

Feasibility Analysis and evaluation of the viability of multimodal corridor of the approved Action “Sea2Sea” under the Trans-European Transport Network (TEN-T)

4th Deliverable

Establishment of the “Sea2Sea” Governance Framework

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ADK | AKKT | EVIAM | Millionis-Iliopoulou



ΕΒΙΑΜ ΕΠΕ

ΝΙΚΟΛΑΟΣ ΜΗΛΙΩΝΗΣ - ΚΩΣΤΟΥΛΑ ΗΛΙΟΠΟΥΛΟΥ

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1 INTRODUCTION

The report presents data on the establishment of the Sea2Sea Governance Framework, in terms of the current state analysis of the core & comprehensive network of the TEN-T. The Consultant has collected information from previous studies for the area which were elaborated by the individual partners of the team, official data provided by the respective authorities in Greece and Bulgaria, (ports, railways companies, ministries etc) and also surveys by independent firms that are commercially available.

According to each sub-activity of the Deliverable, various aspects (perspectives) of the study are presented. In this project, the Consultant holds an integrated approach and regards these different aspects to be interrelated. At such, certain pieces of information may be relevant to various perspectives of the Study.

2 REGIONAL STATE ANALYSIS – FUTURE PERSPECTIVES

The proposed project of the development of the new freight multi modal corridor connecting to the North the Intermodal Terminal of Ruse (Danube river), to the East the ports of the Black Sea, Varna & Burgas and to the South the Ports of the Aegean Sea, Alexandroupolis & Kavala has a special place on the Trans-European Transport Network (TEN-T) map on the ground of its length and the number of Member States it crosses.

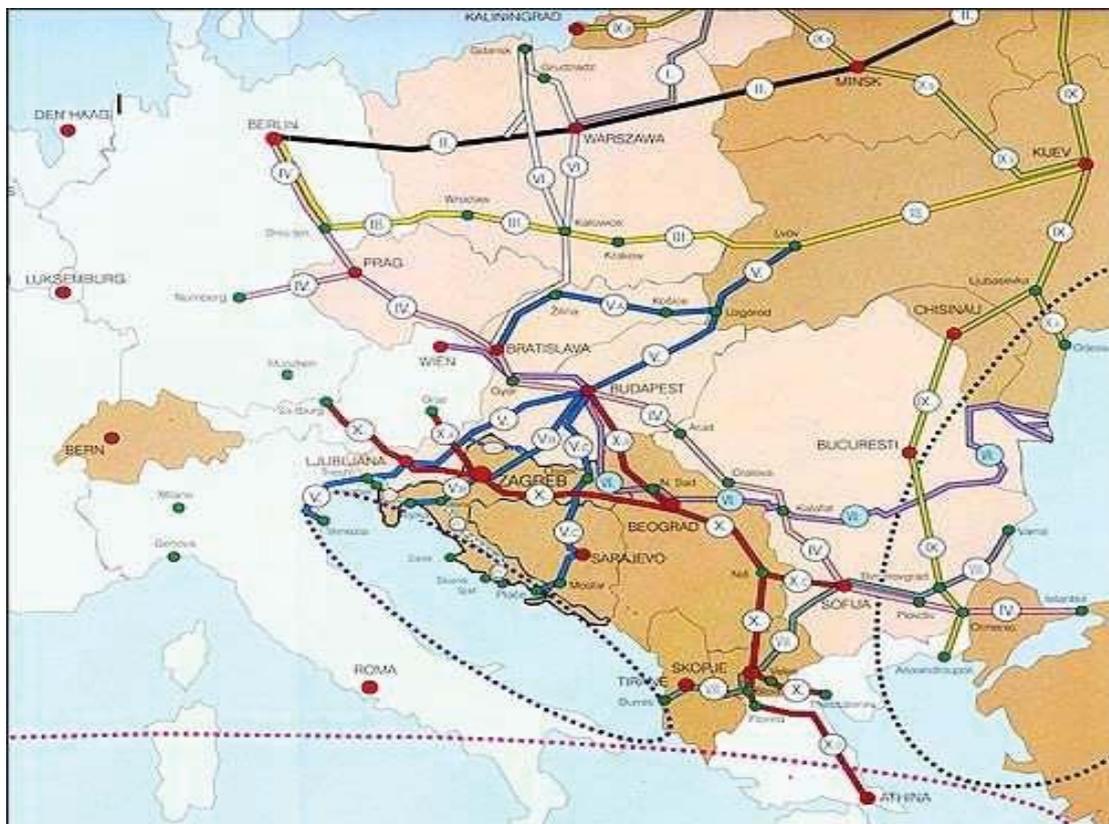


Figure 1: The European TEN-T Network Corridors

By its nature the proposed multi modal corridor is fragmented to two countries Greece a Member State from past EU enlargement & Bulgaria one member State from 2007 enlargement. The development of the Corridor as and operation for freight traffic, through upgrading cross-section borders, railway infrastructure, intermodal terminals as well as connection infrastructure of the Ports to the existing railway path, illustrates the challenge its integration poses. Ultimately the new freight multi modal corridor “Sea2Sea”, aims to connect South & East Europe in the best way to the Black Sea & Aegean Sea Coasts as well as Danube river to the North, an ambition which extends beyond the current route.

By its nature, the current project is fragmented for at least two reasons. Firstly, in practical terms the level of funding committed in the different States varies considerably. Secondly, the outlook varies from the one Member State to the next. While the expected investments have advanced significantly in Greece they remain more uncertain in Bulgaria.

Unsurprisingly, the most significant progress has been made where National & European objectives converge. This is the case, for example, for the Athens-Thessaloniki sections for Greece & Varna Sofia and Burgas Sofia for Bulgaria.

Generally speaking, the upgrading of cross-border sections and intermediate access routes to them are experiencing delays, whether because of differences of opinion on needs (as with the sections between the two countries), or because the two countries on either side of the border are not making these sections a priority.

Moreover, from a European standpoint, the development of the new freight Corridor is subject to differences in political objectives linked to this route and the European funds available. The political objectives are rooted in the framework of TEN-T policy and are partly in line with the priorities set under regional policy. The funds are almost entirely named under the Structural & Cohesion Funds, while operational programmes for Transport may prioritise non-Corridor sections at national level.

Generally speaking, the cross border countries that are eligible for the Structural & Cohesion Funds naturally turn towards them since the rates of European co-financing are much higher, the budget allocation is predetermined, and they offer greater freedom in terms of defining priorities. However, both countries Greece & Bulgaria have successfully presented projects in the context of calls under the TEN-T programme. These projects involve carrying out studies aimed at preparing for future works to be funded by the Structural & Cohesion Funds.

In this context, tasks have been to try to rally behind a shared vision of Corridor development in a less favourable budgetary context and to prepare for maximum use of the instruments available in the next budgetary period with the Cohesion Funds and the Connecting Europe Facility. Emphasis has been placed above all on the need to agree a realistic vision of the investments needed to optimise the operation of the multi modal Corridor, taking into account of the characteristics of future traffic. Discussions are accordingly being widened beyond aspects relating solely to infrastructure so as to include

issues of operational management, thereby paving the way for the future incorporation of rail freight Corridors into the core network Corridors.

3 DYNAMIC ANALYSIS OF THE PROJECT – DESIGN OF STRUCTURE

AT GOVERNANCE LEVEL

3.1 Development of dialogue between Bulgaria & Greece

Mission of the common target is to develop forums for coordination and dialogue between the relevant ministries of Bulgaria & Greece and infrastructure managers as well as key players of the proposed Corridor along the route.

This type of cooperation, which has already been working well between other EU Member States, has to be fully implemented between Bulgaria, Greece.

Continuing in the vein of the Declaration signed on 2nd December 2010 between the Ministries of these countries, biannual meetings of the contact group, continued to be held between representatives of each country, the relevant Commission Directorates-General, the European Investment Bank (EIB) and the TEN-T Executive Agency. These meetings were also held in the presence of the consultants in charge of studies on all or part of the agreement, thus paving the way for the assistance which in future will be extended to the Coordinators of the future core & comprehensive network corridors.

Following on from the meetings held in 2011, these meetings enabled a detailed exchange of information to take place on the situation relating to investment, national priorities and difficulties encountered. During these discussions, agreements were reached on identifying common challenges and priorities, as well as on the importance of collective monitoring of the studies in progress, which would be useful for gaining a better technical and socio-economic understanding of the Priority Project.

3.2 Joint Management of Studies

Work started in 2011 on two cross border studies covering all or part and continued in 2012-2013 with the presentation of conclusions refer to the Corridor.

The Common purpose of all these studies is to provide the Member States, infrastructure managers and European Institutions with a better understanding of the Project and to prepare for future investment decisions. The Contact group of both countries should coordinate actions undertaken for the future.

The Study for the proposed corridor «Sea2Sea» should elaborate needs for extending the transport network, infrastructure works need to be done, on the future core network corridors which will serve as a reference for the action plans to be implemented.

Preparation of the text legislative and budgetary frameworks

For the implementation of the future corridor “Sea2Sea” both countries should monitor of the evolution of legislative processes relating to the revision of the TEN-T policy and its funding under the future Connecting Europe Facility (CEF). Maintaining the essential features of the Core & Comprehensive Network while also extending it within the TEN-T East/Mediterranean Core Network to sections which are important to traffic to the East, which are natural extensions in view of traffic flow (including the addition of branches to the Black Sea ports and Turkey and Bulgaria), should enabled the members of the Contact Group for implementing the future project as an extension of the Sea2Sea Initiative to the next EU framework period.

The new legislative Framework for Connecting Europe Facility is heading towards the following principles:

- providing information on the potential budget and instruments available under the future framework;
- guiding potential applicants with regard to direct management of funds and providing information on the expectations of the Commission's from potential beneficiaries;
- explaining how the Commission intends to support the creation and the functioning of the Core Network Corridors.

As regards to the Connecting Europe Facility, members from both countries, Bulgaria & Greece should naturally show their particular interest in the points relating to the 10 billion euro transferred to the Cohesion Fund (Connecting Europe Facility).

3.3 Initial work on the project portfolios for the next multi-annual financial framework

In this context, Contact Members of the team from both countries have, to gradually present their respective project portfolios for using the remaining resources of the structural and Cohesion Funds and for the next financial framework, be it under the future cohesion instruments or the Connecting Europe facility (CEF).

These initial exchanges, sometimes judged critically by DG REGIO or the EIB in terms of the realism of the plans presented, nevertheless revealed that the recommendations of these studies carried out had taken into account, especially as regards the standards to be implemented.

Especially the proposed project portfolios for the next programming period focuses for each country on the following:

3.4 Operational Improvements / Infrastructure Works

Improvements on a Regional Level

Greek Ports as end of the multi modal Corridor Sea2Sea.

The development of the Greek railway network is a major project carried out by the Hellenic Railways Organization (OSE) and its subsidiary company ERGOSE which is responsible for the Investment Programme projects and in particular those co-funded by EU Programmes. It is estimated that the country needs a total of 6 billion € to rehabilitate and upgrade its railway infrastructure within a business plan horizon of 2000-2017. One of the top priorities of the railway development plan is the seamless connection to all the Freight Terminals, to Sea Ports and to the Trans-European Networks. The projects that have been selected and presented here are core parts of the Sea2Sea corridor and they are parts of the greater Greek railway development plan.

Alexandroupolis – Ormenio / Bulgarian Border railway: Electrification & Upgrading

The 180 km single track rail between Alexandroupolis and Ormenio/Bulgarian border has been recently renovated. Nevertheless, there is lack of electrification infrastructure and advanced signalling equipment which can be considered as a bottleneck for the efficient operation for the “Sea2Sea” Corridor and its interoperability. The electrification of the part of the railway network and the upgrading of the signalling systems can improve the interoperability of the corridor, its capacity and safety.

