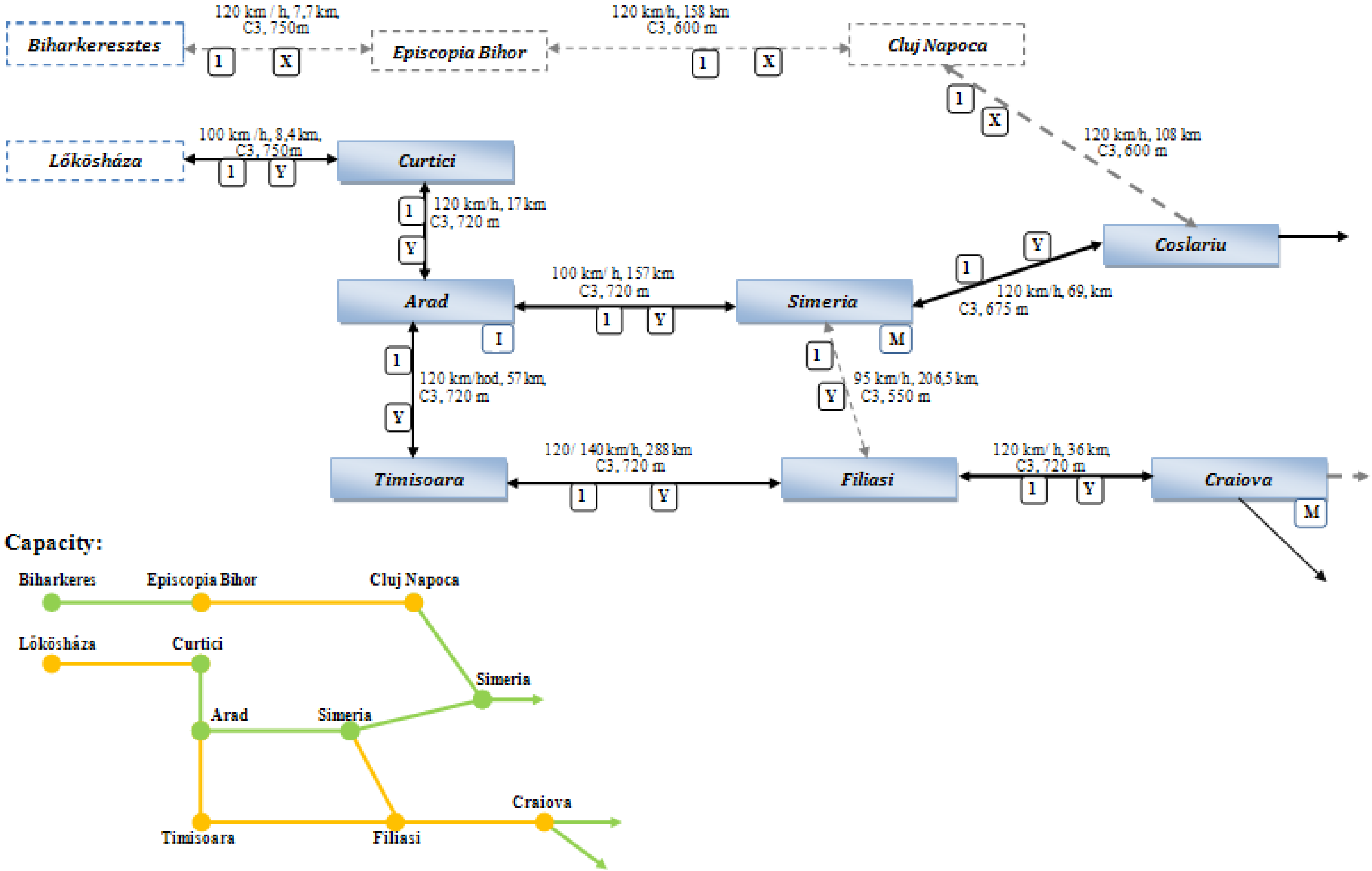
In 2008, 2009 and 2010, decrease in passenger transport performances, that is slower than on the whole RFC network, is observed.

The largest decrease in passenger transport performances is on the track Arad - Simeria. The highest increase in passenger transport performances is on the track Episcopia Bihor - Coslariu.

The capacity of proposed lines of rail freight corridor 7 is utilised on maximum level higher than 90% of line capacity on the sections Episcopia Bihor – Cluj Napoca, Arad – Timisoara, Timisoara – Filiasi, Simeria – Filiasi. Others lines of draft rail freight corridor 7 are utilised at the maximum level lower than 70% of line capacity.

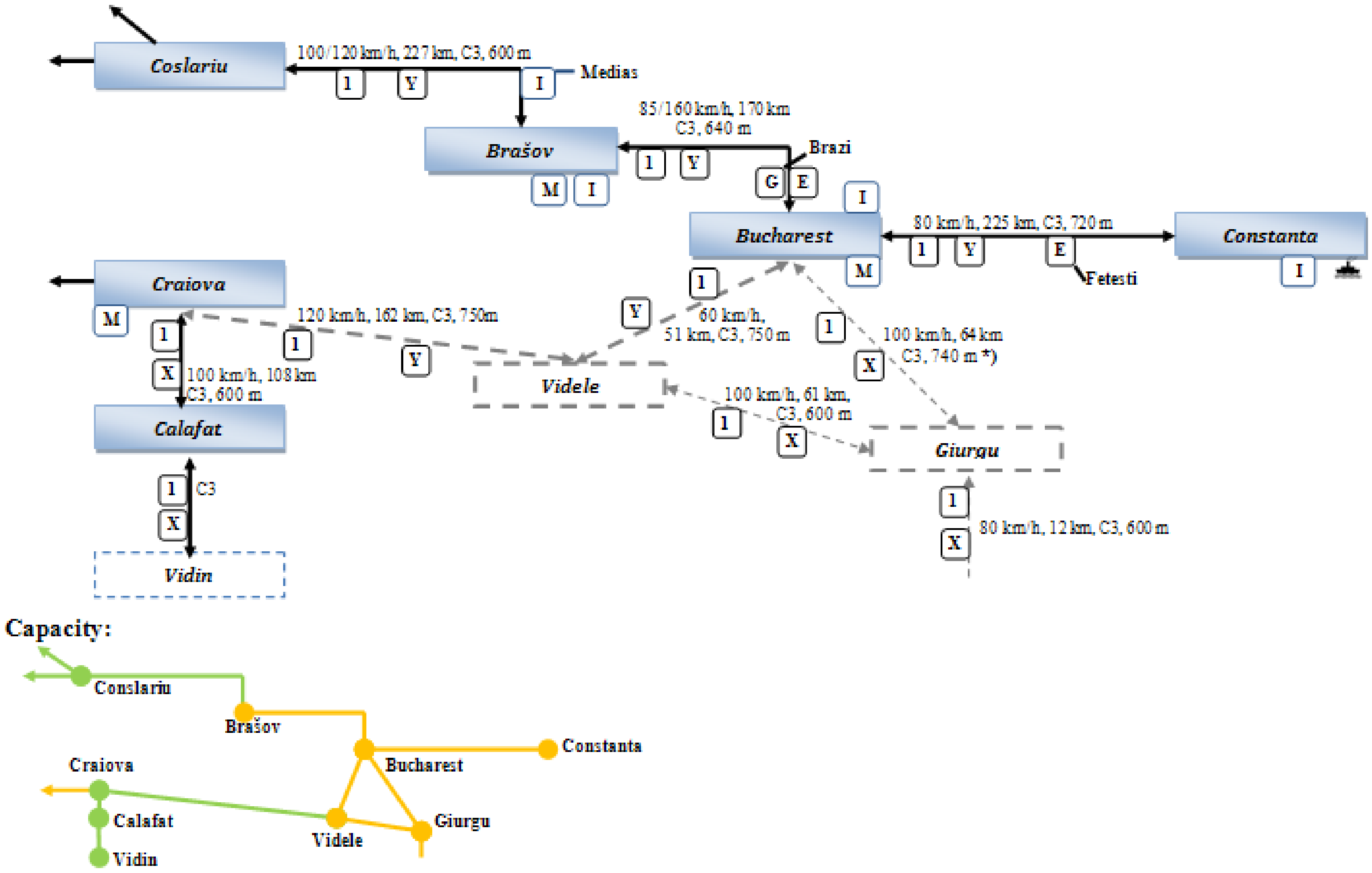
Scheme 11 of stations, their facilities, lines and technical parameters of rail freight corridor on the territory of Romania shows the proposed lines and their technical parameters. More detailed and further additional information (not listed in Schemes) concerning terminals and marshalling yards is listed in Annex B.

Scheme 11: Technical parameters of corridor lines on the territory of Romania (CFR)



Electrification:	Z _ *3 KV DC*	*Profil (P/C):*	1 _ *P/C 45/375*		M _ *Marshaling yard*		E _ *ECTS*
	Y _ *25 KV AC (50 Hz)*		3 *.P/C 70/400*		I _ *Intermodal terminal/keeper*		G _ *GSM-R*
	X _ *Non-electrified*		4 *.P/C 78/402*		_ *Seaport*		

Scheme 11: Technical parameters of corridor lines on the territory of Romania (CFR) - continuation



*) The railway traffic between Giurgiu and Bucharest is temporary interrupted due to Gradistea bridge collapse and it will be resumed after the rehabilitation works (assumed in 2015). The traffic is ensured on the route Bucharest – Videle – Giurgiu.

Electrification: Z _ 3 KV DC; Y _ 25 KV AC (50 Hz); X _ Non-electrified

Profil (P/C): 1 _ P/C 45/375; 3 _P/C 70/400; 4 _P/C 78/402

M _ Marshaling yard; I _ Intermodal terminal/keeper; _ Seaport

E _ ECTS; G _ GSM-R

2.1.6 Bulgaria

General socio-economic situation (2006-2010)

Bulgaria is a country in the South-East Europe with 6.63 millions of inhabitants. Sofia is the capital of Bulgaria with 1 246.8 thousands of inhabitants. Further important cities are Plovdiv and Varna.

GDP per capita in purchasing power parity reached 45% of EU average (EU 27) in 2011. Food industry, which is closely related to agriculture, has a high share in GDP formation. Agriculture has favourable soil and climatic conditions.

The country is not rich in minerals (especially fuel-energy). Most of minerals is imported from Russia. Machine, metallurgical, wood-processing and paper industries are the important branches of Bulgarian industry.

GDP development, industry structure in 2010 and GDP development prognosis are shown in the following table.

Table 41: Bulgaria GDP structure, development and prognosis

GDP structure (2010)		Reality						Prognosis	
Bulgaria	**Share in %**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Agriculture	n/a	6,5	6,4	6,2	-5,5	0,4	1,7	0,5	1,9
Industry	n/a								
Transport	n/a								
Trade	n/a								
Services	n/a								

Source: EUROSTAT, prognosis – GDP real growth rate database-volume

Table 42: GDP per capita in Bulgaria in purchasing power parity

Years	Reality					
	2006	**2007**	**2008**	**2009**	**2010**	**2011**
EU (27)	100,0	100,0	100,0	100,0	100,0	100,0
Bulgaria	38,0	40,0	44,0	44,0	44,0	45,0

Source: EUROSTAT (data are expressed in relation to EU average 27 = 100)

Based on GDP development, we can conclude that the economic crisis became evident in full extent in 2009.

During economic crisis the economic growth rate decreased by 5.5%. Minimum growth was observed in 2010. According to Eurostat prognosis this trend of slow recovery, following expected decrease in 2012, will continue (see Table 40).

Detailed information on corridor on the territory of Bulgaria

Data relating exclusively lines proposed for the establishment of the rail freight corridor 7 (main or alternative, terminal lines) in Bulgaria are shown in the following tables.

Table 43: Freight transport development on draft rail freight corridor RFC 7 in Bulgaria

Years	Freight transport in thousands of gross tons		
	2008	**2009**	**2010**
Vidin - Brusartsi	34 760 018	12 132 066	10 064 851
Brusartsi - Mezdra	145 094 730	40 506 411	34 867 214
Mezdra - Sofia	362 546 083	174 724 532	176 220 344
Sofia - Radomir	479 443 727	409 804 524	375 752 570
Radomir - Kulata	288 384 729	223 351 910	299 992 127
Sofia - Septemvri	587 133 661	498 369 886	461 210 591
Septemvri - Plovdiv	332 494 507	273 262 824	247 832 392
Plovdiv - Dimitrovgrad	220 468 774	89 225 236	57 620 834
Dimitrovgrad - Svilengrad	369 860 446	291 924 585	327 877 610
Vidin - Brusartsi	34 760 018	12 132 066	10 064 851
Brusartsi - Mezdra	145 094 730	40 506 411	34 867 214
Total	**3 000 041 423**	**2 065 940 451**	**2 036 370 598**

Source: Member of RFC 7 Commission from Bulgaria, NRIC

There is a significant decrease in traffic volumes in 2009 continuing in 2010 as well.

In 2010 compared to 2008 there is a decrease of total volumes on draft rail freight corridor RFC 7 by - 32,14%.
In 2010 copared to 2009 is a decrease of total volumes on draft rail corridor RFC 7 by -1,43%.

The highest percentage increase in rail freight transport is on the section Radomir – Kulata by 4,0% in 2010 compared to 2008. However the volumes of freight transport on this section in 2010 are lower than in the years 2006 and 2007.

There is decrease in traffic volumes in 2010 compared to 2008 on all section of draft rail corridor RFC 7 except of section Radomir – Kulata. The decrease of traffic volumes continued in 2010 compared to 2009 except of sections Radomir – Kulata, Dimitrovgrad – Svilengrad a Mezdra – Sofia.

Since 2008 to 2010, there is increase of RU´s on draft rail corridor RFC in Bulgaria.

Table 44: Passenger transport development on draft rail freight corridor RFC 7 in Bulgaria

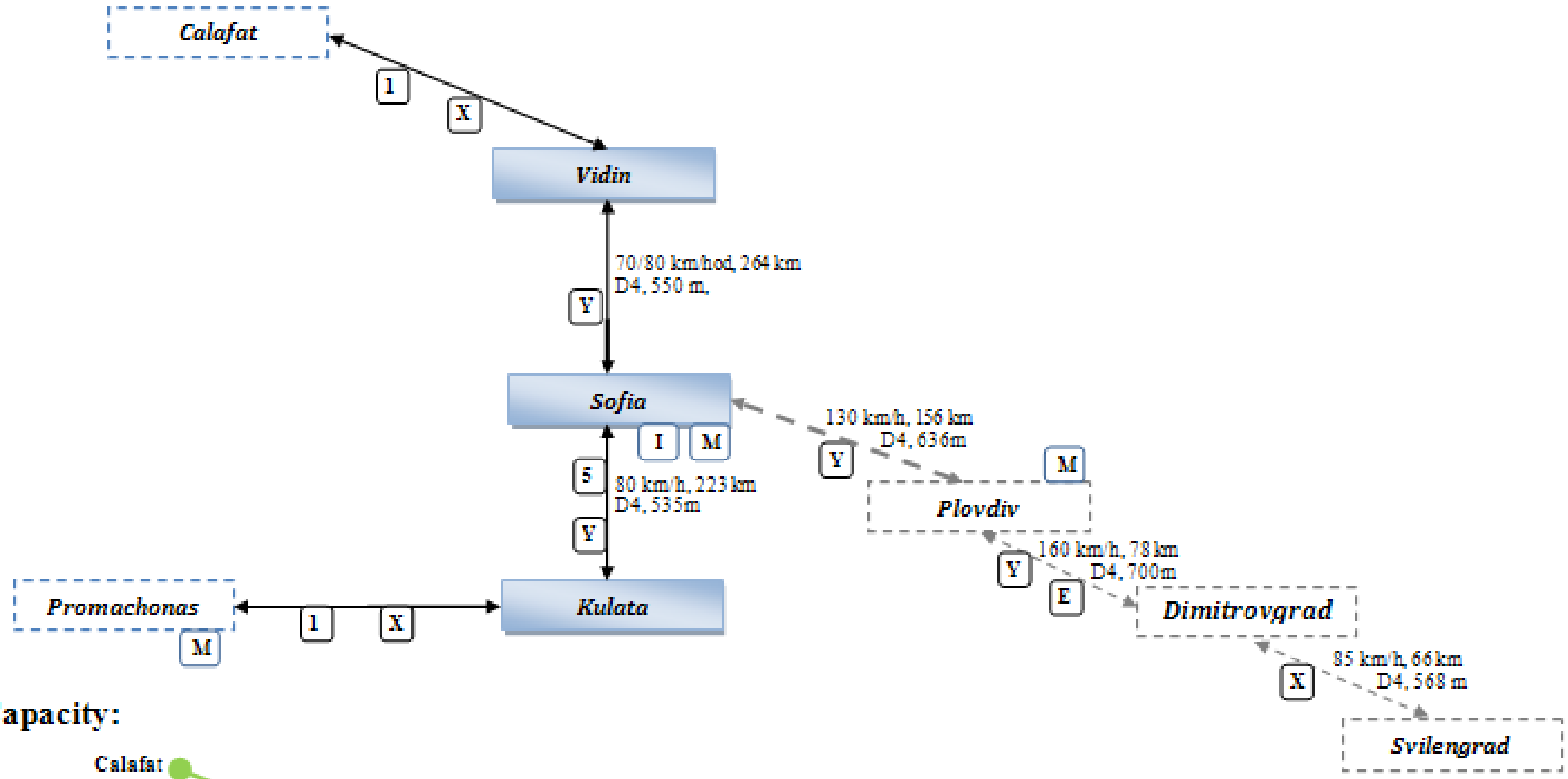
Years	Passenger transport in train km		
	2009	2010	2011
Vidin - Brusartsi	318 823	318 131	293 756
Brusartsi - Mezdra	539 887	589 447	615 706
Mezdra - Sofia	1 427 694	1 424 138	1 394 822
Sofia - Radomir	793 157	1 094 610	1 010 850
Radomir - Kulata	1 057 871	1 088 689	1 072 500
Sofia - Septemvri	1 408 667	1 535 378	1 476 942
Septemvri - Plovdiv	480 672	535 580	735 639
Plovdiv - Dimitrovgrad	720 219	503 576	290 311
Dimitrovgrad - Svilengrad	76 655	144 119	146 489
Total	**6 823 645**	**7 233 669**	**7 037 015**

Source: Member of RFC 7 Commission from Bulgaria, NRIC

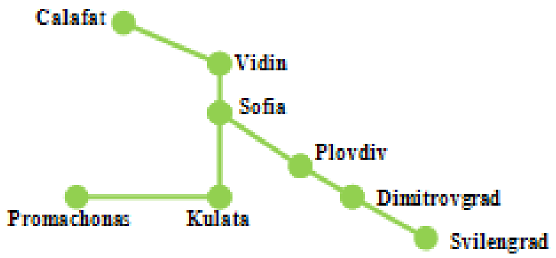
In 2009 compared to 2008, there is an increase of total passenger transport by 6,0%.
In 2010 compared to 2009, there is a decrease of total passenger transport by – 2,72%.

The highest increase of passenger transport in 2010 compared to 2008 is on the section Septemvri – Plovdiv.
The highest decrease of passenger transport from the long-term point of view is on the section Dimitrovgrad – Svilengrad.

Scheme 12: Technical parameters of corridor lines on the territory of Bulgaria (NRIC)



Capacity:



Electrification: Z _ *3 KV DC*
Y _ *25 KV AC (50 Hz)*
X _ *Non-electrified*

Profil (P/C): 2 _ *P/C 57/381*
3 _ *.P/C 70/400*
5 _ *.P/C 59/389*

M _ *Marshaling yard*
I _ *Intermodal terminal/keper*
_ *Seaport*

E _ *ECTS*
G _ *GSM-R*

2.1.7 Greece

General socio-economic situation (2006-2010)

Greece is located in the south of Europe and has 10 787.7 thousands of inhabitants. Athens is the capital of Greece with 3 874.6 thousands of inhabitants. The second largest city is Thessaloniki located on the corridor (about 1000 thousand of inhabitants). Other important cities lying on the corridor are shown in Annex.

Gross domestic product per capita in purchasing power parity decreased to 82% of EU average (EU 27) in 2010. The services are GDP basis. GDP development, industry structure in 2010 and GDP development prognosis are shown in the following table.

Table 43: Greek GDP structure, development and prognosis

GDP structure (2010)		Reality						Prognosis	
Grecce	**Share in %**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Agriculture	4%								
Industry	17,6								
Transport		5,5	3,0	-0,2	-3,3	-3,5	-5,5	-4,7	0,0
Trade									
Services	78,5								

Source: Member of RFC 7 Commission from Greece, EUROSTAT prognosis –GDP real growth rate database-volume

Table 44: GDP per capita in Greece in purchasing power parity

Years	Reality					
	2006	**2007**	**2008**	**2009**	**2010**	**2011**
EU (27)	100,0	100,0	100,0	100,0	100,0	100,0
Greece	92,0	90,0	92,0	94,0	90,0	82,0

(data are expressed in relation to EU average EÚ 27 = 100), Source: Eurostat

During the economic crisis, since 2008, the Greek economy has fallen into recession.

According the prognosis from Eurostat database, the economic decline shall last also in 2012. In 2013, economic turnaround will occur (from recession to growth).

Table 45: Development of state expenditures in infrastructure in Greece

Transport mode	State expenditures in infrastructure (millions of EUR)				
	2006	**2007**	**2008**	**2009**	**2010**
Rail		750,5	664,3	689,8	452,0
Road	64 553 519	83 691 224	69 551 497	76 918 621	56 624 090
Waterways	12 936 258	5 299 882	15 636 390	26 705 402	26 093 211
Air	34 589 126	34 589 126	34 589 126	34 589 126	34 589 126
Pipeline			1,0		
Total	**112 078 903**	**123 580 983**	**119 777 678**	**138 213 839**	**117 306 879**

Source: Member of RFC 7 Commission from Greece, OMC

In 2010, overall state expenditures in infrastructure decreased. The state expenditures in railway infrastructure represent a low share of overall state expenditures in infrastructure. It is also due to sparse rail network.

Table 46: Freight transport modal split in Greece

Transport mode	Freight transport modal split in thousands of tons				
	2006	2007	2008	2009	2010
Rail	3 884,00	4 943,00	4 253,00	3 377,00	3 982,00
Road	510 741,00	484 775,00	628 560,00	644 528,00	577 442,00
Waterways	159 425,00	164 300,00	152 498,00	135 430,00	124 387,00
Air	107,07	102,96	112,22	97,80	88,72
Total	**674 157,07**	**654 120,96**	**785 423,22**	**783 432,80**	**705 899,72**

Source: Member of RFC 7 Commission from Greece, EUROSTAT

In 2010, there was more significant decrease in total freight volume.

This significant decrease in total traffic volume in 2010 is due to large decrease of dominant transport mode in Greece, i.e. road goods transport. Road goods transport volume decreased by -10.4% in 2010 compared to 2009.

Road, water and air freight transport observed, in 2009 and 2010, large decrease. Rail freight traffic observed an increase in 2010.

Share of rail freight traffic of total traffic volume was 0.56% in 2010. The highest rail freight share of total traffic volume was in 2007, 0.76%. Share of road goods transport of total traffic volume was 81.80% in 2010. Share of water freight transport of total traffic volume was 17.62%.

Table 47: Passenger transport modal split in Greece

Transport mode	Passenger transport modal split in thousands of passengers				
	2006	2007	2008	2009	2010
Rail	9 520	10 003	8 389	14 280	13 817
Road - public	n/a	n/a	n/a	n/a	n/a
– Road - individual	n/a	n/a	n/a	n/a	n/a
Waterways	45 177	45 858	45 222	43 867	
Air	32 753	34 780	35 056	33 436	32 624
Total	**87 450**	**90 641**	**88 667**	**91 583**	**46 441**

Source: Member of RFC 7 Commission from Greece, EUROSTAT, TRAINOSE

Rail passenger traffic observed a significant increase in performances in 2009 and 2010 compared to previous years 2006, 2007 and 2008.

Table 48: Rail freight transport according to groups of goods

Goods structure	Rail freight transport development according to groups of goods in millions of tonne-km				
	2006	2007	2008	2009	2010
Products of agriculture	32,0	28,0	25,0	42,0	43,0
Coal, gas, oil	0,0	0,0	13,0	6,0	1,0
Metals	5,0	2,0	0,0	0,0	0,0
Chemicals	36,0	35,0	19,0	12,0	14,0
Wood, paper	114,0	124,0	118,0	76,0	101,0
Others	123,0	132,0	1,0	0,6	1,0
Total	**310,0**	**321,0**	**176,0**	**136,6**	**160,0**

Source: Member of RFC 7 Commission from Greece, EUROSTAT, TRAINOSE

Wood, paper and products of agriculture have a considerable share of rail transport according to groups of goods. Products of agriculture have growing trend. Wood and paper maintain the traffic volume.

More detailed information on Greece is shown in the tables of Annex A.

Detailed information on corridor on the territory of Greece

Data relating exclusively the lines proposed for the establishment of the rail freight corridor (main or alternative, terminal lines) in Greece are shown in the following tables.

Table 49: Freight transport development on draft rail freight corridor RFC 7 in Greece

Years	Freight transport in thousands of gross tons			
	2006	2007	2008	2009
Pireaus -3 Gefyres	6 600	9 900	9 900	6 600
3 Gefyres - SKA	6 600	9 900	9 900	6 600
SKA - Inoi	63 600	95 400	95 400	63 600
Inoi - Tithorea	110 400	165 600	165 600	110 400
Tithorea - Lianokladi	67 200	100 800	100 800	67 200
Lianokladi - Domokos	72 000	100 800	100 800	72 000
Domokos - Palaiofarsalos	18 000	27 000	27 000	18 000
Palaiofarsalos–Mesourlo- Larissa	52 500	79 800	79 800	52 500
Larissa -Evangelismos	46 000	46 000	46 000	41 400
Evangelismos - Leptokaria	70 000	70 000	70 000	63 000
Leptokaria - Plati	136 000	136 000	136 000	122 400
Plati – Sindos - Thessaloniki	96 200	96 200	96 200	88 800
Thessaloniki - Strimonas	272 250	272 250	272 250	193 600
Strimonas -Kulata- Promachonas	25 200	25 200	25 200	21 000
Total	**1 042 550**	**1 234 850**	**1 234 850**	**927 100**

Source: Member of RFC 7 Commission from Grecce, Based on the created data base for TEN-T revision

In 2008 compared to 2009, there was decrease in the total performance volume on the draft rail freight corridor 7 by -24.92% (decrease by -11.07% in 2009 compared to 2006).