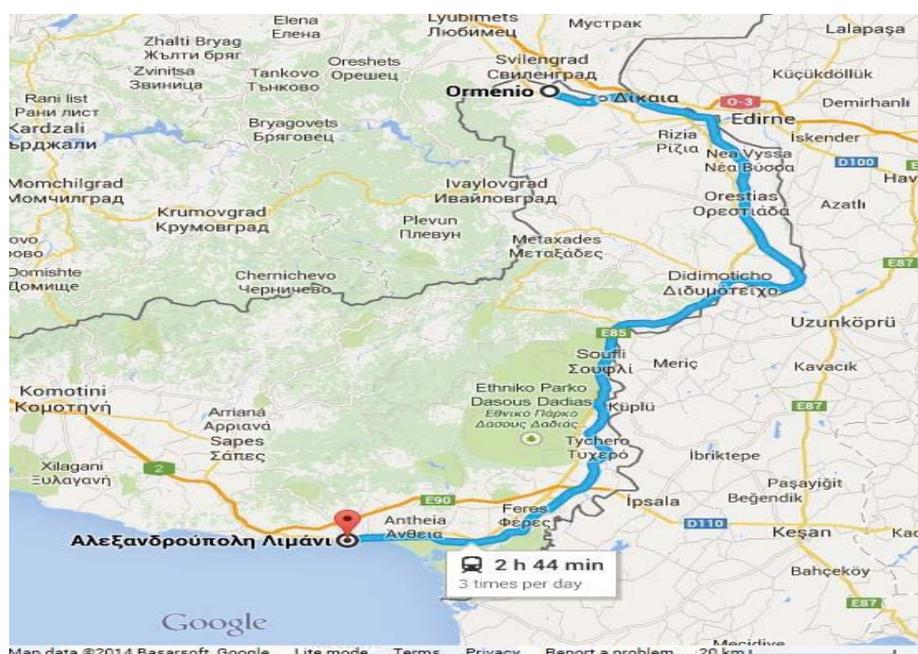


Figure 2: Alexandroupolis – Ormenio railway Connection

The project is under discussion and there are plans by the railway authority ERGOSE to start the relevant preliminary studies. The required investment is estimated at approx. 80 million euro.

The single track after its upgrading can be considered efficient in capacity to facilitate the Sea2Sea Corridor. The upgrading is expected to increase the speed of the freight trains by 20-30% and also to increase capacity of each freight train due to increase of the traction power following the electrification of the line. Additionally the electrification, the advanced signalling and the implementation of a central management system, are expected to increase safety of rail transport, improve operating conditions and train traffic, line capacity and service reliability. The operation and maintenance cost will also be reduced significantly.

Thessaloniki – Kavala (via Amfipoli) high – speed railway connection

In the existing situation the railway connection between Kavala and Thessaloniki- the city with the largest freight port in northern Greece- is rated as poor.

This specific line deviates significantly from the shortest path between the two cities and has many curves and steep slopes at sites. Furthermore, in the network there are a large number of level crossings with roads, many of which are unattended especially in rural areas. The network is not electrified. Its signalling, telecommunications and traffic management, are limited.

The construction of a new highspeed railway connection between Thessaloniki and Kavala via Amfipoli has been proposed and studied at a preliminary level. The main feature of the solution is that it includes 147 km of new infrastructure and reduces significantly the travel time of Thessaloniki-Kavala-Toxotes line up to 50%, that is from 4 hours 40 minutes to 2 hours 20 minutes.

The project is included in the EU Regulation of the Trans-European transport networks but it is not included in the national priority list of projects because it is a major investment that has been estimated to approx. 1 billion €. The proposed section is a part of the “Egnatia Railway” concept.

The proposed new high-speed railway between Thessaloniki and Kavala will serve not only the freight transportation demand but also the passenger demand from Thessaloniki to Kavala-Xanthi-Komotini-Alexandroupolis. Currently, these trips are dominated by car/truck traffic via the Egnatia Odos Motorway. Moreover, the proposed new connection will enhance the cooperation between the northern Greek ports of Thessaloniki-Kavala.

Bulgarian Ports as end of the multi modal Corridor Sea2Sea.

The development of Bulgaria’s railway network is a major project carried out by the National Railway Infrastructure Company. It is estimated that the country needs a total of 4 billion € to completely rehabilitate and upgrade its railway infrastructure, with the Operational Programme (OP) on Transport 2014-2020 for Bulgaria providing the 500 million €. The projects that have been selected and presented here are core parts of the Sea2Sea corridor and they are parts of the greater Bulgarian railway development plan.

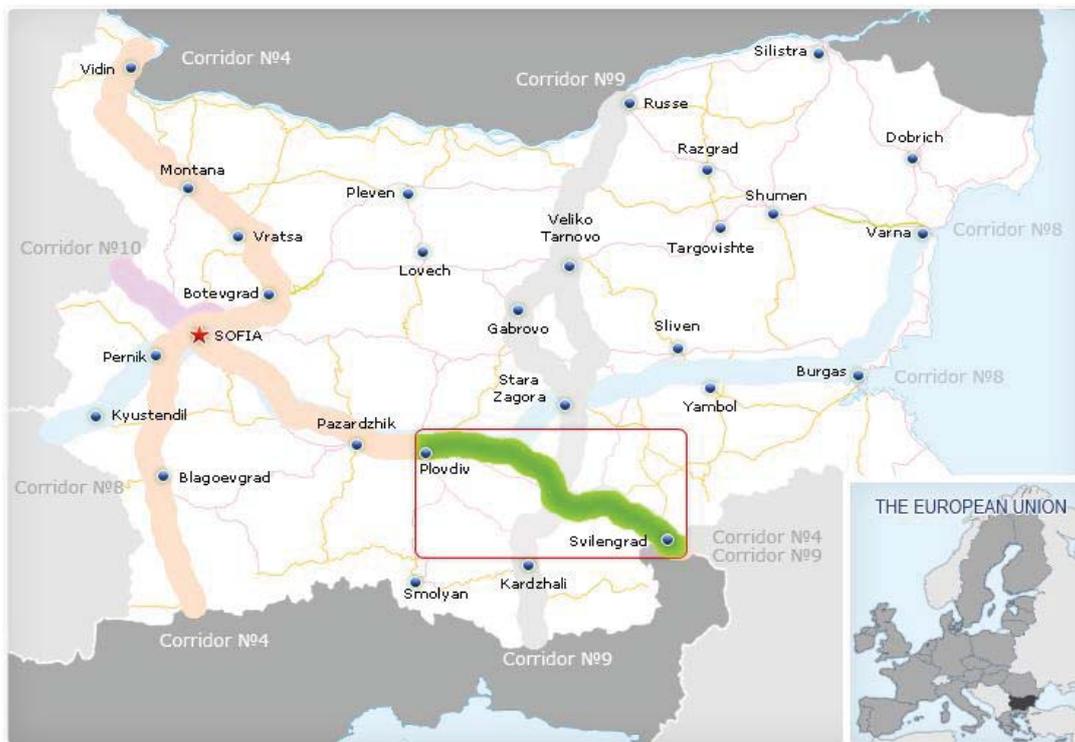
Από την καταγραφή των αναγκών αυτών γίνεται ιδιαίτερη αναφορά στο κορμό του σιδηροδρομικού δικτύου του πολυτροπικού διαδρόμου Sea2Sea ως μέρος της ευρύτερης ανάπτυξης του Ελληνικού σιδηροδρομικού δικτύου.

Plovdiv-Svilengrad/ Greek Border railway Upgrading and Electrification

This particular railway section is contributing to the formulation of both corridors IV and IX of the Trans-European networks.

The project encompasses the reconstruction of ca. 150 km of railway track, parts of which are double track, signalling systems, telecommunications and radio control, as well as structures which will enable the complete doubling of the line in the future. The wider objectives of the project are the improvement of the quality of the overall transport system in Bulgaria, the realisation of a railway connection between Europe and Asia, the integration of the Bulgarian railway system in the Trans-European networks.

The introduction of an up-to-date technology and upgraded standards in the railway transport in Bulgaria, in line with the requirements and practices of EU, will improve transport safety, reduce travel times, increase capacity, reduce maintenance costs of the railway infrastructure and protect the environment by the electrification of the diesel-powered traction.



Design 1: Plovdiv-Svilengrad railway connection

The whole project length is approx. 150 Km with a 20km of double track and a maximum speed of 160 km/h for passenger trains which means that block trains could reach the maximum speed of 120km/h. The project includes also sections implemented for future doubling. There are extensive technical structures such as bridges, underpasses, culverts

etc. The upgrading will be completed with a Signalling and Telecommunications System (ETCS Level 1) in a 252 km long network.

The project of modernisation of the Svilengrad - Plovdiv railway complements the electrification and signalling of the Alexandroupolis - Ormenio railway project and together they form a significant portion of the Sea2Sea corridor. The combination of the two rail upgrading projects will fulfil high level of efficiency and interoperability standards, rendering the corridor an attractive, safe and green option for the multimodal freight transport in the East European region and the area of the Black Sea

Rehabilitation and upgrade of the Plovdiv – Burgas railway

This particular railway section is contributing to the formulation of the corridor VIII of the Trans-European network. The project scope is the completion of the Plovdiv-Burgas railway modernisation, including the Burgas railway junction. The existing line is electrified with a total length of 292 km, of which 139 km is single line and 153 km is double line. The project aims to restore original design parameters of the sections Mihaylovo-Kaloyanovetz, Stara Zagora-Zimnitza and Tzerkovsky-Burgas with a total refurbishment route of 177 km. The work focuses on three stretches of the electrified line between the village of Mihaylovo and Burgas on the Black Sea. Five stations will be delivered with new signalling together with the 177 km of improved rail track. Other important work includes reconstruction of the railway stations at Stara Zagora, Kermen and Yambol, reconstruction of the bridge over the River Tundza, and re-signalling of the Burgas node. A new signalling control centre will be installed and signalling systems replaced at five stations between Drujba and Burgas.



Design 2: Project of railway connection of Plovdiv – Burgas

The project is currently under construction. When completed, the upgraded line will enable passenger trains to travel at up to 160 km/h and freight trains with 120km/h. This will increase the line’s capacity and result in significantly shorter journey times for both freight

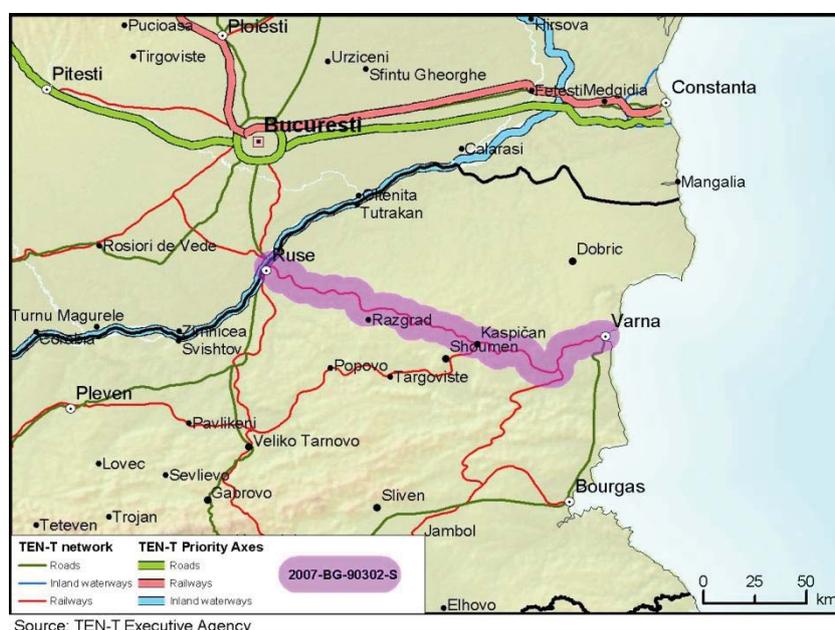
and passenger traffic. Co-funded by the EU, this major project will be managed and operated by the National Railway Infrastructure Company (NRIC).

The project forms part of an overall strategy to refurbish and upgrade the railway routes from Sofia to Burgas (Black Sea) and the borders with Greece and Turkey. It will eventually also benefit the Sea2Sea corridor with the added value of connecting to the southern Caucasus and Central Asia also known as the TRACECA corridor, the historic Silk-Road between Europe and Asia.

Rehabilitation of Ruse (on the Danube) – Varna railway

The railway link Varna – Ruse is the main land link of the Ruse port on the Danube river to the port of Varna on the Black Sea. It is also the shortest link that connects the Black Sea region and the TRACECA corridor with Central and Western Europe. The railway link of Varna – Ruse also connects the eastern region of Bulgaria with the only existing railway border crossing to Romania. It provides transport communication between the Pan-European transport Corridors VII, VIII and IX.

The project also includes repair of energy facilities (partial replacement of poles, carrying ropes, and the contact network). Furthermore it includes a traction substation for integration with the SCADA system, repair and / or replacement of facilities and SCB networks to level 1 GSM-R and ETCS with the possibility of upgrading to a higher level when necessary.



Design 3: Rehabilitation of rail network Ruse (Danube) – Port of Varna

The railway rehabilitation is about to start (late 2014) and is expected to be completed by 2020. The project will reduce travel times and increase reliability and safety of transportation, which contributes to attract traffic from road transport to rail transport. The improved railway line will contribute to eliminating bottlenecks in the interconnections in

the southeastern region of the EU, as well as those in neighbouring EU countries. The project contributes to an optimal combination and integration of the various modes of transport and improvement in the capacity and efficiency of the existing railway line.

Ruse– Stara Zagora–Dimitrovgrad railway electrification and upgrade

This specific connection forms the major Bulgarian part of corridor IX. The Rail corridor IX in Bulgaria has a length of 390 km and runs from the Bulgarian/Romanian border (Ruse) to Stara Zagora – Dimitrovgrad and further to the Bulgarian/Turkish border (Svilengrad) and Bulgarian/Greek border (Ormenio). Located on the strategic north – south axis, utilising the existing crossing of the Danube to Romania and giving access to the growing markets in Turkey, the route is currently in poor condition with significant capacity restrictions. The rail infrastructure on this section varies considerably, between double and single track and electrified and non-electrified. The proposed scheme includes renewal of the existing infrastructure systems, track upgrade and re-signalling, that will enhance operational performance, will restore route functionality and will improve travel time and provide reliability benefits.

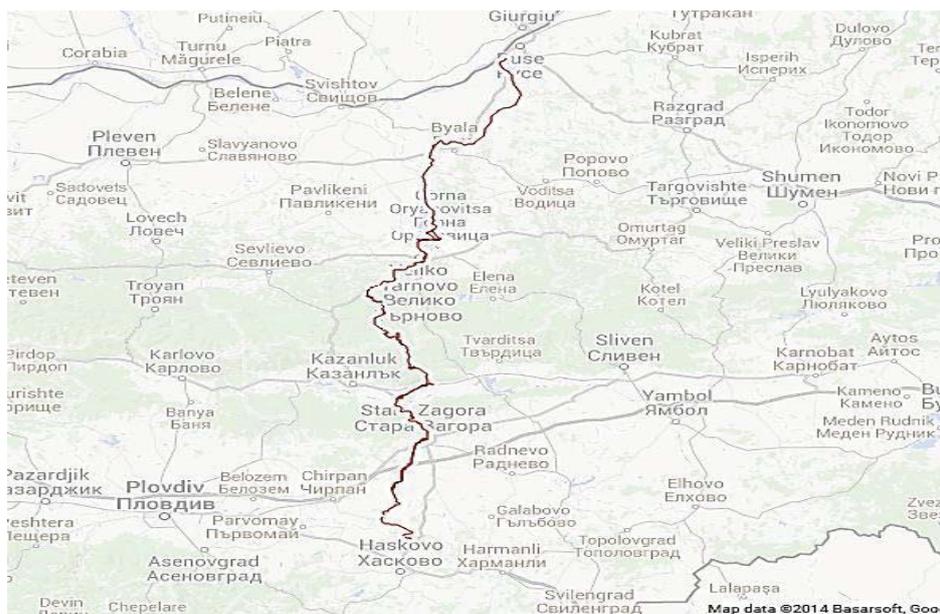


Figure 3: Ruse-Stara Zagora-Dimitrovgrad railway

The proposed scheme Ruse– Stara Zagora has been subject to a CBA in the General Transport Master Plan (GTMP) 2010 for Bulgaria with a Benefit to Cost Ratio BCR<1. Nevertheless the GTMP recommends its inclusion in the Master Plan together with a number of combined highway and railway schemes. The investment required for this project is calculated up to a level of approximately 170million €.

Doubling & electrification of Karnobat – Sindel (close to Varna) railway.

The section is a part of European Transport Corridor VIII with Varna at its easternmost edge (from the border with F.Y.R.O.M. through Sofia – Plovdiv – Burgas/Varna). The railway line Karnobat – Sindel is the shortest land connection between the two biggest Black sea ports – Varna and Burgas, with a length of 123 km. In the current situation 71 km of the total railway line alignment are doubled and electrified. The rest 52 km are one-way electrified railway line along the existing alignment. The design speed of the railway section is 130 km/h, for passenger trains with the exception of sections Lazarevo – Vedrovo (18 km) and Ljuliakovo – Asparuhovo (36 km) with the reduced speed of 85 km/h.

The project is in the priority list according to the General Transport Master Plan of Bulgaria and it is included in the Bulgarian Operational Programme (OP) on Transport 2014-2020.

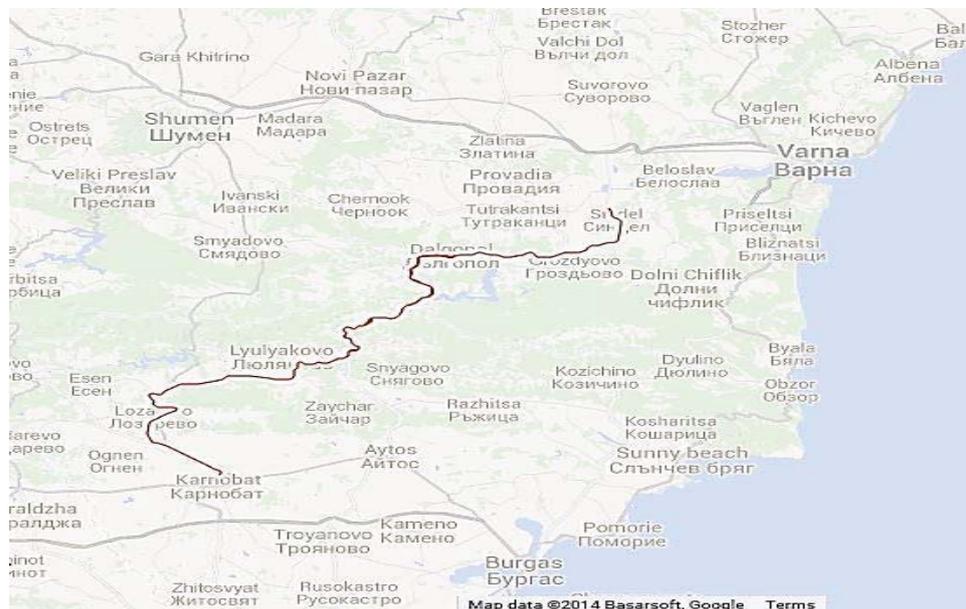


Figure 4: Varna/Sindel-Karnobat railway doubling and electrification project location

3.4.1 Consolidated Table of Improvements – Railway Network for the Corridor “Sea2Sea”

Country	Bottleneck	Proposed Investment	Maturity of Investment	Budget
GREECE	Lack of Electrification & modern signalling of the Alexandroupolis-Ormenio rail line	Improvement of the 180km single track with electrification & advanced equipment signalling	Under Study	85M €
	Kavala-Toxotes	Construction of new rail line Thessaloniki-Toxotes-Kavala	Under discussion	1000M €
	Missing Electrification Plovdiv-Svilengrad	Plovdiv-Svilengrad Railway Electrification & upgrading (CTCC) at Plovdiv	Under construction	400M €
BULGARIA	Poor features of the Plovdiv-Burgas rail line	Modernisation of the Plovdiv-Burgas railway, including the Burgas junction	Under construction	185M €
	Poor feature of the Varna-Ruse line	Rehabilitation of Varna-Ruse line	Under construction	380M €
	Poor feature of the Karnobat - Sindel (close to Varna)	Doubling & Electrification of the Karnobat-Sindel line	Under construction	40M €
	Lack of electrification & modern signalling of the RR Ruse–Stara Zagora–Dimitrovgrad	Improvement of the line with electrification & advanced signalling equipment	Under discussion	170M €

Table 1: Consolidated table for the Improvements on the Railway line of the Corridor “Sea2Sea”

3.4.2 Complementary infrastructure works on the Corridor Sea2Sea

Ruse Intermodal Terminal

The project is concerning the completion of an intermodal transport terminal at the Bulgarian Danube city of Ruse. The planned intermodal terminal comes in two Trans-European corridors – corridor VII - River Rhine - Main - Danube and corridor IX - Giurgiu - Rousse - Dimitrovgrad – Alexandroupolis / Istanbul. The port of Ruse on the northernmost part of the Sea2Sea corridor is the major river port of Bulgaria. The project is associated with the railway connection of Ruse -Varna, which is a very important link for the intermodal transport connecting central Europe to the Black Sea.

The project aims to facilitate and improve intermodality in the southeastern region of the EU. It will facilitate international transport to/from the countries of the region, the TRACECA countries and the countries of Central and Western Europe, providing better quality service for freight transport. It enhances the interoperability and interconnection of the Sea2Sea corridor with the greater Pan European freight corridors. The project is currently under discussion and preliminary studies have been completed. The level of investment required for the implementation of the intermodal transport terminal at the Bulgarian Danube city of Ruse is estimated at ca. 25 million €;

Country	Bottleneck	Proposed Investment	Maturity of Investment	Budget Investment
BULGARIA	Missing Electrification & poor CTCC on the Plovdiv-Svilengrad line	Development of Intermodal station at Ruse	Under Study	25MECU

Table 2: Table complementary actions for the Corridor “Sea2Sea”

3.4.3 Focus on Bottlenecks on the Rail Cross Border Network for Corridor “Sea2Sea”

The crossing of borders is another bottleneck for the seamless freight traffic between Greece and Bulgaria and especially when we examine railway connections. Not only between these two countries but also in the rest of the Europe, until recently, train operators did not provide services beyond the border stations of their own country. In most cases, locomotives had to be changed at the border, with only few exceptions for specific operators between Germany and Austria or France and Switzerland. In the past few years, there have been substantial changes in cross-border train operation as a result of European Union ‘open access’ requirements for international traffic. These changes were initially

applied to freight and as a result freight trains work across borders, in some cases without the locomotive or crew change. Nowadays there are many examples of cross-border operations without changes as explained in the above, by private-sector freight operators in Central Europe.

To remove the bottleneck at border crossing for the Sea2Sea corridor, the ERTMS system needs to be implemented in the frame of the upgrading or/and rehabilitation of the planned railway infrastructure in both countries. ERTMS is the abbreviation for European Rail Traffic Management System, which concerns an initiative of the European Union to enhance cross-border interoperability and the procurement of signalling equipment, by creating a single Europe-wide standard for train control and command systems. The two main components of ERTMS are: the European Train Control System (ETCS), a standard for in-cab train control, and GSM-R, the GSM mobile communications standard for railway operations. Specifically, the components of the ERTMS are described as follows:

ETCS, the European Train Control System, is an automatic train protection system (ATP) to replace the existing national ATP-systems.

GSM-R is a radio system for providing voice and data communication between the track and the train, based on standard GSM using frequencies specifically reserved for rail application with certain specific and advanced functions.

The equipment needed for the installation/ implementation of the ERTMS system is subdivided in infrastructure and on-board. Regarding the infrastructure equipment, the fitting of ETCS often involves the complete renovation of the line. For this reason the range of the relevant costs is rather wide and estimates vary between €30,000 and €300,000 per kilometre. The necessary investment costs on the ERTMS infrastructure side for the Sea2Sea Corridor have been included in the budget of the upgrading/rehabilitation projects of the railway lines that consist the Sea2Sea corridor; these have been described in the chapter “Bottlenecks of the Railway network along the Sea2Sea corridor”.