The highest decrease in transport performances (volume) in freight transport is, in 2009 compared to 2006, on the track Thessaloniky – Strimonas (-28.9%).

There is only one passenger and freight carrier in Greece (see Table B.4 in Annex B).

Table 50: Passenger transport development on draft rail freight corridor RFC 7 in Greece

Years	Passenger transport in train km				
	2006	2007	2008	2009	2010
Pireas-3 Gefyres	139 700	136 400	100 100	103 400	164 893
3 Gefyres - SKA	139 700	136 400	100 100	103 400	164 893
SKA - Oinoi	609 500	577 700	577 700	609 500	664 283
Oinoi - Tithorea	487 600	506 000	506 000	524 400	1 037 922
Tithorea - Lianokladi	296 800	308 000	308 000	319 200	567 602
Lianokladi - Domokos	318 000	330 000	330 000	276 000	639 010
Domokos - Palaiofarsalos	52 500	43 500	66 000	69 000	138 473
Palaiofarsalos - Larisa	189 000	163 800	256 200	268 800	372 337
Larisa - Evaggelismos	62 100	121 900	121 900	184 000	214 543
Evaggelismos - Leptokaria	94 500	185 500	185 500	280 000	298 937
Leptokaria - Plati	183 600	360 400	360 400	544 000	647 161
Plati - Thessaloniki	572 520	506 460	506 460	513 800	305 796
Thessaloniki - Strimonas	254 100	423 500	387 200	423 500	405188
Strimonas - Promachonas	0	9 800	9 800	14 000	2 762
Volos - Larissa	207 400	207 400	207 400	183 000	-
Total	**3 607 020**	**4 016 760**	**4 022 760**	**4 416 000**	**5 218 612**

Source: Member of RFC 7 Commission from Grecce, Based on the created data base for TEN-T revision

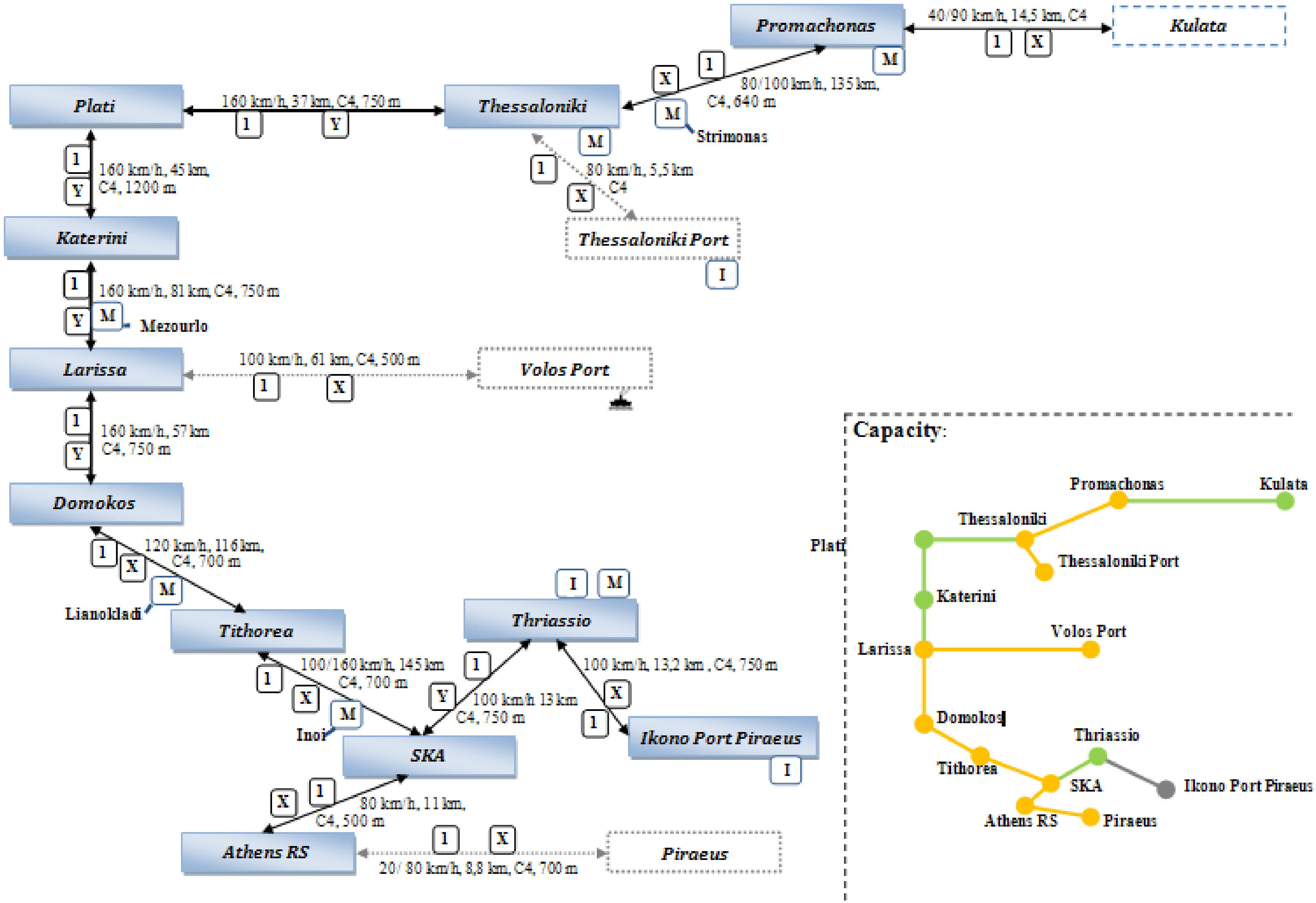
In 2006 – 2010, there was permanent increase in number of passengers, in contrast to the development on the whole OSE network. After rapid increase in 2009, there was decrease in 2010.

The largest decrease in number of passengers, in 2010 compared to 2006, is on the track Platy - Thessaloniki. The highest increase in number of passengers, in 2010 compared to 2006, is on the track Oinoi – Tithorea.

The capacity of proposed lines of rail freight corridor 7 is utilised on the maximum level between 50% and 90% of line capacity on the sections Thessaloniki – Promachonas and Larissa - Athens. The other lines of draft RFC 7 are utilised maximum on the level lower than 50% of line capacity.

Scheme 13 of stations, their facilities, lines and technical parameters of rail freight corridor on the territory of Greece shows the proposed lines and their technical parameters. More detailed and further additional information (not listed in Schemes) concerning terminals and marshalling yards is listed in Annex B.

Scheme 13: Technical parameters of corridor lines on the territory of Greece (OSE)



Electrification: Z _ 3 KV DC; Y _ 25 KV AC (50 Hz); X _ Non-electrified

Profil (P/C): 1 _ P/C 45/375; 3 _.P/C 70/400; 4 _.P/C 78/402

M _ Marshaling yard; I _ Intermodal terminal/keper; _ Seaport

E _ ECTS; G _ GSM-R

2.2 GENERAL SOCIO – ECONOMIC SITUATION OF THE COUNTRY WITH IMPORTANT INFLUANCE ON RFC 7 - GERMANY

Germany is a country in the North-Central Europe with 82.4 millions of inhabitants. Berlin is the capital of Germany with 3.5 millions of inhabitants. The second largest city is Hamburg with 1.7 millions of inhabitants.

Germany is the third largest economy of the world and the largest economy in EU with the GDP of 2,6 billions € (in 2011). From the foreign trade point of view, Germany is the largest export country of EU and it is an important trade partner for Central and South-East Europe. The most competitive branches from the word-wide view are: automotive, electrical engeneering, machinery construction and chemical industry.

GDP per capita in purchasing power parity reached 119% of EU average (EU 27) in 2010. The most important parts of GDP are services and industry.
GDP development, GDP per capita and prognosis of GDP development are shown in the following tables.

Table 1: Germany GDP development and prognosis

Years	Reality						Prognosis	
	2006	2007	2008	2009	2010	2011	2012	2013
EÚ (27)	3,4	3,2	0,4	-4,5	2,1	2,6	-0,4	-0,1
Germany	3,7	3,3	1,1	-5,1	4,2	3,0	0,7	0,4

Source: EUROSTAT – database of real GDP development[1]

Table 2: GDP per capita in Germany in purchasing power parity

Years	Reality					
	2006	2007	2008	2009	2010	2011
EÚ (27)	100	100	100	100	100	100
Germany	115	115	116	115	119	121

(Data are expressed in relation to EU average EU27 = 100), Source: Eurostat

During the economic crisis since 2008, the economy of Germany decreased to growth recession. Already in the year 2010, there is the increase of GDP.

Based on prognosis of Eurostat, the economy growth shall continue for the next years. This is a positive trend for the growth of economy in the countries of the Central and South-East Europe.

[1] http://epp.eurostat.ec.europa.eu/portal/page/portal/national_accounts/data/database

2.3 COMPARISON OF TRANSPORT PERFORMANCES, TRAVEL TIME BETWEEN ROAD AND RAIL AND INFRASTRUCTURE ACCESS CHARGES

2.3.1 Comparison of road and rail transport performances

Based on partial analyses carried out in respective countries, we can conclude that there is a dynamic increase of road transport and stagnation of rail transport in most countries, except for Romania and Greece. Therefore, share of rail transport in total traffic volume decreases, especially in the Central European region.

Rail share decreases more on the less important lines (regional lines, connecting lines without presence of terminals, etc.), while a moderate increase can be observed on the main lines and on the corridor lines.

The share of intermodal transport increases inside total rail traffic volume.

Therefore, one of the possible solutions how increasing rail flexibility is not only to improve the technical parameters of lines (thus shortening transport time) but also to support the intermodal transport in combinations road-rail-road and water-rail-road.

2.3.2 Comparison of transportation times on road infrastructure and on rail infrastructure

In general, it is known that road transport is in terms of transport time and location more flexible. It confirms also average speed on the line Bratislava-Bucharest calculated in the following table.

Crews, driving times, breaks and rest periods required for determination of total time of transport by road on the route Bratislava – Bucharest are specified in accordance with Regulation (EC) No 561/2006 of the European Parliament and the Council on the harmonisation of certain social legislation (hereinafter Regulation 561/2006) relating to road transport (in particular international road transport over 3,5 t).

Transport time by rail is determined on the basis of average transport times where necessary actions to ensure the transport are included (forwarding times, used in particular in rail transport are not included in total time).

Table 51: Average speed calculated on the section Bratislava East - Bucharest

Transport	Section	km	hours	km/hour
Rail freight transport – unit train	Bratislava - Bucharest	1106,2	28,6	38,68
Truck transport – two-man crew, shortened rest period	Bratislava – Bucharest	1017,0	16,05 – 19,34	57,0 – 70,0*
Truck transport – one driver, shortened rest period	Bratislava – Bucharest	1017	25,5 – 38,35	54,0 – 70,0

* Source: e.g. Mercedens Benz VDA

Data for road transport are drawn from the technical parameters of manufacturers. Average speed of truck transport is affected by the structure of road transport infrastructure (highways, motor roads, lower category roads), technical condition of infrastructure and actual situation on the roads (congestion, unfavourable weather, other extraordinaries).

In goods transport by trucks with two drivers, average speed of 54 km/h and following the rules on driving time, break and rest of drivers according to Regulation 561/2006, total transport time from Bratislava to Bucharest is approximately 29,35 hours. When the average speed is increased by 3 km/h (i.e. average speed is 57 km/h), the drivers have not to utilize shortened rest period (9 hours) and total transport time is shortened to 19,34 hours.

In goods transport by trucks with two drivers, average speed of 70 km/h and following the rules on driving time, break and rest of drivers according to Regulation 561/2006, the total transport time from Bratislava to Bucharest is approximately 16,05 hours.

In goods transport by trucks with one driver, average speed between 54 km/h and 70 km/h, shortened rest period and following the other rules according to Regulation 561/2006, the total transport time from Bratislava to Bucharest is in the range of 25,05 h and 38,35 h.

Based on these facts, we can conclude that transport time by truck can be shorter on Bratislava – Bucharest section compared with through freight train by 12,5 h (i.e. comparison between rail and truck transport with two-man crew and reached average speed of 70 km/h).

This conclusion is confirmed by the data on transport time provided by members of Commission from Slovakia and Greece (see Annex: Rail corridor info, Time and Charge).

2.3.3 Comparison of infrastructure Access charges

In order to compare the levels of charges, as the structure and form of charges is different in the countries of rail freight corridor 7, the evaluation is carried out in relation to train-km (comparison based on average rates in relation to train-km is used in international studies, e.g. Charges for the Use of Rail Infrastructure 2008).

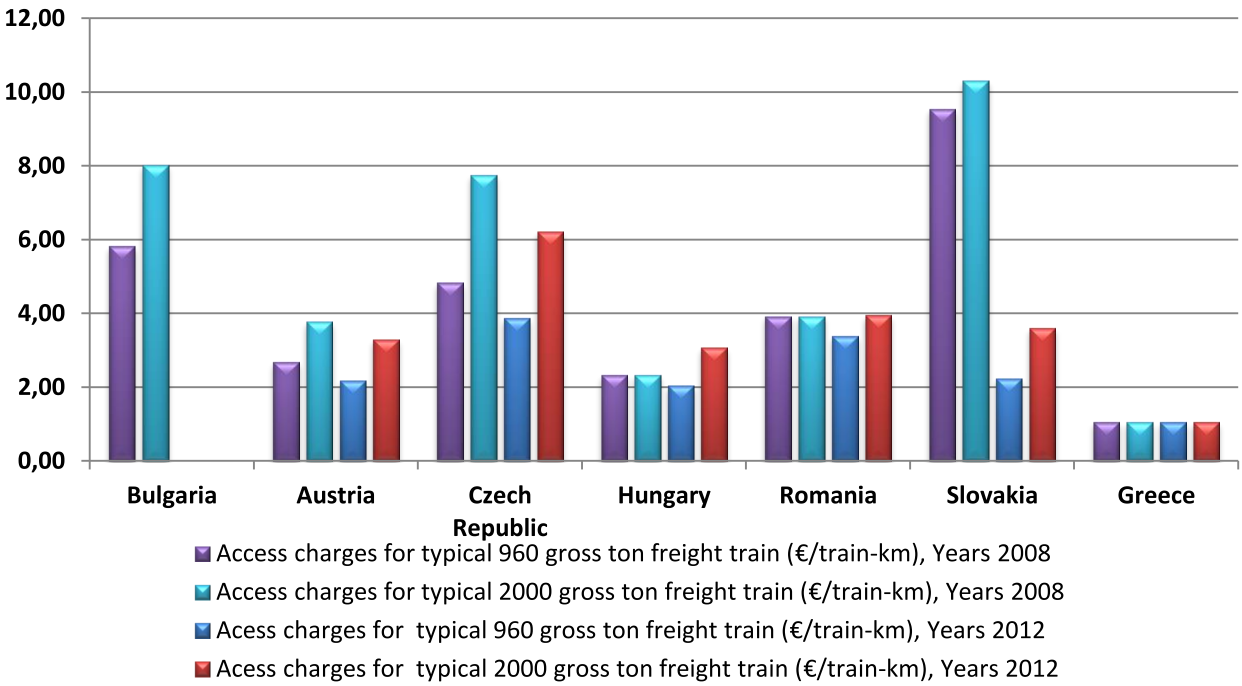
In general, each country of rail freight corridor 7 has implemented, in larger or smaller extent, Regulation of the European Commission under the Directive of the European Parliament and the Council No 2001/14/ES of 26 February 2001 on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification. Comparison of rail infrastructure access charges in 2008 and 2011 on the basis of train-km is shown in the following table and diagram.

Table 52: Comparison of rail infrastructure access charges in €/train-km

Country	Charges for the Use or Rail Infrastructure 2008*		Access charges in 2012**	
	Access charges for typical 960 gross ton freight train (€/train-km), Years 2008	Access charges for typical 2000 gross ton freight train (€/train-km), Years 2008	Access charges for typical 960 gross ton freight train (€/train-km), Years 2012	Access charges for typical 2000 gross ton freight train (€/train-km), Years 2012
Bulgaria	5,82	8,03	n/a	n/a
Austria	2,68	3,78	2,18	3,30
Czech Republic	4,83	7,76	3,87	6,22
Hungary	2,34	2,34	2,05	3,07
Romania	3,93	3,93	3,40	3,95
Slovakia	9,54	10,31	2,24	3,60
Greece	1,05	1,05	1,05	1,05

*source: Charges for the Use of Rail Infrastructure 2008
** source: Data provided by members of Rail Freight Corridor 7 Commission, 1€ = 293,14 HUF, 1€ = 4,2379 RON, 1€ = 24,815 Kč,

Diagram 1: Comparison of rail infrastructure access charges in €/train km



As presented in the table and the diagram, in the past, the Slovak Republic belonged to the EU countries with the highest rail infrastructure access charges. It has changed from 1 January 2011 by modification of the structure and the level of rail infrastructure access charges.

Based on the analysis of the structure and the level of rail infrastructure access charges, we can conclude that charging policy of respective countries does not have negative effect on the establishment of the rail freight corridor.

2.4 CAPACITY ANALYSIS

Based on the capacity analysis, we can conclude that the planned corridor has sufficient free capacity, so the present infrastructure would be capable of serving an increased rail transport flow without major changes. However, for smooth absorbing of a potential extra transport volume, it is necessary, to eliminate the capacity-restrictive sections on the corridor. The most capacity-restrictive line sections are on the territory of the Czech Republic and Slovakia.
The reasons for the high rate of capacity utilization are:

- Czech Republic: strong traffic volumes
- Slovakia: short section of a single track line inside the node of Bratislava

Table 53: Summary of lines with high rate of capacity utilisation

Country	Lines with capacity utilisation higher than 90%
Bulgaria	n/a
Czech Republic	Poříčany - Pardubice (65 km)
	Choceň - Česká Třebová (25 km)
Greece	has no line with capacity utilisation higher than 90%
Hungary	has no line with capacity utilisation higher than 90%
Austria	has no line with capacity utilisation higher than 90%
Romania	has no line with capacity utilisation higher than 90%
Slovakia	Bratislava hl. st. - Bratislava Nové Mesto (6 km)

Majority of corridor lines with capacity utilisation under 50% are on the territory of Slovakia and Hungary.

2.5 SWOT ANALYSIS

Within SWOT analysis, the particular strengths and weaknesses, opportunities and threats associated with establishment of RFC 7 are identified, on the basis of evaluating the respective factors that derive from creation of the corridor. By interdependency of strengths and weaknesses on the one hand and opportunities and threats on the other hand, we can obtain new information about the current status and about the benefits stemming from the establishment of the rail freight corridor.

In processing and evaluating the individual factors, the opinions of all countries, involved in the establishment of RFC 7, have been taken into account.

SWOT analysis generates a conceptual aspect for system analysis. It aims at the key factors for further strategic decision making.

Evaluation primary factors are:

- partnerships
- technical aspect
- capacity
- charges
- flexibility (time aspect)

Table 54: SWOT analysis at the corridor level

Strengths	Weaknesses
Partnership strengthening. Good technical conditions (in comparison with the other parts of national networks). Sufficient free capacity (especially in Slovakia, Hungary, Greece). Ecological transport mode. Effective bulk transportation. Safety.	Low state contribution to infrastructure costs → high infrastructure access charges. Low technical level, out-of-date infrastructure, high rate of failures. Lack of foreign language knowledge. Lack of free capacity on some lines (Czech Republic, Romania) for freight transport increase. Small flexibility. Low line speed (outside modernized sections). - Restrictions on border lines (in many cases these are single track lines with increased capacity).
Opportunities	**Threats**
Government transport policy (transport reforms). Organizational reform. Improvement of cooperation between corridors. Establishment of new partnerships. Cross-border cooperation (in improvement of technical parameters of border lines). Mutual cooperation in remedying the deficiencies in corridor establishment. Support of RoLa. Performance increase in cross-border stations. Support to intermodal transport. Confidence trains (without technical/commercial inspections). Elimination of waiting times at cross-border stations. Harmonization of annual time tabling between respective countries. Increase of road freight transport costs. Incorporation into logistic processes, into existing large logistic centres. Acquisition of new transportations, construction of branch tracks to newly-built industrial parks, companies (car companies). Connecting to logistic centres. Construction of intermodal transport terminals. Support of branch tracks. Shift of dangerous transport to safer transport mode (shift from road to rail). State policy support (legislation arrangement). Track modernization. Doubling of the tracks, ERTMS deployment. Development of terminals, infrastructure and industry around the terminals. Construction of terminals.	Differences in performance regimes. Economic crises. Intermodal alternatives. Re-evaluation of EU mega trucks. Increased performance can lead to increasing of fault rate. Prioritizing road transport. Non-competitive running times of long distance trains. No interface with logistic chains and centres. Mass transportation attenuation. High costs of .sidings Unfavourable state transport policy. Increased difficulty of short distance passenger traffic in the surrounding of centres. Giving priority to passenger traffic rather than freight traffic. -

Implementation of the measures only in some countries will not lead to significant increase in the competitiveness of international rail freight transport. Therefore, it is necessary to implement the measures jointly, based on mutual agreement of all member states of the corridor.

EXPECTATIONS OF FUTURE DEVELOPMENT „TO BE“ SITUATION

3.1 CALCULATION MODEL FOR THE TRAFFIC FORECAST

Based on analysis of current status, data assembly, identification of problems and risks, it is possible to create the forecast model that will serve to determine the expected development on the transport market after observing the defined conditions of recommendations for the establishment of the rail freight corridor. Traffic forecast modeling results from these aspects (= traffic support areas):

- GDP prognosis,
- technical condition improvement = ensure full harmonization of technical condition of rail freight corridor (based on an intended modernization on the draft RFC 7),
- reducing border waiting times,
- observing the timeframe of corridor introduction,

These aspects are interrelated and are reflected in deduction of the transport demand and creating a calculation model for the traffic forecast.

As transport performance forecasting depends, mostly, on economic development (and the resulting investments for infrastructure technical condition improvement) and it is, with respect to ongoing global economic crisis, rather ambiguous, the transport performance development forecast is elaborated in three scenarios (pessimistic, medium and optimistic). The fundamental characteristics of the scenarios will be described in the expected changes in traffic flow according to the aspects of impact on traffic flow development.

Transport demand will depend on the aspects (transport support areas) influencing the transport demand development. Thus, based on GDP growth in the respective countries, technical condition improvement and reducing the running times by means of border waiting time elimination, we can expect increase in rail traffic competitiveness and thereby also increase in transport performances on RFC 7.

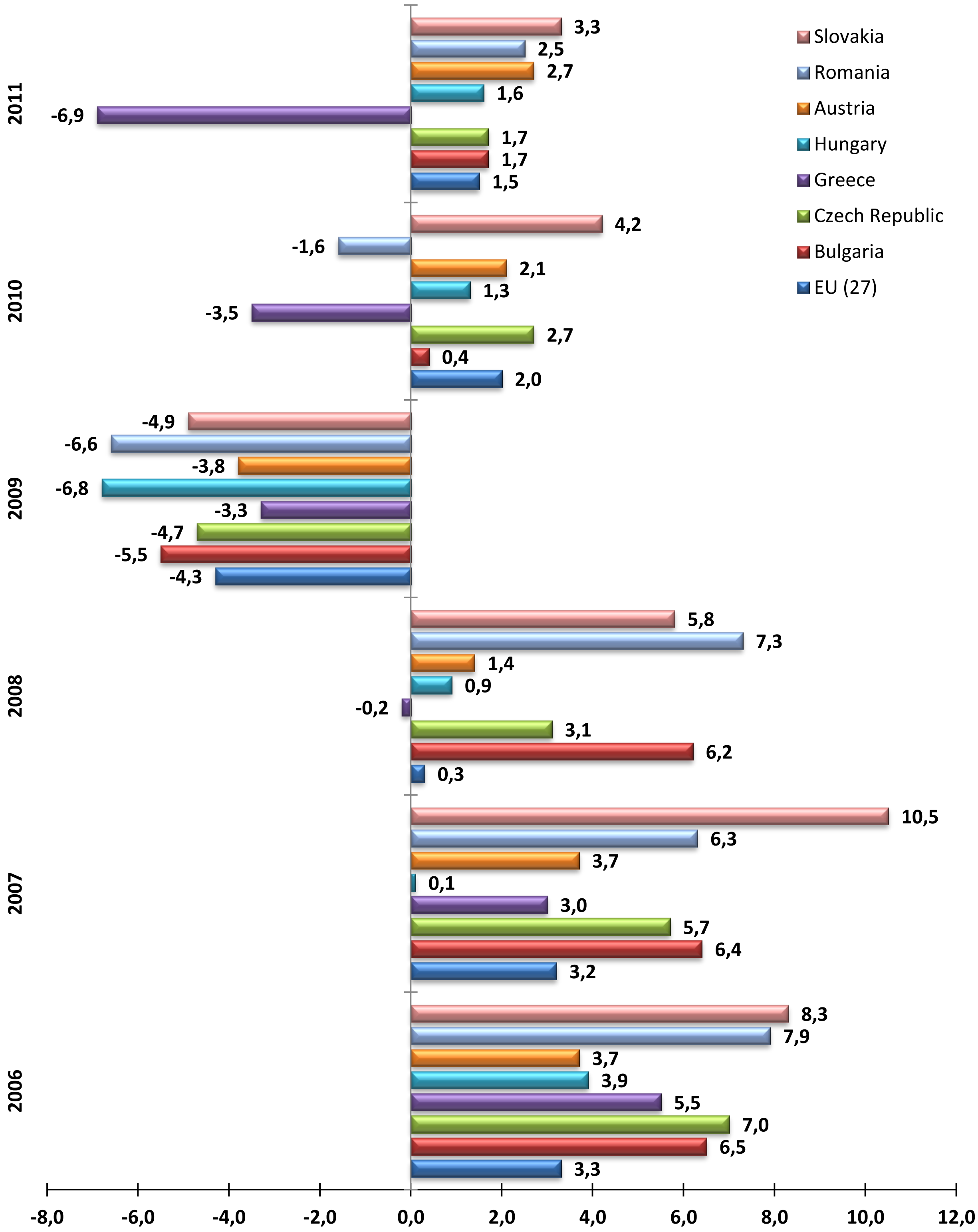
The following calculations are based on the fact that:
Elasticity factors used in forecasts, associated with GDP growth, are:

e_{GDP}= 0,5 - 0,9 (demand in freight traffic)

Level of transport elasticity depends on an economic advancement. In transforming economies, the level of elasticity is lower due to assumption of development of industries not relating with rail freight transport increase.