Regarding the on-board equipment, the cost of the investment depends on the type of locomotives or train sets. According to the EU report “ERTMS in 10 questions”, this cost would be around €100,000 for new equipment, while prices vary between €200,000 and €300,000 when existing equipment has to be adapted. It is therefore important to fund the operators or provide them with incentives to upgrade their on-board equipment used for the rail line of the Sea2Sea corridor. It is estimated that the initial level of such an investment for the supply of radio coverage system GSM-R and relevant services for the railway axis under study is approximately 2million €.

4 PROPOSED ACTIONS FOR THE GOVERNANCE OF THE MULTI-MODAL FUTURE FREIGHT CORRIDOR SEA2SEA

Summary

Within the current section of the Deliverable 4 :»Governance of the Sea2Sea Corridor«, the Consultant presents the proposed organisational & operational schema of the Governance/Observatory Mechanism for the future Corridor. Interrelation in between the future Corridor and the existing ones on the Core & Comprehensive network should be taken into account as of the Governance of the Sea2Sea corridor, for both countries Bulgaria and Greece. The scope of the Governance center/Observatory of the Sea2Sea Corridor is to collect data according to scientific methodologies, elaborate the collected data, prepare case studies, structure & populate the Key Performance Indicators for continuous monitoring of the operation of the Corridor in respect to the implications to the environment, cohesion policy for the two countries, existing transport system of the whole south east region of the European Union. The implications of such a project reflect to the local communities but also to the regional level of the European Union.

At first sight the Consultant reports according to the general policies & regulations of the European Union Regional development, but also to National level policies for both countries Bulgaria & Greece with a Pan-European experience project in contrast to the environment, socio-economic factors as also existing transport infrastructure. As next part of the Study the Consultant delivers a detailed approach of the establishment of the Governance center/Observatory of the future multi-modal freight Corridor with reference to the following: (a) establishment of the Governance center/observatory and action plan, (b) organisational structure & operation, (c) key performance indicators of the operation, (d) activities of dissemination & networking, (e) basic approach to the post operation results & future possibilities.

Concluding, the Consultant reports the critical path of the Governance / Operation and stipulates the special characteristics of the Governance/Observatory Center of the Corridor as a valuable tool for knowledge management and decision making for both countries engaged players but also for Pan-European mechanisms to come upon new guidelines for the next programming period for the Pan European freight corridors.

GOVERNANCE LEVEL

4.1 Focus on Functional Issues upon Operation of the multi-modal approach of the “Sea2Sea” Corridor

Studies have highlighted the need to take account of matters relating to infrastructure management, particularly at the level of interoperability, traffic management procedures or indeed safety in order to ensure that optimum use is made of infrastructure works. The alignment of future corridors with existing rail freight corridors should facilitate this approach. It should be pointed out, however, that it will not be possible to solve certain

operational problems impacting heavily on traffic flow at the level of infrastructure managers & operators.

The development of the future “Sea2Sea” Corridor with the ones from the existing Core & Comprehensive network will boost the design and implementation of the equipment of the current train trails. However it is needed to mention that operational issues which have impact to the current traffic of the existing freight corridors will not be solved by the operators and the key players of the corridors.

The development of multi modal approach for freight terminals across the Corridor is also an issue to be solved and critical for handling freight in and out of the Ports zones using on the road and/or on train services.

Finally a critical issue is to properly examine the case of the available current rolling stock for both countries Bulgaria & Greece. The ageing stock that is currently running needs to be replaced so as to meet expectations and be able to operate efficiently on the upgrade trail network experiencing higher end speeds with higher level of security and lower time constraints. As of the modernisation of the train equipment both Bulgaria & Greece should develop the Strategic Plans of Transportation according to the new technology, develop guidelines for the upgrading and modernization of the ageing equipment, working out fund through EU mechanisms such as the European Investment Bank, the Cohesion Fund Program and the National Fund Programs.

Rolling –stock projects should be encouraged in cooperation with the European institutions, the European Investment Bank & national authorities and rail companies.

4.2 Deployment of flexible approach upon operation of the new Corridor “SEA2SEA”

The future structures of the Corridor will have to take account of the length of the network and the diversity of the two countries it crosses. The multimodal dimension of the future corridor, which will enable an overall vision to be developed and better use to be made of each mode, might make it even more difficult to hold concrete discussions and carry out joint works.

It will probably be appropriate to continue working with regional sub-groups, in particular by using the works and cooperation habits of the Contact group of the two countries to build future work programmes and corridor implementation plans.

Development of the future work programme for developing the “Sea2Sea” Corridor and infrastructure works as a prerequisite need to have developed and finalised the infrastructure projects at National level. Both teams from the cross border countries should collaborate and support National projects towards the implementation of the Infrastructure works for the new Corridor.

It will also have to be seen how the rail freight corridor works and the structure put in place can best be used, ensuring both the continuity and efficiency of specific works implementation with regard to operational matters and avoiding a multiplication of

meetings and management bodies. A pragmatic approach will have to be developed in cooperation with consultants leading to studies on the future corridor, and in close consultation with stakeholders.

The last meetings of the team reveal quite major concern on the part of the perspectives of the national authorities and infrastructure managers on this subject.

4.3 More formal governance for cross-border sections

In addition to multilateral discussions, an approach which is more focused on cross-border sections should be developed. This necessity is for the following sections:

1. Sections where some cooperation has been established but where obstacles remain
2. Sections where work is progressing on each side of the border but without intensive cooperation
3. Sections where there is a will to engage in dialogue but a well-defined framework is required and where stakeholders are seeking involvement by one Coordinator
4. Sections where is needed reconciling of priorities, funding, the timetable and technical parameters for the development of the intermediate access routes

Specific governance will probably also be necessary for cross-border sections involving the two countries Bulgaria & Greece.

4.4 Western Balkans route not to be overlooked

Any analysis for the future Corridor must take account of its overall context and thus include the routes to the North Sea, the Baltic Sea, the Black Sea, the Black Sea & Turkey (especially with the opening of the Bosphorus tunnel which might attract considerable rail traffic between Turkey and Central Europe), as well as the implications of developing the parallel route through the western Balkans.

Despite its symbolic importance—it is the third bridge on the Danube between Belgrade and Giurgiu/Ruse—the bridge between Vidin and Calafat alone will not immediately bring about a major improvement in international north-south rail freight traffic.

The current southern route, conceived as an alternative to the historical route which links Greece and Bulgaria to Hungary via the Former Yugoslav Republic of Macedonia, the Republic of Serbia and Croatia, draws Greece away from Central Europe, and the latter away from the ports in the north of the Adriatic. As mentioned, the irregular geography requires substantial upgrading cost in comparison with expected levels of rail traffic. This makes justifying these investments all the more difficult for current governments.

The Balkan route, which follows Corridor X (Thessaloniki-Skopje-Belgrade-Budapest/Zagreb-Ljubljana-Graz/Salzburg), shortens the Athens – Budapest route by 330 km compared to the present route. The total length is around 1030 km compared to 1362 km for the current southern route.

There are a number of technical advantages: 89% of the Balkan route is electrified and the tracks are designed for higher maximum speeds overall. Nevertheless 64% of the line is still single track, while 46% of the south corridor P22 is currently double track.

Although it is not intended to call into question the Thessaloniki-Arad route, which links two capital cities, Athens & Sofia, and feeds into the east-west trunk route linking Budapest and Constanța in Romania, in the medium term it may become necessary, in the light of the studies mentioned above, to tailor priorities in line with what is feasible, both for the European Union, the main provider of funding, and the Member States concerned.

In respect, Croatia’s accession to the European Union in July 2013 and discussions with the Republics of the former Yugoslavia in connection with the review of TEN-T policy present a useful opportunity to develop rail links between south-east and central Europe via Western Balkans..



Figure 5: Western Balkans Region

4.5 Operation of the “Sea2Sea” Corridor / Memorandum of Understanding

Governance Center / Observatory of the “Sea2Sea” Corridor

Introductory Note

It is stated that for both cross border countries, Greece & Bulgaria, critical points upon decision for new development of infrastructure works on Transport sector are often under the scope of the technical requirements/characteristics & rules of funding.

Actual demand is the critical factor of shaping the borders and quantifying the infrastructure works for each part of the Region that the multi modal Corridor “Sea2Sea” crosses. Infrastructure works driven by the demand deliver different expose to the environment, of the region, the quality of life for the cross action cities of the two countries and additionally the facilities developed according to the rural development of the Region of each country.

The multi modal Corridor “Sea2Sea” will become the one and only freight Corridor deploying the multi modal approach and mainly implement the train facility to bypass the Vosporos. The multi modal Corridor as freight Corridor will add the East branch to the TEN T Network connecting Aegean Sea & Black Sea to the West part of the EU. The Corridor will be the connection of the South to the North part of EU boosting the establishment of logistic centres for the engaged Ports of Kavala, Alexandroupolis, Burgas, Varna & Ruse.

The multi modal Corridor crosses vertically the East Macedonia & Thrace Region connecting Port of Alexandroupolis with the border section of Ormenio towards the Region of East South Bulgaria from Svilengrad to the Ports of Burgas, Varna & Ruse. Railway connection of the four (4) Ports and the intermodal Terminal of Ruse on Danube river delivers new opportunities for freight utilities from the East to the West of Europe and from South to the North. The horizontal corridor connecting the Port of Alexandroupolis and the Port of Kavala assures the option of the freight utility from the West to the East, but also the ability to connect Kavala Port to the railway capturing the Intermodal Approach.

The importance of the proposed project as also the size of the proposed investment acquire additional complementary actions, beyond the infrastructure works for having the multi modal Corridor; roles and actions for multiple results on the operation of the multi modal Corridor for both cross borders countries.

The urgent need to monitor and validate the consequences as a result of the operation of the multi modal Corridor is not only at Regional EU transportation Network but also at socio economic view, cohesion policy and environmental view across the geographical areas that the Corridor crosses.

Within this framework both cross borders countries Greece & Bulgaria should establish the Governance/Observatory Center of the multi modal Corridor “Sea2Sea”, operated by the common team under the scope of:

- (a) support the intergrated management approach of the multi modal Corridor
- (b) contribute to the exploitation of the project are Regional development level
- (c) contibute to the exploitation of the results towards achieving the rules for the cohesion policy of the EU

Under the scope of operation & in conformance with approved methodology approach the Governance/Observatory Center takes after data from on the field job, delivers appropriate surveys and case studies upon operation of the Corridor, monitors the established Key Performance Indicators as of:

- Flexibility of mobility & accessibility at Regional Level, within the connected cities, the business markets, the logistic centers connected by the Corridor.
- The level of development, the cohesion rate and the competitiveness of the markets and the diversity within the region.
- The rural development & connection of the rural areas
- The parameters of the Transport Network for Freight services across the Region
- The quality of the Environment

Results, progress report and prepared material form the Governance/Observatory Center encompass the operation of the multi modal Corridor;available through Internet Web Services to all interested prties and engaged actors. Besides the exploitation of results the operation of the Governance/Observatory Center counts on building alliances and commitments within the scope of operation of the Corridor with Public & Private agencies, research insitutions towards networking and knowledge exchange.

Before the analytical approach of the operation of the Governance/Observatory Center of the multi modal Corridor “Sea2Sea” the main scientific & political framework is presented according to the EU strategy on Transportation towards the Rural, environmental approach as well as structure of monitoring process of such an establishment and operation .

Infrastructure for Transport & Spatial Development

4.5.1.1 Scientific Framework

The role & the content of the spatial development driven by the implementation of infrastructure works for Transport are within the scope of scientific analysis & elaboration. Moreover the development of the multi modal Corridor “Sea2Sea” for both cross border countries of Bulgaria & Greece as a freight mechanism from the South East regional part of Europe to North East interconnecting the Aegean Sea with the Black Sea and the intermodal Transport terminal at Ruse, has critical role on the Spatial Development for both countries.