Rail freight corridor 7 will profit not only from GDP growth, but also from improving the infrastructure technical condition, eliminating the unreasonable border waiting time. Technical condition improvement and border waiting time reduction will be shown in increase in transport performances due to increasing in quality of provided services and speed and flexibility of transport.

Diagram 2: GDP historical development in the respective member states of the rail freight corridor



GDP is a starting point of the forecast. It plays a key role in the assessment of transport demand development within the Study.

GDP prognosis is from EU sources [2]

Table 55: Prognosis of GDP growth in respective countries of Rail Freight Corridor 7

Prognosis of GDP growth rate in freight transport			
Years	**2012- 2014**	**2015- 2017**	**2018-2021**
Bulgaria	1,63%	4,17%	4,50%
Czech Republic	1,60%	3,60%	3,54%
Greece	-0,72%	3,02%	2,87%
Hungary	0,90%	2,22%	2,19%
Austria	1,57%	2,01%	1,80%
Romania	2,68%	3,97%	3,97%
Slovakia	2,77%	3,70%	3,60%

Source: Eurostat, Economy and finance, national accounts (including GDP) - Europe 2020 indicators, WEO data

Traffic growth assessment was carried out in three steps.

In the first step, a deduction of transport market growth is determined by weighted arithmetic mean calculated from GDP of own country and from GDP of neighbouring countries lying on RFC 7.

In the second step, the forecast is influenced by assumptions for improving the infrastructure technical condition, construction the terminals and expected high private investments along the corridor. Improving the infrastructure technical condition, construction of terminals are in accordance with available information of national plans of modernization and reconstruction relating the infrastructure of rail freight corridor 7. From technical point of view it is important to eliminate bottlenecks and capacity problems. These problems can be eliminated by modernization and reconstruction. Assumption of modernization and reconstruction implementation in respective countries is always on the national level. The problem may be in border lines and cross-border stations where it is necessary to harmonize the neighbouring countries. Expected improvement of technical condition is calculated using the comparative coefficient according to HEATCO Study – Developing Harmonized European Approaches for Transport Costing and Project Assessment.

Finally, there was a phase of transformation of gradual reduction of border waiting times due to exchange of wagons between national carriers. Reducing the border waiting times will lead to speeding up the transport times and increasing the competitiveness against the road transport where this exchange does not exist. Exchange of rail transport means at borders will be still important and an integral part of rail transport market despite of intensified market liberalization (there is no exchange of rail transport means for transnational carriers). Expected reducing the border waiting times will reflect in increasing the competitiveness of international freight transport, thereby increasing the transport growth. Waiting time reduction is calculated using the comparative

[2] EUROSTAT: Economy and finances, national accounts (including GDP) - Europe 2020 indikators – REGIONS 2020
An Assessment of Future Challenges for EU Regions
http://ec.europa.eu/regional_policy/sources/docoffic/working/regions2020/pdf/regions2020_en.pdf
Word Economic Outlook (WEO) data, IMF http://www.econstats.com/weo/CAUT.htm

coefficient in accordance with HEATCO Study – Developing Harmonized European Approaches for Transport Costing and Project Assessment.

Scheme 14: Scheme of calculation model for the traffic forecast

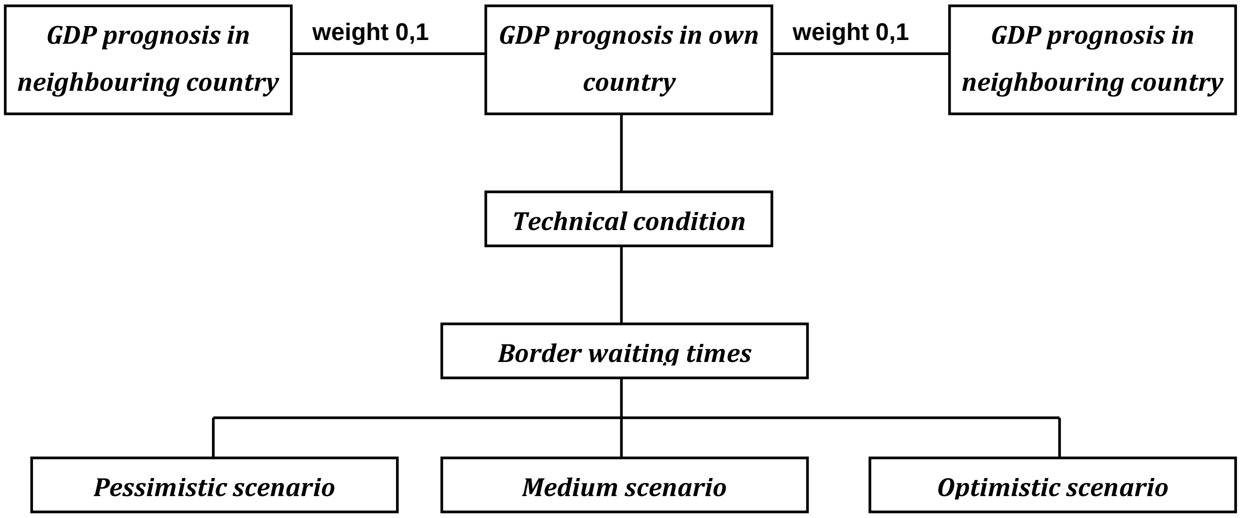


Table 56: Traffic demand deduction according to prognostic model "pessimistic scenario"

Pesimistic growth			
Demand growth rate forecasts in freight transport			
Years	**2012- 2014**	**2015- 2017**	**2018-2021**
Bulgaria	0,90%	2,42%	2,57%
Czech Republic	1,11%	2,59%	2,53%
Greece	-0,31%	1,57%	1,51%
Hungary	0,67%	1,51%	1,24%
Austria	1,22%	1,30%	1,20%
Romania	1,20%	2,10%	1,92%
Slovakia	1,17%	1,86%	1,64%

Table 57: Traffic demand deduction according to prognostic model „medium scenario“

Medium growth			
Demand growth rate forecasts in freight transport			
Years	**2012- 2014**	**2015- 2017**	**2018-2021**
Bulgaria	0,90%	2,42%	2,57%
Czech Republic	1,63%	3,28%	2,86%
Greece	-0,24%	2,35%	2,27%
Hungary	1,20%	1,77%	1,98%
Austria	1,55%	2,48%	2,52%
Romania	2,28%	3,62%	3,27%
Slovakia	2,23%	3,20%	2,78%

3.2 Table 58: Traffic demand deduction according to prognostic model „optimistic scenario"

Optimistic growth			
Demand growth rate forecasts in freight transport			
Years	**2012- 2014**	**2015- 2017**	**2018-2021**
Bulgaria	1,20%	3,23%	4,28%
Czech Republic	1,80%	3,80%	3,87%
Greece	0,06%	3,29%	3,48%
Hungary	1,20%	2,65%	2,72%
Austria	1,87%	2,83%	2,74%
Romania	2,52%	4,20%	4,61%
Slovakia	2,46%	3,71%	3,80%

3.2 Estimated changes of transport flows

Estimated changes of transport flows on corridor RFC 7 are simulated in 3 scenarios.

The basic characteristics of the scenarios are as follows:

Optimistic scenario – characters of economic revival from 2013, sustainment of positive economic indicators up to 2021, modernization and reconstruction of lines according to planned schedule, yearly decreasing of waiting times on borders, flexibile elimination of technical and capacity problems, increasing of RU´s flexibility during handover of trains on borders, increase of transport volumes is supported by high ratio of new intermodal transport , low growth of demand after bulk substrata traffic.

Medium scenario - slow economic revival from 2013, gradual improvement of economic indicators, modernization and reconstruction with 1 - 2 years delay, yearly decreasing of waiting times on borders, increasing of RU´s flexibility during handover of trains on borders, increase of transport volumes is supported by high ratio of new intermodal transport , stagnation of demand for bulk substrata traffic.

Pessimistic scenario - characters of economic revival from 2015, sustainment of positive economic indicators from 2015, modernization and reconstruction with 2 - 3 years delay, slow yearly decreasing of waiting times on borders, slow increasing of RU´s flexibility during handover of trains on borders, slight increase of transport volumes is supported by the slight ratio of new intermodal transport, stagnation of demand for bulk substrata traffic.

The following diagram and table illustrate the general prognosis of the transport demand growth, needed for the puposes of this Study.

Diagram 3: Development of transport volumes in million tkm according to particular scenarios

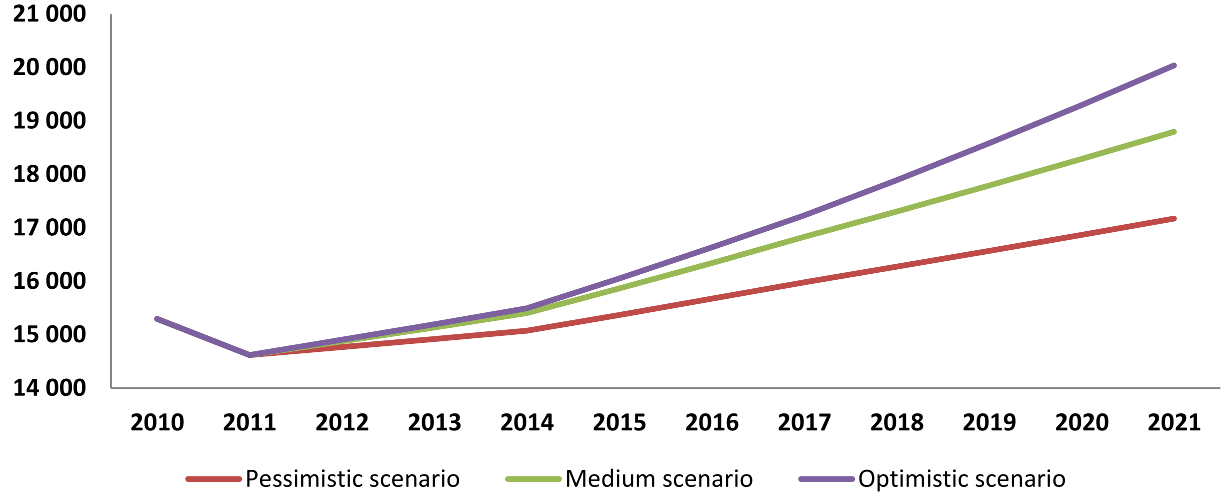


Table 59: Development of transport volumes in Million tkm according to particular scenarios (yearly)

Years	2012	2015	2018	2021
Pessimistic scenario	14 768,9	15 370,3	16 270,0	17 173,9
Medium scenario	14 875,2	15 864,5	17 301,8	18 799,0
Optimistic scenario	14 904,0	16 051,4	17 891,4	20 039,1

Notice: development on main lines

Risks of prognosis

The most important influence which coud considerably change the prognosis is the estimated time period of economic crisis. The longest time period of economic crisis is in the pessimistic scenario = upto the end of 2014 . The lenght of economic crisis will result in decreasing of investments into enhancement of technical status of infrastructure, elimination of capacity barriers and willingness to increase waiting times on borders by incresing of RU´s flexibility on borders and by elimination of these limitations. The important part by enhancement of technical status of infrastructure is the subsiding from the funds of EU in particular countries. Using of money from the subsidy funds of EU for modernisation and reconstruction of railway lines and stations contributes not only to the enhancement of technical status of infrastructure but as well to the growth impulse of economy. Delay in using money from subsidy funds of EU for modernisation and reconstruction of railway lines and stations can lead to decrease of positive potential effects for economy of the particular country.

The next risk is the growth of freight transport by another modes of transport, whereas railway transport can stagnate. That´s why it is very important for competitiveness of railway freight transport to provide high-class infrastructure, cooperation and coordination of neighbouring IM´s as well as flexibile cooperation between small and incumbent RU´s by handover of trains on borders.

The low technical equipment of border lines and stations causes higher problems than low technical equipment in inland. Examples for low technical equipment on border: low speed, single track and non-electrified lines.

3.3 SOCIO-ECONOMIC BENEFITS STEMMING FROM THE ESTABLISHMENT OF THE RAIL FREIGHT CORRIDOR RFC 7

The most important socio-economic benefits stemming from the establishment of the rail freight corridor are :

- reduction of waiting times at the borders (micro effect),
- reduction of transport times in freight transport (impact of investments),
- reduction of external costs (macro effect).

The estimated changes of the structure of transport flows can also become an important socio-economic advantage deriving from operating the corridor.
The parameters of different socio-economic effects (micro and macro) of creating RFC7 are calculated based on performances realized on the main lines of the corridor (see Table 10), due to the fact that the key-performances on the corridor are focused, i.e. the alternative and connecting lines support the increase of performances on the main lines.

Reduction of waiting times on the borders

Today the waiting times at the borders of RFC7 are often quite long. The actors causing the lengthy waiting times at the border crossings are:

partly the RU´s: **internal processes of RUs** (mostly waiting for locomotive and/or staff of the cooperating RU, technical control, etc.),

partly the IM´s: **lack of interoperabiliy of infrastructure** (the differences on the corridor are mostly in the electric systems, signalling devices, technical equipment of border stations and lines)
low capacity (e.g: single track line, restricted capacity of stations / line section)
restricted speed (e.g. max. speed of 60 km/hod)

Infrastructue Managers can decrease waiting times by enhancement of interoperability and communication, by modernisation and reconstruction of lines.

Railway Undertakings can decrease waiting times (from technical point of view) by enhancement of flexibility and cooperation during exchange of trains at the borders, by using multi-system locomotives, by certification of locomotive drivers, or by operating one RU on more infrastructures, thus performing the train transport by one RU on the whole route. Practice proves that small RUs have the longest waiting times at borders due to the lack of locomotives or staff.

Ad-hoc trains usually have higher waiting times at borders than regular trains.
In case technical or commercial inspections are needed at the border station, it may increase the duration of the procedure by 30–90 minutes.
The length of waiting times at borders ranges from 10 minutes to 48 hours.

The average waiting times are:

- for incumbent RUs: 10–40 minutes,
- for smaller RUs operating on more infrastructures: 0-5 minutes,
- for smaller cooperating RUs: 2–10 hours.

One of the possible solutions to improve waiting times from the RUs point of view is the increasing of „confidence trains“, which mean trains running without technical / commercial inspections. Such kind of trust could be applied not only for regular trains but also for ad-hoc trains, as the number of ad-hoc trains is rapidly increasing: today the proportion of ad-hoc trains is 40%, and that of regular trains is 60%.

The folowing sheet summarizes actual data, and also contains prognosis up to year 2021.

Table 60: Waiting times at the borders (actual status/ prognosis)

Country	Station*	Reality		Prognosis 2021
		Waiting time at the borders	**Average waiting time**	**Average waiting time**
Bugaria	Vidin (RO/BG)	n/a	n/a	n/a
	Kulata (BG/GR)	n/a	n/a	n/a
Czech Republic	Břeclav (CZ/AT)	3-60min	30	5
Greece	Promachonas (BG/GR)	220	220	30
Hungary	Rajka (SK/HU)	n/a	n/a	n/a
	Komárom SK/HU)		25	5
	Lőkösháza (HU/RO)	30 min	30	5
Austria	0 min (handover of trains is realized on the network of Czech Republic and Hungary)			
Romania	Curtici (HU/RO)	100 - 240 min	140	30
	Calafat (RO/BG)	100 - 240 min	140	20
Slovakia	Kúty (CZ/SK)		120	20
	Štúrovo (SK/HU)		140	20

** the waiting times at stations situated on the main lines are used for the purposes of calculation*

The calculation method is:

Reduction of waiting times at the borders = (average waiting times in 2011 – average waiting times in year X [year 2012 - 2021]) x (number of trains in particular border lines)

Socio-economic benefits were calculated for every year by taking into account the following factors:

- reduction of waiting times at the borders (calculated by using the above scheme)
- estimated volume of freight transport at the borders according to the transport prognosis
- time of implementation 2012 – 2021
- expected improvement of technical status
- value of the time bound to cargo (2010): 1,28 €/t.hour.

The value of the time is indexed from the end of the year 2010 to the next years of analysis + 1% (estimated annual rate of the growth of GDP/ habitant).

The reduction of waiting times concerns only stations and estimated freight transport volumes on the main lines.

Table 61: Final Net Present Value (NPV)

Reduction of waiting times at the borders in €	
NPV 2021 (pessimistic scenario)	128 713 568
NPV 2021 (medium scenario)	141 207 475
NPV (optimistic scenario)	146 019 575

Notice: external contribution on main lines

Financial evaluation of external costs (makro level)

The creation of a European rail network for competitive freight can lead to the increase of rail freight transport share at the expense of the existing as well as the newly generated road transport. By diverting goods from road to railway the negative impacts of transportation (e.g. congestions, accidents, pollution, climate change) can be decreased.

The level of the external impacts is evaluated based on unit costs to ton-kilometre, following the instructions listed in the Handbook on estimation of external cost in transport sector (2007) prepared by the consortium led by CE Delft on behalf of DG TREN.

The following factors were used for the derivation of the value of unit costs:

- development of GDP and purchasing power parity per capita,
- for air pollution, we have also integrated another factor in the calculation: 1% annual decrease due to technological improvements which lead to the reduction of emission.

Table 62: External costs in eurocent per ton-kilometre

Freight transport	Congestion	Accidents	Air pollution	Noise	Climate changes	Total
Truck	2,17	0,03	0,22	0,09	0,22	**2,73**
Freight train	0,01	0,01	0,07	0,04	0,1	**0,23**

Source: Handbook on estimation of external cost in transport sector (2007), prepared by the consortium led by CE Delft on behalf of DG TREN

External benefits were calculated on the basis of unit costs for freight transport according to the above-described scenarios of transport demand development. The results are presented in the following table.

Table 63: Final NPV (2021) in € according to particular scenarios

External costs in €	
NPV (2021) pessimistic scenario	104 015 168
NPV (2021) medium scenario	170 585 805
NPV (2021) optimistic scenario	208 441 878

Notice: external contribution on main lines

3.4 EXPECTED IMPACT OF PLANNED INVESTMENTS

The enhancement of the technical satus, modernisation and reconstruction of infrastructure can increase the capacity of the lines and shorten transport times. The decrease of transport times is determinated based on the estimated change in technical speed. The main focus is on line sections with maximal technical speed lower than 100 km/h (data based on „as-is situation").
The below table summarizes the planned major investments on the corridor and their expected impact.

Table 64: Expected investments into RFC 7 (main and alternative lines)

Country	Expected investments	Impact of investments
Bulgaria	Modernization of corridor section Vidin - Sofia	Increase of speed, enhancement of technical parameters, reduction of transport times
Czech Republic	New terminal in Česká Třebová;	Increase of demand for railway transport
	Construction of new logistic centres in Brno, Pardubice;	
	Modernization of TEN – T net from the subsidy funds of EU	
Greece	Construction of freight terminal in Thriassio Pedio (nearby Athens) incl. intermodal transfer devices (track portal cranes), maintenance center, parking area and other complex services for freight transport	Increase of demand for railway transport, enhancement of quality of railway services
	Modernization works on line section Strymonas – Promachontas: speed from 30 to 100 km/h, introduction of GSM/ R, ETCS level 1	Increase of speed for freight transport , increase of capacity, reduction of transport time, enhancement of technical parameters
Hungary	Szolnok - Szajol - track rehabilitation	Decrease of possessions
	Gyoma - Békéscsaba - track rehabilitation	Decrease of possessions
	Murony - Békéscsaba - second track	Increase of capacity, elimination of restrictive sections, enhancement of technical parameters, decrease of transport time
	Békéscsaba - Lőkösháza border - second track	Increase of capacity, elimination of restrictive sections, enhancement of technical parameters, decrease of transport time
	Budapest-Ferencváros - Lőkösháza border – installation of ETCS 2	Enhancement of technical parameters and the quality of provided services
	Győr – Sopron – second track	Increase of capacity
	Budapest-south connecting railway bridge - renewal	Enhancement of technical parameters
	Vác station – renewal , Vác – Verőce section renovation	Increase of capacity, enhancement of technical parameters

Country	Expected investments	Impact of investments
Austria	Upgrade of the section Wien – Břeclav to 160 km/h instead of 140 km/h	Increase of speed especially for passenger transport
	Completion of ETCS- level 2 instead of national control system or ETCS- level 1	Increase of capacity
	Full coverage with GSM-R	Enhancement of the quality of provided services
	Loading gauge upgrade to LPR 1 (Gabarit C) instead of national ZOV 7	Enhancement of technical parameters
Romania	Modernization of corridor started and is expected to be completed by 2020	Increase of capacity, elimination of restricting sections , enhancement of technical parameters (160 km/h for passenger trains and 120 km/h for freight trains, introduction of ERTMS/ETCS- level 2)
Slovakia	Modernization of railway station Bratislava hl. st.	Elimination of restrictions
	Completion of GSM – R	Increase of capacity, enhancement of the quality of provided services
	Modernization of the line Kúty - Bratislava Lamač for the speed 160 km/h and ETCS	Enhancement of the quality of provided services

4 CONCLUSIONS AND RECOMMENDATIONS

4.1 MEASURES TO IMPROVE FREIGHT PERFORMANCE

Definition of measures

Measures for improvement of freight performance on lines and terminals of RFC 7 can be devided into following groups :

Makroeconomic measures (= low impact from the IM´s point of view):
- support of the growth of GDP
- transport policy focused on development of environmental friendly transports, coordination and support on the level of states
- internalization of external costs

Microeconomic measures (= high impact from the IM´s point of view):
- motivation of RU´s operating freight transport to flexibility by means of access charges (parking fee, cancellation fee, indexes for regular/ ad-hoc paths...),
- modernization and reconstruction of lines (increase of capacity , support of interoperability, coordination of investments especially in border stations and lines),
- support of „confidence trains“ = without technical / commercial inspections,
- establishing of common procedures for coordinating traffic management along the corridor and setting up a joint body for appllicants called Corridor one-stop shop (C-OSS) ,
- drawing up a common corridor statement as a marketing tool helping to promote the corridor,
- flexibility of path allocation.

Macroeconomic measures (implemetation by state)

Macroeconomic measures are focused mainly on economic and transport policy. These measures are related to sustainable mobility. The conception of sustainable mobility is focused on two priorities = provision of high flexibility, low costs and effective mobility of the freigh on the one hand and minimalizing of claims arising from accidents, change of climate, noice, environmental damages, respiratory diseases, transport congestions due to increase of transport density on the other hand. That´s why it is necessary to support the ervironmental friendly kind of transports even by internalization of external costs and by another means of support (e.g. different types of restrictions).

Microeconomic measures (implementation by IM´s)

Motivation of RU´s operating freight transport to flexibility by means of access charges (parking fee, cancellation fee, indexes for regular/ ad-hoc paths)

Motivation of RU´s operating freight transport to decrease waiting times on borders can be achieved by implementation of parking fee on siding tracks (according to Directive 2001/14/EC of the European Parliament and of the Council of 26 February 2001 on allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification) The level and structure of a parking fee is an indirect tool how to affect the RU´s and to motivate them to decrease the waiting time on the border (on the other side the implementation of parking fee can´t solve the problems of RU´s with lack of locos / staff). One of the most effective tool from IM´s side could be the increasing of flexibility in path allocation process (=fast reaction time for ad-hoc path allocation) and appropriate common charging policy on the whole corridor (parking fee, cancellation fee, indexes for regular/ ad-hoc paths, preferences for intermodal transport, dangerous goods, extraordinary shipments...) .

Modernization and reconstruction of lines (increase of capacity , support of interoperability, coordination of investments especially in border stations and lines)

Modernization and reconstruction of tracks is an important task of all IM´s . On the one hand : the modernization and reconstruction of railway tracks supports the growth of the national economics and in case of subsidies from EU funds it can decrease the charges of national accounts, on the other hand: increasing of speed, technical level, safety and reliability leads not only to the increase of capacity and interoperability but as well to the increase of competitiveness of passanger and freight railway transport. During modernization and reconstruction of lines, it is important to provide for coordination of investment plans of involved IM´s in the way that the modernization of border sations and lines shall be in close time sequence among involved IM´s. On RFC 7, the most important modernization is between Romania/ Bulgaria / Greece as the technical level is actually low (40/80 km/h)

Support of „confidence trains“ = without technical / commercial inspections

The next possibility how to decrease the waiting time on border is the elimination of technical/ commercial inspections required by RU´s. This elimination assumes the confidence of cooperating RU´s. In principle, there are two possibilities: acceptation of technical and commercial inspection by initial RU in origin station on whole path or by IM´s in all transshipment marshalling yards .

One of possible solutions for accepting of technical / commercial inspection would be the issuing of international certificate for wagon examiners and commercial staff of RU which would guarantee the quality of inspection work.

Establishment of common procedures for coordinating traffic management along the corridor and setting up corridor one-stop shop (OSS)

It is necessary to determinate procedures and cooperation during path allocation process realized by Corridor OSS and national OSS. Processes should include information flows about scheduled and ad-hoc possessions, restrictions, extraordinariness which can influence path allocation process.

Drawing up a common corridor statement as a marketing tool helping to promote the corridor

Promotion of corridor is one of the most important issues for the establishment of the corridor.. The possible forms of promotion: website, brochures, dedicated meetings, advertising in newspapers focused on economy and transport. Potential customers (RU´s forwarding agencies, shippers, intermodal operators, terminals..) should have a fast and reliable access to all information they need for successful international railway freight transport (= access conditions, capacity availability, customer centers, infrastructure parameters, charges, possessions, etc.)
It is important to provide all necessary information in the languages of all countries involved in corridor RFC 7.

Flexibility of path allocation

Path allocation process should follow the same rules but actually differs from country to country. Directive 2001/14/EC determinates the duty of IM´s to respond to the path requests as quickly as possible and in any event within five working days. Sheet 65 shows an overview of actually practised response times. It would be useful to unify the rules for allocation of regular as well as for ad-hoc path on the future corridor RFC 7 with the focus on the highest possible level of flexibility (= Austria with 30 minutes response time) .

Table 65: Deadline for submitting of ad-hoc path requests by RU´s

Country	AB / IM	Minimum time for ad-hoc path allocation
Bulgaria	NRIC	n/a
Czech Republic	SŽDC	2 hours
Greece	OSE	n/a (allocation process differs from other countries)
Hungary	VPE	1 hour
Austria	ÖBB	30 min. (trains) / 10 min. (loco trains)
Romania	CFR	6 hours
Slovakia	ŽSR	6 hours

Source: Members of RFC 7

Experiences with allocation of catalogue paths RNE:

SŽDC, ŽSR:
Catalogue paths are allocated only in ad-hoc path allocation process = no demand of RU´s for annual timetabling process. In ad-hoc path process, parameters and timetabling of the path are not respected = trains are allowed to be longer/ shorter, heavier/ lighter, faster/ slower, late/ ahead.

VPE:
Catalogue paths (for all the Hungarian network) are allocated automatically by the path requesting IT system as an offer for all ad-hoc requests (paths). If it is not suitable, the requester could prefer tailor-made ad-hoc paths within 5 days, or paths without timetabling. At about 1 percent of the ad-hoc requests need taylor-made path, for 10 percent catalogue paths are suitable and all the rest (89 percent) prefer running without compiled timetable.

OSE:
Until now there is only one Railway Undertaking in Greece: TRAINOSE

The through capacity along the three main axis (Athens-Thessaloniki, Thessaloniki-FYROM Border, Thessaloniki-Bulgarian border) is fully exploited.

All available paths have been allocated to regular passenger trains, national and international (the latter agreed through the FTE process) freight trains. In case of requests for additional paths, these are treated on an ad-hoc basis, judging on the availability of resources (mainly availability of station personnel) at the time of the request and they are either accepted or rejected. Since the situation in Greece is very volatile, no standard rule has been adopted.

OBB:

On the ÖBB network, catalogue paths will not be directly allocated. They are just used as an aid for RUs for the elaboration of their paths requests.

In any case, no RNE catalogue path is allocated before X-8. Some finally allocated paths might fit exactly onto formerly defined RNE catalogue paths, others differ significantly and there are no statistics, which share of the path requests is based on RNE catalogue paths.

CFR:

CFR SA declared 'congested capacity' on several sections of the RFC7, following the start of the modernization works on those sections. As a consequence CFR will provide only 2 pre-arranged paths until the end of the current works, scheduled in 2015. For the moment CFR assumes that at the end of the works it wil be possibleto assure around 15 pre-arranged paths.

Implementation plan and management of path allocation (pre-arranged paths)

Implementation plan

Table 66: Timeframe for Implementation plan of RFC 7

Term	Description
till September 12, 2012	Elaboration of first draft of Transport Market Study (data provided and processed by members of RFC 7)
till February 19, 2013	Approval of final version of TMS by Managing Board of RFC 7
till April 30, 2013	Submisson of Implementation plan to Executive Board
till November 13, 2013	Establishment of corridor RFC 7

Source: Regulation 913/2010, approved milestones by MB of RFC 7

Pre- arranged paths

Based on capacity analysis and market demand analysis (usage of existing RNE catalogue paths) the following pre-arranged path are suggested:

1. CZ – SK – HU: Petrovice - Kúty - Rajka , 2200 t, 690m
2. CZ – SK – HU: Petrovice - Kúty - Rajka , 2200 t, 690m
3. CZ – SK – HU: Děčín - Kúty - Rajka , 2000 t, 690 m
4. CZ – SK – HU – RO: Petrovice - Kúty – Rajka - Curtici -Malina , 2000 t, 540 m
5. CZ –SK – HU- RO: Děčín- Kúty - Štúrovo - Curtici, 2000 t, 690 m
6. CZ- SK – HU – RO-BG: Petrovice - Kúty - Komárom- Curtici- Sofia , 2000 t, 620 m
7. CZ– SK – HU – RO: Děčín - Kúty - Rajka -Ciumesti , P/C 45/375, 1500 t, 550 m
8. CZ– SK – HU – RO: Děčín - Kúty - Rajka - Ferencváros, P/C 45/375, 1500 t, 550 m
9. CZ– SK – HU – RO: Děčín - Kúty - Rajka - Ferencváros , P/C 45/375, 1500 t, 550 m
10. CZ– SK – HU – RO: Děčín - Kúty - Rajka - Ferencváros , P/C 45/375, 1500 t, 550 m
11. HU- RO- BG- GR: Ferencváros – Curtici – Kulata– Promachonas - Thessaloniki- Larissa/Volos- Larissa-SKA- Thriassio – Port Ikonio Pireaus, SKA- Athens RS- Pireaus, 1250 t, 580 m
12. CZ- SK – HU : Petrovice – Kúty – Bratislava UNS - Rajka – Hegyeshalom- Ferencváros, P/C 70/400,1500 t, 580m
13. CZ - SK – HU : Petrovice – Kúty – Bratislava UNS - Rajka – Hegyeshalom, P/C 70/400, 1500 t, 580 m
14. CZ - SK – HU: Brno Maloměřice – Kúty - Bratislava UNS - Komárom – Ferencváros, P/C 70/400, 1500 t, 580 m,
15. CZ - SK- HU: Brno Maloměřice – Kúty - Bratislava UNS - Štúrovo – Vác – Ferencváros – Soroksár Terminal; P/C 70/400, 1500 t , 580 m
16. SK – HU – RO: Bratislava UNS - Štúrovo – Vác – Ferencváros – Szolnok- Lőkösháza – Bucureşti; - Constanta P/C 45/375, 1500 t, 550 m
17. SK- HU – RO: Bratislava UNS - Štúrovo – Vác – Ferencváros – Szolnok – Biharkeresztes - Cluj Napoca; P/C 45/375, 2000 t, 600 m
18. CZ – AT-HU: Břeclav – Wien – Hegyeshalom- Ferencváros , P/C 78/402, 1600 t, 650 m
19. CZ – AT-HU: Břeclav – Wien – Hegyeshalom- Ferencváros , P/C 78/402, 1600 t, 650 m
20. CZ – AT-HU: Břeclav – Wien – Hegyeshalom- Ferencváros , P/C 78/402, 1600 t, 650 m
21. CZ – AT-HU: Břeclav – Wien – Hegyeshalom- Ferencváros , P/C 78/402, 1600 t, 650 m

Notice : paths 1-2, 7-10 and 12-13 shall have time connection with paths 18-21

Reserve capacity

“Reserve capacity shall allow for a quick and appropriate response to ad-hoc requests” (Article 14, point 5 of Regulation 913/2010).
Based on capacity analysis, market demand analysis (usage of existing RNE catalogue paths) and the relatively high number of suggested pre-arranged paths (21 pairs), it is possible to suppose that not all pre-arranged paths will be sold during the annual timetabling process. Unbooked pre-arranged paths are then recommended (in accordance with RNE Guidelines Pre-arranged path and Corridor OSS) to be used as Reserve capacity.

“Time limite for capacity reserve shall not exceed 60 days.“ (Article 14, point 5 of Regulation 913/2010).
Market demand analysis showed that more than 90% of ad-hoc path reqests are submitted less than 5 days before the requested train departure. IMs have a flexible approach to such short-term

path requests, and they are able to allocate the paths within a few minutes or hours. As pre-arranged paths and reserve capacity shall be allocated by Corridor-OSS (Article 13, point 3 of Regulation 913/2010), and the national information systems for operation are not fully connected with Corridor-OSS IT-tool (PCS), it would be more convenient to keep the allocation of very short-term path requests on the national level, which is flexible enough to handle them.
Consequently, the recommended time limit for capacity reserve is no less than 30 days That´s why recommended time limit for capacity reserve should be no less than 30 days.

4.2 CONCLUSION

Recommendation of terminals and lines is placed in Map 2 and Table 67.

Corridor is drafted as: - main lines, - alternative lines (for re-routing), connecting lines (connect terminals with main lines) and terminals.

Map 2: Suggested Rail freight corridor 7 (orient corridor)

Main lines
Alternative lines
Connecting lines

Table 67: Complex definition of RFC 7

Country	Charakter	Line section/Terminal/Marshalling yard
Czech Republic	Main lines	Praha – Poříčany
		Poříčany – Kolín
		Kolín – Pardubice
		Pardubice - Česká Třebová
		Česká Třebová – Svitavy
		Svitavy – Brno
		Brno – Břeclav
		Břeclav/Hohenau (CZ/AT)
		Břeclav/Kúty (CZ/SK)
	Alternative lines	Kolín - Kutná Hora
		Kutná Hora - Havlíčkův Brod
		Havlíčkův Brod - Křižanov
		Křižanov - Brno
	Connecting lines	Děčín – Kralupy n.V. -Praha
		Děčín – Nymburk - Kolín
	Terminals	Praha Uhříněves
		Praha Žižkov
		Česká Třebová
		Brno Horní Heršpice
		Lovosice (50km from corridor)
	Marshalling yards	Kolín seř. nádraží
		Praha - Libeň
		Pardubice
		Česká Třebová
		Brno Maloměřice
		Břeclav přednádraží
		Havlíčkův Brod
Austria	Main line	Břeclav/Hohenau (CZ/AT)
		Hohenau - Gänserndorf
		Gänserndorf - Wien Zvbf
		Wien Zvbf - Nickelsdorf
		Nickelsdorf/Hegyeshalom (AT/HU)
	Alternative lines	Wien Zvbf – Achau - Ebenfurth
		Ebenfurth -Wolkaprodersdorf
		Wolkaprodersdorf/Sopron (AT/HU)
		Ebenfurth – Wiener Neustadt
		Gänserdorf – Marchegg
		Marchegg/Devínska Nová Ves (AT/HU)
		Parndorf – Kittsee
		Kittsee/Bratislava Petržalka (AT/SK)
		Gramatneusiedl - Wampersdorf
		Wien Zvbf – Wiener Neustadt via Baden
		Wiener Neustadt – Sopron via Loipersbach-Schattendorf
		Schattendorf/Sopron (AT/HU)
	Connecting line	Wien Zvbf – Wien Freudenau – Wien Nordwestbahnhof
	Terminals	Wien Freudenau
		Wien Nordwestbahnhof
		Wien Inzersdorf (planned)

Country	Charakter	Line section/Terminal/Marshalling yard
	Marshalling yard	Wien Zentralverschiebebahnhof
Slovakia	Main lines	Břeclav/Kúty (CZ/SK)
		Kúty - Devinska N.Ves
		Devínska N.Ves - Bratislava hl.st.
		Bratislava hl.st. - Rusovce
		Rusovce/Rajka (SK/HU)
		Bratislava hl.st.- Nove Zamky
		Nove Zamky - Komano
		Komarno/Komarom (SK/HU)
		Nove Zamky - Sturovo
		Sturovo/Szob (SK/HU)
	Alternative lines	Marchegg/Devínska Nová Ves (AT/SK)
		Kittsee/Bratislava Petržalka (AT/SK)
		Kúty - Trnava
		Trnava – Bratislava východ
		Trnava - Galanta
	Connecting lines	Bratislava hl.st. -Dunajská Streda
		Dunajská Streda - Komarno št.hr.
	Terminals	Bratislava UNS – Intrans, Slovnaft
		Bratislava Pálenisko – SpaP
		Sládkovičovo - Lörinz
		Štúrovo – Business park Štúrovo
		Dunajská Streda - Metrans
	Marshalling yards	Bratislava východ
		Nové Zámky
		Štúrovo
Hungary	Main lines	Rusovce/Rajka (SK/HU)
		Nickelsdorf/Hegyeshalom (AT/HU)
		Hegyeshalom - Tata
		Tata - Biatorbágy
		Biatorbágy - Kelenföld
		Kelenföld - Ferencváros
		Komarno/Komarom (SK/HU)
		Ferencváros - Kőbánya felső
		Kőbánya felső - Rákos
		Rákos - Újszász
		Újszász - Szolnok
		Szolnok - Szajol
		Szajol - Gyoma
		Gyoma - Murony
		Murony - Lőkösháza
		Lőkösháza/Curtici (HU/RO)
		Ferencváros - Kőbánya-Kispest
		Kőbánya - Kispest - Vecsés
		Vecsés - Albertirsa
		Albertirsa - Szolnok
		Sturovo/Szob (SK/HU)
		Szob - Vác
		Vác – Kőbánya felső

Country	Charakter	Line section/Terminal/Marshalling yard
	Alternative lines	Wolkaprodersdorf/Sopron (AT/HU)
		Sopron - Pinnye
		Pinnye - Fertőszentmiklós
		Fertőszentmiklós - Petőháza
		Petőháza - Győr
		Vác - Rákospalota-Újpest
		Szajol - Püspökladány
		Püspökladány - Biharkeresztes
		Biharkeresztes/Episcopia Bihor (HU/RO)
		Rákospalota-Újpest - Angyalföld elág.
		Angyalföld elág.-Kőbánya felső/Rákos
		Vác - Vácrátót
		Vácrátót - Galgamácsa
		Galgamácsa - Aszód
		Aszód - Hatvan
		Hatvan - Újszász
	Connecting lines	Ferencváros - Soroksári út
		Soroksári út - Soroksár
		Soroksár - Soroksár-Terminál
	Terminal	Sopron LSZK
		Győr LCH
		Székesfehérvár
		BILK
		Budapest Szabadkikötő (port)
		Szolnok
		Debrecen
		Szeged-Kiskundorozsma
		Békéscsaba
Romania	Main lines	Lőkösháza/Curtici (HU/RO)
		Curtici - Arad
		Arad - Simeria
		Simeria - Coslariu
		Coslariu - Sighişoara
		Sighişoara - Braşov
		Braşov - Predeal
		Predeal - Brazi
		Brazi - Bucureşti
		Bucureşti - Feteşti
		Feteşti - Constanţa
		Arad - Timişoara
		Timişoara - Orșova
		Orsova - Filiaşi
		Filiaşi - Craiova
		Craiova - Calafat
		Calafat/Vidin (RO/BG)
	Alternative lines	Biharkeresztes/Episcopia Bihor (HU/RO)
		Episcopia Bihor - Coslariu
		Simeria - Gura Motru
		Craiova - Bucuresti
		Videle - Giurgiu
		Bucuresti - Giurgiu

Country	Charakter	Line section/Terminal/Marshalling yard
		Giurgiu/Giurgiu Border (RO/BG)
	Terminal	Bucurestii Noi
		Semenic (Timisoara Sud)
		Brasov Triaj
		Medias
Bulgaria	Main lines	Calafat/Vidin (RO/BG)
		Vidin - Sofia
		Sofia - Kulata
		Kulata/Promachonas (BG/GR)
	Alternative lines	Sofia - Svilengrad
Greece	Main lines	Athens RS - SKA
		Pireus (ikonio port) – Thriassio (operation in 2013) Thriassio – SKA (SKA= operation center)
		SKA – Inoi
		Inoi – Thiva
		Thiva – Tithorea
		Tithorea – Lianokladi
		Lianokladi - Domokos
		Domokos – Palaiofarsalos
		Palaiofarsalos –Mesourlo- Larissa
		Larissa - Evangelismos
		Evangelismos – Leptokaria
		Leptokaria – Katerini
		Katerini- Plati
		Plati-Sindos- Thessaloniki (rail way yard)
		Thessaloniki (rail way yard) – Mouries
		Mouries – Strimonas
		Strimonas – Promachonas
		Kulata/Promachonas (BG/GR)
	Connecting lines	Larissa - Volos Port
		Thessaloniki (rail way yard)-Thessaloniki Port
		Athens RS - Piraeus
	Terminal	TRIASSIO PEDIO (intermodal freight center) Ikonio port Pireus (operation in 2013)
		Volos Port
		Thessaloniki Port
	Marshalling yards	Inoi
		Lianokladi
		Thessaloniki (rail way yard)
		Sindos
		Strimonas
		Promachonas Kulata (Border Station)

Deatiled technical parameters of lines and stations are in Annex B, sheet B 5 and B 8.

To fulfill the expected benefits stemming from the establishment of the freight corridor, it is necessary to provide for the motivation of RUs so that they increase their flexibility and consequently the total time of transport (from consignor to consignee) will decrease. In order to reach this goal, financial support is highly needed for modernization and reconstruction of infrastructure as well as for establishment of rail freight corridors in accordance with Regulation 913/2010 (set up of Corridor-OSS, meetings with customers, promotion of corridor, new information systems and technologies, conducting of satisfaction surveys, transport market studies...) is highly needed.

A lot of European studies and also practical experience of infrastructure managers confirm that a great deal of the goods transported today on the lines of future rail freight corridor 7 originates in German ports, nevertheless, the members of RFC 7 do not consider it necessary to extend the initial freight corridor towards Germany in the very first stage (durig the process of corridor establishment). One of the main reasons is that capacity situation in Germany differs from the capacity situation in member countries of initial corridor RFC7 (i.e. German lines have strong traffic flows, while present RFC7 line sections have weak traffic flows), so Germany needs to deal with other type of issues than RFC7 countries.
This position ~~may~~ will high probably change in the future, ~~but~~ and for the time being members of corridor RFC 7 prefer to have Germany in an observer status ~~in this respect~~ in the first stage and in member status in the later stages.

Another point of perspective traffic flows in the future is the possibility of corridor extension to Turkey, after accomplishment of Marmaris Project in Turkey (Bosporus Tunnel). The future corridor RFC 7 would then connect Asia, Black Sea and Mediterranean Ports with Central and Western Europe.

Appendix A:

Appendix B:

Appendix A: Country info

Table A 1 :Population

	City	Location towards corridor	Number of inhabitants*
Czech Republic	Praha	on corridor	1 272 690
	Brno	on corridor	384 277
	Ostrava	170 km from corridor	302 456
Austria	Vienna	on corridor	1 661 000
	Graz	200 km from corridor	247 000
	Linz	200 km from corridor	188 000
Slovakia	Bratislava	on corridor	428 791
	Košice	400 km from corridor	233 900
	Prešov	400 km from corridor	89 087
	Žilina	200 km from corridor	84 334
Hungary	Hegyeshalom	on the corridor	3 489
	Sopron	on the corridor	60 755
	Győr	on the corridor	131 267
	Tatabánya	on the corridor	70 164
	Szombathely	62 km from the principal line (Sopron)	79 590
	Székesfehérvár	62 km from the principal line (Kelenföld)	101 943
	Esztergom	50 km from the principal line (Budapest)	30 858
	Budapest	on the corridor	1 733 685
	Szolnok	on the corridor	74 544
	Kecskemét	32 km from the alternative line (Cegléd), 59 km from the principal line (Szajol)	113 275
	Debrecen	42 km from the alternative line (Püspökladány) and 111 km from the principal line (Szajol	208 016
	Békéscsaba	on the corridor	64 074
Romania	Bucharest	on corridor	1 942 194
	Timisoara	on corridor	311 428
	Iasi	463 km from the corridor (Bucharest Station)	309 631
	Cluj	102 km from the corridor (Teius station)	305 636
	Constanta	on corridor	301 221
	Craiova	on corridor	298 740
Bulgaria	Sofia	on corridor	1 246 791
	Plovdiv	on corridor	342 000
	Varna	300 km from corridor	350 000
Greece	Alexandroupoli	327 km from corridor	63.920
	Kalava	170 km from corridor	125.403
	Drama	155 km from corridor	54.398
	Serres	on the corridor	214.376
	Thessaloniki	on the corridor	878.194
	Kilkis	on the corridor	64.230
	Kozani	100 km from corridor	160.321
	Veria	73 km from corridor	144.494
	Edessa	90 km from corridor	151.747
	Larissa	on the corridor	275.921
	Volos	on the corridor	177.654

	City	Location towards corridor	Number of inhabitants*
	Trikala	61 km from corridor	150.938
	Lamia	on the corridor	165.062
	Livadia	on the corridor	115.765
	Chalkis	44 km from corridor	210.957
	Athens	on the corridor	161 027
	Patra	215 km from corridor	2.193.015

Table A 2 :Country economy

	GDP stucture (2010)		GDP Growth in %					
		Share in %	2006	2007	2008	2009	2010	2011
Czech Republic	Agriculture	2,3	7,0	5,7	3,1	-4,7	2,7	1,8
	Industry	30,6						
	Transport	10,3						
	Trade	13,7						
	Services	32,2						
Austria	Agriculture	1,5	3,7	3,7	1,4	-3,8	2,3	2,9
	Industry	29,2						
	Transport							
	Trade	23,3						
	Services	45,9						
Slovakia	Agriculture	2,85	8,3	10,5	5,9	-4,9	4,2	2,9
	Industry	36,47						
	Transport, Trade	17,23						
	Services	34,37						
	Others	9,08						
Hungary	Agriculture	3,8	3,9	0,3	0,8	-6,7	1,3	1,4
	Industry	31,3						
	Transport	5,7						
	Trade	9,7						
	Services	49,5						
Romania	Agriculture	6,66	7,9	6,3	7,3	-6,6	-1,6	1,7
	Industry	39,58						
	Transport, Trade	21,64						
	Services	32,12						
Bulgaria	Agriculture		6,5	6,4	6,2	-5,5	0,2	2,2
	Industry							
	Transport							
	Trade							
	Services							
Greece	Agriculture	4%**	5,5	3,0	-0,2	-3,3	-3,5	-5,5
	Industry	17,6						
	Transport							
	Trade							
	Services	78,5						

Table A 3 :Infrastructure

	Transport mode	State expanditures in infrastructure (mil.EUR)					
		2006	2007	2008	2009	2010	2011
Czech Republic	Railway	527,1	680,1	918,2	783,7	569,8	
	Road	1690,7	1658,4	2038,5	2101,0	1739,8	
	Waterways	21,1	15,6	21,5	62,3	58,5	
	Airports	80,6	85,5	324,3	97,6	82,3	
	Pipelines	28,4	32,0	17,3	8,4	9,2	
	Total	**2347,9**	**2471,6**	**3319,8**	**3053,0**	**2459,6**	**0,0**
Austria	Railway						
	Road						
	Waterways						
	Airports						
	Pipelines						
Slovakia	Railway	234,90	302,50	214,40	190,30	285,80	297,60
	Road	541,00	675,70	755,10	854,00	516,80	
	Waterways	2,10	1,50	4,70	3,80	5,10	
	Airports	13,50	17,80	33,40	59,10	74,70	
	Pipelines		51,50	46,30	63,60	51,10	
	Total	**791,50**	**1 049,00**	**1 053,90**	**1 170,80**	**933,50**	**297,60**
Hungary	Railway	2,4	98,0	35,5	3,5	87,2	73,9
	Road						
	Waterways						
	Airports						
	Pipelines						
Romania	Railway	98,3	305,1	333,9	199,5	169,4	
	Road	1 883,6	2 752,5	4 106,0	3 492,1	2 858,4	
	Waterways	205,6	351,9	517,1	603,0	424,4	
	Airports	14,6	41,1	9,6	6,9	0,9	
	Pipelines						
	Total	**2 202,2**	**3 450,6**	**4 966,6**	**4 301,5**	**3 453,1**	
Bulgaria	Railway						
	Road						
	Waterways						
	Airports						
	Pipelines						
Greece*	Railway		750,5	664,3	689,8	452,0	
	Road	64 553 519	83 691 224	69 551 497	76 918 621	56 624 090	83 990 683
	Waterways	12 936 258	5 299 882	15 636 390	26 705 402	26 093 211	7 389 756
	Airports	34 589 126	34 589 126	34 589 126	34 589 126	34 589 126	34 589 126
	Pipelines			1,0			
	Total	**112 078 903**	**123 580 983**	**119 777 678**	**138 213 839**	**117 306 879**	**125 969 565**

Table A 4: Freight transport

Traffic volumes

2006

Transport mode				International (in %)			National (in %)
		tonnes (thousand)	tonnes-km (million)	Export	Import	Transit	Inland
Czech Republic	Railway	97 491	15 779	23%	22%	8%	47%
	Road	444 574	50 369	5%	4%	2%	89%
	Waterways	2 032	818	19%	16%	44%	21%
	Airports	22	47	47%	49%		4%
Austria	Railway	110 779	20980,2	18%	32%	22%	28%
	Road*	353 386	18845,6	5%	5%	1%	89%
	Waterways						
	Airports	230					
	Total	464 395					
Slovakia	Railway	52 449	9 988,00	23%	39%	24%	14%
	Road	181 424	22 114	4,4%	3,3%	3,4%	88,9%
	Waterways	1 713	623,00	67,8%	9,3%	16,9%	6,1%
	Airports	1	0,80		90,2%		9,8%
Hungary	Railway	42 628	8 676	31%	25%	20%	23%
	Road	17 617	18 076				
	Waterways	7 247	1 905	38%	16%	45%	1%
	Airports	30	74				0%
	Total	67 522					
Romania	Railway	68 313	15791,0				
	Road	335 327	57278,0				
	Waterways	76 013	8158,00				
	Airports	23					
	Total	479 676					
Bulgaria	Railway						
	Road						
	Waterways						
	Airports						
Greece	Railway	3 884,0	662,0	26%	52%	3%	19%
	Road	510 741,0	34002,0				98%
	Waterways	159 425,0					
	Airports	107,0			85%		15%
	Total	674 157,0					