Transport Infrastructure Network has *a priori role* on Regional & cross-National Plans of Development for the Region. Better environment of the Transportation means as also upgraded structures of freight transport, on a multi modal approach of rail & road heads toward delivery of less transportation cost, increase level of safety, integrated level of

mobility & accessibility at Regional level. This kind of excellence creates the factors to increase and qualify the primary sector indexes for both countries, boosting competitiveness and encouraging financial development. But Transport Infrastructure Works should not lead the development of every Region. Investments on Transport Infrastructure Network should not be added as a factor of the political strategy for spatial development. The Transportation Network is a “must” for having the eligibility of development for the Region but not a guarantee for acquiring Cohesion policy & Regional Development. It is a good example that differences among Transportation Network for Europe Members follow the geographical deviation of the GDP and finally increase the level of spatial differences instead of delivering cohesion.

Add to the environmental prospect, impact of both rail & road transportation network are captured in two different levels: The first level of developing rail & road network counts on the geographical & spatial deployment of the network while the second level counts on the operation. The settle environment/placement of both rail & road network creates problems focused on the environmental changes of the Region, probably driving to new terms for land usage with impact on the local ecosystems. Referring to land usage factor, problems increase through the awareness of raising carbon dioxide emissions as well as creating environmental pollution for the hinterland, due to continuous mobility of the transport means, but also increasing levels of nuisance across the Transport Network.

The effort to capture the whole business model of the operation of the multi model approach of the Corridor as its freight role, encompass on the following steps: 1.The new Corridor minimizes the average cost of transport, increasing the mobility and accessibility levels of the Region upon its geographical spread.2.Expansion of accessibility & mobility routes due to increasing needs for transportation but also to increasing rates for business activities, primary sector production as also as needs of demand for higher employee rate. All these changes at Regional level lead to different rates of demand for Transport services adding pressure for upgraded new infrastructures of the transport network. Finally all required developments & expansions have impact to the environment (ecosystems & structured development) as well as to available natural resources.

Following this methodology approach, interrelation of the transport infrastructure network as well as spatial development breaks down to the following structure, deviated to the following three categories:

- Direct effects on the changes of mobility & accessibility of the Region
- In direct effects related up to spatial act of the established business activities & settlement of the population, upon mobility of the critical mass of employees.
- Related to the above-mentioned effects as a result for new spatial development, follows the effect of exploitation of these results on the socio-economic factors of developments on the environment and the ecosystems.

Concluding the validation and the stipulation of the results show that the effects and the interrelations caused by the development of new infrastructure for Transport such as a multi modal Corridor, requires experienced analysis of the factors and integrated monitoring of

the operation. Critical path for the integrated monitoring of the operation as also of the effects that depicts to the environment & spatial development of the Region is the usage of new information technology platform such as the Geographical Information System & complementary information technology tools based on the geographical background of the Region.

4.5.1.2 EU Policy

Overall and in conformance to the strategic terms of the Lisbon Treaty, basic & existing Transport Infrastructure Networks & Services for all Member States should be implemented and upgraded to the extend that Transport Networks & Services are applicable to all Regions contributing to the mobility of the population, to the accessibility each of the Region area, adding value to the local economies and promoting Spatial development. The framework of the development of the new multi model Corridor “Sea2Sea” demands monitoring of the environmental, spatial development, socio-economic factors deviation as an achieved goal for the Region.

Especially the new EU Transport Policy is heading towards development & expansion of the Transport Network & Services boosting the Cohesion policy for all Regions of the EU Member States. The mission of the EU Policy for Transportation includes a large number of strategic targets among with the EU TEN-T and Nationals Networks. Both the TEN-T Network and the National Transport Networks will support sustainability for development on all EU Regions, promoting entrepreneurship, equal opportunities for all citizens, and minimizing the environmental footprint of the multi modal Transport Networks.

The EU Policy Document for development at Regional level implies the significance of the results for the sustainability & development of the Regions according to the EU Transport Policy. The spatial effects of the European Transportation Network should be evaluated according to the following criteria (a) Impact on the usage of the land, (b) impact on the primary production, (c) impact on the spatial development, (d) impact on the income of the employee and on the rate of the production, (e) impact on the Regional development, (f) impact on the spatial differences of the public awareness. In order to promote better the land organisational process of the EU territory, the EU Policy Document for Development addresses the following missions: (a) Access to research & innovation, (b) common agricultural environment & rural development, (c) preserve the culture & improve the environment.

4.5.1.3 Control Centres/Observatories of Transport Networks: EU Experience

The European Union has funded a number of research and development projects on policies and procedures, spatial & rural development, transport infrastructure such as: SASI, ASSEMBLING, BRIDGES, TEN-STAC, CODE-TEN, IASON, EEA-TERM, INSPIRE, ETIS, ESPON, ESTIA-SPOSE, και TRKC.

Beyond the funding these projects and the dissemination & exploitation actions of their results and statistical info, the mission is to monitor the development of core transport

infrastructure and development of spatial areas upon decision taken. It is important to note that a number of research and development projects within this scope produce results not further deployed for establishing monitoring mechanisms for the Regions.

Apart from European Union funding for the research & development projects of having monitoring mechanisms, Operational Centres/Observatory have been established and perform as Governance Centres, mapping the as-is case of the business, having deployed monitoring is obviously not part of the current Study to present the Operation and the financial data of such Operation Centres.

Four (4) are the most critical points to mention upon the Operation of the Governance Centre/Observatory of the multi modal “Sea2Sea” Corridor:

First, within the scope of establishment and operation of the Governance Centre/Observatory the business needs are: (a) Monitoring the factors of the freight operation & traffic load, (b) estimate and monitor the environmental impact of the operation of the Corridor, (c) Monitor needs for further development/ expansion, (d) monitor changes in the spatial and rural development plans, (e) support the evaluation and the validation of the results under the scope and the requirements of European Union norms. The Governance Centre/Observatory is sorted according to its core business to the following categories: (a) Organisations focused on Transport sector under a more general policy, (b) organisations focused on a certain transport mean or focused on a specific geographic region, (c) Organisations focused on a specific transport load (rail corridor).

Secondly, the planning and monitoring of spatial effects due to the operation of Transport Network is often under scientific research. The scientific research is counted on continuous development of the know how field on spatial development, decision support systems, information systems, geographic deviation, Regional development environmental sciences according to the extent of the research and the factors needed to monitor and analyse. Pairing all these factors and different kind of science using information technology systems creates the electronic identity of the Organisation.

Third, opportunities that operate smoothly and continuous often are actions taken by both public and private sectors join ventures, research institutions & private sector agreements, or even business units of operators & private sector entities experienced on Transport Infrastructure & Services. Desired example are the Governance Centres/Observatories of the French Transport System, with special focus on the Governance Centre of AutoRoute A39 (AutoRoute’s Paris-Rhin-Rhône13).

Fourth, it is obvious the increased use of the Internet service for dissemination and exploitation of the results is an on-going processes but within the scope of the operation and often under ruling processes. As an example the Governance Centre/Observatory of the Pureness (Observatory Franco-Espagnol des Traffics dans les Pyrénées) disseminates through the Internet platform the annual reviews but not the data captured for factors monitored upon operation. The same approach is adopted also by other European Organisations that operate as Governance Centre/Observatories where factors of spatial

development are also monitored but not exploited to the Internet platform with the valuable support of external consultant team.

Within the European Union Member States the Governance Centres/Observatories for Transportation between cross border countries tend to increase. As an example of a cross border Governance Centre/Observatory has been developed and is under operation between Spain and Portugal monitoring and controlling the freight and passengers load with impact on the spatial development and environment. Other reference are the following : (a) Thematic Network on Transalpine Crossing, (b) Observatories des Politiques et des Strategies de Transport en Europe, (c) under establishment South-East Europe Transport Observatory.

4.5.1.4 Governance Center / Observatory of the multi modal Corridor “Sea2Sea”

For the support Operation and Governance of the “Sea2Sea” Corridor the establishment of the Governance Center/Observatory is needed to facilitate the operation of the multi modal corridor. The Governance Center/Observatory should operate as a cross border entity with the support of both cross border countries Greece & Bulgaria. The common establishment of the cross border Governance Center/Observatory will support common actions towards Cohesion under spatial and economic development, environmental policy, transport means and freight load on the south & north east Region of the European Union.

The scope of the Governance Center/Observatory of the Corridor is extended up to serve and support operation of the freight corridor in Regional, National level boosting Cohesion and Development of the Region.

4.5.1.5 Action Plan for the Governance Center/Observatory

All preliminary actions have to be scheduled and implemented for supporting the process of raise funding through all available mechanisms for the next time period. The actions will support necessary studies, proposals, research study, pilot study and business plan of the Governance Center/Observatory.

The operation of the Governance Center/Observatory must perform the following actions:

- Data collection, data analysis, map the as-is data on a user friendly information technology environment
- Structure the key performance indicators, and the monitoring factors
- Support study analysis and reports for Spatial & economic development
- Support and execute research & development initiatives
- Support data exploitation derived from the operation
- Support networking of the engaged key partners of the operation of the Corridor
- Support and build business alliances with experts for acquiring expertise on the field of operation and expansion

4.5.1.6 Organisational Structure

The Governance Centre/Observatory is established and operates as an independent Organisation with the valuable support of both countries Greece & Bulgaria. The Management of the Governance Centre/Observatory is supported by the role of the Director managing the operation with the support of two (2) scientists on a full time basis and two (2) scientists on part basis.

The following table summarizes the team of the Governance Centre/Observatory of the Corridor, its functions and its educational and professional background.

Position	Education	Professional Background
Director	Traffic Engineering	Transport Expert Road and/or Maritime
Transport Planning Manager	Traffic Engineering	Operator and/or Port Organization
Railway Expert	Traffic Management	Rail Operator
Transport Law Expert	Law, European Studies	Public Sector
Financial Expert	International Financial Management	Financial Expert

Table 3: Position / Education / Professional Background Chart

The staffs of the Observatory/Governance Centre are well trained, committed to deliver to their assignments. All the staff is from within the Region and the legal entity of the Observatory/Governance Centre has an extensive network of contacts within the Ministries of the two cross border countries (Bulgaria & Greece), transport agencies, Corridor Operators & other relevant authorities.

Overall responsibility for the operation of the Observatory/Governance Centre is on Director, while leading responsibilities for execution of tasks is lying to the staff according to their role.

Both National Committees from Bulgaria & Greece represented by the two Ministries of Transport as also the Steering Committess of the two countries represented by members of the engaged legal entities consult the Director of the Observation / Governance Center.

The operation of the Governance Centre/Observatory has to build collaborations also with external experts on the field of spatial development, Transport Services, Environment and Information Technology.

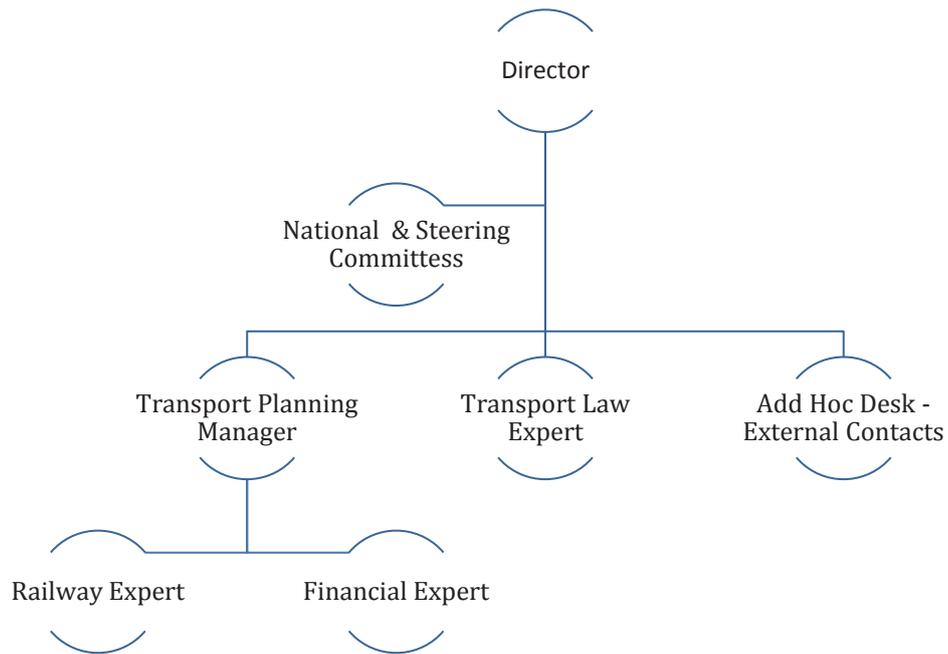


Figure 6:Organisational Structure of the Observatory/Governance Centre

The intial phase of the operation of the Governance Center/Observatory is at minimum cost and in compliance to the results.Available resources are allocated, supporting operation alligned to the necessary infromation technology systems supporting the bussiness model & processes.