2007

Transport mode				International (in %)			National (in %)
		tonnes (thousand)	tonnes-km (million)	Export	Import	Transit	Inland
Czech Republic	Railway	99 777	16 304	22%	23%	8%	47%
	Road	453 537	48 141	4%	4%	2%	90%
	Waterways	2 242	898	11%	11%	49%	29%
	Airports	22	41	47%	49%		4%
Austria	Railway	115 526	21370,68	18%	30%	24%	29%
	Road*	349 188	18648,32	5%	5%	1%	90%
	Waterways	12 107	2596,62	13%	52%	27%	8%
	Airports	229					
	Total	477 050					
Slovakia	Railway	51813,00	9647,00	24%	38%	25%	13%
	Road	179296,00	27050,00	5,7%	4,7%	4,8%	84,8%
	Waterways	1806,00	843,00	64,5%	4,9%	15,9%	14,7%
	Airports	0,19	0,30		98,5%		1,5%
Hungary	Railway	43 149	8 848	26%	31%	22%	20%
	Road	25 130	22 631				
	Waterways	8 344	2 206	41%	13%	46%	0%
	Airports	32	37				0%
	Total	76 655					
Romania	Railway	68 772	15757,00				
	Road	356 669	59517,0				
	Waterways	78 354	8195,00				
	Airports	22					
	Total	503 817					
Bulgaria	Railway						
	Road						
	Waterways						
	Airports						
Greece	Railway	4 943,0	835,0	26%	50%	1%	23%
	Road	484 775,0	27791,0				97%
	Waterways	164 300,0					
	Airports	102,9			87%		13%
	Total	654 120,9					

2008

Transport mode				International (in %)			National (in %)
		tonnes (thousand)	tonnes-km (million)	Export	Import	Transit	Inland
Czech Republic	Railway	95 073	15 437	22%	23%	8%	46%
	Road	431 855	50 877	5%	4%	3%	88%
	Waterways	1 905	863	10%	9%	61%	20%
	Airports	20	37	48%	50%		2%
Austria	Railway	121 579	21914,5	16%	29%	23%	32%
	Road*	364 919	18160,3	4%	4%	1%	91%
	Waterways	11 209	2358,53	19%	51%	25%	4%
	Airports	229					
	Total	497 935					
Slovakia	Railway	47910,00	9299,00	23%	37%	26%	15%
	Road	199218,0	29094,0	5,0%	4,3%	6,2%	84,5%
	Waterways	1767,00	979,00	61,5%	11,0%	22,4%	5,1%
	Airports	0,31	0,40		99,7%		0,3%
Hungary	Railway	40 345	8 499	24%	27%	22%	28%
	Road	26 465	22 733				
	Waterways	8 755	2 244	35%	20%	45%	0%
	Airports	29	18				0%
	Total	75 594					
Romania	Railway	66 711	15236,0			1%	78%
	Road	364 605	56377,0			2%	41%
	Waterways	80 744	8687,00				
	Airports	27					
	Total	512 087					
Bulgaria	Railway						
	Road						
	Waterways						
	Airports						
Greece	Railway	4 253,0	786,0	23%	51%	0%	26%
	Road	628 560,0	28850,0				97%
	Waterways	152 498,0					
	Airports	112,2			87%		13%
	Total	785 423,2					

2009

Transport mode				International (in %)			National (in %)
		tonnes (thousand)	tonnes-km (million)	Export	Import	Transit	Inland
Czech Republic	Railway	76 715	12 791	23%	21%	8%	48%
	Road	370 115	44 955	5%	4%	3%	88%
	Waterways	1 647	641	20%	8%	52%	20%
	Airports	15	29	50%	48%		2%
Austria	Railway	98 887	17766,96	17%	28%	20%	35%
	Road*	332 203	16276,04	4%	4%	1%	91%
	Waterways	9 322	2002,63	17%	53%	26%	4%
	Airports	222					
	Total	440 634					
Slovakia	Railway	37 603	6964,00	24%	39%	21%	15%
	Road	163 148	27484,00	6,0%	4,6%	7,8%	81,7%
	Waterways	2 192	1230,00	84,3%	3,5%	10,2%	2,0%
	Airports	0,01	0,03		100,0%		0,0%
Hungary	Railway	29 916	6 404				
	Road	27 753	23 244				
	Waterways	7 701	1 826				
	Airports	24					0%
	Total	65 394					
Romania	Railway	50 596	11088,0			2%	86%
	Road	293 409	34265,0			4%	61%
	Waterways	60 764	11765,00				
	Airports	24					
	Total	404 793					
Bulgaria	Railway						
	Road						
	Waterways						
	Airports						
Greece	Railway	3 377,0	552,0	22%	54%	0%	24%
	Road	644 528,0	28585,0				98%
	Waterways	135 430,0					
	Airports	97,8			87%		13%
	Total	783 432,8					

2010

Transport mode				International (in %)			National (in %)
		tonnes (thousand)	tonnes-km (million)	Export	Import	Transit	Inland
Czech Republic	Railway	82 900	13 770	23%	23%	9%	45%
	Road	355 911	51 832	6%	5%	4%	85%
	Waterways	1 642	679	17%	10%	50%	23%
	Airports	14	22	48%	51%		1%
Austria	Railway	107 670	19832,92	17%	29%	19%	35%
	Road*	326 852	16538,59	4%	4%	1%	92%
	Waterways	11 052	2374,54	15%	56%	25%	4%
	Airports	258					
	Total	445 833					
Slovakia	Railway	44 327	8105,00	25%	39%	22%	14%
	Road	143 071	27411,00	7,2%	5,7%	8,6%	78,4%
	Waterways	3 109	2166,00	87,8%	2,5%	7,2%	2,5%
	Airports	0,01	0,00		91,7%		8,3%
Hungary	Railway	34 396	7 468				
	Road	28 622	22 435				
	Waterways	9 921	2 389				
	Airports	28					0%
	Total	72 967					
Romania	Railway	52 932	12375,0			2%	84%
	Road	174 551	25883,00			6%	47%
	Waterways	70 206	14317,00				
	Airports	26					
	Total	297 715					
Bulgaria	Railway						
	Road						
	Waterways						
	Airports						
Greece	Railway	3 982,0	614,0	26%	66%	0%	8
	Road	577 442,0	29815,0				
	Waterways	124 387,0					
	Airports	88,7			86%		14
	Total	705 899,7					

Table A 5: Passenger transport

		2006					2007					2008					2009					2010				
		persons (thous.)	persons -km (million)	Average transport distance (km)	International (in %)	National (in %)	persons (thous.)	persons -km (million)	Average transport distance (km)	International (in %)	National (in %)	persons (thou.)	persons -km (million)	Average transport distance (km)	International (in %)	National (in %)	persons (thous.)	persons -km (million)	Average transport distance (km)	International (in %)	National (in %)	persons (thous.)	persons -km (million)	Average transport distance (km)	International (in %)	National (in %)
Czech Republic	Railway	183 000	6922	38	1%	99%	184 200	6898	37	1%	99%	177 400	6803	38	1%	99%	165 000	6503	39	1%	99%	164 800	6591	40	1%	99%
	Road- public	388 000	9501	25	1%	99%	375 000	9519	25	1%	99%	373 400	9215	25	1%	99%	367 600	9494	26	1%	99%	381 200	10816	28	1%	99%
	Road - individual	2 160 000	69630				2 220 000	71540				2 250 000	72380				2 240 000	72290				1 970 000	63570			
	Waterways	1 100	13				1 100	13				900	17				1 200	11				900	13			
	Airports	6 700	10233	1525	98%	2%	7 000	10477	1 502	98%	2%	7 200	10749	1 502	98%	2%	7 400	11331	1 541	99%	1%	7 500	10902	1 460	99%	1%
Austria	Railway	222 000	9 500	43				9 600					10 800					10 700								
	Road- public	1 288 000	13 100	10				13 700					13 600					13 600								
	Road - individual	5 330 000	70 600	13				72 000					73 300					72 300								
	Waterways																									
	Airports	20 423																								
	Railway	48 438	22213	43	5%	95%	47 070	2165	46	7%	93%	48 744	2296	47	7%	93%	46 667	2264	49	6%	94%	46 583	2309	50	6%	94%
Slovakia	Road- public	403 270	7525	17	1%	99%	384 637	7596	20	1%	99%	365 519	6446	18	1%	99%	323 142	4538	14	1%	99%	312 717	4436	14	1%	99%
	Road - individual	1 792 000	25824	15			1 811 986	25994	14			1 833 082	26395	14			1 846 439	26420	14			1 859 479	26897	14		
	Waterways	111	4	30	15%	85%	122	4	33	21%	79%	122	3	25	25%	75%	110	3	27	26%	74%	120	3	25	28%	72%
	Airports	2 291	2465	1436	99%	1%	3 068	3699	1 206	99%	1%	4 176	4650	1 114	99%	1%	2 288	3501	1 530	99%	1%	554	835	1 507	99%	1%
	Total	2 246 110					2 246 883					2 251 643					2 218 646					2 219 453				
	Railway	156 628	9 524	60			149 551	8 752	58			144 900	8 291	57			142 683	8 003				140 398	7 653			
Hungary	Road- public*	487 056	8 938	54	1%		451 927	8 549	53	1%		469 763	8 754	54	1%		502 600	11 321				517 500	11 860			
	Road - individual	71 992	2 845	25			74 732	2 704	28			71 284	3 108	23												
	Waterways	1 346	35	26			1 007	31	33			828	20	24			859	18				641	14			
	Airports	4 551	6 329	1 391	100%	0%	4 896	6 850	1 399	100%	0%	4 340	5 815	1 340	100%	0%	4 573	5 469		100%	0%	4 512	5 586		100%	0%
	Total	721 573					682 113					691 115					650 715					663 051				
	Railway	94 441	8093				88 264	7476				78 252	6958		2%	98%	70 332	6128		2%	98%	64 272	5438		2%	98%
Romania	Road	228 009	11735				231 077	12156				296 953	20194			69%	262 311	17108			75%	244 944	15812			76%
	Waterways	190	13				223	23				232	21			43%	174	20			37%	107	15			25%
	Airports	5 497					7 831					9 077					9 093					10 128				
	Total	328 137					327 395					384 514					341 910					319 451				
	Railway																									
Bulgaria	Road- public																									
	Road - individual																									
	Waterways																									
	Airports																									
	Railway	9 520	1811	190	3%	97%	10 003	1930	193	4%	96%	8 389	1657	197	4%	96%	14 280	1467	103	4%	96%	13817	1383	100	3%	97%
Greece	Road- public																									
	Road - individu																									
	Maritime	45 177					45 858					45 222					43 867									
	Airports	32 753			81,32%	18,68%	34 780			80,80%	19,20%	35 056			80,73%	19,27%	33 436			78,98%	21,02%	32 624			80,42%	19,58%

Table A 6 :Goods on railway

Goods stucture		Volumes in tonnes-km (million)					
		2006	2007	2008*	2009	2010	2011
Czech Republic	products of agriculture	228,0	114,5	632,0	772,0	843,0	
	coal, gas, oil	6603,0	6361,6	5 221,0	5 066,0	4 876,0	
	metals	2317,0	2330,9	1 193,0	919,0	966,0	
	chemicals	826,0	730,2	740,0	630,0	753,0	
	wood, paper	1068,0	1492,2	363,0	349,0	366,0	
	others	4737,0	5274,5	7 288,0	5 056,0	5 966,0	
	Total	**15779,0**	**16304,0**	**15 437,0**	**12 792,0**	**13 770,0**	
Austria	products of agriculture	3 958,8	3 458,0	3 244,5	2 847,5	2 973,9	
	coal, gas, oil	2 241,2	2 298,8	2 430,9	2 225,8	2 200,7	
	metals	3 572,2	3 809,2	3 908,7	2 476,3	3 317,5	
	chemicals	1 581,3	1 642,9	1 606,8	1 432,0	1 558,3	
	wood, paper						
	others	8 866,0	9 155,5	9 425,9	7 972,3	9 110,7	
	Total	**20 219,5**	**20 364,5**	**20 616,8**	**16 953,9**	**19 161,2**	
Slovakia	products of agriculture	217,5	157,0	112,8	84,5	62,6	-
	coal, gas, oil	2 329,0	2 356,1	2 237,2	1 927,5	1 800,3	-
	metals, iron ore	4 587,8	4 340,5	4 132,5	2 941,3	3 786,3	-
	chemicals	726,9	706,1	680,2	480,0	573,1	-
	wood, paper	516,4	485,0	469,5	397,6	513,9	-
	others	1 610,3	1 602,3	1 666,8	1 133,2	1 368,9	-
	Total	**9 988,0**	**9 647,0**	**9 299,0**	**6 964,0**	**8 105,0**	
Hungary	products of agriculture			319	733	784	
	coal, gas, oil			571	1 151	1 596	
	metals			3 436	1 949	2 258	
	chemicals			631	675	610	
	wood, paper			486	419	464	
	others			4 431	2 747	3 096	
	Total			**9 874**	**7 674**	**8 808**	
Romania	products of agriculture	0,52	0,26	0,786	0,638	0,911	
	coal, gas, oil	37,567	39,85	28,411	22,748	23,024	
	metals	3,998	3,577	5,068	2,826	2,449	
	chemicals	3,197	2,798	4,842	3,307	3,951	
	wood, paper	2,536	2,324	0,906	0,432	0,836	
	others	20,495	19,963	26,698	20,645	21,761	
	Total	**68,313**	**68,772**	**66,711**	**50,596**	**52,932**	
Bulgaria	products of agriculture						
	coal, gas, oil						
	metals						
	chemicals						
	wood, paper						
	others						
Greece	products of agriculture	32,0	28,0	25,0	42,0	43,0	
	coal, gas, oil	0,0	0,0	13,0	6,0	1,0	
	metals	5,0	2,0	0,0	0,0	0,0	
	chemicals	36,0	35,0	19,0	12,0	14,0	
	wood, paper	114,0	124,0	118,0	76,0	101,0	
	others	123,0	132,0	1,0	0,6	1,0	
	Total	310,0	321,0	176,0	136,6	160,0	

Appendix B: Rail corridor info – collected

Table B 1: Passenger traffic

		Passenger traffic (in train-km)					
		2006	2007	2008	2009	2010	2011
Czech Republic	Poříčany - Praha			2 929 038	3 205 341	3 243 838	3 407 503
	Kolín - Poříčany			1 555 173	1 742 934	1 744 800	1 748 629
	Řečany nad Labem - Kolín			1 186 164	1 251 195	1 227 563	1 228 474
	Pardubice - Řečany nad Labem			1 162 035	1 138 978	1 198 917	1 183 093
	Choceň - Pardubice			1 938 245	1 993 880	1 971 636	1 988 421
	Česká Třebová - Choceň			1 359 373	1 435 488	1 432 045	1 433 426
	Letovice - Česká Třebová			1 214 843	1 263 764	1 282 343	1 300 853
	Brno - Letovice			1 803 002	1 891 720	1 944 972	1 953 350
	Břeclav - Brno			1 685 422	2 071 986	2 119 746	2 221 938
	Lanžhot st.hr. - Břeclav			162 916	168 237	161 756	149 158
	Total			**14 996 21**	**16 163 52**	**16 327 61**	**16 614 84**
Austria	Břeclav - Gänserndorf	702 458	940 830	977 387	934 588	924 857	939 592
	Gänserndorf - Wien Zvbf	2 320 169	2 440 849	2 477 308	2 155 272	2 148 790	1 955 493
	Wien Zvbf - Hegyeshalom	2 841 877	3 149 185	3 290 234	3 302 621	2 846 620	2 646 197
	Wien Zvbf - Ebenfurth	168 118	169 859	178 758	167 992	161 637	159 732
	Ebenfurth - Sopron						
	Total	**6 032 622**	**6 700 723**	**6 923 687**	**6 560 473**	**6 081 903**	**5 701 014**
Slovakia	Kúty border - Devinska N.Ves					1 063 224	1 037 328
	Devínska N.Ves - Bratislava hl.st.					398 811	390 982
	Bratislava hl.st. - Dunajská Streda					463 132	368 408
	Dunajská Streda - Komarno border					329 823	330 227
	Bratislava hl.st.- Rusovce border					169 821	117 684
	Bratislava hl.st.- Nove Zamky					1 984 673	2 011 248
	Nove Zamky - Komarno border					241 106	240 070
	Nove Zamky - Sturovo border					620 146	633 715
	Total					**5 270 736**	**5 129 662**
	International total*					**1 410 318**	**1 452 497**
	National total**					**3 860 418**	**3 677 165**
Hungary	Rajka-Hegyeshalom	165 419	145 765	146 567	149 385	53 320	50 750
	Ebenfurth - Sopron	364 039	375 894	393 579	394 790	355 473	360 638
	Sopron - Győr	1 795 437	2 457 402	2 372 983	2 244 209	2 273 573	3 275 035
	Hegyeshalom oh.-Győr	977 228	1 116 737	1 126 984	1 129 341	1 093 187	1 051 065
	Győr-Tatabánya	1 835 313	2 358 232	2 081 271	2 136 770	2 060 712	2 160 049
	Tatabánya-Budapest Ferencváros	1 795 833	2 287 592	2 232 066	2 244 621	2 248 448	2 222 415
	Budapest Ferencváros-Szolnok (100)	3 191 023	4 345 090	4 720 080	4 626 025	4 628 124	4 776 129
	Budapest Ferencváros-Szolnok (120)	4 505 372	5 294 061	4 907 406	5 094 264	5 109 465	5 125 279
	Szolnok-Szajol	395 718	483 597	492 301	520 591	530 399	544 861
	Szajol-Békéscsaba	1 179 915	1 381 108	1 408 715	1 438 039	1 413 111	1 409 928
	Békéscsaba-Lőkösháza oh.	434 162	521 997	531 806	447 160	444 552	441 103
	Szajol-Püspökladány	1 481 661	1 904 981	1 913 877	1 935 838	1 884 476	1 976 675
	Püspökladány-Biharkeresztes oh.	485 780	526 325	526 479	501 476	504 467	503 986
	Szob oh.-Rákosrendező	2 183 767	2 184 075	2 308 275	2 310 964	2 309 219	2 288 944
	Rákosrendező-Kőbánya Kispest	324 218	437 955	480 984	557 014	577 358	594 400
	Rákosrendező-Ferencváros	16 693	52 804	39 779	38 877	40 397	39 485
	Total MÁV international		**1 419 401**	**1 667 118**	**1 980 175**	**2 076 296**	**714 078**
	Total MÁV national		**84 966 068**	**83 633 964**	**83 615 904**	**80 637 076**	**84 249 971**
	Total GYSEV national	**1 859 650**	**2 313 091**	**2 043 804**	**2 607 362**	**2 936 042**	**3 227 860**
Romania	Border – Curtici (HU / RO)				82 661,0	78 724,8	71 568,0
	Curtici - Arad				277 560,4	264 343,2	240 312,0
	Arad - Simeria				2 721 053,4	2 591 479,4	2 355 890,4
	Simeria - Coslariu				1 526 837,0	1 454 130,5	1 321 936,8
	Coslariu - Sighişoara				1 778 066,1	1 693 396,3	1 539 451,2
	Sighişoara - Braşov				1 726 900,6	1 644 667,2	1 495 152,0
	Braşov - Predeal				340 269,7	347 214,0	354 300,0
	Predeal - Brazi				1 327 108,4	1 354 192,2	1 381 828,8
	Brazi - Bucureşti				1 269 998,7	1 209 522,6	1 099 566,0
	Bucureşti - Feteşti				1 530 509,3	1 561 744,1	1 643 941,2
	Feteşti - Constanţa				1 272 598,1	1 298 569,4	1 366 915,2
	Arad - Timişoara				542 925,5	517 071,9	492 449,4
	Timişoara - Orşova				2 193 424,2	2 088 975,4	1 989 500,4
	Orşova - Filiaşi				1 039 207,2	989 721,2	942 591,6
	Filiaşi - Craiova				838 435,4	798 509,9	760 485,6

		Passenger traffic (in train-km)					
		2006	2007	2008	2009	2010	2011
	Craiova - Calafat				286 606,8	292 455,9	298 424,4
	Calafat - Border RO/BG				0,0	0,0	0,0
	Border - Episcopia Bihor				30 295,0	27 540,9	32 120,4
	Episcopia Bihor - Coslariu				4 283 544,6	3 859 049,2	4 350 499,3
	Simeria - Filiasi				1 726 463,5	1 583 911,5	1 424 686,3
	Craiova - Videle				2 505 327,5	2 319 747,7	2 523 734,1
	Videle - Bucuresti				1 149 960,2	1 045 418,4	967 980,0
	Videle - Giurgiu Nord				331 899,9	301 727,2	281 988,0
	Giurgiu Nord - Frontiera				12 556,1	11 363,0	10 318,0
	Total				**28 794 208,6**	**27 333 476,0**	**26 945 639,1**
Bulgaria	Vidin - Brusartsi	318 116	317 661	318 823	318 131	293 756	N/A
	Brusartsi - Mezdra	556 581	539 625	539 887	589 447	615 706	N/A
	Mezdra - Sofia	1 405 979	1 432 881	1 427 694	1 424 138	1 394 822	N/A
	Sofia - Radomir			793 157	1 094 610	1 010 850	N/A
	Radomir - Kulata			1 057 871	1 088 689	1 072 500	N/A
	Sofia - Septemvri	1 408 833	1 419 999	1 408 667	1 535 378,0	1 476 942	N/A
	Septemvri - Plovdiv	463 019	470 631	480 672	535 580,5	735 639	N/A
	Plovdiv - Dimitrovgrad	825 205	814 657	720 219	503 576,0	290 311	N/A
	Dimitrovgrad - Svilengrad	78 259	71 805	76 655	144 119,7	146 489	N/A
Greece	Pireas-3 Gefyres	139 700	136 400	100 100	103 400	164 893	
	3 Gefyres - SKA	139 700	136 400	100 100	103 400	164 893	
	SKA - Oinoi	609 500	577 700	577 700	609 500	664 283	
	Oinoi - Tithorea	487 600	506 000	506 000	524 400	1 037 922	
	Tithorea - Lianokladi	296 800	308 000	308 000	319 200	567 602	
	Lianokladi - Domokos	318 000	330 000	330 000	276 000	639 010	
	Domokos - Palaiofarsalos	52 500	43 500	66 000	69 000	138 473	
	Palaiofarsalos - Larisa	189 000	163 800	256 200	268 800	372 337	
	Larisa - Evaggelismos	62 100	121 900	121 900	184 000	214 543	
	Evaggelismos - Leptokaria	94 500	185 500	185 500	280 000	298 937	
	Leptokaria - Plati	183 600	360 400	360 400	544 000	647 161	
	Plati - Thessaloniki	572 520	506 460	506 460	513 800	305 796	
	Thessaloniki - Strimonas	254 100	423 500	387 200	423 500	405188	
	Strimonas - Promachonas	0	9 800	9 800	14 000	2 762	
	Volos:Larissa	207 400	207 400	207 400	183 000		
	total	3 607 020	4 016 760	4 022 760	4 416 000	5 218 612	
	*Based on the created data base for TEN-T revision						

Table B 2: Freigt traffic

	Line section	Freight traffic 2006 number of trains	2006 train km	2006 gross ton	2007 number of trains	2007 train km	2007 gross ton	2008 number of trains	2008 train km	2008 gross ton	2009 number of trains	2009 train km	2009 gross ton	2010 number of trains	2010 train km	2010 gross ton	2011 number of trains	2011 train km	2011 gross ton
Czech Republic	Poříčany - Praha							10 645	383 344	10 051 939	10 682	388 757	9 386 426	13 659	505 230	13 403 239	14 788	548 204	14 588 182
	Kolín - Poříčany							8 361	193 396	7 359 622	10 036	230 766	8 666 466	12 636	291 305	12 054 753	14 110	324 170	13 621 634
	Řečany nad Labem - Kolín							21 280	456 523	23 906 164	19 021	408 560	20 371 153	22 223	477 648	24 668 630	27 108	582 456	31 037 112
	Pardubice - Řečany nad Labem							18 648	373 825	19 361 257	15 424	309 981	14 752 998	20 187	408 288	20 471 592	24 097	488 993	25 195 972
	Choceň - Pardubice							18 287	634 130	19 331 006	16 839	584 071	16 822 371	20 441	709 148	20 687 032	23 694	821 544	24 806 652
	Česká Třebová - Choceň							20 462	529 226	20 701 563	19 069	475 414	18 443 063	22 791	559 128	22 325 771	26 285	646 427	26 723 324
	Letovice - Česká Třebová							3 674	140 538	2 787 262	2 994	113 409	2 740 193	4 705	177 794	4 397 828	6 134	237 858	6 032 401
	Brno - Letovice							4 086	175 649	2 875 476	3 338	138 821	2 734 622	4 658	197 737	4 288 088	6 070	259 582	6 081 185
	Břeclav - Brno							13 048	818 660	12 550 367	9 070	565 963	8 873 782	10 938	686 948	10 783 947	12 293	775 906	12 355 526
	Lanžhot st.hr. - Břeclav							11 907	143 452	11 827 381	8 496	102 584	9 165 053	10 151	120 654	11 282 750	11 129	127 834	12 500 247
	Total							**130 398**	**3 848 743**	**130 752 037**	**114 969**	**3 318 326**	**111 956 127**	**142 389**	**4 133 880**	**144 363 630**	**165 708**	**4 812 974**	**172 942 235**
Austria	Břeclav - Gänserndorf	13 470	628 766	15 071 526	15 604	728 383	17 717 019	16 394	765 263	18 743 941	13 183	615 397	15 203 442	12 735	594 455	14 734 405	12 700	592 858	14 329 307
	Gänserndorf - Wien Zvbf	19 077	825 371	19 655 890	21 103	913 053	21 583 204	21 304	921 727	22 258 436	15 826	684 727	16 234 637	17 139	741 526	17 394 148	17 245	746 143	17 501 479
	Wien Zvbf - Hegyeshalom	21 660	1 546 575	21 062 720	22 100	1 577 985	21 825 824	22 144	1 581 112	22 276 118	21 861	1 560 907	22 466 218	22 739	1 623 615	24 088 215	22 656	1 617 625	24 589 616
	Wien Zvbf - Ebenfurth	19 205	410 359	21 862 723	21 627	462 100	23 480 791	23 973	512 241	26 120 146	21 153	451 980	22 566 656	23 186	495 410	24 836 468	22 545	481 710	24 181 834
	Ebenfurth - Sopron																		
	Total	**73 412**	**3 411 071**	**77 652 858**	**80 434**	**3 681 521**	**84 606 837**	**83 815**	**3 780 343**	**89 398 641**	**72 024**	**3 313 011**	**76 470 953**	**75 799**	**3 455 006**	**81 053 236**	**75 146**	**3 438 337**	**80 602 237**
Slovaki	Kúty border - Devinska N.Ves													13 884	650 176	2 691 210 614 821	10 398	142 906	81 935 286 551
	Devínska N.Ves - Bratislava hl.st.													14 980	189 018	189 062 843 410	17 677	193 003	126 275 035 894
	Bratislava hl.st.- Dunajská Streda													9 631	179 355	134 571 107 196	10 398	142 906	81 935 286 551
	Dunajská Streda - Komarno border													3 496	39 866	2 150 188 784	5 266	81 849	33 932 402 861
	Bratislava hl.st.- Rusovce border													24 611	308 080	216 670 705 708	27 542	318 418	173 472 298 154
	Bratislava hl.st.- Nove Zamky													20 133	753 249	2 245 509 951 257	22 525	797 682	1 930 902 871 079
	Nove Zamky - Komarno border													4 092	108 006	36 041 079 622	6 617	117 893	46 628 225 096
	Nove Zamky - Sturovo border													7 567	231 162	187 802 382 382	8 881	201 624	116 276 297 406
	Total													**98 394**	**2 458 912**	**5 703 018 873 180**	**109 304**	**1 996 281**	**2 591 357 703 592**
Hungary	Rajka-Hegyeshalom	4 794	84 370	4 154 282	5 068	89 197	4 287 700	5 687	100 087	5 394 600	4 106	72 261	3 932 103	3 987	70 179	4 120 315	3 655	64 333	4 306 752
	Ebenfurth - Sopron	10 198	311 014	6 156 726	9 663	298 312	5 943 393	8 964	289 273	5 464 531	7 146	212 573	4 052 837	7 996	230 624	4 621 484	7 656	222 115	4 384 771
	Sopron - Győr	13 814	823 396	9 497 564	16 767	753 094	9 356 915	12 559	713 577	8 686 713	8 593	544 110	5 317 735	9 170	588 416	5 887 926	8 388	551 568	5 228 073
	Hegyeshalom oh.-Győr	14 424	739 965	12 520 766	14 454	741 497	12 741 162	14 652	751 623	13 113 987	4 106	72 261	3 932 103	3 987	70 179	4 120 315	3 655	64 333	4 306 752
	Győr-Tatabánya	23 173	1 571 156	21 701 915	22 562	1 529 721	21 672 225	21 977	1 490 057	21 216 224	12 518	642 152	11 687 943	15 171	778 298	15 175 879	15 771	809 072	17 692 134
	Tatabánya-Budapest Ferencváros	23 758	1 539 544	23 596 498	23 043	1 493 177	23 374 783	22 699	1 470 876	22 948 551	17 701	1 200 117	17 269 465	20 304	1 376 578	21 216 440	20 775	1 408 572	24 139 523
	Budapest Ferencváros-Szolnok (100)	5 970	573 103	5 990 258	4 139	397 376	4 056 929	5 558	533 615	5 817 446	18 438	1 194 806	18 571 206	21 617	1 400 783	23 069 858	21 641	1 402 311	25 657 333
	Budapest Ferencváros-Szolnok (120)	10 095	1 009 471	11 992 586	8 676	867 569	9 450 943	6 639	663 892	7 207 799	4 293	412 135	4 413 264	8 286	795 450	9 550 602	9 739	934 911	12 950 428
	Szolnok-Szajol	15 108	148 058	15 970 663	13 083	128 213	12 628 959	11 987	117 473	12 142 273	6 033	603 305	6 330 576	4 822	482 229	5 345 055	3 765	376 542	4 130 383
	Szajol-Békéscsaba	6 483	554 315	6 270 695	5 641	482 299	5 745 747	5 914	505 659	6 319 920	4 192	41 082	4 036 184	5 617	55 047	6 323 930	12 470	122 206	15 526 566
	Békéscsaba-Lőkösháza oh.	5 691	180 394	5 982 746	5 102	161 723	5 510 122	5 109	161 958	5 535 422	4 373	373 881	4 316 955	5 841	499 442	6 223 024	6 638	567 579	8 090 068
	Szajol-Püspökladány	7 806	523 803	9 879 036	6 430	431 422	6 868 556	5 535	371 384	5 990 582	3 423	108 506	3 343 487	5 062	160 460	5 361 424	5 976	189 432	7 143 328
	Püspökladány-Biharkeresztes oh.	3 457	191 508	4 309 091	3 698	204 858	4 613 387	3 086	170 954	3 607 147	4 747	318 520	4 944 913	5 296	355 394	6 673 511	5 516	370 133	7 545 237
	Szob oh.-Rákosrendező	4 056	246 985	4 689 380	4 591	279 567	5 068 440	4 088	248 949	4 692 992									
	Rákosrendező-Kőbánya Kispest	1 059	8 790	530 935	850	7 051	277 311	586	4 860	183 952	3 072	187 112	3 243 530	3 585	218 346	3 943 708	2 981	181 556	3 436 223
	Rákosrendező-Ferencváros	4 296	71 310	4 908 989	4 733	78 568	5 341 268	4 528	75 171	5 325 986	265	2 202	110 787	156	1 293	129 629	194	1 610	192 405
	Total																		
Romania	Border (RO/HU) - Curtici										9 650			9 257	77 757	62 573 319	9 744	81 850	65 866 651
	Curtici - Arad										11 520			8 846	150 389	112 127 060	9 312	158 304	118 028 484
	Arad - Simeria										10 416			12 054	1 429 650	2 049 822 992	11 472	1 257 944	1 339 790 857
	Simeria - Coslariu										9 754			6 648	387 160	560 469 682	7 776	444 254	607 374 382
	Coslariu - Sighişoara										6 780			5 844	448 717	534 411 088	5 100	471 220	544 389 606
	Sighişoara - Braşov										7 476			5 256	583 593	605 152 730	6 312	662 388	665 207 562
	Braşov - Predeal										14 946			7 188	144 308	119 333 772	7 332	147 672	154 441 564
	Predeal - Brazi										14 992			16 712	595 153	620 637 007	17 592	626 477	653 302 112
	Brazi - Bucureşti										22 496			12 415	431 416	719 484 767	13 068	454 122	757 352 387
	Bucureşti - Feteşti										15 914			6 589	727 220	986 975 601	6 936	765 494	1 038 921 685
	Feteşti - Constanţa										37 824			21 774	1 413 657	1 880 209 282	22 920	1 488 060	1 979 167 666
	Arad - Timişoara										4 752			3 957	198 157	223 300 555	4 644	206 213	221 658 548
	Timişoara - Orşova										5 196			4 514	1 566 581	1 918 634 479	6 120	**1 705 482**	**1 685 245 224**
	Orşova - Filiaşi										11 796			11 206	783 635	853 405 857	11 724	**805 934**	**869 147 832**
	Filiaşi - Craiova										23 688			22 504	2 044 848	2 965 446 580	19 416	**1 894 365**	**2 845 789 231**
	Craiova - Calafat										496			15 778	115 765	76 772 926	420	15 253	7 675 940
	Calafat - Border RO/BG										-			0	0	0	0	0	
	Border (HU/RO) - Episcopia Bihor										1 750			1 651	11 722	7 437 073	2 410	17 111	10 296 974
	Episcopia Bihor <--> Coslariu										9 828			9 333	711 038	652 065 001	9 127	785 214	798 289 508
	Simeria - Filiasi										18 307			17 238	2 083 362	2 255 149 838	16 615	1 889 644	2 053 501 957
	Craiova - Videle										12 183			11 515	1 582 528	2 040 449 169	12 057	1 726 820	2 357 438 353
	Videle - Bucuresti										13 072			12 228	635 849	763 018 998	12 794	665 307	798 368 444
	Videle - Giurgiu Nord										3 321			3 095	194 985	126 740 250	3 127	197 001	128 050 650
	Giurgiu Nord - Frontiera										2 274			2 123	6 776	2 637 960	2 961	16 286	7 567 274
	Total										**268 430**			**227 725**	**16 324 268**	**20 136 255 985**	**218 979**	**16 482 415**	**19 706 872 891**

		Freight traffic																	
		2006			2007			2008			2009			2010			2011		
	Line section	number of trains	train km	gross ton	number of trains	train km	gross ton	number of trains	train km	gross ton	number of trains	train km	gross ton	number of trains	train km	gross ton	number of trains	train km	gross ton
Bulgaria	Vidin - Brusartsi		73 882	37 057 506		79 554	46 776 787	2 912	60 390	34 760 018	2 548	19 061	12 132 066	1 820	19 022	10 064 851	728	N/A	N/A
	Brusartsi - Mezdra		205 065	228 575 030		222 254	249 100 722	8 008	156 119	145 094 730	6 552	59 634	40 506 411	3 640	51 528	34 867 214	1 820	N/A	N/A
	Mezdra - Sofia		410 237	477 913 031		411 962	484 884 253	8 372	341 111	362 546 083	9 464	173 600	174 724 532	5 460	166 580	176 220 344	4 004	N/A	N/A
	Sofia - Radomir		445 839	474 961 439		408 320	453 035 298	14 924	457 530	479 443 727	14 196	368 439	409 804 524	10 556	352 256	375 752 570	14 924	N/A	N/A
	Radomir - Kulata		471 306	449 191 971		470 492	458 765 959	10 920	330 246	288 384 729	10 192	263 071	223 351 910	8 736	331 481	299 992 127	9 100	N/A	N/A
	Sofia - Septemvri							12 740	546 130	587 133 661	15 288	471 819	498 369 886	12 376	425 021	461 210 591	12 376	N/A	N/A
	Septemvri - Plovdiv							14 560	328 805	332 494 507	13 468	272 487	273 262 824	10 556	239 746	247 832 392	8 372	N/A	N/A
	Plovdiv - Dimitrovgrad							8 372	211 021	220 468 774	12 376	90 150	89 225 236	9 828	55 877	57 620 834	6 916	N/A	N/A
	Dimitrovgrad - Svilengrad							13 104	355 530	369 860 446	17 472	294 320	291 924 585	14 560	313 925	327 877 610	9 828	N/A	N/A
	Vidin - Brusartsi		73 882	37 057 506		79 554	46 776 787	2 912	60 390	34 760 018	2 548	19 061	12 132 066	1 820	19 022	10 064 851	728	N/A	N/A
	Brusartsi - Mezdra		205 065	228 575 030		222 254	249 100 722	8 008	156 119	145 094 730	6 552	59 634	40 506 411	3 640	51 528	34 867 214	1 820	N/A	N/A
Greece	Pireaus:3 Gefyres	1 200	6 600		1 800	9 900		1 800	9 900		1 200	6 600							
	3 Gefyres:SKA	1 200	6 600		1 800	9 900		1 800	9 900		1 200	6 600							
	SKA:Inoi	1 200	63 600		1 800	95 400		1 800	95 400		1 200	63 600							
	Inoi:Tithorea	1 200	110 400		1 800	165 600		1 800	165 600		1 200	110 400							
	Tithorea:Lianokladi	1 200	67 200		1 800	100 800		1 800	100 800		1 200	67 200							
	Lianokladi:Domokos	1 200	72 000		1 800	100 800		1 800	100 800		1 200	72 000							
	Domokos:Palaiofarsalos	1 200	18 000		1 800	27 000		1 800	27 000		1 200	18 000							
	Palaiofarsalos –Mesourlo- Larissa	1 250	52 500		1 900	79 800		1 900	79 800		1 250	52 500							
	Larissa:Evangelismos	2 000	46 000		2 000	46 000		200	46 000		1 800	41 400							
	Evangelismos:Leptokaria	2 000	70 000		2 000	70 000		200	70 000		1 800	63 000							
	Leptokaria:Plati	2 000	136 000		2 000	136 000		200	136 000		1 800	122 400							
	Plati:Sindos:Thessaloniki	2 600	96 200		2 600	96 200		2 600	96 200		2 400	88 800							
	Thessaloniki:Strimonas	2 250	272 250		2 250	272 250		2 250	272 250		1 600	193 600							
	Strimonas:Kulata Promachonas	1 800	25 200		1 800	25 200		1 800	25 200		1 500	21 000							
	Total	**22 300**	**1 042 550**		**27 150**	**1 234 850**		**21 750**			**20 550**	**927 100**							

Table B 3: Type of freight

		Freight trains * - corridor			Freight trains *- whole network		
		Number of trains	Train - km	Market share	Number of trains	Train - km	Market share
Czech Republic	intermodal					3 284 751	
	block					-	
	single wagons					6 836 884	
	others					27 447 077	
Austria	intermodal	2 504	457 577	13,31%	1815,4	9 341 817	21,26%
	block	7 872	1 438 391	41,83%	2593,6	13 346 430	30,38%
	single wagons	8 441	1 542 369	44,86%	4129,1	21 248 395	48,36%
	others	0	0	0,00%	0	0	0,00%
Slovakia	intermodal	1 487	89 142	11,36%	1 865	152 511	3,50%
	block	4 912	240 546	30,65%	13 645	1 848 211	42,40%
	single wagons	8 728	365 357	46,56%	30 476	1 796 931	41,22%
	others	5 058	89 647	11,42%	27 386	561 622	12,88%
Hungary	intermodal	26 674	4 064 260	46%	31 176	7 116 720	36%
	block	29 542	3 396 883	39%	60 152	7 301 146	36%
	single wagons	37 223	1 342 531	15%	98 124	5 628 508	28%
	others	0	0	0%	0	0	0%
Romania	intermodal						
	block						
	single wagons						
	others						
Bulgaria	intermodal						
	block						
	single wagons						
	others						
Greece	intermodal						
	block						
	single wagons						
	others						

Table B 4: RU´s

Structure of RU´s																		
	2006			2007			2008			2009			2010			2011		
	F*	P*	F+P*	F*	P*	F+P*	F*	P*	F+P*	F*	P*	F+P*	F*	P*	F+P*	F*	P*	F+P*
Czech Republic	38/5	11/3	4/4	44/7	11/3	3/2	43/13	6/3	4/4	53/17	8/4	1/1	56/19	12/4	1/1	62/25	13/5	0/0
Austria							9/	6/	7/	8/	6/	7/	9/8	5/2	8/2	11/8	6/4	8/5
Slovakia	22/18	1/1	0/0	23/18	1/1	0/0	25/18	1/1	0/0	29/19	1/1	0/0	29/19	1/1	1/0	37/20	2/1	2/1
Hungary	6/	1/1	1/1	8/	1/1	1/1	12/	2/2	1/1	20/8	2/2	1/1	27/10	3/3		27/11	3/3	
Romania	24/12	3/2	0/0	24/12	4/2	0/0	23/11	4/2	1/1	22/11	4/2	1/1	26/11	4/2	1/1	19/11	4/2	2/1
Bulgaria	2/0	0/0	1/1	2/0	0/0	1/1	5/1	1/0	1/1	7/1	1/0	1/1	8/2	1/0	1/1	9/3	1/1	0/0
Greece	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

Table B 5:Infra characteristic

	Line characteristic													Services		
	Line section	Section overlapping with other RFC corridors?	Length of section (km)	Number of tracks	Electric traction (kV/Hz)	Max.length of train (m)	Line category regarding axle load	Max. weight/ axle for extraordinary shipments	Max. slope (‰)	Profile (P/C)	Loading gauge	Max. speed (km/h)	ERTMS equipment (ETCS, GSM-R)	Intermodal terminals /keeper	Marshalling yards/ keeper	Other service facilities (refuelling, RoLa, scales, etc.)
Czech Republic	Praha - Poříčany	RCF 9	33	3	3 KV DC	600	D4		↑ 7 / ↓ 7	78/402	GČD	120/140	GSM-R	Praha Uhříněves www.metrans.cz	Praha Libeň - SŽDC	
	Poříčany - Kolín	RCF 9	23	2	3 KV DC	600	D4		↑ 4 / ↓ 4	78/402	GČD	160	GSM-R		Kolín seř.n.- SŽDC	
	Kolín - Pardubice	RCF 9	42	2	3 KV DC	600	D4		↑ 4 / ↓ 4	78/402	GC	160	GSM-R		Pardubice - SŽDC	
	Pardubice - Česká Třebová	RCF 9	60	2	3 KV DC	600	D4		↑ 8 / ↓ 2	78/402	GČD	100/160	GSM-R	Česká Třebová (from summer 2012) www.metrans.cz	Česká Třebová - SŽDC	
	Česká Třebová - Svitavy	No	17	2	3 KV DC	600	D4		↑ 7 / ↓ 7	78/402	GC	120/140	GSM-R			Brno-Horní Heršpice / wagon wash - www.tssas.cz
	Svitavy - Brno	No	74	2	25 KV AC (50 Hz)	600	D4		↑ 5 / ↓0	78/402	GČD	80/120	GSM-R	Brno www.intrans.cz	Brno Maloměřice - SŽDC	
	Brno - Břeclav	No	60	2	25 KV AC (50 Hz)	700	D4		↑ 3 / ↓ 2	78/402	GČD	120/160	GSM-R		Břeclav přednádraží - SŽDC	
	Břeclav - Lanžhot border	RCF 5	12	2	25 KV AC (50 Hz)	700	D3		↑ 5 / ↓ 5	78/402	GC	160	GSM-R			
Alternative routing	Kolín - Kutná Hora	No	11	2	3 KV DC	700	D4		↑ 8 / ↓ 1	57/381	GC	120	GSM-R in plan			
Alternative routing	Kutná Hora - Havlíčkův Brod	No	63	2	25 KV AC (50 Hz)	700	D4		↑ 11 / ↓10	57/381	GC	120	GSM-R in plan		Havlíčkův Brod - SŽDC	
Alternative routing	Havlíčkův Brod - Křižanov	No	58	2	25 KV AC (50 Hz)	700	D4		↑ 9 / ↓ 8	57/381	GC	110	GSM-R in plan			
Alternative routing	Křižanov - Brno	No	63	2	25 KV AC (50 Hz)	700	D4		↑ 17 / ↓ 13	57/381	GČD	110	GSM-R in plan			
Connecting line	Děčín - Lovosice	No	45	2	3 KV DC	600	D4		↑ 1/ ↓ 2	78/402	GC	120/140	GSM-R	ČD-DUSS Terminal a.s. (www.cdd-terminal.com); Trans-Sped-Consult s.r.o., (http://www.trans-sped-consult.eu);	Děčín - SŽDC,	
Connecting line	Lovosice - Kralupy nad Vltavou	No	57	2	3 KV DC	600	D4		↑ 2 / ↓ 2	47/360	GČD	100/160	GSM-R		Kralupy nad Vtavou - SŽDC	
Connecting line	Kralupy nad Vltavou - Praha	No	28	2	3 KV DC	600	D4		↑ 5 / ↓ 5	78/402	GČD	100	GSM-R			
Connecting line	Děčín - Mělník	No	87	2	3 KV DC	600	D4		↑ 5 / ↓ 5	67/391	GB	80/120	GSM-R in plan	Mělník (www.starcontainer.eu)		
Connecting line	Mělník - Nymburk	No	48	2	3 KV DC	600	D4		↑ 5 / ↓ 5	78/402	GČD	120	GSM-R in plan		Nymburk - SŽDC	
Connecting line	Nymburk - Kolín	Not	25	2	3 KV DC	600	D4		↑ 4 / ↓ 3	78/402	GC	120	GSM-R in plan			
Austria	Břeclav -	RFC 5 (from	53	2	~25 kV/50	650	D4	22,5 t	28,0	80/410		140	yes			

	Line characteristic													Services		
	Line section	**Section overlapping with other RFC corridors?**	**Length of section (km)**	**Number of tracks**	**Electric traction (kV/Hz)**	**Max.length of train (m)**	**Line category regarding axle load**	**Max. weight/ axle for extraordinary shipments**	**Max. slope (‰)**	**Profile (P/C)**	**Loading gauge**	**Max. speed (km/h)**	**ERTMS equipment (ETCS, GSM-R)**	**Intermodal terminals /keeper**	**Marshalling yards/ keeper**	**Other service facilities (refuelling, RoLa, scales, etc.)**
	Gänserndorf	2015)			Hz ~15 kV/16,7 Hz											
	Gänserndorf - Wien Zvbf	RFC 5 (from 2015)	37	2	~15 kV/16,7 Hz	650	D4	22,5 t	11,0	80/410		140	yes	Wien Freudenau (Wiencont), Wien Nordwest (ÖBB Infra), Wien Inzersdorf (planned)	Wien Zvbf (ÖBB Infra)	Scale at Wien Zvbf, Refueling station in Stadlau
Alternative routing	Gänserndorf – Marchegg Gr.	RFC 5 (from 2015)	21	1	diesel	650	D4	22,5 t	16,0	80/410		100	GSM-R			
	Wien Zvbf - Hegyeshalom	RFC 5 (from 2015) on the section Wien Zvbf - Parndorf	66	2	~15 kV/16,7 Hz	650	D4	22,5 t	8,0	80/410		140	yes	Wien Freudenau (Wiencont), Wien Nordwest (ÖBB Infra), Wien Inzersdorf (planned)	Wien Zvbf (ÖBB Infra)	
Alternative routing	Wien Zvbf – Wiener Neustadt (über Baden)	RFC 5 (from 2015)	54	2	~15 kV/16,7 Hz	650	D4	22,5 t	10,0	80/410		160	GSM-R	Wien Freudenau (Wiencont), Wien Nordwest (ÖBB Infra), Wien Inzersdorf (planned)	Wien Zvbf (ÖBB Infra)	
Alternative routing	Wiener Neustadt – Sopron via Loipersbach-Schattendorf		30	1	diesel	300	D4	22,5 t	11,0	80/410		120	no			
Alternative routing	Gramatneusiedl - Wampersdorf	RFC 5 (from 2015)	14	1	~15 kV/16,7 Hz	650	D4	22,5 t	6,0	80/410		120	GSM-R			
Alternative routing	Parndorf – Bratislava-Petrzalka	RFC 5 (from 2015)	24	1	~15 kV/16,7 Hz	650	D4	22,5 t	13,0	80/410		160	GSM-R			
Alternative routing	Wien Zvbf – Achau - Ebenfurth	RFC 5 (from 2015)	41	1-2	~15 kV/16,7 Hz	650	D4	22,5 t	15,0	80/410		140	yes	Wien Freudenau (Wiencont), Wien Nordwest (ÖBB Infra), Wien Inzersdorf (planned)	Wien Zvbf (ÖBB Infra)	
Alternative routing	Ebenfurth – Wiener Neustadt	RFC 5 (from 2015)	13	2	~15 kV/16,7 Hz	650	D4	22,5 t	15,0	80/410		140	yes			
Slovakia	Kúty border - Devinska N.Ves	No	58	2	~25 kV/50 Hz	700	D3	22,7 t	↑7 / ↓5	70/400	GB	120/140	-		Devínska N.Ves/ ŽSR	Devínska N.Ves/ scale
	Devínska N.Ves - Bratislava hl.st.	RFC 5	13	2	~25 kV/50 Hz	700	D4	22,7 t	↑7 / ↓8	70/400	GB	120	-	1. Bratislava UNS / Intrans (www.intrans.sk); 2. Bratislava Pálenisko/SPaP (www.spap.sk)		
Connecting line	Bratislava hl.st. - Dunajská Streda	RFC 5	48	1	-	625	C4/ D4	22,7 t	↑5 / ↓5	70/400	GB	80	-	Dunajská Streda/ Metrans (www.metrans.cz)		
Connecting line	Dunajská Streda - Komarno border	RFC 5	52	1	-	240	D4	22,7 t	↑3 / ↓4	70/400	GB	80	-			
	Bratislava hl.st. - Rusovce border	RFC 5	32	1	~25 kV/50 Hz	690	D4	22,7 t	↑7 / ↓11	70/400	GB	120	-			
	Bratislava hl.st.- Nove Zamky	RFC 5 (Partly: Bratislava hl.st. - Sladkovicovo)	87	2	~25 kV/50 Hz	700	D4	22,7 t	↑4 / ↓7	70/400	GB	120/140	Bratislava hl.st. -Sládkovičovo = GSM-R	Sládkovičovo/ Lörinz (www.loerinz.sk)	1. Bratislava východné/ ŽSR; 2. Nové Zámky/ ŽSR	1. Bratislava východné/ scale; 2. Nové Zámky/ scale