The focal point for the operation of the Governance Center/Observatory is the information technology system for capturing and monitoring data form the operation.Decision are driven after careful examination & analysis of the collected data and the geographical spread of the information.

The information technology system of the Governace Center/Observatory should support at operational level the overall business in align to geographical maps of the Region, with the option of providing statistic data of the operation.More than that the Information Technology Infrastructure & equipment has to installed in a secure and safe place.

The excellence of the operation of the Governance/Observatory center is fulfilled via structured bussiness processes developed assuring to the extend of the operational data, the quality and the validity of data and their components popullate the database of the infromation technology system.

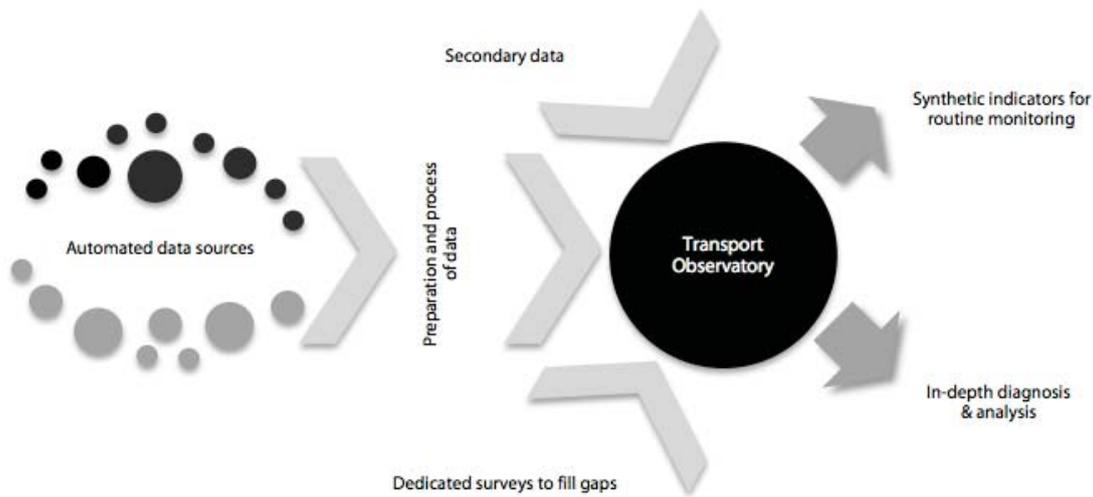


Figure 7: IT data schema of the Observatory/Governance Centre

The key performance Indicators & the operational factors driven out of the business model have to support data performance not only for the multi modal Corridor but also to all vertical & horizontal crosses that support the operation of the Corridor. The development of the interface of the Information Technology System to the Internet Platform will be used to access exploitation data and libraries of scenarios driven out of operation for scientists, operators, institutions. And individual experts.

The outcome of the information technology system is support the operation of the Corridor and act as a business tool on decision making opportunities for the whole Region for spatial & economic development.

4.5.1.7 Key Performance Indicators

The Key Performance Indicators follow scientific methodology approach, based on tested & validated techniques, under the scope of using tools & methods for monitoring spatial & economic development of the Region. The Key Performance Indicators deployed by the Governance Centre/Observatory are based on a pool of data & indexes accountable and structured mathematically and accurately. These accountable Key Performance Indicators are categorised to the following three (3) subcategories:

- Socio-economic & spatial development effects
- Environmental effects
- Transport infrastructure & operation of the multi modal Corridor

The Key Performance Indicators of each category are categorised to three (3) sub categories depending on their priority & the density. These three different sub-categories are the following: basic, framework, special. On the Basic category level Key Performance Indicators

of spatial effects are placed. On the Framework category level Key Performance Indicators of generating results from Basic category indicating the following trends appear. On the Special category Key Performance Indicators of specific needs or necessity appear & their value is calculated depended on the case.

Socio-economic factors		Population that benefits	Size of the market	City Gravity	Level of wellness	Rate of unemployment	
Accessibility	Accessibility to industrial zone	Employees	Regional employment	Bussiness Settlement	Rate of change of population / Region	Rate of change of population / City	
	GDP per Region					External Commerce	
Population affected by the nuisance		Air quality at tunnels	Cohesion of residence			Change of population / Region	
	Population not affected by nuisance		Communication gap between ecosystems			Close to natura regions	
Air pollution		Cross axis with natural sources of water	Percentage of use of multi modal transport			Need of change usage of land	
		Basic	Framework	Special			

Table 3: Consolidated Table of Socio-economic & Environmental Factors

Traffic factors		Traffic loads	Synthesis of traffic	Cruise speed	Cruise time	Type of Freight	Time-distance	Safety factor
		Traffic load per segment	Level of support	Additional routes	Cross border routes	Multi modal transport service	Support stations	Change of residential zone
		Rate of change for land usage	Rate of change of production rate & residence	Rate of fragmented sections				Change of industrial zone
	Basic		Framework	Special				

Table 4: Consolidated Table of Traffic Factors

Each Key Performance Indicator applies to different level of spatial development & to different zone of effect of the multi modal Corridor.

Under different perspectives of basic effects of the development of the multi modal Corridor & considering the development approach of the project, the most critical zone is from the East to the North bypassing the Region of West Macedonia & Thrace & the North East Region of the cross border country of Bulgaria.

On every Key Performance Indicator reporting is for: (a) the report that delivers the technical economic requirements used for the grading. The Consolidated Report of the results presents edited data on every geographical part of every Key Performance Indicator.

Mostly the Key Performance Indicator system of the Governance Center/Observatory is implemented on a dynamic database system under continuous improvements heading to new requirements & technologies.

The Matrix of Key Performance Indicators of the Governance Center/Observatory of the multi modal Corridor is compatible with the prototypes of the European Union norms for the Transportation Framework and the operation of Transport Services all across Europe.

Analysis, compilation & reporting of the Key Performance Indicators should be executed under the framework of effects at different zone of effect at different time frames. The process is heading to monitor the impact of the Key Performance Indicator matrix upon economic growth, spatial development, environmental approach, cohesion of the Regions. The rules of the European Policy that must be achieved are the following:

- (1) Mobility & Accessibility
- (2) economic growth & cohesion
- (3) networking of the rural areas and
- (4) quality of the environment

Complex methods & synthesis of the calculation scenarios of the Key Performance Indicators require specialized studies & tools based on methodology approach. Such results and metering of the Key Performance Indicators can be implemented on Studies based on the research of:

1. Study based on characteristics of the trend of traffic
2. Pilot Study based on the rate monitored of the change of the use of land as of residence areas & on the zone area of the development of the Corridor.
3. Study on the changes of the land across all length of the multi modal Corridor.
4. Study on effect driven & accessibility of other Transportation means to the multi modal Corridor.

5. Research based on effect of the multi modal Corridor versus the freight Corridor on the East part of the Balkan Region.

6. Study on the freight traffic in between the cross border sections, the ports of the Aegean Sea & the ports of the Black Sea.

7. Measurement Study & mapping of the nuisance across the multi modal freight Corridor onto residential areas.

The characteristics of the freight multi modal Corridor and the effects on the networking for the operation of the freight stations will boost the accessibility and the mobility across all Region. The quality difference of the effects from the development of the Corridor will define and support the economic growth & development for spatial and economic sector for both cross border countries Bulgaria & Greece. The Governance Center/Observatory will support the whole case through dissemination of results, case studies and reports under the scope of operation.

4.6 Preparatory Actions

The Implementation of the development of the proposed Sea2sea Corridor, requires a number of preparatory actions need to perform by both cross border countries, Greece & Bulgaria, so as to execute the “interventions ” needed on the rail & road network. Each of the following form contains a description of the intervention, the context of the intervention and the preparatory actions, cost estimation and timetable execution.

The individual forms with the information about the preparatory actions referring to each intervention are presented in the followings.

4.6.1 Stage 1 - Improvement of the Alexandroupolis – Ormenio railway line

STAGE 1	
TITLE	Core Sea2Sea route
DESCRIPTION	At this stage, a connection is established between Alexandroupolis and Plovdiv. It includes the part of the corridor which is interregional between Greece and Bulgaria and necessary for the formulation of the corridor and its continuation to the Bulgarian ports of the Black Sea and the transport cooperation among the two countries

INTERVENTION 1.1	
Description	Improvement of the 180km single track line with electrification and advanced equipment of signaling
Bottleneck addressed	Lack of electrification and modern signaling of the Alexandroupolis - Ormenio railway line

STATE OF THE ART	
<p>Current conditions</p> <ul style="list-style-type: none"> • The 180km single-track rail line between Alexandroupoli and Ormenio/Bulgarian border has been recently renovated. • Nevertheless, there is lack of electrification infrastructure and advanced signaling equipment. • The passenger demand is serviced by three trains per day in each direction, leaving excess capacity for the freight trains. 	
<p>Environmental considerations</p> <p>Main environmental considerations are:</p> <ul style="list-style-type: none"> • GR1110006 & GR1110007 located at the Delta of Evros river • GR1110005 at Evros massif 	

<ul style="list-style-type: none"> • GR1110008 at the river margin, ecosystem of Northern Evros and Ardas • National Wetland Park of Evros Delta • National Forest Park of Dadia 	
Context provisions	
<p>Main policy objective</p> <ul style="list-style-type: none"> • Development of safe, consistent and interoperable railway system of high reliance and quality of service 	
<p>Preparatory actions to perform</p> <ul style="list-style-type: none"> • Pre-investment Study • Preliminary design elaboration • Geodesy survey for developing construction • Technical Studies for the renovation of the railway stations at Pythion & Ormenio across the railway line • Environmental report • Development of the financial plan for the proposed intervention of both the rail the electrification as also the Technical works for the stations 	
<p>Development programming for the Technical phase</p> <ul style="list-style-type: none"> • Development of safe, consistent and interoperable railway system of high reliance and quality of service (<i>Strategic Investment Program me for Transport 2014-2025 - GR</i>) • Upgrading of the railway network of the Region of East Macedonia and Thrace and completion of connections with the other regions and neighboring states (<i>Strategic Investment Program me for Transport 2014-2025 - GR</i>) • Suggested project 'Upgrading of certain segments of the Alexandroupolis - Ormenio (Bulgarian border) rail line, renovation of the railway stations at Pythion and Ormenio, full electrification and deployment of automated control system' (<i>Strategic Transport Investment Plan 2014-2025 (May 2014) - GR</i>) 	
BUDGETING AND FINANCING	
Estimated budget	Approx. 2,5 million €

4.6.2 Stage 1 - Implementation of ERTMS

STAGE 1	
TITLE	Core Sea2Sea route
DESCRIPTION	At this stage, a connection is established between Alexandroupolis and Plovdiv. It includes the part of the corridor which is interregional between Greece and Bulgaria and necessary for the formulation of the corridor and its continuation to the Bulgarian ports of the Black Sea and the transport cooperation among the two countries

INTERVENTION 1.2	
Description	Implementation of European Rail Traffic Management System (ERTMS) along the Alexandroupoli-Ormenio railway line.
Bottleneck addressed	Deficiencies in the seamless freight traffic between Greece and Bulgaria (at border crossing)

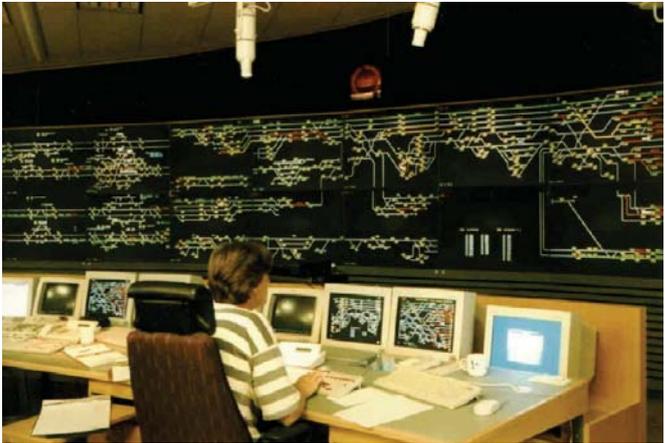
STATE OF THE ART	
<p>Current conditions</p> <ul style="list-style-type: none"> • There are serious deficiencies regarding the seamless freight traffic at borders’ crossing. • Train operators do not provide services beyond the border stations. • Locomotives have to be changed at the border. 	 <p>http://www.railwaygazette.com</p>
<p>Environmental considerations</p> <p>Main environmental considerations are:</p> <ul style="list-style-type: none"> • GR1110006 & GR1110007 located at the Delta of Evros river, • GR1110005 at Evros massif, • GR1110008 at the river margin, ecosystem of Northern Evros and Ardas • National Wetland Park of Evros 	

Delta	
<ul style="list-style-type: none"> National Forest Park of Dadia 	
Context provisions	
Main policy objective	
<ul style="list-style-type: none"> Improvement of the quality / modernization of the transport infrastructure Improvement of connectivity and integration in the wider international transport networks 	
Preparatory Actions to Perform	
<ul style="list-style-type: none"> Pre-investment Study Preliminary design elaboration Technical Study for the electrification & signaling operation system Environmental report Development of the financial plan for the proposed intervention of the ERTMS Prepare Tender document 	
Development programming for Technical Phase	
<ul style="list-style-type: none"> Develop safe, consistent and interoperable railway system of high reliance and quality of service (<i>Strategic Investment Programme for Transport 2014-2025 – GR</i>) 	
BUDGETING AND FINANCING	
Estimated budget	Approx. 0,5 million €

4.6.3 Stage 1 - Implementation of SEA2SEA Traffic Control Center

STAGE 1	
TITLE	Core Sea2Sea route
DESCRIPTION	At this stage, a connection is established between Alexandroupolis and Plovdiv. It includes the part of the corridor which is interregional between Greece and Bulgaria and necessary for the formulation of the corridor and its continuation to the Bulgarian ports of the Black Sea and the transport cooperation among the two countries

INTERVENTION 1.3	
Description	Implementation and operation of a Sea2Sea Traffic Control Centre and Observatory
Bottleneck addressed	Lack of coordination from a transport Sea2Sea flows dedicated operational center

STATE OF THE ART	
<p>Current conditions</p> <ul style="list-style-type: none"> • There is a need of a traffic control center and observatory for the corridor efficient operation. • There is lack of coordination between responsible authorities. 	 <p>http://www.lococarriage.org.uk</p>
<p>Environmental considerations</p> <p>The observatory will be placed in urbanized areas where protected areas are not present.</p>	
Context provisions	
<p>Main policy objective</p> <ul style="list-style-type: none"> • Collection, transmission and management of information regarding the transport sector • Improvement of integration and interoperability / achievement of high transport safety and security 	

Preparatory Actions

- Pre-Investment Study
- Preliminary design elaboration
- Feasibility Study/staging proposal
- Prepare Technical survey
- Develop Implementation Plan
- Develop financial Study
- Prepare Tender document

Development programming for Technical Phase

- The strategy for Bulgarian transport aims to ... large-scale application of information and telecommunication technologies (*Strategy for the Development of the Transport System of the Republic of Bulgaria until 2020 - BG*)
- Integration of the Bulgarian transport system into the European transport system (*OP "Transport 2007-13" - BG*)
- Development of safe, consistent and interoperable railway system of high reliance and quality of service (*Strategic Investment Program me for Transport 2014-2025 – GR*)
- Improvement of the connections of the Regions to the international trade, production and urban centers (*Strategic Investment Programmed for Transport 2014-2025 – GR*)
- Reduction of traffic bottlenecks (*Strategic Investment Program me for Transport 2014-2025 – GR*)

BUDGETING AND FINANCING

Estimated budget	Approx. 0,7 million €
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4.6.4 Stage 2 - Modernization of the Plovdiv – Burgos railway

STAGE 2	
TITLE	Functional Sea2Sea route
DESCRIPTION	The second stage of the Sea2Sea implementation can also be considered as the stage that actually connects via railway the Aegean Sea with the Black Sea. At this stage the transport node of Burgas, the major Bulgarian Port in the Black Sea is integrated in the Sea2Sea Corridor establishing a connection with Alexandroupolis, Plovdiv and Stara Zagora.

INTERVENTION 2.1	
Description	Modernization of the Plovdiv-Burgas railway, including the Burgas railway junction
Bottleneck addressed	Poor features of the Plovdiv-Burgas railway line

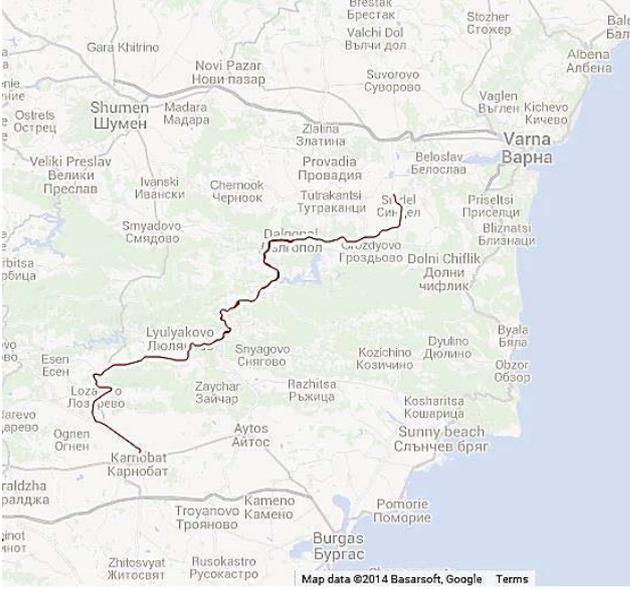
STATE OF THE ART	
<p>Current conditions</p> <ul style="list-style-type: none"> • The existing line is electrified with a total length of 292 km, of which 137 km is single line and 153 km is double line. • There are severe bottlenecks in the sections Mihaylovo-Kaloyanovetz, Stara Zagora-Zimnitsa and Tzerkovsky-Burgas. 	
<p>Environmental considerations</p> <p>Main environmental considerations are:</p> <ul style="list-style-type: none"> • BG0000578 – Reka Maritsa SCI area • BG0000429 – Reka Stryama SCI area • Chirpanska Koria forest area • BG0000192 – Reka Tundzha SCI area • BG0002094 – Adata Tundzha 	

<p>SCI area</p> <ul style="list-style-type: none"> • BG0000196 – Reka Mochuritsa SCI area • BG0000205 – Straldzha SCI/SPA area • BG0002028 – Kompleks Straldzha SPA area • BG0000273 – Kompleks Straldzha SCI/SPA area • Vaya Lake 	
Context provisions	
<p>Main policy objective</p> <ul style="list-style-type: none"> • Modernization and development of the transport infrastructure • Improvement of the domestic and international connections – Development of Pan-European Transport Corridors 	
<p>Preparatory Actions</p> <ul style="list-style-type: none"> • Pre-investment Study • Preliminary design elaboration • Geodesy survey for developing construction • Technical Studies for the renovation of the railway cross junction across the railway line • Environmental Impact assessment report • Development of the financial plan for the proposed intervention of both the rail the electrification/signaling as also the Technical works for the junction 	
<p>Development programming for the Technical Phase</p> <ul style="list-style-type: none"> • Development and modernization of the transport infrastructure (<i>Strategy for the Development of the Transport System of the Republic of Bulgaria until 2020 - BG</i>) • Development of railway infrastructure along the major national and pan-European transport axes (<i>OP "Transport 2007-13" – BG</i>) • Upgrading the railway line along the railway line Plovdiv-Burgas – project included in the <i>OP "Transport 2007-13" (BG)</i> • Completion of the rehabilitation and upgrading of the line Plovdiv-Burgas – project included in the <i>OP "Transport 2014-2020" (BG)</i> 	
BUDGETING AND FINANCING	
Estimated budget	Approx. 1,8 million €

4.6.5 Stage 3 – Doubling and electrification of the Karnobat – Sindel railway line

STAGE 3	
TITLE	Full operation Sea2Sea route
DESCRIPTION	With the completion of this stage the Sea2Sea corridor will be close to its full operation potential in connecting via railway the Aegean and Mediterranean Sea with the Black Sea. At this stage the Port of Varna in the Black Sea is integrated in the Sea2Sea Corridor.

INTERVENTION 3.1	
Description	Doubling and electrification of Karnobat-Sindel railway
Bottleneck addressed	Poor features of the Karnobat - Sindel (close to Varna) railway line.

STATE OF THE ART	
<p>Current conditions</p> <ul style="list-style-type: none"> • The railway line Karnobat – Sindel is the shortest land connection between the two biggest Black sea ports – Varna and Burgas, with a length of 123 km. • 71 km of the total railway line alignment are doubled and electrified. The rest 52 km are one-way electrified railway line along the existing alignment. 	
<p>Environmental considerations</p> <p>Main environmental considerations are:</p> <ul style="list-style-type: none"> • BG0000393 - Ekokoridor Kamchia – Emine SCI area • BG0000104 - Provadiysko-Royasko plato SCI area • BG0002038 - Provadiysko-Royasko plato SPA area • BG0000133 - Kamchiyska i Emenska 	

planning SCI/SPA area • BG0000141 - Recha Kamchia SPA areas	
Context provisions	
Main policy objective	
<ul style="list-style-type: none"> • Constructing sustainable railway transport system through sector reforms • Improving the connectivity and integration of Bulgarian regions on a national and international scale 	
Preparatory Actions	
<ul style="list-style-type: none"> • Pre-investment Study • Preliminary design elaboration • Geodesy survey for developing construction • Technical Studies for the renovation of the railway across the railway line • Environmental Impact assessment report • Development of the financial plan for the proposed intervention of both the rail the electrification/signaling as also the Technical works 	
Development programming for the Technical Phase	
<ul style="list-style-type: none"> • The line’s improvement plays an important role for the development of the region and the operation of the national transport system as a link between Burgas - Varna, Varna - east of the Black Sea and the port of Ruse, and between the European transport Corridor 7 and 8. (<i>Regional Plan for the Development of the Southeastern Region for the period of 2014 – 2020 – BG</i>). • Improving transport connectivity and access to markets (<i>National Development Programme: Bulgaria 2020 – BG</i>) 	
BUDGETING AND FINANCING	
Estimated budget	3,5 million €

4.6.6 Stage 4 – Rail connection of the new port of Kavalla

STAGE 4	
TITLE	Added value Sea2Sea extension route
DESCRIPTION	At this final stage the relevant interventions aim at integrating the remote edges of the inland Port of Ruse in the Danube river and the Commercial port of Kavala in the Aegean Sea to the Sea2Sea network. This stage contributes with an added value in the operation of the Sea2Sea Corridor.

INTERVENTION 4.1	
Description	Construction of single-track line of ca. 35km, which will connect the new commercial port of Kavala with the existing railway line Thessaloniki – Alexandroupolis at the existing station of Toxotes – Xanthi.
Bottleneck addressed	Lack of a railway connection between the Port area and the national railway network.