	Line characteristic													Services		
	Line section	Section overlapping with other RFC corridors?	Length of section (km)	Number of tracks	Electric traction (kV/Hz)	Max.length of train (m)	Line category regarding axle load	Max. weight/ axle for extraordinary shipments	Max. slope (‰)	Profile (P/C)	Loading gauge	Max. speed (km/h)	ERTMS equipment (ETCS, GSM-R)	Intermodal terminals /keeper	Marshalling yards/ keeper	Other service facilities (refuelling, RoLa, scales, etc.)
	Nove Zamky - Komrano border	No	26	1	~25 kV/50 Hz	620	D3	22,7 t	↑7 / ↓5	70/400	GB	100	-		Komárno zr.st./ ŽSR	
	Nove Zamky - Sturovo border	No	58	2	~25 kV/50 Hz	700	D4	22,7 t	↑3 / ↓35	70/400	GB	120	-		Štúrovo/ŽSR	Štúrovo/ scale
Alternative routing	Devínska Nová Ves - Devínska Nová Ves št.hr.	RFC 5	3,6	1	-	700	D4	22,7	0 / ↓8	70/400	GC	80				
Alternative routing	Bratislava Petržaka - Bratislava Petržalka št.hr.	RFC 5	2,4	1	~15 kV/16 2/3 Hz	540 if electric loco/690 if diesel loco	D4	22,7	0/0	70/400	GC	140				
Alternative routing	Kúty - Trnava	No	69	1	~25 kV/50 Hz	720	D4	22,7	↑12 / ↓12	70/400	GB	80				
Alternative routing	Trnava - Bratislava východ	RFC 5	40,7	2	~25 kV/50 Hz	650	D4	22,7	↑6 / ↓7	70/400	GC	160	ETCS			
Alternative routing	Trnava - Galanta	No	26,7	1.II	~25 kV/50 Hz	670	D4	22,7	↑5 / ↓5	70/400	GC	80				
Hungary	Rajka border - Hegyeshalom	No	17,2	1	25 kV/50 Hz	650	C2	C2	↑4 / ↓4	70/400	GA	100	-	-	-	-
	Hegyeshalom border - Hegyeshalom	No	4,9	2	25 kV/50 Hz (MÁV) / 15 kV/16 2/3 Hz (ÖBB)	750	C3	D3	↑4 / ↓4	80/410	GA	140	ETCS	-	Hegyeshalom (MÁV)	RoLa, Hegyeshalom/refuelling
	Hegyeshalom - Tata	No	104	2	25 kV/50 Hz	750	C3	D3	↑5,3 / ↓5,3	80/410	GA	160	ETCS	-	Komárom - Rendező (MÁV) Győr - Rendező (MÁV)	RoLa, Győr-Rendező, Komárom-Rendező, Mosonmagyaróvár/scale
	Tata - Biatorbágy	No	51	2	25 kV/50 Hz	750	C3	D3	↑8 / ↓8	80/410	GA	140	ETCS	-	-	RoLa
	Biatorbágy - Kelenföld	No	17,3	2	25 kV/50 Hz	750	C3	D3	↑8 / ↓8	80/410	GA	120	ETCS	-	-	RoLa
	Kelenföld - Ferencváros	No	5,7	2	25 kV/50 Hz	750	C3	C3	↑8 / ↓8	80/410	GA	80	ETCS	-	Kelenföld (MÁV) Ferencváros (MÁV)	RoLa
Alternative routing	Sopron border - Pinnye	No	22,4	1	25 kV/50 Hz	600	C4	22,5 t	↑7 / ↓7	70/400	GA	100	-	-	Sopron (GYSEV)	Sopron/refuelling
Alternative routing	Pinnye - Fertőszentmiklós	No	6,9	1	25 kV/50 Hz	600	D4	22,5 t	↑7 / ↓7	70/400	GA	120	-	-	-	-
Alternative routing	Fertőszentmiklós - Petőháza	No	2,3	1	25 kV/50 Hz	600	C4	22,5 t	↑7 / ↓7	70/400	GA	100	-	-	-	-
Alternative routing	Petőháza - Győr	No	58,1	1	25 kV/50 Hz	600	C4	22,5 t	↑0,1 / ↓0,1	70/400	GA	120	-	-	-	-
	Komárom border - Komárom	No	3	1	25 kV/50 Hz	750	C2	C2	↑5,6 / ↓5,6	80/410	GA	60	-	-	-	Komárom/refuelling
Connecting line	Ferencváros - Soroksári út	No	1,8	2	25 kV/50 Hz	750	D3	D3	↑11,2 / ↓11,2	80/410	GA	80	-	-	-	Ferencváros/refuelling, Ferencváros-Keleti rendező/scale
Connecting line	Soroksári út - Soroksár	No	7,1	1	25 kV/50 Hz	750	D3	D3	↑11,2 / ↓11,2	80/410	GA	100	-	-	-	Soroksári út-Rendező/scale

	Line characteristic													Services		
	Line section	Section overlapping with other RFC corridors?	Length of section (km)	Number of tracks	Electric traction (kV/Hz)	Max.length of train (m)	Line category regarding axle load	Max. weight/ axle for extraordinary shipments	Max. slope (‰)	Profile (P/C)	Loading gauge	Max. speed (km/h)	ERTMS equipment (ETCS, GSM-R)	Intermodal terminals /keeper	Marshalling yards/ keeper	Other service facilities (refuelling, RoLa, scales, etc.)
Connecting line	Soroksár - Soroksár-Terminál	No	3,5	1	25 kV/50 Hz	750	C3	C3	↑5 / ↓5	80/410	GA	40	-	Soroksár - Terminál (MÁV)	-	-
	Ferencváros - Kőbánya felső	RFC 6	4,6	2	25 kV/50 Hz	750	C3	C3	↑7 / ↓7	80/410	GA	60	-	-	-	-
	Kőbánya felső - Rákos	RFC 6	3,1	2	25 kV/50 Hz	750	C2	C2	↑7 / ↓7	80/410	GA	80	-	-	-	-
	Rákos - Újszász	RFC 6	76	2	25 kV/50 Hz	750	C2	C2	↑6 / ↓6	80/410	GA	100	-	-	-	Rákos/scale
	Újszász - Szolnok	RFC 6	17,3	2	25 kV/50 Hz	750	C2	C2	↑4 / ↓4	80/410	GA	120	-	-	Szolnok (MÁV)	-
	Szolnok - Szajol	RFC 6	10,3	2	25 kV/50 Hz	750	C2	C2	↑4 / ↓4	80/410	GA	120	-			
	Szajol - Gyoma	No	48,8	2	25 kV/50 Hz	750	D2	D2	↑4,2 / ↓4,2	70/400	GA	120	-	-	-	-
	Gyoma - Murony	No	26,2	2	25 kV/50 Hz	750	C2	C2	↑4,2 / ↓4,2	70/400	GA	120	-	-	-	-
	Murony - Lőkösháza border	No	42,1	1	25 kV/50 Hz	750	C2	C2	↑4,2 / ↓4,2	70/400	GA	100	-	-	-	-
	Ferencváros - Kőbánya-Kispest	RFC 6	5,1	2	25 kV/50 Hz	750	D3	D3	↑8 / ↓8	70/400	GA	80	-	-	-	RoLa
	Kőbánya - Kispest - Vecsés	RFC 6	10,6	2	25 kV/50 Hz	750	D3	D3	↑7,3 / ↓7,3	70/400	GA	120	-	-	-	RoLa
	Vecsés - Albertirsa	RFC 6	34	2	25 kV/50 Hz	750	C3	C3	↑7,3 / ↓7,3	70/400	GA	120	-	-	-	RoLa
	Albertirsa - Szolnok	RFC 6	46	2	25 kV/50 Hz	750	C3	C3	↑2,3 / ↓2,3	70/400	GA	120	-	-	-	RoLa, Cegléd/scale
Alternative routing	Szajol - Püspökladány	RFC 6	66,7	2	25 kV/50 Hz	750	C3	C3	↑5 / ↓5	70/400	GA	120	-	-	-	RoLa, Törökszentmiklós/scale
Alternative routing	Püspökladány - Biharkereszte s border	No	56,8	1	No	750	C2	C2	↑3 / ↓3	70/400	GA	100	-	-	-	RoLa, Püspökladány/scale
	Szob border - Vác	No	30,5	2	25 kV/50 Hz	750	C3	C3	↑4,6 / ↓4,6	70/400	GA	100	-	-	-	-
	Vác - Rákospalota-Újpest	No	25,6	2	25 kV/50 Hz	750	C3	C3	↑4,6 / ↓4,6	70/400	GA	120	-	-	-	-
	Rákospalota-Újpest - Angyalföld elág.	No	3,3	1	25 kV/50 Hz	750	C2	C2	↑7 / ↓ 7	70/400	GA	60	-	-	-	-
	Angyalföld elág. - Kőbánya felső	No	9	2	25 kV/50 Hz	750	C2	C2	↑7 / ↓ 7	70/400	GA	80	-	-	-	-
Alternative routing	Vác - Vácrátót	No	9,1	1	25 kV/50 Hz	750	C2	C2	↑8 / ↓ 8	70/400	GA	80	-	-	-	-
Alternative routing	Vácrátót - Galgamácsa	No	14,9	1	25 kV/50 Hz	750	C2	C2	↑12,1 / ↓ 12,1	70/400	GA	80	-	-	-	-
Alternative routing	Galgamácsa - Aszód	No	9,8	1	25 kV/50 Hz	700	C2	C2	↑5,3 / ↓ 5,3	70/400	GA	80	-	-	-	-
Alternative routing	Aszód - Hatvan	RFC 6	15,9	2	25 kV/50 Hz	750	C3	D3	↑8 / ↓ 8	70/400	GA	120	-	-	-	-
Alternative routing	Hatvan - Újszász	No	52,3	1	25 kV/50 Hz	750	C2	C2	↑3 / ↓ 3	70/400	GA	100	-	-	Hatvan (MÁV)	Hatvan/refuelling, Hatvan-Rendező/scale
Romania	Border (HU/RO) - Curtici	No	8,38	1	25 kV, 50Hz	750	C3	+0,5t/axle	1,8	45/375	C	100				

	Line characteristic													Services		
	Line section	Section overlapping with other RFC corridors?	Length of section (km)	Number of tracks	Electric traction (kV/Hz)	Max.length of train (m)	Line category regarding axle load	Max. weight/ axle for extraordinary shipments	Max. slope (‰)	Profile (P/C)	Loading gauge	Max. speed (km/h)	ERTMS equipment (ETCS, GSM-R)	Intermodal terminals /keeper	Marshalling yards/ keeper	Other service facilities (refuelling, RoLa, scales, etc.)
	Curtici – Arad	No	17,01	2	25 kV, 50Hz	720	C3	+0,5t/axle	3,0	45/375	C	120				
	Arad - Simeria	No	157,36	2	25 kV, 50Hz	720	C3	+0,5t/axle	4,0	45/375	C	100		1.Railport Arad „SC Railport Arad SRL” 2.Trade Trans TerminalSRL-Arad		
	Simeria - Coslariu	No	69,27	2	25 kV, 50Hz	675	C3	+0,5t/axle	5,8	45/375	C	120				
	Coslariu - Sighişoara	No	98,39	2	25 kV, 50Hz	600	C3	+0,5t/axle	6,6	45/375	C	120		Medias, CFR Marfa		
	Sighişoara - Braşov	No	128,61	2	25 kV, 50Hz	600	C3	+0,5t/axle	12,0	45/375	C	100				
	Braşov - Predeal	No	26,24	2	25 kV, 50Hz	650	C3	+0,5t/axle	28,5	45/375	B	120		Brasov Triaj, CFR Marfa		
	Predeal - Brazi	No	92,17	2	25 kV, 50Hz	640	C3	+0,5t/axle	17,3	45/375	C	85	ongoing works for ETCS level 1	1.EURO GATE 2. Terminal operated by Alinso and RCA		
	Brazi - Bucureşti	No	51,37	2	25 kV, 50Hz	720	D4		5,5	45/375	C	160	ETCS level 1; pilot project for ETCS level 2 and GSM-R			
	Bucureşti - Feteşti	No	146,56	2	25 kV, 50Hz	720	D4		6,3	45/375	C	160	ongoing works for ETCS level 1	Titan, CFR Marfa		
	Feteşti - Constanţa	No	78,38	2	25 kV, 50Hz	720	D4		15,3	45/375	C	160	ETCS level 1	1.Constanta Marfuri, CFR Marfa 2.Port Constanţa Dana 44 SC UMEX SA 3. Port Constanţa Danele 51-52 SC SOCEP SA. 4. Port Constanţa Danele 121-124 CSCT – Agigea 5Port Constanţa Dana 119 SC APMTerminalRomânia SRL		
	Arad - Timişoara	No	57,28	1	25 kV, 50Hz	720	C3	+0,5t/axle	5,5	45/375	C	120				
	Timişoara - Orşova	No	186,53	1	25 kV, 50Hz	720	C3	+0,5t/axle	21,1	45/375	B	140		1.Semenic Timisoara Sud, CFR Marfa 2.CN APDF SA GiurgiuPunct de lucru OrsovaSCEP Orsova		
	Orsova - Filiaşi	No	101,9	1	25 kV, 50Hz	720	C3	+0,5t/axle	30,2	45/375	B	120		CN APDF SA Giurgiu Sucursala Drobeta Tr.		
	Filiaşi - Craiova	No	35,88	2	25 kV, 50Hz	750	C3	+0,5t/axle	9,6	45/375	C	120				
	Craiova - Calafat	No	107,68	1	Non-electrified	600	C3	+0,5t/axle	13,0	45/375	C	100		Craiova, CFR Marfa		
	Calafat - Border RO/BG	No	0,67	1	Non-electrified	-	C3	+0,5t/axle	-	45/375	-	-		1.Glogovat, CFR Marfa 2.CN APDF SA Giurgiu Agenţia Calafat SCEP Orsova		
Alternative routing	Border (HU/RO) - Episcopia Bihor	No	7,71	1	Non-electrified	750	C3	+0,5t/axle	5,7	45/375	C	120				
Alternative routing	Episcopia Bihor - Coslariu	No	266,57	1+2	Non-electrified + 25 kV, 50 Hz	600	C3	+0,5t/axle	20,0	45/375	C	120		1 .Turda,CFR Marfa 2.Oradea Est, CFR Marfa 3. Cluj Napoca Est CFR Marfa		
Alternative routing	Simeria - Gura Motru	No	206,46	1+2	25 kV, 50Hz	550	C3	+0,5t/axle	18,0	45/375	B	95				
Alternative routing	Craiova - Bucuresti	No	213	2	25 kV, 50Hz	750	C3	+0,5t/axle	9,8	45/375	C	120		1.Bucurestii Noi, CFR Marfa 2.Terminal operated by Tibbett Logistics		

		Line characteristic												Services		
	Line section	Section overlapping with other RFC corridors?	Length of section (km)	Number of tracks	Electric traction (kV/Hz)	Max.length of train (m)	Line category regarding axle load	Max. weight/ axle for extraordinary shipments	Max. slope (‰)	Profile (P/C)	Loading gauge	Max. speed (km/h)	ERTMS equipment (ETCS, GSM-R)	Intermodal terminals /keeper	Marshalling yards/ keeper	Other service facilities (refuelling, RoLa, scales, etc.)
Alternative routing	Videle - Giurgiu	No	61,4	1	Non-electrified	600	C3	+0,5t/axle	16,8	45/375	C	100				
Alternative routing	Bucuresti - Giurgiu	No	63,95	1+2	Non-electrified	740	C3	+0,5t/axle	10,4	45/375	C	100		Bucuresti Progresu, CFR Marfa		
Alternative routing	Giurgiu - Border	No	4,8	1	Non-electrified	600	C3	+0,5t/axle	10,0	45/375	C	80		CN APDF SA Giurgiu SCAEP Giurgiu		
Bulgaria	Vidin - Brusartsi	No	86,887	1	25 kV, 50Hz	584	D4	23 t/axle	↑1 / ↓26	45/364	GB	70				
	Brusartsi - Mezdra	No	94 333	1+2	25 kV, 50Hz	550	D4	23 t/axle	↑9 / ↓17	59/389	GB	80				
	Mezdra - Sofia	No	83 058	2	25 kV, 50Hz	690	D4	23 t/axle	↑7 / ↓11	59/389	GB/GA	70				
	Sofia - Radomir	No	62 524	1+2	25 kV, 50Hz	571	D4	23 t/axle	↑3 / ↓12	59/389	GB	80				
	Radomir - Kulata	No	161,388	1	25 kV, 50Hz	535	D4	23 t/axle	↑5 / ↓19	59/389	GB	80				
Alternative routing	Sofia - Septemvri	No	102,8	2	25kv, 50Hz	636	D4	23t/axle	25‰		GC /GB	130/130				
Alternative routing	Septemvri-Plovdiv razpredelitelna	No	53,1	2	25kv, 50Hz	690	D4	23t/axle	8‰		GC	130/130				
Alternative routing	Plovdiv razpredelit.-Dimitrovgrad	No	77,8	1+2	25kv, 50Hz	700	D4	23t/axle	9‰		GC/GB	160/160	ETCS Level 1 ver.2.3.0.d and GSM-R installed and tested			
Alternative routing	Dimitrovgrad - Svilengrad	No	65,7	1	Non-electrified	568	D4	23t/axle	12,5‰		GC	85/85	ongoing works for ETCS level 1 and GSM-R			
Greece	Ikonio Port (Piraeus) - Thriassio (17.3km)	No	17.3	1	Diesel	>750	C4	22,5		45/375	DE3	100				
	Thriassio - SKA(13km)	No	13	2	~25 kV/50 Hz	>750	C4	22,5		45/375	DE3	100				
Connecting line	Piraeus – Athens RS(8.8km)	No	8.8	2	Diesel	>700	C4	22,5	↑16 ↓16,0	45/375	DE3	80	ETCS Level1/version 2.3.0/Wired telecommunication network with optic fiber connection , Radio communication through TETRA system, GSM-R system has been installed and is under testing.			
	Athens – SKA (11km)	No	11	2	Diesel	500	C4	22,5	↑16	45/375	DE3	100				
	SKA – Inoi (53km)	No	53	2	Diesel	>700	C4	22,5	↑16 /↓16,	45/375	DE3	100	The section is controlled by the Athens conventional Traffic Control Center. It is divided into 9 control areas with the possibility of local control.The basic system characteristics are: Bidirectional signaling, Relay type of Interlocking System,Safety Integrity Level: N/A,Train detection system: Axle counters, No system of automatic train protection (ATP).Wired telecommunication network with copper cable, of 24 quadruple, connections, that is installed along the entire Athens – Thessaloniki – Eidomeni axis/Radio communication through the OSE's analog STORNO system/ The 10 channels of the system operate on a frequency range between 146 – 174 Hz/GSM-R system has been installed and is being tested			
	Inoi – Thiva (28km)	No	28	2	Diesel	>750	C4	22,5	↑15,2 /↓16,0	45/375	DE3	160	The section is controlled by the Athens conventional Traffic Control Center. It is divided into 11 control areas with the possibility of local control.The basic system characteristics are: Bidirectional signaling, Relay type of Interlocking System,Safety Integrity Level: N/A,Train detection system: Audio frequency track circuits, No system of automatic train protection (ATP).Wired telecommunication network with copper cable, of 24 quadruple, connections, that is installed		Inoi	
	Thiva – Tithorea (64km)	No	64	2	Diesel	>750	C4	22,5	↑13 /↓11,70	45/375	DE3	160				

		Line characteristic												Services		
	Line section	Section overlapping with other RFC corridors?	Length of section (km)	Number of tracks	Electric traction (kV/Hz)	Max.length of train (m)	Line category regarding axle load	Max. weight/ axle for extraordinary shipments	Max. slope (‰)	Profile (P/C)	Loading gauge	Max. speed (km/h)	ERTMS equipment (ETCS, GSM-R)	Intermodal terminals /keeper	Marshalling yards/ keeper	Other service facilities (refuelling, RoLa, scales, etc.)
													along the entire Athens – Thessaloniki – Eidomeni axis/Radio communication through the OSE's analog STORNO system/ The 10 channels of the system operate on a frequency range between 146 – 174 Hz/GSM-R system has been installed and is being tested .			
	Tithorea – Lianokladi (56km)	No	56	1	Diesel	>700	C4	22,5	↑20,06 / ↓ 20,9	45/375	DE3	120	The section is controlled by the Lianokaldi conventional Traffic Control Center. The section is divided into 8 control areas with the possibility of local control.The basic system characteristics are: Bidirectional signaling, Relay type of Interlocking System,Safety Integrity Level: N/A,Train detection system: Track circuits (83Hz) inside the stations and axle counters on the open line., No system of automatic train protection (ATP).Wired telecommunication network with copper cable of 24 quadruple connections/ Radio communication through the OSE's analog STORNO system		Lianokladi	
	Lianokladi - Domokos (60km)	No	60	1	Diesel	>700	C4	22,5	↑21,75/ ↓ 21,68	45/375	DE3	120	The section is controlled by the Lianokaldi conventional Traffic Control Center. The section is divided into 10 control areas with the possibility of local control.The basic system characteristics are: Bidirectional signaling, Relay type of Interlocking System,Safety Integrity Level: N/A,Train detection system: Track circuits (83Hz) inside the stations and axle counters on the open line., No system of automatic train protection (ATP).Wired telecommunication network with copper cable of 24 quadruple connections/ Radio communication through the OSE's analog STORNO system.			
	Domokos – Palaiofarsalos (15km)	No	15	2	~25 kV/50 Hz	>750	C4	22,5	↓ 6,2	45/375	DE3	160	The section is controlled by the Larisa conventional Traffic Control Center. The section is divided into 6 control areas with the possibility of local control. The basic system characteristics are: Bidirectional signaling, Relay type of Interlocking System, Safety Integrity Level: N/A, Train detection system: Audio frequency track circuits ,No System of Automatic Train Protection (ATP),Especially for the Palaiofarsalos control area, an electronic interlocking system has been installed. Wired telecommunication network with copper cable, of 24 quadruple, connections, that is installed along the entire Athens – Thessaloniki – Eidomeni axis/Radio communication through the OSE's analog STORNO system/ The 10 channels of the system operate on a frequency range between 146 – 174 Hz/GSM-R system has been installed and is being tested			
	Palaiofarsalos –Mesourlo-Larissa (42km)	No	42	2	~25 kV/50 Hz	>750	C4	22,5	↑14/ ↓ 14	45/375	DE3	160	The section is controlled by the Larisa conventional Traffic Control Center. The section is divided into 9 control areas with the possibility of local control. The basic system characteristics are: Bidirectional signaling, Relay type of Interlocking System, Safety Integrity Level: N/A, Train detection system: Audio frequency track circuits ,No System of Automatic Train Protection (ATP).Wired telecommunication network with copper cable, of 24 quadruple, connections, that is installed along the entire Athens – Thessaloniki – Eidomeni axis/Radio communication through the OSE's analog STORNO system/ The 10 channels of the system operate on a frequency range between 146 – 174 Hz/GSM-R system has been installed and is being tested		Mesourlo	
Connecting line	Larissa- Volos Port (61km)	No	61	1	Diesel	500	C4	20,0		45/375	DE3	100				
	Larissa - Evangelismos (23km)	No	23	2	~25 kV/50 Hz	>750	C4	22,5	↑11,2/ ↓ 14	45/375	DE3	160	The section is controlled by the Thessaloniki (TX1) electronic Traffic Control Center. The section is divided into 4 control areas with the possibility of local control The basic system characteristics are: Bidirectional signaling, Electronic type of			
	Evangelismos	No	35	2	~25 kV/50	>750	C4	22,5	↑10,54/ ↓	45/375	DE3	160				

	Line characteristic													Services		
	Line section	Section overlapping with other RFC corridors?	Length of section (km)	Number of tracks	Electric traction (kV/Hz)	Max.length of train (m)	Line category regarding axle load	Max. weight/ axle for extraordinary shipments	Max. slope (‰)	Profile (P/C)	Loading gauge	Max. speed (km/h)	ERTMS equipment (ETCS, GSM-R)	Intermodal terminals /keeper	Marshalling yards/ keeper	Other service facilities (refuelling, RoLa, scales, etc.)
	– Leptokaria (35km)				Hz				13,5				Interlocking System., Safety Integrity Level: SIL4, Train detection system: Audio frequency track circuits ,No System of Automatic Train Protection (ATP).Wired telecommunication network with copper cable, of 24 quadruple, connections, that is installed along the entire Athens – Thessaloniki – Eidomeni axis/Radio communication through the OSE's analog STORNO system/ The 10 channels of the system operate on a frequency range between 146 – 174 Hz/GSM-R system has been installed and is being tested			
	Leptokaria – Katerini (23km)	No	23	2	~25 kV/50 Hz	>750	C4	22,5	↑11,30/ ↓ 13,6	45/375	DE3	160				
	Katerini- Plati (45km)	No	45	2	~25 kV/50 Hz	1200	C4	22,5	↑13,25/ ↓ 13,82	45/375	DE3	160				
	Plati-Sindos-Thessaloniki (rail way yard) (37km)	No	37	2	~25 kV/50 Hz	>750	C4	22,5	↑7,39/ ↓ 9,62	45/375	DE3	160	The section is controlled by the Thessaloniki (TX1) electronic Traffic Control Center. The section is divided into 14 control areas The basic system characteristics are: Bidirectional signaling, Electronic type of Interlocking System., Safety Integrity Level: SIL4, Train detection system: Audio frequency track circuits ,No System of Automatic Train Protection (ATP). Wired telecommunication network with copper cable, of 24 quadruple, connections, that is installed along the entire Athens – Thessaloniki – Eidomeni axis/Radio communication through the OSE's analog STORNO system/ The 10 channels of the system operate on a frequency range between 146 – 174 Hz/GSM-R system has been installed and is being tested			
	Mouries – Strimonas (45km)	No	45	1	Diesel		C4		21,93	45/375					Sindos-Thessaloniki (rail way yard)	
Connecting line	Thessaloniki (rail way yard)- Thessaloniki Port	No	5,5	2	Diesel		C4		↑22 / ↓ 20	45/375	DE3	80		Thessaloniki Port		2scales, 8 cranes
	Thessaloniki (rail way yard) – Mouries (76km)	No	76	1	Diesel	640	C4	20,0	16,1	45/375	DE3	100	The section is controlled by the Thessaloniki (TX1) electronic Traffic Control Center. The section is divided into 14 control areas The basic system characteristics are: Bidirectional signaling, Electronic type of Interlocking System., Safety Integrity Level: SIL4, Train detection system: Audio frequency track circuits ,No System of Automatic Train Protection (ATP). Wired telecommunication network with copper cable, of 24 quadruple, connections, that is installed along the entire Athens – Thessaloniki – Eidomeni axis/Radio communication through the OSE's analog STORNO system/ The 10 channels of the system operate on a frequency range between 146 – 174 Hz/GSM-R system has been installed and is being tested			
	Mouries – Strimonas (45km)	No	45	1	Diesel	640	C4	20,0	21,93	45/375	DE3	80			Strimonas	
	Strimonas – Promachonas (14km)	No	14	1	Diesel	>750	C4	20,0	12,59	45/375	DE3	80				