STATE OF THE ART	
<p>Current conditions</p> <ul style="list-style-type: none"> • The area of the commercial port of Kavala is not connected to the national railway network. • The adjacent railway axis of Thessaloniki - Turkish border / Bulgarian border is located more than 30km away from the coast. • The new line is included in the Trans-European Transport Networks. 	
<p>Environmental considerations</p> <p>Main environmental considerations are:</p> <ul style="list-style-type: none"> • GR1110009 – South Evros Complex –SPA area • GR1130009 – Thraki lakes, lagoons and coastal areas– SCI area 	

<ul style="list-style-type: none"> • GR1130012 – Kompsatou valley • GR1150010 – Nestos Delta & keramoti lagoon – SCI area • GR1120005 – Nestos Forest – SCI area • K802, K26, K808, K59- Wildlife refuges • Forest of Nestos Kavala Ksanthi • National Park of Eastern Macedonia & Thraki 	
Context provisions	
<p>Main policy objective</p> <ul style="list-style-type: none"> • Improvement of the connections of the Regions to the international trade, production and urban centers • Optimum exploitation and targeted development of transport infrastructure and cross-border links through the integration in the wider international transport networks 	
<p>Preparatory Actions</p> <ul style="list-style-type: none"> • Pre-investment Study • Preliminary design elaboration • Geodesy survey for developing construction • Technical Studies for the renovation of the railway across the railway line • Environmental Impact assessment report • Development of the financial plan for the proposed intervention of both the rail the electrification/signaling as also the Technical works 	
<p>Development programming for the Technical Phase</p> <ul style="list-style-type: none"> • Completion of projects that concern the strengthening of Kavala’s role as a secondary national pole of trans-regional range and as gateway of trans-regional range with international role (<i>Regional Framework of Spatial Planning and Sustainable Development of the Region of East Macedonia and Thrace – GR</i>) • Upgrading of the railway network of the Region and completion of connections with the other regions and neighboring states (<i>Strategic Investment Programme for Transport 2014-2025 – GR</i>) 	
BUDGETING AND FINANCING	
Estimated budget	0,7 million €

4.6.7 Stage 4 – Rehabilitation of Varna – Ruse rail line

STAGE 4	
TITLE	Added value Sea2Sea extension route
DESCRIPTION	At this final stage the relevant interventions aim at integrating the remote edges of the inland Port of Ruse in the Danube river and the Commercial port of Kavala in the Aegean Sea to the Sea2Sea network. This stage contributes with an added value in the operation of the Sea2Sea Corridor.

INTERVENTION 4.2	
Description	Varna-Ruse Railway line rehabilitation
Bottleneck addressed	Poor features of the Varna-Ruse Railway line.

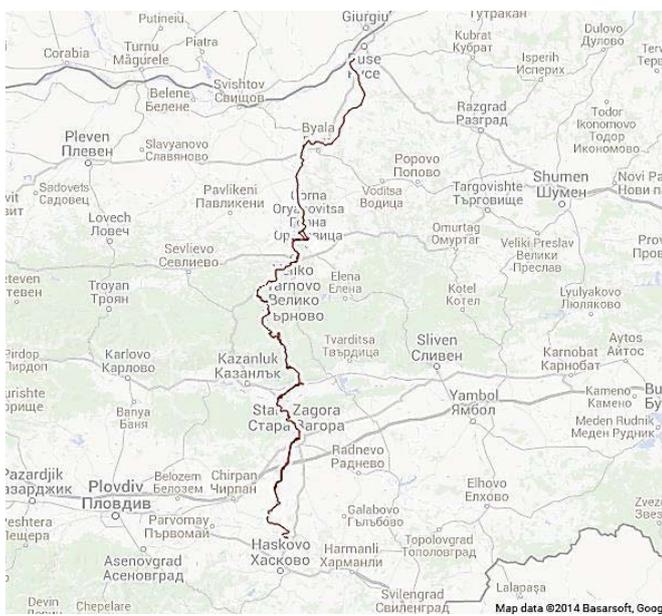
STATE OF THE ART	
<p>Current conditions</p> <ul style="list-style-type: none"> • This railway link is the main land link of the Ruse port on the Danube river to the port of Varna on the Black Sea. • It is the shortest link between the Black Sea region and the TRACECA corridor with Central and Western Europe. • It connects the NE region of Bulgaria with the only existing railway border crossing to Romania. • It provides transport communication between the Pan-European transport Corridors VII, VIII and IX. 	
<p>Environmental considerations</p> <p>Main environmental considerations are:</p> <ul style="list-style-type: none"> • BG0000608- Lomovete –SCI area 	
Context provisions	
<p>Main policy objective</p> <ul style="list-style-type: none"> • Development of the national transport infrastructure as part of the Trans-European 	

Transport Network (TEN-T), which ensures integration in the European space and connections with the major urban centers of neighboring countries	
Preparatory Actions	
<ul style="list-style-type: none"> • Pre-investment Study • Preliminary design elaboration • Geodesy survey for developing construction • Technical Studies for the renovation of the railway across the railway line • Environmental Impact assessment report • Development of the financial plan for the proposed intervention of both the rail the electrification/signaling as also the Technical works 	
Development programming for the Technical Phase	
<ul style="list-style-type: none"> • The improvement of the connection will ensure the international connections of the country with the neighboring and other EU Member States (<i>National Concept for Regional Development for the period 2013-2025-BG-</i>) • The development of the railway infrastructure will lead to the successful inclusion of the Port of Varna in the increasing freight turnover in the Black Sea making it one of the main logistics and distribution centers connecting Pan-European Transport Corridors VII, VIII, IX and TRACECA (<i>National Regional Development Strategy (NRDS) for the period 2012-2022 – BG</i>) 	
BUDGETING AND FINANCING	
Estimated budget	1,8 million €

4.6.8 Stage 4 – Improvement of the Ruse – Stara Zagora rail line

STAGE 4	
TITLE	Added value Sea2Sea extension route
DESCRIPTION	At this final stage the relevant interventions aim at integrating the remote edges of the inland Port of Ruse in the Danube river and the Commercial port of Kavala in the Aegean Sea to the Sea2Sea network. This stage contributes with an added value in the operation of the Sea2Sea Corridor.

INTERVENTION 4.3	
Description	Improvement of the rail section Ruse - Stara Zagora with electrification and advanced signaling equipment.
Bottleneck addressed	Lack of electrification and modern signaling of the RR section Ruse–Stara Zagora.

STATE OF THE ART	
<p>Current conditions</p> <ul style="list-style-type: none"> • This specific connection forms the major Bulgarian part of corridor IX. • The line is part of the central vertical axis of the country. • The route is currently in poor condition with significant capacity restrictions. 	 <p>The map shows the rail corridor from Ruse in the north to Stara Zagora in the south. Key cities along the route include Plovdiv, Haskovo, and Yambol. Major rivers like the Danube and Maritsa are also visible. The map is credited to Basarsoft, Google, 2014.</p>
<p>Environmental considerations</p> <p>Main environmental considerations are:</p> <ul style="list-style-type: none"> • BG0000608 – Lomovete – SCI area • BG0000578 – Reka Maritsa – SCI area • BG0000213 - Tarnovski visochini – SCI area • BG0000214 – Dryanovski manastir – SCI area • BG0000399 – Bulgarka – SCI/SPA area • BG0000192 – Reka Tundzha 1– 	

SCI area	
Context provisions	
Main policy objective	
<ul style="list-style-type: none"> • Improvement of the connectivity between regions and, above all, their links with the major European urban centers • Creation of unbroken, continuous and permanent transport networks, ensuring rapid and safe travel at longer distances 	
Preparatory Actions	
<ul style="list-style-type: none"> • Pre-investment Study • Preliminary design elaboration • Geodesy survey for developing construction • Technical Studies for the renovation of the railway across the railway line • Environmental Impact assessment report • Development of the financial plan for the proposed intervention of both the rail the electrification/signaling as also the Technical works 	
Development programming for the Technical Phase	
<ul style="list-style-type: none"> • The modernization of the railway line along this major central “north-south” axis will ensure its comprehensive operation (connections of the country with the important urban centers Bucharest, Kiev, Moscow, St. Petersburg and Helsinki to the north and Alexandroupolis to the south). (<i>National Concept for Spatial Development for the period 2013-2025 (NCSD) – BG</i>) 	
BUDGETING AND FINANCING	
Estimated budget	Approx. 0,8 million €

4.6.9 Stage 4 – Ruse Regional Intermodal Terminal

STAGE 4	
TITLE	Added value Sea2Sea extension route
DESCRIPTION	At this final stage the relevant interventions aim at integrating the remote edges of the inland Port of Ruse in the Danube river and the port of Kavala in the Aegean Sea to the Sea2Sea network. This stage contributes with an added value in the operation of the Sea2Sea Corridor.

INTERVENTION 4.4	
Description	Ruse Regional Intermodal Terminal
Bottleneck addressed	Limited capacity and other restrictions in the accommodation of the transshipment to inland waterways at Ruse as the Intermodal node for (Danube river).

STATE OF THE ART	
<p>Current conditions</p> <ul style="list-style-type: none"> The planned intermodal terminal comes in two Trans-European corridors: Corridor VII- River Rhine-Main-Danube and corridor IX - Giurgiu-Ruse-Dimitrovgrad– Alexandroupolis/ Istanbul. 	 <p>http://www.cfl.lu/espaces/multimodal/EN/offre/op%C3%A9rations-terminal/nouvau-terminal-intermodal</p>
<p>Environmental considerations</p> <p>The Terminal will be placed in urbanized areas far from protected areas (nearest area BG0000608 – Lomovete –SCI).</p>	
Context provisions	
<p>Main policy objective</p> <ul style="list-style-type: none"> Improvement of integration and interoperability / achievement of high transport safety and security 	
<p>Preparatory Actions</p> <ul style="list-style-type: none"> Pre-investment Study Preliminary design elaboration Technical Studies for the Intermodal Terminal 	

- Environmental Impact assessment report
- Development of the financial plan for the proposed intervention of the Technical works
-

Development programming for the Technical Phase

- Improvement of the connectivity of regions in an international context, with major urban centers in neighboring countries (*National Regional Development Strategy (NRDS) for the period 2012-2022 – BG*)
- Integration of the Bulgarian transport system into the European transport system (*OP "Transport 2007-13" - BG*)
- Development of transport networks that are related mainly to the most important axes of the Trans-European Transport Network (TEN-T) and the connections with the neighboring countries and regions, as well as with the directions of the pan-European corridors (*National Concept for Spatial Development for the period 2013-2025 (NCSD) – BG*)

BUDGETING AND FINANCING

Estimated budget	Approx. 0,6 million €
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4.7 Conclusions

The following focal points are the milestones of the project plan of the establishment of the Governance Center/Observatory Center for the multi-modal.

A. The necessary documents signed by both cross border countries Greece & Bulgaria such as Memorandum of Understanding, Framework Contracts, and Complementary Services Contracts, for the establishment & operation of the Corridor validate the common strategic goals, the common vision & mission.

The Governance Framework of the multi modal Corridor is planned according to the following parameters:

- the geographical deviation of the freight traffic across the Corridor,
- the engaged involved partners for the operation of the Corridor,
- the involved research institutions, and EU agencies related to the Region spatial & economic development,
- the National agencies of both cross border countries,
- the local & global operators with business activity on the Corridor.

In case the multi modal approach of the Corridor supports & represents a new business environment, the key player of the Governance of the Corridor is the operator interested to invest on infrastructure works for the development of the Corridor, ready to sign off business contract agreements.

The Governance Framework of the multi modal Corridor “Sea2Sea” on geographical area and on National level is of interest of research institutions, local business entities, Universities and National Agencies on the field of Transport & Logistics.

The decision of the selection of the Management body of the Governance Center/Observatory depends explicitly on the needs of the operators of the Corridor and the available resources of funding for the establishment and operation of the Control Centre.

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