Table B 6: Time & Charges

		Transport time			Charges											
					Containers				Chemicals				Standard good			
	Line section	Average transport time by railΔ (min)	Average transport time by truck (min)	Average transport time by boat * (min)	**Acess charges** for intermodal train (ca. 40 x40´containers-600 m, 1200 t,)	Average **transport charges** for 1x40´ctr./20 t by train	Average **transport charges** for 1x40´ctr./20 t by truck	Average **transport charges** for 1x40´ctr./20 t by boat *	**Acess charges** for block train (ca.500 m, 1800 t, chemicals)	Average **transport charges** for 40 t of chemicals-RID by train	Average **transport charges** for 40 t chemicals -ADR by tank truck	Average **transport charges** for 40t chemicals - ADN-D by boat *	**Acess charges** for single loading wagons (ca.500 m, 1500 t,)	Average **transport charges** for 30 t single loading by train	Average **transport charges** for 30 t by truck	Average **transport charges** for 30t by boat *
Czech Republic	Praha - Břeclav				€ 653				€ 1 896				€ 753			
Austria	Břeclav border - Hegyeshalom border	320			€ 388				€ 495				€ 444			
	Břeclav border - Sopron	370			€ 388				€ 491				€ 439			
Slovakia	Kúty border - Rusovce border	263,0	103,5	-	€ 295	€ 205	€ 300	-	€ 392	€ 421	€ 451	-	€ 344	€ 233	€ 203	-
	Kúty border - Komárno border	306,5	224,0	336 /1007	€ 560	€ 284	€ 650	€ 161	€ 743	€ 668	€ 810	€ 241	€ 651	€ 319	€ 387	€ 193
	Kúty border - Štúrovo border	355,0	300,0	494 /1481	€ 630	€ 305	€ 870	€ 169	€ 838	€ 727	€ 1 085	€ 253	€ 734	€ 339	€ 519	€ 202
Hungary**	Rajka border - Lőkösháza border	600			€ 1 053				€ 1 250				€ 1 151			
	Komárom border - Lőkösháza border	510			€ 813				€ 964				€ 889			
	Szob border - Lőkösháza border	540			€ 730				€ 866				€ 798			
	Sopron border - Biharkeresztes border	580			€ 1 089				€ 1 301				€ 1 195			
Romania	Lokoshaza - Curtici	15			€ 27				€ 29				€ 28			
	Curtici - Arad	30			€ 55				€ 58				€ 56			
	Arad - Simeria	210			€ 546				€ 574				€ 560			
	Simeria - Coslariu	150			€ 237				€ 249				€ 243			
	Coslariu - Braşov	390			€ 788				€ 829				€ 808			
	Braşov - Bucuresti	280			€ 581				€ 612				€ 597			
	Bucureşti - Constanta	570			€ 797				€ 839				€ 818			
	Arad - Timişoara	170			€ 200				€ 211				€ 206			
	Timişoara - Orşova	480			€ 646				€ 680				€ 663			
	Orşova - Filiaşi	300			€ 355				€ 374				€ 364			
	Filiaşi - Craiova	80			€ 125				€ 132				€ 129			
	Craiova - Calafat	330			€ 325				€ 340				€ 333			
	Calafat - Border RO/BG	–														
Bulgaria	Vidin – Brusartsi				€ 253				€ 450				€ 406			
	Brusartsi – Mezdra				€ 269				€ 478				€ 432			
	Mezdra – Sofia				€ 255				€ 454				€ 410			
	Sofia – Radomir				€ 204				€ 364				€ 328			
	Radomir – Kulata				€ 469				€ 835				€ 753			
	Sofia – Septemvri				€ 299				€ 531				€ 479			
	Septemvri – Plovdiv				€ 154				€ 274				€ 247			
	Plovdiv – Dimitrovgrad				€ 226				€ 407				€ 363			
	Dimitrovgrad - Svilengrad				€ 184				€ 330				€ 296			
Greece	Athens – Inoi-Tithorea	148	620	650	Ag. Ioannis Renti (Athens)-Inoi~€ 65	Triassio-Kulata (border GR-BG) € 594			Ag. Ioannis Renti (Athens)-Inoi~€ 65	Triassio-Kulata € 2707,2 (class RID 1 &7)			Ag. Ioannis Renti (Athens)-Inoi~€ 65	Triassio-Kulata € 1015,2 (class 1) € 875,3 (class 2)		
	Tithorea –Domokos	159			Inoi-Domokos~€ 220				Inoi-Domokos~€ 220				Inoi-Domokos~€ 220			
	Domokos - Thessaloniki	207			Domokos-Mezourlo Larissa~€ 60 (without electric traction)				Domokos-Mezourlo Larissa~€ 60 (without electric traction)				Domokos-Mezourlo Larissa~€ 60 (without electric traction)			
	Thessaloniki-Promahon	131			Mezourlo Larissa-TX2 Thessaloniki~€ 180 (without electric traction)	Thessaloniki - Kulata (border GR-BG) € 201			Mezourlo Larissa-TX2 Thessaloniki~€ 180 (without electric traction)	Thessaloniki-Kulata € 1024,8 (class RID 1 &7)			Mezourlo Larissa-TX2 Thessaloniki~€ 180 (without electric traction)	Thessaloniki-Kulata € 384,3 (class 1) € 331,8 (class 2)		
	Promahon-Kulata (bord.)	220			TX2 Thessaloniki-Strymonas~€ 180				TX2 Thessaloniki-Strymonas~€ 180				TX2 Thessaloniki-Strymonas~€ 125			
	Total	**865**														

Table B 7: Capacity bottlenecks

	Line section	Bottlenecks	Reasons	Suggestions how to remove bottlenecks
Czech Republic				
Austria	Břeclav - Gänserndorf	No bottlenecks		
	Gänserndorf - Wien Zvbf	No bottlenecks		
	Gänserndorf – Marchegg Gr.	**Not electrified**		
	Wien Zvbf - Hegyeshalom	No bottlenecks		
	Wien Zvbf – Wiener Neustadt (über Baden)	No bottlenecks		
	Wiener Neustadt – Sopron via Loipersbach-Schattendorf	**Not electrified, short passing tracks in stations hampering the handling of longer trains**		
	Gramatneusiedl – Wampersdorf	No bottlenecks		
	Parndorf – Bratislava-Petrzalka	No bottlenecks		
	Wien Zvbf - Ebenfurth	No bottlenecks		
	Ebenfurth – Wiener Neustadt	No bottlenecks		
	Ebenfurth - Sopron	No bottlenecks		
Slovakia	Kúty border - Devinska N.Ves	1. two bridges in section Vľké Leváre - Malacky-Zohor, 2. Devínska N.Ves	1. reduced speed on bridges (80 km/h, 120 km/h) 2. lack of tracks due to: A. change of loco type (electric/ diesel) towards Austria, B. shunting of Volkswagen (private siding connected to railway station Devínska Nová Ves)	1. recontstruction of bridges for speed 140 km/h, 2. building of new station tracks in Devínsk Nová Ves
	Devínska N.Ves - Bratislava hl.st.	1. tunnel Bratislava Lamač - Bratislava hl.st., 2. Bratislava (all stations)	1. often maintenance → mostly only 1 line track avialable → lack of capacity, 2. unsatisfying: -safety of transports, -possibility to transport shipments out of gauge, - interoperability	1. complex tunnel reconstruction, 2. removal of 25 Hz track circuits
	Bratislava hl.st. - Dunajská Streda - Komárno border	1. Bratislava hl.st.- Bratislava Nové Mesto, 2. Bratislava Nové Mesto - Komárno	1. one track line → lack of capacity (strong passsenger + freight transport today, expectation of next increasing in the future), 2. one track line → lack of capacity (strong passsenger transport, connection to intermodal terminal)	1. builiding of 2. line track (Bratislava hl.st. - Bratislava Nové Mesto), 2. electrification, building of 2. line track (Bratislava Nové Mesto - Komárno)
	Bratislava hl.st. - Rusovce border	Bratislava Petržalka	limited lenghth of trains towards Austria (540 m for trains with electric locos, 690 m for trains with diesel locos), change of traction (SK/AT)	building of trolley line over the connecting line
	Bratislava hl.st.- Nove Zamky	-	-	-
	Nove Zamky - Komrano border	-	-	-
	Nove Zamky - Sturovo border	Kamenica n.Hronom	reduced speed in Kamenica n.hronom (40 km/h)	reconstruction of line tracks in kamenica n.Hronom for speed 120 km/h
Hungary	Rusovce border - Hegyeshalom			
	Hegyeshalom border - Hegyeshalom			
	Hegyeshalom – Győr			
	Sopron border - Sopron	all section	single track+long distance between stations+at least hourly regular interval suburban trains	paralellisation project between 2015 and 2020
	Ágfalva border - Sopron			
	Sopron – Győr	Sopron station and Sopron - Ágfalva section	single track+long distance between stations+at least hourly regular interval suburban trains	paralellisation project between 2015 and 2020
	Győr – Komárom			
	Komárno border - Komárom			
	Komárom - Ferencváros	Ferencváros station	level crossing of transit and shunting yard traffic just at the Budapest southern Danube bridge (almost only rail link between the Eastern and Western part of Hungary)	there is no accepted plan to solve the problem
	Stúrovo border – Vác	Vác station and Vác - Verőce section	single track+long distance between stations+high frequency of suburban trains	planned reconstruction of station between 2014 and 2020 and planned rehabilitation of the 2nd track at 2013 summer
	Vác – Újszász			
	Vác – Ferencváros	Rákospalota-Újpest station	outworn station with manual switching+node of high frequency suburban trains	planned reconstruction of station between 2014 and 2020
	Ferencváros - Soroksár-Terminál			

	Line section	Bottlenecks	Reasons	Suggestions how to remove bottlenecks
	Ferencváros – Újszász			
	Újszász – Szolnok			
	Ferencváros – Szolnok			
	Szolnok – Szajol			
	Szajol - Biharkeresztes border			
	Szajol - Lőkösháza border			
Romania	Border (RO/HU) - Curtici	Congested capacity	Modernization works	Current state up to the works completion
	Curtici - Arad	Congested capacity	Modernization works	Current state up to the works completion
	Arad - Simeria	Congested capacity	Modernization works	Current state up to the works completion
	Simeria - Coslariu	Congested capacity	Modernization works	Current state up to the works completion
	Coslariu - Sighişoara	Congested capacity	Modernization works	Current state up to the works completion
	Sighişoara - Braşov			
	Braşov - Predeal			
	Predeal - Brazi			
	Brazi - Bucureşti			
	Bucureşti - Feteşti			
	Feteşti - Constanţa			
	Arad - Timişoara			
	Timişoara - Orşova			
	Orşova - Filiaşi			
	Filiaşi - Craiova			
	Craiova - Calafat			
	Calafat - Border RO/BG			
	Border (RO/HU) - Episcopia Bihor			
	Episcopia Bihor -Coslariu			
	Simeria - Gura Motru			
	Craiova - Bucuresti			
	Videle - Giurgiu			
	Bucuresti – Giurgiu			
	Giurgiu – Border			
Bulgaria	Vidin – Brusartsi	Dimovo-Oreshec and Dimovo-Sracimir	Max gradients:29%0 / 28%0	2020 after reconstruction and modernization of the Corridor
	Brusartsi – Mezdra	Brusartsi-Medkovec and Mezdra-Vraca	Max gradients:24%0 / 18%0	
	Mezdra – Sofia	Zverino-Lakatnik and Iliyanci-Kurilo	Max gradients:12%0 / 3%0	
	Sofia – Radomir	Hrabursko-Razmenna and Batanovci-Razmenna	Max gradients:13‰ / 16‰	
	Radomir – Kulata	Gulubnik-Delyan and Dyakovo-Delyan	Max gradients:15‰/ 22‰	
	Sofia – Septemvri	Pobit Kamak - Vakarel and Kostenec - Nemirovo	Max gradients:29‰ / 29‰	Some of the projects for reconstruction and modernization are under way and some other projects will be commenced during the second period of the Operational Program of Transportation
	Septemvri – Plovdiv	Pazardjik - Ognjnovo and Stamboliiski - Ognjnovo	Max gradients:5‰/ 7‰	
	Plovdiv – Dimitrovgrad	Popovica - Parvomai and Dimitrovgrad - Sadovo	Max gradients:5‰/ 5‰	
	Dimitrovgrad - Svilengrad	Simeonovgrad - Svilengrad and Ljubimec - Harmanli	Max gradients:8‰/ 10‰	
Greece	SKA – Inoi*	This is an alignment with a multitude of stations functioning as commuter rail stations where		

	Line section	Bottlenecks	Reasons	Suggestions how to remove bottlenecks
		substantial improvements are required to satisfy the interoperability norms. It transverses a hilly terrain which makes impossible the provision of a speed of 160 km/h. Alternatives have been proposed to build a new Axis 22 alignment connecting the freight terminal of Thriasio to Thiva (Sfigga). If these proposals are adopted, the existing line would serve commuter traffic to Athens all the way north to the cities of Chalkis and Thiva.		
	Mouries – Strymonas*	This is a single track non-electrified line. Current OSE plans call for local improvements on the alignment that will not satisfy the 160 km/h standard. A further issue is related to the fact that the recently constructed bridge on the Strymonas River does not allow for a direct movement of trains in the direction to Promahonas/Kulata. Current operations require the reversal of trains moving towards Bulgaria in the Strymonas station. A detailed study in Phase B of this project will review this situation and what improvements may be possible. Again the issue of doubling the track will be investigated in the context of the 30 year analysis period as described before. Therefore, the interventions required on this section are the following: Alignment improvements to achieve design speed of 160 km/h, Line substructure, superstructure and civil works upgrade. Electrification, Signaling upgrade to ETCS Level II. Rearrangement of Strymonas Station line configuration or construction of an additional Strymonas bridge to allow for direct movement of Axis 22 trains in the direction to Promahonas/Kulata.		
	Strymonas – Promahonas*	This is a single track line in poor condition. As mentioned operations of passenger trains have recently ceased and the current speed limit is 30 km/h. GSM-R installation is currently in progress in this section as well. The alignment lies parallel to a recently constructed highway along the Strymonas east bank. Therefore any improvements and especially improvements to the alignment must respect the space restrictions and constraints imposed by the coexistence of the two axes (rail and highway) along a narrow field of possible intervention. A detailed study in Phase B of the Studies for the development of the Railway Priority Project No. 22 will review this situation and what improvements may be possible including the doubling of the track if this is deemed necessary through the Phase A analysis. Therefore, the interventions required on this section are the following: Alignment improvements to achieve design speed of 160 km/h. Line substructure, superstructure and civil works upgrade. Electrification Signaling upgrade to ETCS Level II. Review of facilities at Promahonas station in relation to the anticipated border crossing operation especially in view of Bulgaria joining the Schengen treaty		

Table B 8: Stations+Terminal

	Border station	No. of tracks	Max. length of the track (m)	Cross border operation	Average time of operation duration	Remarks	Terminal	Location on corridor	Character	No. Of tracks	Max. length of the track (m)	Storing capacity	Opening hours	Remarks
Czech Republic	Břeclav	56	1026	3 min - 60	5 min		Praha Uhříněves		Intermodal/ private (METRANS)	13	600	270 000 m2	non stop	
							Praha Libeň - SŽDC		Marshalling yards/ SŽDC	23	839			
							Praha Žižkov		Intermodal/ private (Intrans)	4	260	N/A	N/A	
							Kolín seř. nádraží		Marshalling yards/ SŽDC	11	600		non stop	
							Pardubice		Marshalling yards/ SŽDC	16	838			
							Česká Třebová		Intermodal/ private (METRANS)	6*	700*	N/A	N/A	to be opened in summer 2012
							Česká Třebová		Marshalling yards/ SŽDC	32	739		non stop	
							Brno Horní Heršpice		Intermodal/ private (Intrans)	3	260		N/A	
							Brno Maloměřice		Marshalling yards/ SŽDC	23	869		non stop	
							Břeclav přednádraží		Marshalling yards/ SŽDC	13	783		non stop	
							Havlíčkův Brod		Marshalling yards/ SŽDC	13	716		non stop	*alternative routing*
							Děčín hl.n.		Marshalling yards/ SŽDC	10	687		non stop	connecting line
							Lovosice		Intermodal/ private (TSC Lovosice)	2	250	10 000 ,m2	Mon-Fri 6:00-22:00, Sat 6:00-12:00, San 14:00-22:00	connecting line
									Intermodal/ private (ČD-DUSS Lovosice)	6	600	30 000 m2	Mon-Fri 6:00-22:00, Sat 6:00-12:00, San 14:00-22:00	connecting line
							Kralupy nad Vltavou		Marshalling yards/ SŽDC	11	694		non stop	connecting line
							Mělník		Intermodal/ private (Star Container)	3	614	67 000 m2	mon-Fri 6:00-20:00, Sat, San on request	connecting line
							Nymburk seř. n.		Marshalling yards/ SŽDC	17	800		non stop	connecting line
Austria	Břeclav	see Czech Republic					Wien Freudenau	3 km from main line	Intermodal / private (Wiencont)	10	700	9000 TEU	Mo-Thu 6:00-19:00; Fri 6:00 - 18:00	2 portal cranes, 17 reach stackers
	Hegyeshalom						Wien Nordwestbahnhof	11 km from main line	Intermodal / ÖBB	4	550		Mo-Fri 6:00-11:45 & 12:15-18:20; Sa 6:00-10:45	2 portal cranes, 2 reach stackers
		see Hungary					Wien Inzersdorf (planned)	7 km from main line	Intermodal / ÖBB	8	650		7 x 24	2 portal cranes
	Sopron						Wien Zentralverschiebebahnhof	directly on corridor	Marshalling yard / ÖBB	70	7650	-		
Slovakia	Kúty (CZ/SK)	37	833	15 min.- 48 hrs	120 min.	side ramp (175 m2)	Dunajska Streda	50 km from main line	Intermodal/ private (METRANS)	5	727	90 000 m2	Mo-Fri 00:00 - 24:00, Sa,Su 8:00-18:00	2 portal cranes (37 t), 4 container unloader
	Rusovce (SK/HU)	10	970			crane (5 t); side ramp (315 m2)	Bratislava vychodne	5 km from the main line	Marshalling yards/ ZSR	94	878	-	non stop	scale
	Komárno (SK/HU)	17	679			side ramp (1800 m2)	Bratislava UNS	On the main line	Intermodal/ private (Intrans)	3	290	10 000 m2	Mo-Fri: 6:00 – 18:00	1 portal crane, 1 reach stacker, 2 container unloader
	Štúrovo (SK/HU)	68	1265			scale, side ramps (2790 m2)	Bratislava Pálenisko	2 km from the main line	Intermodal/ private (SPaP)	3	300	11 000 m2	Mo-Fri: 6:00-22:00, Sa-Su: on request	2 cranes, 4 container unlader
							Sládkovičovo	On the main line	Intermodal/ private (Lörinz)	2	400	17 000 m2	Mo-Fri: 6:00 – 22:00, Sa 7:00 – 15:30, Su: on request	1 portal crane, 2 container unloader
							Štúrovo	On the main line	Private (Business Park)	4	800	n/a	n/a	1 portal crane,
Hungary	Sopron (HU/AT)	58	787				Sopron LSZK	on the main line	Intermodal GYSEV CARGO	9	650	205000 m2		side ramp, two cranes (40t)
	Rajka (HU/SK)	10					Győr LCH	on the main line	container terminal, LCH	1	284	10000 m2	M-F 06-22 Sa-So 06-18	
	Hegyeshalom (HU/AT) (GYSEV/MAV)	33	897		25 minutes		Székesfehérvár	50 km from main line	Intermodal LOGISZTÁR	2	370	500 TEU	0-24h	crane 45t
	Komárom (HU/SK)	40	761		25 minutes		BILK	on the main line	Intermodal BILK	5		3acre (30000 m2) 800 TEU	M-F 06-20 Sa-So 06-14	ROLA terminal
	Szob (HU/SK)	10	927				Budapest Szabadkikötő (port)	on the main line	Intermodal BSZL			310000 m2	0-24h	
	Biharkeresztes (HU/RO)	12	809				Szolnok	on the main line	container terminal, RSH	3	850		M-F 07:30-15	
	Lőkösháza (HU/RO)	11	1001	30 minutes			Debrecen	50 km from secondary line	container terminal TransSped			750 TEU	M-F 07-15	crane 36t
	Győr (GYSEV/MAV)	51	862		25 minutes		Szeged-Kiskundorozsma	90 km from main line	ROLA terminal RSH	1			0-24h	
	Csorna (GYSEV/MAV)	26	730				Békéscsaba	on the main line	intermodal (Pintér VÁM)	2				
	Zalaszentiván (GYSEV/MAV)	11	770											
	Porpác (GYSEV/MAV)	4	878											
	Zalalövő (GYSEV/MAV)	10	842											

	Border station	No. of tracks	Max. length of the track (m)	Cross border operation	Average time of operation duration	Remarks	Terminal	Location on corridor	Character	No. Of tracks	Max. length of the track (m)	Storing capacity	Opening hours	Remarks
Romania	Curtici (RO/HU)	18	750	100 min - 240 min	140 min	2 lines with ramps rented to a private company	Bucurestii Noi	9,7 km from the maim line	Intermodal Railway Freight Operator CFR Marfa	4 operator terminal particular-tracks	400	2800 m2	Monday -Friday 8.00 -17.00	four transtainer cranes (32 tf)
	Giurgiu Nord (RO/BG)	17	600	100 min - 240 min	140 min	2 lines with ramps	Titan	38,8 km from the main line	Intermodal Railway Freight Operator CFR Marfa	2	308	2448 m2	temporary closed	three transtainer cranes(32 tf)
							Semenic (Timișoara Sud)	10 km from the main line	Intermodal Railway Freight Operator CFR Marfa	4	250	2067 m2	temporary closed	three transtainer cranes (32 tf)
							Brasov Triaj	On the main line	Intermodal Railway Freight Operator CFR Marfa	2 operator terminal particular-tracks	300	3650 m2	Monday -Friday 8.00 -17.00	two transtainer cranes (32 tf)
							Medias	On the main line	Intermodal Railway Freight Operator CFR Marfa	2 operator terminal particular-tracks	160	12000 m2	Monday -Friday 8.00 -17.00	one transtainer cranes(32 tf)
							Glogovat	On the main line	Intermodal Railway Freight Operator CFR Marfa	2	230	2250 m2	temporary closed	two transtainer cranes(32 tf)
							Ploiesti Crang	6 km from the main line	Intermodal Railway Freight Operator CFR Marfa	3	600	2100 m2	temporary closed	three transtainer cranes (32 tf)
							Container Terminal Railport Arad "SC Railport Arad SRL"	On the main line	Intermodal/ private Curtici	2	650	50000 m2		one Kalmar crane 1 Kalmar forklift
							Trade Trans Terminal SRL-Arad	On the main line	Intermodal/ private Curtici				Rail-road transshipping	
							EURO GATE TERMINAL	On the main line	Intermodal/ private Ploieşti	n/a	n/a	n/a	n/a	n/a
							Port Constanţa Dana 44 SC UMEX SA	On the main line	Intermodal/ private Port B Station Constanta	n/a	n/a	100000 m2	n/a	9 mobile cranes, 2 container forklifts, 2 automatic spreaders, 19 trailers
							Port Constanţa Danele 51-52 SC SOCEP SA.	On the main line	Intermodal/ private Port B Station Constanta			141600 m2		3 container cranes, 2 transtainers,17 container forklifts,
							Port Constanţa Danele 121-124 CSCT - Agigea (Terminal containere Constan?a Sud)	On the main line	Intermodal/ private FerryBoat Station Constanta			220000 m2		3 cranes, 2 Panamax cranes, 3 mobile cranes, 3 container forklifts
							Port Constanţa Dana 119 SC APMTerminal România SRL	On the main line	Intermodal/ private FerryBoat Station Constanta			41740 m2		one mobile crane, spreaders
							CN APDF SA Giurgiu Agenţia Calafat SCEP Orsova	On the main line	Intermodal/ private Calafat					2 cranes
							CN APDF SA Giurgiu Sucursala Drobeta Tr. Severin SC Transeuropa	On the main line	Intermodal/ private Drobeta Turnu Severin					3 cranes
							CN APDF SA Giurgiu Working point Orsova	On the main line	Intermodal/ private Orsova					5 cranes
							Alinso and RCA Terminal	6 km from the main line	Intermodal/ private Crangul lui Bot (through Ploiesti Vest station)					
							Tibbett Logistics Terminal	9,7 km from the maim line	Intermodal/ private Ciorogarla (through Bucuresti Vest)					
Bulgaria	Vidin	5	1079	120 min.										
	Kulata	6	680	60 min										
	Svilengrad	9	742		transmission of trains: 90 min. acceptance of trains: 180 min.									

	Border station	No. of tracks	Max. length of the track (m)	Cross border operation	Average time of operation duration	Remarks	Terminal	Location on corridor	Character	No. Of tracks	Max. length of the track (m)	Storing capacity	Opening hours	Remarks
Greece	Promachonas/Kulata (GR/BG)	3	641	220			TRIASSIO PEDIO Inoi		Merchandise transshipment (freight management) from the railway to road transportation means and vice-versa					On going works, attached a summerising report
									Marshalling yard	5	900		24h	
							Lianokladi		Marshalling yard	10	880		24h	
							Mezourlo		Marshalling yards	15	1200		5:30-14:00	
							Volos Port		The excisting railway line in the port of Volos can contribute only to the transport of railfreight wagon by rail ferries				4:30-23:45	
							Thessaloniki (rail way yard)		Marshalling yard					
							Thessaloniki Port		International Port	7			Two shift work depending on the needs	2scales, 8 cranes
							Sindos		Marshalling yard	5	737		7:00-17:00	
							Strimonas		Marshalling yard	3	1720		6:30-23:00	
							Promachonas Kulata (Border Station)		Marshalling yard	3	641		7:15-23:00	

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